



**National Science Foundation**  
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**VOLUME IV of IV**

**FINAL ENVIRONMENTAL IMPACT STATEMENT**

**COMMENTS AND REPOSSES TO  
DEIS (SEPTEMBER 2006) and SDEIS (MAY 2009)**

**SDEIS PUBLIC HEARING TRANSCRIPTS (JUNE 2009)**

**FACILITATOR'S NOTES  
SECTION 106 CONSULTATION MEETINGS (JUNE 2009)**

**Advanced Technology Solar Telescope  
Haleakalā, Maui, Hawai'i**

**July 2009**

**VOLUME IV**

**PUBLIC COMMENTS AND REPOSSES TO  
DEIS (SEPTEMBER 2006) and SDEIS (MAY 2009)**

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Volume IV contains the following comments and responses, transcripts, and notes:

- Appendix A:*** Matrix of Comments and Responses on the DEIS  
Copies of Public Comments to the DEIS  
Matrix of comments and responses to the DEIS transcripts  
made during the Public Comment Meetings
- Appendix B:*** Matrix of Comments and Responses on the SDEIS  
Copies of Public Comments to the SDEIS  
Matrix of comments and responses to the SDEIS transcripts  
made during the Public Comment Meetings
- Appendix C:*** Transcripts – SDEIS Public Comment Hearings:  
(1) Cameron Center, June 3, 2009  
(2) Mayor Hannibal Tavares Community Center, June 4, 2009
- Appendix D:*** Facilitator’s Notes, Section 106 Consultation Meetings, June 8, 9, and 10, 2009

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## **APPENDIX A**

Appendix A contains comments and responses to the DEIS published in September 2006. All comments were carefully evaluated during the preparation of the Final Environmental Impact Statement (FEIS), and, where appropriate, were incorporated into the Document.

This Appendix is organized as follows:

1. Matrix of comments and responses on the DEIS.
2. Copies of public comments to the DEIS.
3. Matrix of comments and responses to the DEIS transcripts made during the Public Comment Meetings.

Substantive comments for both the DEIS and the DEIS transcripts are either summarized or excerpted in a matrix format and are organized in a box according to subject matter and type of comment received (i.e., individual letter, e-mail, form letter, etc.). Each commenter is assigned a number that corresponds to the comment and response within each subject matter box and, where comments are of a similar nature, they are grouped together. Responses to grouped and individual comments also appear in the matrix.

In some cases, comments were responded to immediately after being received. Copies of both the original comments and their responses are shown in the section containing the copies of the public comments following the matrix.

Copies of all comments on the DEIS can be found in their entirety following the comment/response matrix. All comments are listed in alphabetical order, first by Agency and then by individuals, and community groups. The verbatim transcripts for the DEIS Public Comment Meetings can be found in Vol. III, Appendix D.

## MATRIX OF COMMENTS AND RESPONSES TO DEIS

Scoping Meetings
<b>Received from:</b> D. Mayer, 10-22-06
<b>Comment:</b> At the Scoping Meetings, the public was not well informed about the actual height of the telescope facility and the attached service building.
<b>Response:</b> This comment was again raised and addressed at the Kula Community Center DEIS Public Meeting by Dr. Charlie Fein. (See Vol. III, Appendix D3-Transcripts Sep. 29, 2006 DEIS Public Comment Meeting, pg. 24) The following is excerpted from the transcription of that meeting:  “Mr. Mayer: ...I made, for example, the comment that at the scoping meetings you were saying that the height of the telescope would be 92 feet, and you repeatedly on several occasions during the meeting left that impression. You also left that impression with Maui News and did not correct it in due time with the Maui News. And finally, we find out it's not 92 feet, which would have been lower than the present facility up there, but it's 143 feet high. And I think that has misled the public and maybe has lulled the public into thinking it's a smaller facility than it actually is....”  “Mr. Fein:...I'm going to briefly respond to two items. The first was the incorrect reporting by the Maui News in our very first scoping meeting of the height of the telescope at 92 feet. That was an error. The figures that we brought, the graphics that we brought correctly showed the 143-foot structure. And it was unfortunate that it was misreported. There was a correction. Unfortunately, those kinds of things do get stuck in the public eye.”  Additional information about the proposed ATST Project facility description, see Vol. II, Appendix J(4)-Proposed Action and Alternatives: Supplemental Description of ATST Equipment and Infrastructure). Figure 17 of Appendix J(4) is a cross-section drawing of the Telescope Enclosure and Support & Operations Building.
Timing of the NEPA Process
<b>Received from:</b> OHA, C. Nāmu‘o, 10-02-06
<b>Comment:</b> It is clear that NSF did not comply with NEPA regulations by considering environmental effects of its proposed project “at the earliest possible time.” Rather, environmental and cultural concerns were considered only after the decision to construct at Haleakalā was made.
<b>Response:</b> The process for identification of scientifically viable sites set forth was not intended to select one specific site. When the process started, it was unknown whether the application of the scientific criteria developed by experts in the field would ultimately result in the identification of one site, no sites, or multiple scientifically-viable sites. Because it was unknown which, if any, sites would meet the science requirements necessary to fulfill the purpose and need of the proposed ATST Project. NSF did not begin its formal environmental reviews under NEPA and the NHPA until after it was determined whether there were any scientifically-viable sites. It should be noted, however, that during the two years that on-site testing occurred at the various sites, potential environmental impacts for project planning purposes were indeed evaluated and considered. Examples of that initial evaluation were set forth in the DEIS at pages 2-9 through 2-10 for the La Palma site, and 2-15 through 2-16 for the Big Bear Lake site. The site selection process has been revised for additional detail in the EIS (see Sections 2.3.1 and 2.3.5). The extensive process for identifying scientifically-viable locations for the proposed ATST Project outlined resulted in two sites located within HO. Again, the result could have been that there were no scientifically-viable sites or multiple ones, but in this case, it turned out that the only scientifically-viable locations were within HO, which formed the basis for the two action alternatives carried forward in NSF’s NEPA process.

<b>Monitoring and Enforcement of Environmental Protection</b>
<b>Received from:</b> DBEDT, Office of Planning, L. Thielen, 10-19-06
<b>Comment:</b> Discuss what, if any, role the IfA will play in oversight and enforcement of the applicant’s plans for environmental protection and impact mitigation.
<b>Response:</b> The IfA’s role is governed by the HO Long Range Development Plan (LRDP), which has been recognized by the Department of Land and Natural Resources as the document which sets forth requirements for the management of natural and cultural resources of the site. The UH IfA Long Range Development Plan (LRDP) for the Haleakalā High Altitude Observatory Site ( <a href="http://www.ifa.hawaii.edu/haleakala/LRDP/">http://www.ifa.hawaii.edu/haleakala/LRDP/</a> ) is a publicly vetted document that discussed two possible locations for the future development of a large solar telescope. Following the same review process for environmental documents, the LRDP was distributed to State of Hawai‘i and County of Maui entities, NPS, U.S. Air Force, community associations, individuals, and to Maui public libraries. Notice of release of the draft LRDP was also published in the Maui News. The draft LRDP had an extended, 9 month, public comment period. (See Section 1.1-Project Location)
If the proposed ATST Project is approved, the IfA, as the responsible State entity, will ensure compliance with the policies and procedures outlined in the LRDP. A variety of best management practices, listed in Section 2.4.3-Construction Activities are required practices established in the LRDP and policies reflecting public consultation during the EIS process - would be implemented during construction, in order to prevent damage to the natural environment.

<b>Proposed Action and Alternatives</b>									
<b>Received from:</b>									
<table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">1. F. Ampong, 09-27-06</td> <td style="width: 33%;">2. OHA, C. Nāmu‘o, 10-02-06</td> <td style="width: 33%;">3. HALE, Marilyn Parris, 10-19-06</td> </tr> <tr> <td>4. D. Mayer, 10-22-06</td> <td>5. Maui Group Sierra Club, K. McDuff, 10-23-06</td> <td>6. W. Evanson, 10-23-06</td> </tr> <tr> <td>7. EPA, E. Manzanilla, 10-30-06;</td> <td></td> <td></td> </tr> </table>	1. F. Ampong, 09-27-06	2. OHA, C. Nāmu‘o, 10-02-06	3. HALE, Marilyn Parris, 10-19-06	4. D. Mayer, 10-22-06	5. Maui Group Sierra Club, K. McDuff, 10-23-06	6. W. Evanson, 10-23-06	7. EPA, E. Manzanilla, 10-30-06;		
1. F. Ampong, 09-27-06	2. OHA, C. Nāmu‘o, 10-02-06	3. HALE, Marilyn Parris, 10-19-06							
4. D. Mayer, 10-22-06	5. Maui Group Sierra Club, K. McDuff, 10-23-06	6. W. Evanson, 10-23-06							
7. EPA, E. Manzanilla, 10-30-06;									
<b>Comment:</b>									
<ol style="list-style-type: none"> <li>1. Upon review of the DEIS...proposed sites such as Big Bear Lake and the Canary Islands have been determined to be 2<sup>nd</sup> and 3<sup>rd</sup> best (i.e., Alternatives) sites respectively. It seems the scientific objectives can still be met a both places.</li> <li>2. The alternatives presented in the DEIS must reflect the purpose of the construction of a “powerful, flexible system that would serve the U.S. and the international solar physics communities as the primary ground-based facility in the middle of the 21<sup>st</sup> century and beyond., while providing the decision-maker all reasonable alternatives for comparison of technical and environmental considerations. OHA appreciates that the no-action alternative was included in the DEIS, however, the other two alternatives did not properly take into account the environmental effects of the project, instead of using the NEPA process in deciding where the project will go forward. We believe an analysis of the final three sites that remained viable options would be reasonable and sufficient to comply with NEPA.</li> <li>3. The DEIS does not provide a clear justification for the final six sites. The DEIS is lacking sufficient data on why sites were removed from consideration.</li> <li>3, 7. FEIS should describe why the alternative sites do not meet the selection criteria. If the sites were ranked, the ranking system should be explained and the ranks should be included. Providing a description of the site selection process and criteria would lend credence to selection of the HO site as the only viable site of the 72 sites considered.</li> <li>4. The DEIS has limited its evaluation only to the 18 acre site operated by UH.</li> </ol>									

<p>2, 5. The DEIS was not used as a decision-making tool prior to NSF’s decision to build the ATST at Haleakalā, as required by NEPA and CEQ regulations. The alternatives presented in the DEIS do not represent a true opportunity for NSF to make an informed choice for the project location, nor for adequate public input in the process. Further discussions include NEPA process, alternatives analysis and proffered solution.</p> <p>6. Generally – questions need for the project, purpose of the project and suggests alternative location.</p> <p>7. One of the six sites for further consideration was Sacramento Peak, New Mexico, which does not appear in Table 1. It appears that Sacramento, NM site may be cross-referenced as Sunspot, NM. Consistent names should be used throughout the EIS.</p>
<p><b>Response:</b> Some background information might be helpful: two proposals related to the proposed ATST Project were submitted by the NSO (an astronomy center operated by (AURA) to NSF for funding. The first of these two proposals was for research and design (R&amp;D Proposal), which did not trigger NEPA compliance. The second proposal, submitted to NSF in January 2004, was to seek funding for construction of the proposed ATST Project; that proposal did trigger NEPA compliance. With that understanding in mind, an explanation of the requested information follows.</p> <p>The effort to identify scientifically-viable sites began prior to the submittal of the R&amp;D Proposal and continued after that proposal was considered and approved. The process for identifying scientifically-viable sites was extensive and began in 1998. In partnership with other entities in the scientific community, NSO was responsible for identifying sites that would meet the scientific criteria. That process began with an initial evaluation of 72 potential sites; those sites were evaluated based on a broad set of scientific and logistical criteria developed by the solar research community. See Section 2.2.1- Site Selection Chronology, 2.3.1-Site Selection in Detail, Vol. II-Appendices J(1)-Sites Evaluated for Scientific Criteria, pp. 1 to 4, J(2)- Supplemental Discussion of the Constraints of Solar Science Development, pp. 1 to 5, and Appendix O-ATST SSWG Final Report.</p> <p>Since the issuance of the DEIS in September 2006, NSF had conducted additional consultations, surveys, and studies and considered all public comments received to date. All issues raised during this process were addressed in the SDEIS. In Vol. II, Appendix J(1), p. 3, the Sacramento Peak site has been updated to read: Sunspot, NM (Sacramento Peak).</p>

<b>Space-based Telescope</b>		
<b>Received from:</b>	1. C. Evanson, 9-30-06	2. D. Mayer, 10-22-06
		3. Maui Group Sierra Club, K. McDuff, 10-23-06
<b>Comment:</b>	<p>1. How about using advanced space technology as the Japanese have?</p> <p>2, 3. “...the DEIS neglected to even consider a space-optics. A space-based solar telescope should be included in the Final EIS as an alternative site.”</p>	
<b>Response:</b>	<p>(See Section 2.3.2- Response to Public Comment Regarding Alternative Siting on Haleakalā) The ATST is designed to measure and understand the influence of the outer solar atmosphere on the interplanetary space between the Earth and the Sun. Virtually all of the Sun’s dynamic effects on the Earth can be traced back to solar magnetic fields and the ATST would measure these outer fields for the first time.</p> <p>The technology does not exist anywhere for doing this measurement from space. While the Japanese/American/British SOLAR-B/Hinode mission looks on the disk of the Sun for solar flares, its mission is complementary to the goals of the ATST. We are many decades away from having the technical capability to launch a solar telescope with the necessary 4-meter mirror, like the proposed ATST, into space to measure these coronal magnetic fields. Meanwhile our global communications and the impact of solar changes on terrestrial climate remain a risk for human civilization while we wait to understand solar cycle variability. For these reasons, this alternative was not considered.</p>	

<b>Land Use and Existing Activities: Land Ownership</b>	
<b>Received from:</b>	1. D. Mayer, 10-22-06      2. Maui Group Sierra Club, K. McDuff, 10-23-06
<b>Comment:</b>	The lands at the summit of Haleakalā are ceded lands.
<b>Response:</b>	(See Section 1.2-Land Ownership) In 1961, an Executive Order (EO) by State of Hawai‘i Governor Quinn set aside 18.166 acres of land on the summit of Haleakalā in a place known as Kolekole to be under the control and management of the IfA for scientific purposes. The site is known as HO and it is the only such property on Haleakalā specifically designated for such purposes. UH is the recorded fee owner of the parcel identified as Tax Map Key (TMK) (2) 2-2-07-008.
<b>Conservation District Use Permit</b>	
<b>Received from:</b>	DLNR-OCCL, S. Lemmo, 10-19-06
<b>Comment:</b>	The proposed Project will require a Conservation District Use Permit (CDUP) from the Board of Land and Natural Resources.
<b>Response:</b>	As the accepting authority for the proposed ATST Project, IfA will comply with the permitting process required by the Dept. of Land and Natural Resources (DLNR) for land uses within the Conservation District. A Conservation District Use Application (CDUA) will be submitted with the FEIS for the DLNR. (See Sections 1.1-Project Location, 1.3.2-Identification of Accepting Authority, and 1.6.4- Approvals and Permits, Table 1-5.)
<b>Relationship Between Mees and Proposed ATST Project</b>	
<b>Received from:</b>	1. DBEDT, Office of Planning, L. Thielen, 10-19-06      2. DLNR-OCCL, S. Lemmo, 10-19-06
<b>Comment:</b>	Given that ATST would represent an improvement upon the existing solar observation, it is unclear why ATST would not replace the existing MSO facility, particular since the LRDP discusses just such a possibility. Discuss the replacement of the Atmospheric Airglow instrument platform.
<b>Response:</b>	Section 2.5.2-Potential Use of Existing MSO and Airglow Atmospheric Facilities provides details about these facilities.

<b>Cultural, Historic, and Archeological Resources</b>		
<b>Received from:</b>		
1. DOI, P. Sanderson Port, 10-31-06	2. EPA, E. Manzanilla, 10-30-06	3. DLNR, P. Young, 10-23-09
4. Maui Cultural Lands, E. Lindsey, Jr., 10-23-06	5. Maui Group Sierra Club, K. McDuff, 10-23-06	6. K. McDuff, et al, 10-23-06
7. D. Reeser, 10-23-06	8. W. Evanson, 10-23-06	9. D. Mayer, 10-22-06
10. K. Raymond, 10-20-06	11. HALE, Marilyn Parris, 10-19-06	12. Friends of Haleakalā National Park, M. Evanson, 10-18-06
13. OEQC, G. Salmonson, 10-17-06	14. Maui County Cultural Resources Commission, 10-23-06	
15. Hula Halu Wehiwehi O Leilehua, 10-23-06	16. Suga Jazz Dance Studio Deligate, 10-23-06	17. W. Pellegrino, 10-23-06
18. N. Shearman, 10-22-06	19. M. Howden, 10-21-06	20. V. McCarty, 10-21-06
21. L. Milani, 10-03-06	22. P. Purdy, 10-03-06	23. Royal Order of Kamehameha I, G. Kaho'ohanohano, 09-29-06
24. F. Ampong, 09-27-06	25. M. Stokesberry, 09-29-06	26. K. Muhlestein, 09-27-06
27. Na Kupuna O Maui, P. Nishiyama, 09-26-06	28. M. Helm, 09-21-06 and 10-23-06	29. M. Evanson, 09-28-06, 10-23-06
30. P.Kamakawiwo'ole	31. S. Burns	32. DLNR-OCCL, S. Lemmo, 10-19-06
<b>Comment: (The nature of these comments are similar, therefore, they are grouped.)</b>		
<p>EPA is concerned that the NSF has not fully acknowledged the significant impact of the affected environment or provided sufficient detail regarding mitigation measures. There should be identification and commitment to mitigation before the adverse impact is considered reduced to a level of less significance. A conceptual mitigation plan should be developed and agreed upon by the agencies involved.</p> <p>The road to the summit becomes an exclusively NPS owned and maintained roadway and is also eligible for inclusion on the NRHP for its cultural significance.</p> <p>Discuss and implement additional mitigation measures to address the historical and cultural resource effect of the proposed Project. The FEIS should discuss, in detail, all activities associated with compliance in conjunction with the NHPA. FEIS should include information about the Section 106 process, consultations with Native Hawaiians, and references to any MOA which might be implemented at a later date. EPA is supportive of an MOA to address the adverse effects of the proposed Project.</p> <p>Discuss and/or analyze the direct or cumulative impacts of heavy construction vehicles/traffic on Park road, which was built between 1933 and 1935. Historic features on this roadway include: 1 bridge and 11 box culverts and original culverts with mortared stone headwalls.</p> <p>No-Action alternative -- consider other culturally/spiritual locations. Haleakala should be offered the same protection as any other "traditional cultural property. . .an therefore no action taken.</p> <p>Inadequate cultural resources evaluation, dated January 2006. NSF should conduct Section 106 consultations with the NPS, HALE and the SHPO. Formal consultation is required under NHPA Section 106 on appropriate mitigation. MOA must be executed with ACHP and/or SHPO Describe suggestions from Native Hawaiians and local communities and the ways in which the agency would respond to these concerns. Resolution strategies and mitigation plans should be discussed in detail. Mitigation measures could include funding for Hawaiian cultural educational programs, improved cultural centers, and research on sacred sites within HO.</p>		

The ROI for this section should be expanded to include the Crater Historic. The definition of significant impact for historic and cultural resources only being an irrevocable loss is inappropriate for the size and scope of this proposal and the number and importance of the resources that will be adversely impacted.

The DEIS mentioned that the proposed Project will have a potentially significant impact on Native Hawaiian cultural and spiritual practices. Would like a copy of the mentioned MOA with Native Hawaiian groups and would like to see discussion on how the applicant selected the Native Hawaiian groups for the MOA and which mitigation measures were considered.

DEIS failed to address arguments in March 20, 2006 letter. . . . Haleakala is culturally unsupportable and significant impacts cannot be mitigated.

The Appendix titled Cultural Resource Evaluation conclusion is too abrupt. For clarity, recommend a section assessing and discussing the disclosed information.

Recommend the impact be identified as “Significant” because no agreement on the level of significance or mitigation has been reached. The terms of agreement and mitigation must be discussed and agreed upon with the Native Hawaiian communities, SHPO, and the ACHP before this issue can be resolved.

The process explained regarding mitigating significant adverse impacts requiring the consultation of a Cultural Specialist prior to and during construction in the DEIS seems weak and pre-decisional, despite consultations with the SHPO and Native Hawaiian organizations, individuals and members of the public to develop a mitigation strategy and draft MOU.

Document should include discussion concerning the proposed ATST Project is located within the Crater Historic District, which is listed both on the SIHP and NRHP.

Haleakalā is a sacred place to Native Hawaiians, would be a desecration of the physical and spiritual manifestation of the cultural/historical mana, a proposed telescope is not consistent with the designation of the summit of Haleakalā as a TCP and its eligibility for listing on the NRHP, and the Cultural Resources Commission strongly recommends adoption of the No-Action Alternative.

Impact threshold should be lower, given the community input regarding the significance of this Traditional Cultural Property. The cumulative impacts of the project have not been addressed regarding mitigation, and that significant impacts to the historic district/property and TCP of Haleakalā are not adequately addressed in the document.

Generally objects on cultural basis. . . . Whole mountain is sacred not the two ahu built for ceremonial use . . . objects to need for permission to exercise religion.

**Response to all Comments:**

Your comments are respectfully noted. NSF has listened to the voices and testimony of Native Hawaiians and others who have taken the time to come to meetings or provide written testimony to share their mana‘o about Haleakalā, both as a spiritual, sacred place and also as a place where culture and science can co-exist. Section 5.0-Notification, Public Involvement, and Consulted Parties addresses the numerous consultation meetings, both informal and formal that have taken place since 2005.

See Section 4.18.2-Cultural, Historic, and Archeological Resources, which describes aspects to the strategy proposed by NSF and cooperating Native Hawaiian individuals to minimize or mitigate effects to what is acknowledged to be a Traditional Cultural Property (TCP).

Preservation Plans are in place at HO. See Vol. II-Surveys and Assessments, Appendix B (2) Archaeological Recovery Plans: a. State of Hawai‘i, Department of Land and Natural Resources (DLNR) approval letter sent to Erik Fredericksen, Xamanek Researches, regarding Preservation Plan for Eleven Sites at Science City, from Peter Young, Chair, State Historic Preservation Officer, dated July 10, 2006, acknowledging that the Preservation Plan is acceptable.; and, b. Archaeological Preservation Plan for an 18-1-acre parcel known as “Science City”, Haleakalā Crater, Papa‘anui Ahupua‘a, Makawao District, Maui Island (TMK: 2-2-07: por. of 8).

The 2003 cultural resource evaluation conducted for the LRDP, offered a series of recommended rules to ensure preservation of cultural resources at HO. The IfA adopted the preservation recommendations in 2003, and maintains a program that includes “Sense of Place” training for everyone working at HO, coordination with and oversight by a cultural specialist for all construction projects, and set-aside areas for exclusive use by Kanaka Maoli to practice cultural and spiritual ceremonies. (CRE, 2003, p. 16).

A Cultural Specialist would be engaged at the earliest stages of the planning process, monitor the construction process, and consult with and advise the on-site Project Manager with regard to any cultural or spiritual correction. That includes disposition of rock and soil, rehabilitation of disturbed areas, and the appropriate prayers at the beginning and end of work. Because NSF has found that the proposed ATST Project would affect cultural resources on this portion of the summit area, the Cultural Specialist must be a Kanaka Maoli, preferably a kupuna (elder) and if possible a kahu (clergyman) as well, and one who has personal knowledge of the spiritual and cultural significance and protocol of Haleakalā.

Another mitigation strategy is directed under guidance of Section 106 of the NHPA, which requires Federal agencies to take into account the effects of their undertakings on historic properties. The NSF has been consulting with HALE, the Advisory Council on Historic Preservation (ACHP), the State Historic Preservation Division (SHPD), Native Hawaiian organizations and individuals, and other members of the public to find ways to resolve adverse effects from the proposed ATST Project.

Another mitigation strategy is the removal of the proposed ATST facility after its operational lifetime, which would constitute a significant mitigation of its potential long-term impact. Such decommissioning is taken into consideration as part of life-cycle project planning, and, in the case of facilities constructed with NSF’s financial assistance, it is determined on a case-by-case basis. With regard to the proposed ATST Project, if funding for construction is approved, NSF anticipates that the estimated lifetime of the telescope would be at least 45 years (spanning two, 22-year solar cycles) after it becomes operational. As a mitigation measure under Section 106 of the NHPA, and relating to other categories of impact as well, NSF is seriously considering decommissioning, deconstruction, or divestment of the proposed ATST Project at the end of its productive lifetime.

NSF has made efforts to have more than one meeting to try and accommodate the interested community since 2005. NSF has held meetings during both the daytime and evening with the intent to try to accommodate the various schedules of consulting parties. NSF has also sought input from the Advisory Council on Historic Preservation, the Hawai‘i State Historic Preservation Office, and the HALE staff regarding appropriate times and days to schedule meetings with the goal of increasing the opportunities for consulting parties to be in attendance. Section 5.0-Notification, Public Involvement, and Consulted Parties provides details about the ATST Project’s efforts to notify and consult with Federal and State agencies, Native Hawaiian Organizations (NHO) and individuals, other community organizations and members of the public during the course of both the NEPA and NHPA Section 106 processes for the proposed ATST Project.

Consulting party lists were generated either by individuals or community groups requesting to be a Section 106 consulting party or, through other sources, the ATST Project was provided with lists or names of individuals or groups who potentially might be interested in becoming a consulting party. Numerous attempts to inform people about the proposed ATST Project were made since 2005.

2. NSF has received many comments, both in writing and during meetings, expressing a position that the proposed ATST Project should not go forward. With regard to the availability of people to express this position during meetings, NSF did explain during the June 2008 meetings the reasons why the adverse effects to the summit as a traditional cultural property could not be avoided. NSF did not preclude any consulting parties during those meetings, the August 2008 meetings, or the June 2009 meetings from expressing their views regarding whether adverse effects could be avoided. Please see Section 5.0 for a more detailed discussion on the Section 106 process, as well as the transcripts and notes of the meetings set forth in Volumes 3 and 4.
3. NSF acknowledges the spiritual and cultural significance of Haleakalā as a traditional cultural property (TCP) and has determined that the proposed ATST Project would have a major and adverse effect on this TCP. While many individuals spoke about the sacred and cultural significance of Haleakalā, and expressed their belief that spirituality cannot be mitigated and that construction of the proposed ATST project should be avoided, many others have, to the contrary, expressed their support for the proposed ATST Project and their belief that culture and science can co-exist. Still others have expressed their view that they are opposed to the construction of the proposed ATST Project, but believe that mitigation through an educational program focused on the intersection between traditional culture and science would help to reduce the adverse effects. All views have been received and will be considered before a final decision is made.
4. Since 2005, there have been over 30 formal and informal Section 106 consultation meetings, and the list of consulting parties has grown to over 120. NSF has received many comments from the consulting parties and is now in the process of soliciting comments on a draft Programmatic Agreement designed to address adverse effects. No additional formal Section 106 meetings are anticipated, but additional consultation is ongoing.

**Biological Resources and Endangered Species**

**Received from:**

- |                                                    |                                                                           |
|----------------------------------------------------|---------------------------------------------------------------------------|
| 1. EPA, E. Manzanilla, 10-30-06                    | 2. Dept. of Planning, Maui County Cultural Resources Commission, 10-23-06 |
| 3. Maui Cultural Lands, E. Lindsey, Jr., 10-23-06  | 4. Maui Group Sierra Club, K. McDuff, 10-23-06                            |
| 5. V. McCarty, 10-21-06                            | 6. M. Evanson, 10-20-06                                                   |
| 7. HALE, Marilyn Parris, 10-19-06                  | 8. DLNR-OCCL, S. Lemmo, 10-19-06                                          |
| 9. DBEDT, Office of Planning, L. Thielen, 10-19-06 | 10. Friends of Haleakalā National Park, M. Evanson, 10-18-06              |
| 11. DLNR- DOFAW, P. Conry, 10-02-06                | 12. Royal Order of Kamehameha I, G.Kaho‘ohanohano, 09-29-06               |
| 13. USFWS, P. Leonard, 09-28-06                    |                                                                           |

**Comment: (The nature of these comments are similar, therefore, they are grouped.)**

The potential impact on the ‘ua‘u could be significant and should be identified as such in the FEIS, until additional mitigation measures are described which would reduce the adverse effects to “Less Than Significant”. NSF should identify and commit to mitigation before the impact is identified as reduced to a level of less significance.

Work closely with biologists at HALE and USFWS to ensure video surveillance does not adversely impact endangered ‘u‘au. Impacts to ‘u‘au, nēnē, and ‘ope‘ape‘a need to be adequately addressed for possible adverse impacts by the proposed ATST Project and associated construction. The DEIS ROI should include the areas along the park roadway. Construction vehicles may disturb ‘ua‘u and nēnē nestings near the road. Need Hale’s approval for video monitoring equipment within the park.

We recommend that the FEIS provide greater specificity about the ‘ua‘u monitoring process to ensure the protection of this important species. This discussion should include whether determinations will be made by a qualified expert and whether the monitoring will be conducted often enough to prevent fatalities. We also recommend that the discussion include the process to follow if the project is found to harm the ‘ua‘u, for example, will construction cease until the end of the nesting season, or will the project be relocated to an alternate site? 07 -- Construction work should be done to minimize impacts to the nesting burrows of the

‘u‘au and avoid any take of this Federally-listed species. If incidental take is anticipated, a State Habitat Conservation Plan should be obtained.

Initiation of formal Section 7 consultation with USFWS.

There are issues with regards to Invertebrate Resources that were not presented in the DEIS;

- 1) It is likely there are more arthropod species unique to the summit than what was report in the Arthropod Inventory and Assessment. Saying there are no species unique to the site is misleading;
- 2) USFWS has species of concern in the proposed site such as the flightless moth, and native bees, neither of which are mentioned in the DEIS;
- 3) There are two invasive species not mentioned, Argentine ant and yellow-jackets.

The transportation of equipment and materials to the construction project may bring unwanted invasive species to the summit area. We recommend that the project coordinators adopt procedures to restrict invasive species introductions and apply preventative measures for monitoring and detection. The mitigation outlined in the DEIS falls grossly short of the measures necessary to ensure that non-native species are not introduced into HALE and/or the proposed site.

One of the greatest long-term threats to Haleakalā summit area and nearby State-managed forest reserves is the introduction and spread of invasive species via the transportation of equipment and materials to the construction property. Recommend adopting procedures to restrict invasive species before they enter the summit or the island of Maui.

The effects on resources could be quite significant. Construction activity could cause death to ‘ua’u; abandon burrows; DESTROY Hundreds of native plants; potential pesticides and other contaminants. (pg 9)

**Response to all Comments:**

The Supplemental DEIS is considerably revised from the DEIS; comments received warranted additional surveys and studies, which were completed after the DEIS was published. Regarding Biological Resources and Endangered Species, the Haleakalā National Park (HALE) road corridor and its resources were included, additional arthropod sampling for the proposed ATST project was conducted in March 2007, and the additional data on arthropod occurrence is also discussed in Section 3, the results of Endangered Species Act Section 7 consultations with the U.S. Fish & Wildlife Service (USFWS) are presented as part of the biological impact assessment for the proposed ATST Project. The Informal Consultation Document prepared by USFWS for NSF is appended (Vol. II, Appendix M- U. S. Fish and Wildlife Service, Section 7, Informal Consultation Document.)

For additional information, see Vol. II, Appendix I- Petrel Monitoring Plan. Also in Vol. II, additional surveys for biological and botanical species have been conducted, Section 3.3.3.3-Invertebrate Resources, Section 4.18.3- Biological Resources, and Section 4.18.4-Biological Resources (Mitigations to Prevent Introduction of Alien Invasive Species (AIS)).

<b>Topography, Geology and Soils</b>	
<b>Received from:</b>	1. EPA, E. Manzanilla, 10-30-06      2. HALE, Marilyn Parris, 10-19-06
<b>Comment:</b>	<p>1. Consult with Native Hawaiian organizations and HALE personnel concerning construction of the Pu‘u Kolekole cone. Describe and evaluate other soil placement alternatives. The DEIS claims the cultural restoration of Pu‘u Kolekole via the restoration of the truncated cone will be a beneficial impact. Recommend the level of significance be identified as “Significant” until a suitable plan for the removal of excavated soil is agreed upon.</p> <p>2. HALE disagrees due to the unnatural appearance of created slopes.</p> <p>1, 2. Questions whether the hill will look natural and be stable, since there will be no internal bonding between the excavated soil and the underlying cone; soil erosion may be an issue of concern.</p>
<b>Response:</b>	<p>1, 2. Although the restoration of the pu‘u at Reber Circle was suggested by a Native Hawaiian practitioner during the DEIS process, there has been little support in the Native Hawaiian community for this potential mitigation. Therefore, it is no longer considered as a possible mitigation measure.</p> <p>See Sections 2.4.3-Construction Activities, 4.4.2-Evaluation of Potential Effects at the Mees Site, and 4.17.7-Topography, Geology and Soils.</p>

<b>Visual Resources and View Plane</b>		
<b>Received from:</b>	<p>1. EPA, E. Manzanilla, 10-30-06      2. HALE, Marilyn Parris, 10-19-06      3. DLNR-OCCL, S. Lemmo, 10-19-06</p> <p>4. DBEDT, Office of Planning, L. Thielen, 10-19-06      5. DLNR- DOFAW, P. Conry, 10-02-06      6. W. Evanson, 10-23-06</p> <p>7. Maui Group Sierra Club, K. McDuff, 10-23-06      8. Maui Architectural Group, J. Niess, 10-23-06      9. D. Mayer, 10-22-06</p> <p>10. Friends of Haleakalā National Park,      11. M. Helm, 09-21-06 and 10-23-06      12. D. Betz, 10-23-06</p> <p>    M. Evanson, 10-18-06      13. P. Kamakawiwo‘ole      14. K Wong 9-29-06</p>	
<b>Comment:</b>	<p><b>NOTE: The nature of these comments are similar, therefore, they are grouped.</b></p> <p>HALE’s annul visitation is approximately 1.7 million and not a million as stated. HALE disagrees with methodology to assess visual resource and visual plane impacts, as subjective with no scientific and/or aesthetical basis.</p> <p>HALE disagrees with “significant” impact for visual resources and view plane as new or irrevocable loss of visual resources – threshold far too high.</p> <p>DEIS stated no mitigation to the impacts on the visual resources and view plane.</p> <p>The FEIS should also discuss how development of the ATST on the existing MSO site (rather than next to it) would alter the visual impact of the project.</p> <p>The view planes resulting from this ATST development will have a significant impact on Haleakalā mountain. This impact has become a major issue for the residents of Maui. View planes from the HALE designated wilderness should be addressed for visual intrusion.</p> <p>The impact on visual resources and view plane is significant to the Native Hawaiian people. The identification of visual impacts should be considered “Significant” until there is a commitment to and description of mitigation that would result in a “Less Than Significant” level of impact.</p>	

<p>There is no mention that approximately 24,000 acres of HALE is remote, wilderness. This designated wilderness area must be discussed. Need to mention impacts to Park visitor experiences and other recreational activities within HALE. Also need to address view planes from the HALE designated wilderness for visual intrusion.</p> <p>White paint will adversely change the visual, cultural, biological and geological landscape.</p> <p>Cultural spirituality is significantly impacted by interrupted view plane.</p>
<p><b>Response to all Comments:</b> The SDEIS was updated to provide an annual visitor count to approximately 1.7 million.</p> <p>The Visual Resources analysis has been revised to focus on a more industry accepted qualitative evaluation. The area that is visually occupied is discussed, but the analysis does not use the previous approach of viewshed percentage occupied by ATST. The level of intensity is directly related to the amount of visual change between the existing visual viewscape and the rendered proposed viewscape. These comparative simulations are provided in the analysis to justify the conclusions. In other words, the visual effect of the proposed ATST Project at the Mees site from various locations remains as a moderate, adverse impact because there is no view from where the ATST would be seen where the current HO facilities are not already seen. Major intensity is reserved for those views where ATST would create a new visual interruption on an otherwise uninterrupted horizon. The Reber Circle site, on the other hand, does result in several new visual interruptions creating a major, adverse effect. These results have been revised in Section 4.5–Visual Resources. The statement remains that no mitigation would adequately reduce this impact.</p> <p>Impacts to the Wilderness and Summit areas of HALE are discussed in Section 4.6 –Visitor Use and Experience. Recreational facilities are discussed in Section 4.13 –Public Services and Facilities. Section 4.6, in particular, relates the visual analysis and change to viewshed conditions (Section 4.5) with the change in visitor experience.</p>

<b>Water Resources</b>
<p><b>Received from:</b> Dept. of Water, G. Tengan, 09-29-06</p>
<p><b>Comment:</b> In order to protect the ground water resources, the applicant is encouraged to adopt best management practices (BMP) for construction to minimize infiltration and runoff.</p> <p>The project is encouraged to utilize non-potable water for dust control during the construction phase.</p> <p>The project site is located in the “Maui County Planting Plan”. Native plants adapted to the area conserve water and protect the watershed from degradation due to alien species.</p>
<p><b>Response:</b> The assessment in the EIS of the affected aquifer and associated drainage issues concurs with the description in the comment letter. These topics are addressed in detail in Sections 3.7- and 4.7-Water Resources, as well as in Vol. II-Appendix L-Stormwater Master Plan for Haleakalā High Altitude Observatory. The Stormwater Master Plan recommends a series of site-specific best management practices (BMPs) and incorporates the County of Maui BMPs for control of erosion during construction (Section 3.0 of Appendix L). It is the intention of the project that these practices be fully implemented and enforced.</p> <p>Per the recommendation in the comment letter, the use of only non-potable water for dust control has been added to the list of construction BMPs included in Section 2.4.3-Construction Activities of the SDEIS, as follows: “Dust control would be done by watering the disturbed ground using non-potable water trucked</p>

to the site by the contractor specifically for that purpose. Potable water would not be used for dust control.”

The project does not anticipate landscaping or other use of plant materials. Should this become desirable or necessary we will refer to the list you provided for guidance of suitable native plants for Plant Zone 2.

**Infrastructure: Wastewater, Domestic Water, Stormwater**

**Received from:** Hawai‘i Dept. of Health, K. Sunada, 10-20-06

**Comment:** Subject property is located in the critical Wastewater Disposal Area as determined by Maui County Wastewater Advisory Committee, where no new cesspools will be allowed. DOH reserves the right to review detailed wastewater plans for conformance to applicable State rules. The DOH has no objections to the use of an individual wastewater system for the site.

**Response:** As stated in Section 2.4.4-Telescope Operation Activities (*Utilities, Wastewater Management*), the proposed ATST Project would install an individual treatment plant adequate to process the domestic wastewater from both the Proposed Action and the MSO facility would be provided. This would be a small individual treatment plant (less than 1,000 gallons per day) installed underground. This plant would utilize aeration and biologically accelerated treatment to achieve effluent standards (biological oxygen demand, total suspended solids, and pH levels) acceptable for infiltration directly to ground. Effluent would be disposed of in an on-site infiltration well. The specification of the treatment plant and its related piping/discharge system would be based on the anticipated utilization of the facility and the applicable regulations of the State of Hawai‘i Department of Health.

**Comment:** It is understood there is no source or water supply and a rain-catchment system supplemented by hauled water will be used. All public water system users are required to comply with HAR, Title 11, Chapter 20, “Rules Relating to Potable Water Systems”.

**Response:** As stated in Sections 2.4.4-Telescope Operation Activities (*Utilities, Domestic Water Supply*), the proposed ATST Project would provide appropriate systems for treatment, piping, and pumping the cistern water for use in the S&O Building would be provided. The cistern water would be used directly for the domestic fixtures of the Proposed Action and would be required to meet basic potability standards. Water for human consumption would be provided separately through commercial bottled sources.

**Comment:** The Army Corps of Engineers should be contacted for this project. HAR, Section 11-55-38 requires permit. Discharges regarding section 401 WQC or NPDES requires permit coverage under HAR, Chapter 11-54.

**Response:** In a telephone inquiry to Peter Galloway of the Army Corps of Engineers (ACE), an ATST Project representative was informed that a Water Quality Certification is not likely to be required based on the location and nature of the project. A follow-up letter was sent by Mr. George Young, Chief, Regulatory Branch (CEPOH-EC-R) in which he stated that after reviewing the DEIS and based on the information provided and other information available to his office, they have “...determined that these areas consist entirely of uplands and that the project would not involve any discharge of fill material into waters of the United States; therefore, a Dept. of the Army (DA) permits will not be required.”(See Section 1.6.4-Approvals and Permits)

**Comment:** The DOH may require the submittal of a National Pollutant Elimination System (NPDES) permit.

**Response:** As stated in Section 1.6.4-Approvals and Permits, the proposed ATST Project will submit an NPDES application for permit, if construction is approved. The proposed ATST Project would be bound by the HO Stormwater Management Plan (Vol. II, Appendix L) to prevent erosion, excessive losses of soil, and reduce the potential for off-site sedimentation.

<b>Infrastructure: Electricity</b>		
<b>Received from:</b>		
1. K. Wong, 9-29-06	2. MECO, N. Shinyama, 10-26-09;	3. D. Mayer, 10-22-06
4. W. Evanson, 10-23-06		
<b>Comment:</b>		
1. It is beyond comprehension that although this telescope is being built to study the Sun, it will not have any solar panels or photovoltaic and do nothing but drain expensive power from Maui Electric.		
2. Since the proposed electrical load seems substantial, MECO highly encourages the electrical consultant to meet with MECO as soon as practical and submit drawings to confirm the project’s new electrical demand requirements.		
1, 2. What impact will this project have on current and future energy production and transmission needs/costs that are now primarily passed along to consumer, namely the public.		
<b>Response:</b>		
1. Please be assured that we have considered the options of solar panels or photovoltaic and we agree that Maui Electric power is expensive. To maximize this resource, MECO is mandated to sponsor a program to study energy saving alternatives for their major power using customers - and potential customers. They completed such a study for the proposed ATST project and concluded that the use of solar power is not an efficient energy savings alternative for the project. That determination was largely based on the high cost and low efficiency (power generated per PV area) of the best panels currently available. Our own calculations confirm that conclusion and indicate that it would require covering at least two acres of the mountaintop with PV panels to generate the electrical power required to operate the ATST. That amount of ground coverage, or even enough to appreciably reduce the project’s reliance on MECO power, would have significant environmental and visual impact. We do not rule out solar power as a future option for the proposed ATST. In fact, the new knowledge that the ATST would provide about the Sun’s energy may even lead to the development of more efficient solar energy use, which would in turn enable that possibility.		
2. Members of the proposed ATST Project have contacted MECO on the anticipated electrical load and will continue to consult with MECO engineers should the Proposed Action be approved and plans become refined.		
3. See Section 2.4.4-Telescope Operation Activities ( <i>Utilities, Electricity</i> ) for a detailed discussion about electrical power for the Proposed Action that would be provided by connection to the MECO substation on HO.		

<b>Infrastructure and Utilities: Maui County Building Codes</b>	
<b>Received from:</b>	
1. Maui Group Sierra Club, K. McDuff, 10-23-06	2. D. Mayer, 10-22-06
3. County of Maui, Dept. of Public Works and Environmental Management, M. Arakawa, 09-18-06	
<b>Comment:</b>	
1. The County of Maui prohibits any building over the height of 12 stories. ...The DEIS should state that if the project is not exempt, it would violate numerous county and local land use ordinances and guidelines.	
2. Despite the fact that since 1996 there has been a 35' height limit in the Upcountry Community Plan district, the proposed telescope would violate this ordinance.	
3. The property is zoned State Conservation. Pursuant to §16.26.101.3 of the Maui County Code, the County's building code does not apply to the land designated by the State Land Use Commission to be within the Conservation District.	
<b>Response:</b>	
<p>The existing State Land Use District for the proposed ATST Project has been identified as Conservation District, General Subzone, where a Conservation District Use Permit (CDUP) will be required by the Dept. of Land and Natural Resources (DLNR) prior to construction. (See Section 1.7.2-State Land Use Law, Chapter 205, Hawai'i Revised Statutes and Section 1.6.4-Permits and Approvals)</p> <p>Chapter 2.80A, Maui County Code, pertaining to the General Plan and the community plans, requires that "For community plan areas on the island of Maui, urban and rural growth boundaries and a map delineating urban and rural growth areas, consistent with the general plan;" The Makawao-Pukalani-Kula Community Plan as adopted by Ordinance No. 2510 and became effective on July 23, 1996, page 29, describes the Goal, Objectives, and Policies for Urban Design. Objective No. 8 recommends: "Enforce a two-story or 35-foot height limitation throughout the region..." <u>Urban Region Design</u>. However, HO is in a Conservation District, as noted in the plan and, therefore, the community plan does not apply. Moreover, the Maui County Code, Chapter 16.26 Building Code 16.26.101.3, Subsection 101.3 amended, reads as follows: 101.3 Scope. The provisions of this code shall apply to the construction, alteration, moving, demolition, repair, and use of any building or structure within the county, except those lands within the county that are designated by the state land use commission to be within the conservation district boundaries or designated as Hawaiian Home Lands. Again, there are no height restrictions imposed on structures within the conservation district boundaries.</p>	

<b>Infrastructure and Utilities: ATST Equipment and Infrastructure</b>	
<b>Received from:</b>	1. Maui Architectural Group, J. Niess, 10-23-06                      2. D. Mayer, 10-22-06
<b>Comment:</b>	Regarding treatment of its exterior, why was only brown color compared to the highly reflective (and objectionable) white?
<b>Response:</b>	The paint specified for most of the enclosure was accurately rendered in the SDEIS. See Vol. II, Appendix J(4)-Supplemental Description of ATST Equipment and Infrastructure for a detailed discussion. See Section 2.4.1-Features of Infrastructural Design and Vol. II, Appendix J(4)-Supplemental Description of ATST Equipment and Infrastructure for further discussion on these features.
<b>Received from:</b>	Maui Architectural Group, J. Niess, 10-23-06
<b>Comment:</b>	Assuming the 145 feet is the only way this hardware can be configured (is it? Have other configurations been studied? Where are the alternatives to such a towering structural mass?) why has no consideration been given to burying a significant portion of the structure below grade?
<b>Response:</b>	(See Vol. II, Appendix J(4)- Proposed Action and Alternatives: Supplemental Description of ATST Equipment and Infrastructure)
<b>Received from:</b>	D. Mayer, 10-22-06
<b>Comment:</b>	Unfortunately, this white apron was not discussed in the DEIS. If it had been included in the building design, evaluated and discussed, it might be possible to reduce the height of the telescope, maybe also the proposed illegally tall service building, and perhaps the overall cost of the project. If the white apron were built, what would be the telescope height needed?
<b>Response:</b>	See Vol. II, Appendix J(4)- Proposed Action and Alternatives: Supplemental Description of ATST Equipment and Infrastructure. In addition to direct sunlight, heat radiating up from the dark volcanic rock around the enclosure is shown by thermal modeling to be a significant contributor to the heat load on the enclosure surfaces. A simple passive approach is proposed to significantly reduce this heat source. A ground-level concrete apron extending 10 meters (32 feet 10 inches) out from the base of the enclosure would reduce the incident heat on the lower enclosure by approximately 40 percent. This ring of concrete would be painted with a white sealant and would incorporate a trench drain to allow it to serve as a back-up containment method for any potential coolant leakage from the carousel above.

<b>Infrastructure and Utilities: Roadways and Traffic</b>		
<b>Received from:</b>		
1. EPA, E. Manzanilla, 10-30-06	2. HALE, Marilyn Parris, 10-19-06	3. DLNR-DOFAW, P. Conry, 10-02-06
4. Hawai'i DOT, R. Haraga, 09-06-06	5. W. Evanson, 10-23-06	6. Maui Architectural Group, J. Niess, 10-23-06
7. D. Mayer, 10-22-06		
<b>Comment:</b>		
<p>1. Heavy or wide truck transportation will require permitting from State Highways Maui District Office. Applicant should contact DOT Highways Division, Maui District Engineer to ensure coordination of vehicle movements and compliance with any necessary procedures. Contingency plans should be coordinated to ensure Maui District Engineer is notified whenever there is damage to State highway facilities. The contractor is responsible for remediation of any damage that occurs from the movement of construction vehicles.</p> <p>EPA recommends that HALE complete their Draft Traffic Management Plan and then discuss potential mitigation measure with the NSF. Operators of the Haleakalā bicycle tours should also be included in these discussions. Additional signage regarding construction traffic will need to be posted.</p> <p>1, 2. EPA, HALE Recommend impact be identified as “Significant” until mitigation has been discussed and agreed upon. Cumulative impacts not quantified.</p> <p>2. The DEIS did not define the number of trucks delivering materials, supplies and/or equipment, therefore, the DEIS assessment that there will be infrequent short-term adverse impacts on traffic conditions is flawed. Not adequate mitigation for scope of impact to park roadway. Suggested carpooling trivializes cumulative adverse impact to roadway and traffic issues.</p> <p>3. Considering the amount of traffic up and down the mountain, we request that construction workers “carpool” to the work area.</p> <p>We are concerned that the construction vehicles and equipment used for the construction of ATST will have a major impact on the current access road to the project site. Additional funding should be allocated for road maintenance or repair resulting from these impacts. Are public funds available for future maintenance? The roadway is already reaching total failure due to increase of heavy traffic in recent years.</p> <p>5. How project might affect other road users, adjacent homeowners; overcrowding; no proposed new transportation plans.</p> <p>4. No Traffic Impact Analysis Report was provided, however, given the limited number of staff at the site, it is unlikely the completed project would generate significant traffic impacts.</p> <p>6, 7. Traffic concerns generally; traffic safety</p>		
<b>Response:</b>		
<p>1. The “STATUS” column of Section 1.6.4-Approvals and Permits, Table 1-4-Anticipated Permits and Approvals Required for the Proposed Action, includes the comment: “Contact Maui District office for appropriate truck permit/traffic coordination” to permit heavy or wide truck transportation of project equipment on State highways.</p> <p>As of March 18, 2008, the National Park Service has issued a News Advisory that the moratorium of commercial downhill bicycle rides in Haleakalā National Park will continue pending a full evaluation of all impacts from the activity in the Park’s Commercial Services Plan.</p>		

<p>3. The impact of construction and operation of ATST on roadways and traffic is addressed in Section 4.9.2-Evaluation of Potential Construction- and Operational-Related Impacts at the Mees Site. This includes a specific provision requiring construction workers to carpool to the site whenever possible.</p> <p>4. Thank you for your comments, which are noted.</p> <p>1, 2, 6, 7. See Section 2.4.3-Construction Activities and Table 2-4., Anticipated Major Use of the Road for Construction of the Proposed ATST Project, and 4.18-Mitigation.</p>
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<b>Infrastructure and Utilities: Communications</b>
<b>Received from:</b> D. Mayer, 10-22-06
<b>Comment:</b> Several references are made in the DEIS to connections to off-site facilities. The references are to some kind of “base” for communication to an off-site computer “server”, there is no description or evaluation of these off-site locations.
<b>Response:</b> The references made to these connections pertain to data transmission connectivity currently provided at HO. See Section 2.4.4-Telescope Operation Activities ( <i>Utilities, Communications</i> ) for detailed discussion.

<b>Construction Activities, Soil Placement</b>
<b>Received from:</b> D. Mayer, 10-22-06
<b>Comment:</b> What will happen with the excavated soil, i.e. a site for soil placement vs. a construction staging area?
<b>Response:</b> See Section 2.4.3-Construction Activities for detailed discussion on excavation, soil placement, and staging.

<b>Observatory Decommissioning</b>
<b>Received from:</b> Maui Group Sierra Club, K. McDuff, 10-23-06
<b>Comment:</b> None of the five buildings at the top of this inimitable summit have been taken down yet, but at the last informational community meeting at Pukalani in 2006, one of the members of the ATST team informed the public that each facility has an estimate service life.” . . . address cleanup and disposal of the project when it is not longer necessary.
<b>Response:</b> (See Sections 2.4.3-Construction Activities and 4.19-Mitigation) Decommissioning of facilities constructed with NSF’s financial assistance is determined on a case-by-case basis. Of course, decommissioning is taken into consideration as part of life-cycle project planning. With regard to the proposed ATST Project, NSF anticipates that the estimated lifetime of the telescope would be at least 45 years (spanning two 22-year solar cycles) after it becomes operational (if funding for construction is approved). NSF would consider decommissioning, deconstruction or divestment of the proposed ATST Project at the end of its productive lifetime. IfA is the lessor for all observatory facilities within HO and would be the responsible entity for coordinating with its lessees and/or determining a facilities’ estimated service life.

<b>Air Quality</b>
<b>Received from:</b> HALE, Marilyn Parris, 10-19-06
<b>Comment:</b> Impacts of dust during construction were not properly evaluated in the DEIS. Mitigation measures stated only relate to fugitive dust and intermittent exhaust.
<b>Response:</b> Sections 4.11 and 4.18.11 provide details about air quality.

<b>Noise</b>
<b>Received from:</b> 1. HALE, Marilyn Parris, 10-19-06      2. W. Evanson, 10-23-06;      3. D. Mayer, 10-22-06      4. M. Helm, 09-21-06, 10-23-06
<b>Comment:</b> 1, 2, 3, 4. The impact of heavy construction vehicles and equipment leaving the ATST site and descending the steep Park road and into the upper Kula residential area will subject the environment to the loud braking noises – this impact was not included nor evaluated as potential source of noise.  1. Noise monitoring equipment do not mitigate the adverse impacts to birds.
<b>Response:</b> 1, 2, 3, 4. Licensed commercial vehicle drivers are responsible for complying with the regulations set forth in HAR Title 11, Chapter 46-Community Noise Control, where its Purpose states: “It is the purpose of this chapter to define the maximum permissible sound levels, and to provide for the prevention, control, and abatement of noise pollution in the State from the following excessive noise sources: stationary noise sources; and equipment related to agricultural, construction, and industrial activities. It is also the purpose of this chapter to establish noise quality standards to protect public health and welfare, and to prevent the significant degradation of the environment and quality of life.”  1. Noise monitoring equipment itself is not a mitigation measure; however it is part of an overall mitigation strategy that would utilize monitoring equipment on a full-time basis to ensure that established noise thresholds are not exceeded during those periods when petrels are in their nests. Should these thresholds be exceeded at any time, immediate action would be taken to ensure that noise levels are reduced to or less than the levels required by USFWS for prevention of adverse impacts on birds at the site.

<b>Hazardous Materials and Solid Waste</b>		
<b>Received from:</b>		
1. HALE, Marilyn Parris, 10-19-06	2. Maui Cultural Lands, E. Lindsey, Jr., 10-23-06	3. M. Helm, 09-21-06 and 10-23-06
<p><b>Comment: NOTE: The nature of these comments are similar, therefore, they are grouped.</b>                      We are concerned with the omission of the potential impacts of transportation of hazardous materials through the Park's already busy roadway and there is no mention of mitigation of potential spills, which could impact visitors, employees, and/or other natural/cultural resources.</p>		
<p><b>Response to all comments:</b> A Hazardous Materials Management Plan specific to the Proposed Action has been prepared and is included as Vol. II, Appendix D-ATST Hazardous Materials Management Program. Hazardous materials that would be used at the proposed facility and their uses are shown in Table 2-5 of Section 2.4.4-Telescope Operation Activities. The transportation of these materials associated with the proposed ATST Project also occurs along the Park road corridor and State roads leading up to the Park road. Transportation along these roads is, likewise, governed by the authorities set forth below.</p> <p>The transportation of hazardous materials for the Proposed Action would be fully consistent with Title 49 CFR Parts 100-185 Hazardous Materials Regulations – Hazmat Transportation as prescribed by the Federal Department of Transportation. Only properly licensed companies and individuals would be contracted to transport hazardous materials. All materials would be in approved containers, clearly labeled as to the nature and quantity of material. Trucks would display diamond-shaped placards to identify hazardous materials as required. Material Safety Data Sheets (MSDS) for each hazardous material and/or chemical item transported would accompany all shipments. This information would be readily available to the first responders at the scene of any potential spill to determine appropriate measures for protection and safety of the public and the environment.</p> <p>Containment of spills during the transport of any materials would be in accordance with the ATST Hazardous Materials Management Program (Vol. II, Appendix D) and the written requirements of the MSDS documentation accompanying the shipment. Given these safeguards and the relatively benign nature of these materials, their transport presents minimal potential for impact to the public, the natural environment, or cultural resources.</p> <p>Table 4-5 in Section 4.8.2-Evaluation of Potential Effects at the Mees Site is a list of hazardous substances that may be present or used under the Proposed Action, whether located at either the Mees site or Reber Circle site. Also see Section 4.18.8-Hazardous Materials and Solid Waste.</p>		



<b>Employment Opportunities</b>		
<b>Received from:</b> D. Betz (no date)		
<b>Comment:</b> Minimal job creation for locals.		
<p><b>Response:</b> If approved, the construction phase of the proposed ATST Project is anticipated to be approximately five years where, wherever possible, the local Maui workforce would be employed. When the construction phase has been completed, the proposed ATST Project estimates 50 to 55 new hires by the final year of commissioning. Of the approximately 55 personnel, 35 people would be working on Maui and therefore would slightly increase the local spending. Half of this number would be hired locally at the onset of the operational phase. After two or three years, the other half of staffing, originally hired or relocated from off-island sources, would be replaced by local hires, resulting in a long-term beneficial effect on local employment. (See Section 4.12.2-Evaluation of Potential Effects at the Mees Site.)</p> <p>We do not have access to Human Resources data for astronomical institutions in Hawai'i. However, the largest employer at HO is currently Boeing LTS, who operates the Maui Space Surveillance Complex (MSSC). In the early 1960's, when the MSSC was first constructed, the local Maui workforce was utilized for construction; and, once it was completed, qualified individuals from the construction crews were hired to work within the facility. Many Maui residents have worked at and retired from this facility. In some cases, Maui- or Hawai'i-born individuals who resided on the mainland were able to relocate to Maui through employment opportunities at the facility. Some of these qualified individuals were either employed in fields suitable for open positions, students completing college, or men and women who had served in the military. Since the MSSC has been operating, there have been anywhere from around 30 to nearly 200 individuals employed at this facility, many of which are local residents who already live here (unpublished MSSC Human Resources data).</p>		
<b>HALE Resources and Crater Road</b>		
<b>Received from:</b>	1. EPA, E. Manzanilla, 10-30-06 4. D. Mayer, 10-22-06	2. HALE, Marilyn Parris, 10-19-06 5. Maui Group Sierra Club, K. McDuff, 10-23-06
<b>Comment:</b>		
<p>1. Conduct Section 106 consultations with the NPS, HALE, and the SHPO.</p> <p>2. Mention impacts that will incur to Park facilities and operations. Additional mitigation measures should be considered with regards to personnel for additional monitoring programs. Additional mitigation measures should be considered with regards to personnel for traffic control, and inspection of vehicles/equipment/material for invasive species.</p> <p>3. The ROI should include not only the Park resources immediately adjacent to HO, but also the areas along the Park roadway. The ROI for this section should be expanded to include the Crater Historic District. The definition of significant impact for historic and cultural resources only being an irrevocable loss is inappropriate for the size and scope of this proposal and the number and importance of the resources that will be adversely impacted.</p> <p>We are concerned about the direct impacts on HALE. Additional mitigation measures should be considered with regards to maintenance and Section 106 compliance for Haleakalā Crater Road.</p> <p>4, 5. Economic impacts on tourist industry for National Park.</p>		
<b>Response:</b>		
The Supplemental Draft Environmental Impact Statement (SDEIS) was prepared in response to public and agency comments of the DEIS and was described in		

the “Note to Reviewer” inside the cover of the SDEIS. Section 1.0-Introduction was prepared to evaluate the potential environmental impacts associated with issuing a National Park Service (NPS) Special Use Permit (SUP), pursuant to 36 Code of Federal Regulations (CFR) § 5.6 to operate commercial vehicles on the Haleakalā National Park Road during the construction and operation of the proposed ATST Project.

The affected environment (Section 3.0-Description of Affected Environment) also includes the Park road corridor, the historic bridge and multiple culverts. The Park road corridor is included because a Special Use Permit (SUP) is required by HALE to operate commercial vehicles within the Park.

Cultural, historic and archeological resources were evaluated within the ROI, which, for these resources, falls within both HO and relevant areas within HALE, including the Park road corridor. (Section 3.2- Cultural, Historic, and Archeological Resources)

Section 4.0- Summary of Environmental Consequences, Cumulative Impacts, and Mitigation was also significantly updated to address resources and effects to these resources from the proposed ATST Project within HALE.

**Federal Aviation Administration**

**Received from:** FAA, D. Young, 10-17-06

**Comment:**

There would be a significant reduction of coverage from the FAA Haleakalā Remote Communications Air-to-Ground (RCAG) facility due to the physical obstruction created by the proposed 143-foot tall ATST building.

Depending on the altitude of the aircraft, the frequencies at Haleakala could experience reduced air to ground voice communication coverage from approximately 20 percent to 75 percent in the direction between 115 to 120 degrees from true north for the proposed primary site and between 87 to 93 degrees from true north for the alternate site.

**Response:**

The proposed ATST Project would have a major, adverse, long-term effect on the FAA Remove Communications Air/Ground (RCAG) facilities, which are located approximately 800 feet west of the Mees Solar Observatory. Because the FAA facilities are located at a lower elevation than the proposed ATST Project, the construction of the proposed ATST Project would result in some signal attenuation from the RCAG facilities due to physical obstruction by the ATST structures. Since the proposed ATST Project would result in a detectable change to the FAA’s existing activities, FAA Obstruction Evaluation and Spectrum Management (11 CFR Part 77.35), FAA specialists working with NSF have addressed any potential issue involving a degradation of signal as a result of the proposed ATST Project. Given that there would be a degradation of signal, the issue has been resolved. The FAA had determination that the degradation of signal can be mitigated by replacing the existing antennas with high-gain antennas and modifying/replacing the existing platforms on which the antennas are mounted to accommodate wind loading and configuration for the new antennas. The FAA has stated that further modification of the site and relocations of the antennas may be needed, but environmental impacts from such a potential modification and relocation would not rise to a level of significance.

<b>Management Plan</b>		
<b>Received from:</b> 1. DBEDT, Office of Planning, L. Thielen, 10-19-06		
2. DLNR-OCCL, S. Lemmo, 10-19-06		3. D. Mayer, 10-22-06
<b>Comment:</b>		
1. The FEIS should address the status of efforts to develop a comprehensive summit master plan or discuss how the IfA’s LRDP fulfills that need.		
2. The applicant should submit a Comprehensive Management Plan with a final EIS.		
3. The Management Plan should include a discussion on the estimated lifetime of the ATST and what options exist should the telescope become obsolete.		
<b>Response:</b> As described in the DEIS, Section 1.8-County of Maui Community Plan, the Makawao-Pukalani-Kula Community Plan (1996) includes a policy that states: “Encourage Federal, State and County cooperation in the preparation of a comprehensive Haleakalā summit master plan to promote orderly and sensitive development which is compatible with the natural and native Hawaiian cultural environment of Haleakalā National Park.”		
<p>The Proposed Action conforms to the LRDP and the HO Management Plan (MP), which would serve as the IfA contribution to any summit master plan. There are more than 25 separate State, Federal and private entities with interests in the summit area of Haleakalā. IfA is the only one of these entities that has undertaken long-range planning for the property under its jurisdiction. The LRDP has specific protocols and measures that ensure orderly and sensitive development that is designed to be compatible with the intended land-use and purposes for the 18.166 acres of land under the stewardship of IfA.</p> <p>In accordance with HAR 13-5, Exhibit 3, the IfA is preparing a MP for HO. The Management Plan will consist of a general description of the land use, ownership, the resources on the property, constraints such as topography, geology, easements, etc., proposed land uses, environmental monitoring strategies, and reporting to the DLNR. The decommissioning and restoration of facilities within HO will also be included in the MP. The MP will be accompanied by a Programmatic Environmental Assessment (PEA). The LRDP and MP, along with the PEA, will comprehensively address planning, monitoring, and reporting for the 18.166 acres of HO and will comply fully with Exhibit 3 of HAR 13-5.</p>		

<b>Significance of Impacts and Mitigation</b>		
<b>Received from:</b> 1. EPA, E. Manzanilla, 10-30-06		
2. K. McDuff, et al, 10-23-06		3. D. Mayer, 10-22-06
<b>Comment:</b>		
1 2. Mitigation is discussed briefly and conceptually. Additional mitigation measure should be considered, given the significant cumulative effects of the proposed ATST project.		
1. We are concerned that the NSF has not fully acknowledged the significance of impacts on the affected environment or included detailed discussion about mitigation within the DEIS. There should be identification and commitment to mitigation before the adverse impact is considered reduced to a level of less significance.		
<p>We recommend that NSF consider adopting a formal adaptive management plan to ensure implementation of mitigation measures and to provide flexibility to meet changing research needs. Action alternatives would incorporate the principles of adaptive management by using monitoring and evaluation to determine if management actions were achieving objectives and adjusting actions accordingly. EPA recommends that NSF review the specific discussion on Adaptive Management in the NEPA Task Force Report to the Council on Environmental Quality on Modernizing NEPA.</p>		
3. Need cumulative impacts from other new activities.		

**Response:**  
 1, 2, 3. The Supplemental Draft Environmental Impact Statement (SDEIS) was prepared in response to public and agency comments on the DEIS, which was described in the “Note to Reviewer” page inside the cover of the SDEIS. In a number of respects, the SDEIS was considerably revised from the DEIS and addresses impact effects and mitigation in more detail. The FEIS provides additional clarification and analysis, including a more informative analysis of how the mitigation measures will reduce impacts to a lower level.

NSO is developing a management plan to ensure implementation of the mitigation measures set forth above. The action alternatives would incorporate these measures by using monitoring and evaluation mechanisms to determine if the Proposed Action is achieving the mitigation objectives and adjust actions accordingly. This management plan would cover both phases of the proposed project, including construction and operations.

<b>Meeting Transcripts</b>	
<b>Received from:</b>	1. Maui Group Sierra Club, K. McDuff, 10-23-06    2. D. Mayer, 10-22-06    3. M. Helm, 09-21-06 and 10-23-06    4. S. Burns (no date)
<b>Comment:</b>	1, 3. We were told when the members of the community presented their oral testimony that it would be transcribed and submitted to NSF to be included in the Final EIS, so we will not duplicate the comments presented at those meetings herein and the DEIS should be corrected accordingly.
	2. The final EIS should contain the complete, unedited, transcripts from each of the scoping meetings held in 2005. During those meetings much valuable testimony was given by the public; a recorder was present and took down all the comments verbatim.
	4. Oral testimony be submitted and viewed – requests video testimony be included.
<b>Response:</b>	Public comments and requests were made that transcripts from all formal public meetings be included in the EIS. To accommodate these requests, transcripts were sent to requesters and verbatim transcripts for the Public Scoping Meetings, the DEIS and SDEIS Public Comment Meetings, and formal Section 106 meetings are provided in Vol. III, Appendices B through D and Vol. IV, Appendix C- Meeting Transcripts. The proceedings of each meeting were taken by machine shorthand and thereafter reduced to print by means of computer-assisted transcription. The transcriptions represent, to the best of each stenographer’s ability, a true and correct transcript of the proceedings.
	The videographer who attended some of the public meetings was not part of the ATST Project. She was an independent videographer attending on her own behalf.

<b>General Corrections to DEIS Statements and/or Verbiage</b>	
<b>Received from:</b>	HALE, Marilyn Parris, 10-19-06
<b>Comment:</b>	The DEIS erroneously states that the view of west Maui and the isthmus is west from various lookouts. The view is actually northwest. The DEIS incorrectly states “concessionaires sponsor their own trips...”. Also, this section only mentions hiking trips and not horse trips.
<b>Response:</b>	The SDEIS has been updated to reflect your comments.

<b>Military-Related Component and Security Implications</b>
<b>Received from:</b> D. Mayer, 10-22-06
<b>Comment:</b> There are indications that there may be military connects to this project, e.g., communications link via a fiber optic cable, the telescope will occasionally be serviced by the Air Force’s Mirror Coating Facility, and scientific results from the ATST observation and analysis would be of great use the U.S. emerging “militarization of space”. Is the ATST actually part of the Federal government’s military program? Close ties to the military will result in potential security concerns.
<b>Response:</b> There is no military component in the purpose and mission of the proposed ATST Project.  The references made to these connections pertain to data transmission connectivity currently provided at HO. The existing facilities at HO are currently served by a microwave link for data transmission. The U. S. Air Force facility is served by a fiber link. Telephone service for all facilities is provided by Hawaiian Telcom, which has spare fiber lines already in place to the summit. The Proposed Action would require connection to those existing data/communications service lines (see Section 2.4.4 Telescope Operation Activities ( <i>Utilities, Communications</i> )).  No agreements are in place with the U.S. Air Force facility to utilize the Mirror Coating Facility.

<b>Unresolved Issues</b>
<b>Received from:</b> OEQC, G. Salmonson, 10-17-06
<b>Comment:</b> Please include a section discussing any and all unresolved issues, if any.
<b>Response:</b> Section 6.0-Unresolved Issues was included in the SDEIS.

<b>Additional Comments</b>	
<b>Comment:</b> Comments to DEIS on behalf of the UH Environmental Center.	<b>Received from:</b> UH Environmental Center, P. Rappa, 10-24-06
<b>Response:</b> Your comments were presented as being submitted in your capacity as a representative of the UH Environmental Center. On November 28, 2006, however, the Vice Chancellor wrote to NSF reporting that your comments do not represent the official views of the UH Environmental Center. Accordingly, NSF considers the views presented by the Vice Chancellor as superseding those submitted by you.	
<b>Comment:</b> RE: Letter submitted by P. Rappa of UH Environmental Center. It should not be assumed that these views are those views of the UH Environmental Center, its employees, or affiliates Assurance that UH is excited about Haleakalā being chosen as the best site from which to study the Sun with the proposed ATST Project. We appreciate that respect has been shown for the site and the community by undertaking both a State and Federal EIS.	<b>Dr. Gary Ostrander, Ph.D., Vice Chancellor for Research and Graduate Education University of Hawai’i at Manoa, 11-28-06</b>
<b>Response to Dr. Ostrander:</b> Thank you for providing us with the official views of the University of Hawai’i at Manoa. They are respectfully noted.	

<b>Letters received with no comments to offer:</b>	
1. Dept. of Health, Maui District Office, H. Matsubayashi, 09-21-06	
2. Dept. of Parks and Recreation, G. Correa, 11-06	
3. K. Ka'eo, 09-27-06	
<b>Response:</b> Thank you for your comments, which are noted.	

<b>Comment:</b> Supportive of project.	<b>Received from:</b> Joe and Karen Johnson, 10-03-06
<b>Response:</b> Thank you for your comments, which are noted.	
<b>Comment:</b> Question focused on a single potential benefit of the telescope – protecting/increasing food supply for planet. Provide a concise list of other potential benefits.	<b>Received from:</b> A. Kaufmann, 10-19-06
<b>Response:</b> Thank you for your comments, which are noted.	

<b>Mitigation Proposals</b>	
<b>Received from:</b> W. Shibuya, 10-23-06 and 08-28-08 Kahu Charles Maxwell (NOTE: This mitigation proposal was formally withdrawn at the June 10, 2009 NHPA Meetings held at Maui Community College.) Maui Community College, Chancellor C. Sakamoto, 05-14-07	
<b>Response:</b> Mitigation Proposals can be found in Section 5.2.2-Addressing Adverse Effects. Thank you for submitting a mitigation proposal. Elements of mitigation proposals are included into the draft Programmatic Agreement that is currently under review by the consulting parties as part of the Section 106 process.	

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Copies of All Public Comments

to the

Draft Environmental Impact Statement  
(September 2006)

# List of Agencies

AGENCY	
1	County of Maui, Dept. of Parks and Recreation
2	County of Maui, Dept. of Planning, Cultural Resources Commission
3	County of Maui, Dept. of Water Supply
4	County of Maui, Development Services Administration (DSA)
5	Maui Electric Co., Ltd. (MECO)
6	State of Hawai'i Dept. of Transportation (DOT)
7	State of Hawai'i, Dept. of Business, Economic Development, and Tourism (DBEDT)
8	State of Hawai'i, Dept. of Health, Environmental Planning Office
9	State of Hawai'i, Dept. of Health, Maui District Office
10	State of Hawai'i, Dept. of Land and Natural Resources (DLNR), Division of Forestry and Wildlife
11	State of Hawai'i, Dept. of Land and Natural Resources, Office of Conservation and Coastal Lands (OCCL)
12	State of Hawai'i, Dept. of Land and Natural Resources, State Historic Preservation Division (SHPD)
13	State of Hawai'i, Office of Environmental Quality Control (OEQC)
14	State of Hawai'i, Office of Hawaiian Affairs (OHA)
15	U. S. Dept. of the Interior, Fish and Wildlife Service (USFWS)
16	U. S. Dept. of the Interior, National Park Service, Haleakalā National Park (HALE)
17	U. S. Dept. of the Interior, Office of the Secretary, Office of Environmental Policy and Compliance
18	U. S. Dept. of Transportation, Federal Aviation Administration (FAA)
19	U. S. Environmental Protection Agency (EPA)
20	University of Hawai'i, Environmental Center
21	University of Hawai'i, Vice Chancellor for Research and Graduate Education

# County of Maui, Department of Parks and Recreation

ALAN M. ARAKAWA  
Mayor



GLENN T. CORREA  
Director

JOHN L. BUCK III  
Deputy Director

(808) 270-7230  
Fax (808) 270-7934

## DEPARTMENT OF PARKS & RECREATION

700 Hali'a Nako'a Street, Unit 2, Wailuku, Hawaii 96793

September 11, 2006

Dr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

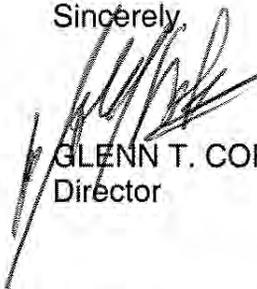
SUBJECT: Advanced Technology Solar Telescope

Dear Dr. Foltz:

We have reviewed the Draft Environmental Impact Statement and have no comments or objections to submit.

Thank you for the opportunity to comment. Please contact me or Mr. Patrick Matsui, Chief of Planning and Development, at 270-7387 if there are any questions.

Sincerely,



GLENN T. CORREA  
Director

GTC:PM:do

c: Patrick Matsui, Chief-Planning and Development  
Genevieve Salmonson, Department of Health OEQC  
Mike Maberry, University of Hawaii Institute for Astronomy  
Dr. Charlie Fein, KC Environmental, Inc.

# County of Maui, Department of Planning Cultural Resources Commission

ALAN M. ARAKAWA  
Mayor

MICHAEL W. FOLEY  
Director

Don Couch  
Deputy Director



## COUNTY OF MAUI DEPARTMENT OF PLANNING

October 23, 2006

Dr. Craig Holtz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Dear Mr. Holtz:

Re: Maui County Cultural Resources Commission Comments on the Draft Environmental Impact Statement for the Construction of the Advanced Technology Solar Telescope (ATST) at the Summit of Haleakala, Tax Map Key: (2) 2-2-007: 008, Haleakala National Park, Makawao, Island of Maui, Hawai'i (EAC 2006/0029)

On October 12, 2006, the Cultural Resources Commission (Commission) conducted a public hearing regarding the above-referenced Draft Environmental Impact Statement (EIS). The Commission heard testimony from the applicant and the general public. Based on the information contained in the Draft EIS, and testimony presented by the applicant and the public, the Commission voted to make the following recommendation.

The Commission strongly recommends adoption of the No Action alternative contained within the Draft EIS. The basis for this recommendation is as follows:

1. Haleakala is a sacred place to the Native Hawai'ian people.
2. The proposed telescope would be a desecration of the physical and spiritual manifestation of the cultural/historical mana of the Native Hawai'ians.
3. The proposed telescope is not consistent with the designation of the summit of Haleakala as a Traditional Cultural Place or Property (TCP) and its eligibility for listing on the National Register of Historic Places.
4. The proposed telescope could impact the nearby burrows of Ua'u birds, which are an endangered species.

The Commission requests that they be placed on the ATST mailing list and be provided with a Final EIS as well as notice of any future public hearings or public meetings regarding the ATST project.

# County of Maui, Department of Water Supply

AN M. ARAKAWA  
Mayor



GEORGE Y. TENGAN  
Director

ERIC H. YAMASHIGE, P.E., L.S.  
Deputy Director

## DEPARTMENT OF WATER SUPPLY

COUNTY OF MAUI  
200 SOUTH HIGH STREET  
WAILUKU, MAUI, HAWAII 96793-2155  
www.mauewater.org

September 29, 2006

Dr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

RE: Draft Environmental Impact Statement  
Project Name: Advanced Technology Solar Telescope  
TMK: 2-2-007:008 (Island of Maui, Hawaii, District of Waiakoa, Papanui, Makawao)

Dear Dr. Foltz:

Thank you for the opportunity to comment on this Draft Environmental Impact Statement.

The proposed site of the Advanced Technology Solar Telescope is not within an area serviced by the Department.

The proposed site overlies the Nakula aquifer with a sustainable yield of 7 MGD (million gallons per day). In order to protect the ground water resources, we encourage the applicant to adopt best management practices (BMP) for construction to minimize infiltration and runoff. Please refer the BMP "Source Water Protection Practices Bulletin - Managing Storm Water Runoff to Prevent Contamination of Drinking Water".

During the construction phase of the project, the Department encourages the applicant to utilize non-potable water for dust control.

The project site is located in the "Maui County Planting Plan" - Plant Zone 2 - Cool Dry Upper Elevations. Native plants adopted to the area conserve water and protect the watershed from degradation due to alien species. Please refer to the attachment that lists native plants suitable for the project site.

Should you have any questions, please contact our Water Resources & Planning Division at (808) 244-8550.

Sincerely,

A handwritten signature in black ink, appearing to read "George Y. Tengan".

George Y. Tengan, Director  
ayi

Enclosure: Source Water Protection Practices Bulletin - Managing Storm Water Runoff to Prevent Contamination of Drinking Water  
Maui County Planting Plan - Plant Zone 2

c: Engineering Division  
WRPD File  
WRPD Reading File

*Water All Things Find Life"*

Printed on recycled paper



# County of Maui, Development Services Administration

ALAN M. ARAKAWA  
Mayor

MILTON M. ARAKAWA, A.I.C.P.  
Director

MICHAEL M. MIYAMOTO  
Deputy Director



RALPH M. NAGAMINE, L.S., P.E.  
Development Services Administration

DAVID TAYLOR, P.E.  
Wastewater Reclamation Division

CARY YAMASHITA, P.E.  
Engineering Division

BRIAN HASHIRO, P.E.  
Highways Division

TRACY TAKAMINE, P.E.  
Solid Waste Division

COUNTY OF MAUI  
DEPARTMENT OF PUBLIC WORKS  
AND ENVIRONMENTAL MANAGEMENT  
**DEVELOPMENT SERVICES ADMINISTRATION**

250 SOUTH HIGH STREET  
WAILUKU, MAUI, HAWAII 96793

September 18, 2006

Dr. Craig Foltz  
ATST Program Manager  
NATIONAL SCIENCE FOUNDATION  
DIVISION OF ASTRONOMICAL SCIENCES  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT  
ADVANCED TECHNOLOGY SOLAR TELESCOPE (ATST)  
HALEAKALA HIGHWAY, HALEAKALA, MAUI, HAWAII  
TMK (2) 2-2-007:008

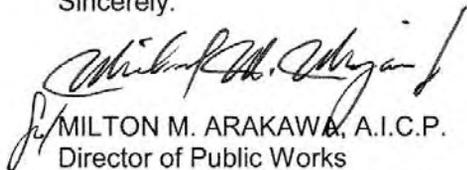
Dear Dr. Foltz:

This is regarding a request for comments on the subject project.

The property is zoned State Conservation. Pursuant to §16.26.101.3 of the Maui County Code, the County's building code does not apply to land designated by the state land use commission to be within the conservation district.

If you have any questions regarding this letter, please contact Sharon Norrod, at (808) 270-7250, or by email at [sharon.norrod@co.maui.hi.us](mailto:sharon.norrod@co.maui.hi.us).

Sincerely,

  
MILTON M. ARAKAWA, A.I.C.P.  
Director of Public Works  
And Environmental Management

RMN:sn

S:\LUCACZM\22007008\_advanced-technology-solar-telescope\_haleakala\_sn.wpd

c: Dept. of Health, Office of Environmental Quality Control  
Mike Maberry, University of Hawaii Institute for Astronomy  
Dr. Charlie Fein, KC Environmental, Inc.

# Maui Electric Company, Ltd.

Maui Electric Company, Ltd. • 210 West Kamehameha Avenue • PO Box 398 • Kahului, Maui, HI 96733-6898 • (808) 871-8461



October 26, 2006

Dr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Dear Dr. Foltz,

Subject: Advanced Technology Solar Telescope (ATST)  
Makawao, Maui, Hawaii  
TMK: (2) 2-2-007:008

Thank you for allowing us to comment on the documents for the subject project..

In reviewing our records and the information received, Maui Electric Company (MECO) has no objections or comments to the proposed project at this time. However, since the proposed load appears substantial, we highly encourage the owner's electrical consultant to meet with us as soon as practical and submit drawings to confirm the project's new electrical demand requirements.

If you have any questions or concerns, please call Ray Okazaki at 871-2340.

Sincerely,

A handwritten signature in black ink that reads "Neal Shinyama". The signature is written in a cursive, slightly slanted style.

Neal Shinyama  
Manager, Engineering

NS/ro:lh

cc: Dept. of Health, Office of Environmental Quality Control (OEQC)  
Mr. Michael Maberry – State of Hawaii-University of Hawaii Institute for Astronomy  
~~Dr.~~ Charlie Fein - KC Environmental, Inc.

# State of Hawai'i, Department of Transportation

LINDA LINGLE  
GOVERNOR



RODNEY K. HARAGA  
DIRECTOR

Deputy Directors  
FRANCIS PAUL KEENO  
BARRY FUKUNAGA  
BRENNON T. MORIOKA  
BRIAN H. SEKIGUCHI

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

STP 8.2259

September 6, 2006

Dr. Craig Foltz  
ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, Virginia 22230

Dear Dr. Foltz:

Subject: Draft Environmental Impact Statement (DEIS)  
Advanced Technology Solar Telescope, Haleakala Observatory  
TMK: 2-2-2-007 - 008

This is to advise you that our prior no impact comments for the EIS Preparation Notice (copy attached) on the telescope project at Haleakala Observatory is still applicable. We wish to add, however, as part of the Draft EIS, that any heavy or wide truck transportation of project equipment on our State highways will require that your project staff and/or construction contractor contact our Highways Maui District Office for the appropriate truck permit and traffic route coordination.

We appreciate the opportunity to provide our comments.

Very truly yours,

A handwritten signature in black ink, appearing to read "Rodney K. Haraga", with a long horizontal stroke extending to the right.

RODNEY K. HARAGA  
Director of Transportation

Attach.

c: Geneveive Salmonson, Office of Environmental Quality Control  
Mike Maberry, University of Hawaii Institute for Astronomy  
Dr. Charlie Fein, KC Environmental, Inc.

**State of Hawai‘i,  
Department of Business, Economic Development, and Tourism**



**DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM**

LINDA LINGLE  
GOVERNOR  
THEODORE E. LIU  
DIRECTOR  
MARK K. ANDERSON  
DEPUTY DIRECTOR  
LAURA H. THIELEN  
DIRECTOR  
OFFICE OF PLANNING

**OFFICE OF PLANNING**

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813  
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2846  
Fax: (808) 587-2824

Ref. No. P-11527

October 19, 2006

Dr. Craig Foltz  
ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Dear Dr. Foltz:

Subject: Advanced Technology Solar Telescope (ATST)  
Draft Environmental Impact Statement (DEIS)  
TMK: (2) 3-5-02:002 and 003  
Wailuku, Maui, Hawaii

Thank you for the opportunity to review the DEIS on the above referenced proposal for construction of the Advanced Technology Solar Telescope (ATST) on approximately 0.60 acres of undeveloped land within the Haleakalā High Altitude Observatories (HO) site. HO, which is managed by the University of Hawaii's Institute for Astronomy (IfA), comprises 18.166 acres of land within the Conservation District at the summit of Haleakalā in the County of Maui, Hawaii. We understand that, as the world's largest and most technologically advanced optical solar telescope, the ATST would provide critical information about solar magnetic processes, space weather, and the effect of solar activity variations on the Earth's climate. Two sites within HO are considered in the DEIS. The preferred site is located next to the existing Mees Solar Observatory (MSO), and the alternate site is a previously disturbed area known as Reber Circle. The project would include construction of an observatory facility, telescope enclosure, support and operations building, utilities building, parking, and (assuming the preferred Mees site is approved) modifications to the MSO facility.

The Office of Planning offers the following comments on the DEIS:

1. Currently, plans for construction on the preferred Mees site propose the development of common support facilities (i.e., a general machine shop and a generator), to be shared by both the MSO and the ATST. However, given that the ATST would represent an improvement upon the existing solar observation

**State of Hawai‘i,  
Department of Business, Economic Development, and Tourism (cont.)**

Dr. Craig Foltz  
Page 2  
October 19, 2006

technologies employed by MSO, it is unclear why the ATST would not replace MSO, particularly since the LRDP discusses just such a possibility. The FEIS should discuss the work being conducted at MSO, the research proposed for the ATST, any overlap in work across the two projects, and the feasibility of ATST servicing all of the NSF and IfA’s solar research needs. The FEIS should also discuss how development of the ATST on the existing MSO site (rather than next to it) would alter the visual impact of the project.

2. In 1998, an audit of the IfA’s management of Mauna Kea and the Mauna Kea Science Reserve concluded that “the university’s management of the science reserve was inadequate to ensure that natural resources are protected” and that scientific pursuits were prioritized over the IfA’s responsibilities as an environmental steward. A follow-up audit in 2005 found significant progress (due, in part, to the transfer of management authority to the Office of Mauna Kea Management, an entity separate from the IfA) but also expressed concerns about the ongoing lack of monitoring and enforcement of permit requirements. Since the IfA also manages Haleakala, we recommend that the FEIS discuss what if any role the IfA will play in oversight and enforcement of the applicant’s plans for environmental protection and impact mitigation.
3. Surveys of biological resources within and near the proposed sites found that development of the ATST may negatively impact the ‘ua‘u (Hawaiian dark-rumped petrel), an endangered species of bird whose primary nesting ground is the summit of Haleakalā. The Applicant, in partnership with the U.S. Fish and Wildlife Service (FWS), has developed a video surveillance plan through which ‘ua‘u behavior and reactions to construction activity will be monitored. However, it is unclear who will be reviewing the surveillance videos, how often the monitoring will be conducted, and what will happen if a negative impact is found. We recommend that the FEIS provide greater specificity about the ‘ua‘u monitoring process to ensure the protection of this important species. Specifically, the FEIS should discuss whether determinations will be made by a qualified expert and whether the monitoring will be conducted often enough to prevent (rather than respond to) ‘ua‘u fatalities. In addition, we recommend that the FEIS discuss the process that will follow if the project is found to harm the ‘ua‘u. For example, will construction cease until the end of the nesting season, or will the project be relocated to an alternate site?
4. The Applicant has expressed an interest in supporting local educational programs and workforce development as part of its effort to mitigate the impact of the ATST on the community. Three types of programs are currently being considered: an education program that integrates traditional Hawaiian knowledge of astronomy and navigation with modern astronomical technology and principles; a workforce development program that supports high-tech training in Maui’s postsecondary institutions; and an educational equity program that encourages Native Hawaiians and other underrepresented groups to pursue the

**State of Hawai‘i,  
Department of Business, Economic Development, and Tourism (cont.)**

Dr. Craig Foltz  
Page 3  
October 19, 2006

fields of science and technology. The FEIS should discuss implementation strategies and specific funding streams for program startup and continued operations since these types of mechanisms would ensure that community benefits are achieved.

5. The Final Environmental Impact Statement (FEIS) should address the status of efforts to develop a comprehensive summit master plan or discuss how the IfA's Long Range Development Plan (LRDP) fulfills that need.

The Office of Planning looks forward to receiving the Final Environmental Impact Statement addressing the issues raised above. If you have any questions, please call Koren Ishibashi in the Land Use Division at 587-2803.

Sincerely,

*Mary Lou Kobayashi for*

Laura H. Thielen  
Director

c: Department of Health, Office of Environmental Quality Control  
Dr. Mike Maberry, University of Hawaii Institute for Astronomy  
Dr. Charlie Fein, KC Environmental, Inc.

State of Hawai'i, Department of Health  
Environmental Planning Office

LINDA LINGLE  
GOVERNOR OF HAWAII



CHIYOME L. FUKINO, M.D.  
DIRECTOR OF HEALTH

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P.O. Box 3378  
HONOLULU, HAWAII 96801-3378

In reply, please refer to:

EPO-06-175

October 20, 2006

Dr. Craig Foltz  
ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Dear Dr. Foltz:

**SUBJECT:** Draft Environmental Impact Statement (EIS) for the Proposed Advanced Technology Solar Telescope (ATST) at Haleakala, Waiakoa District, Maui, Hawaii  
TMK: (2) 2-2-007: 008

Thank you for allowing us to review and comment on the subject document. The document was routed to the various branches of the Environmental Health Administration. We have the following Wastewater Branch, Safe Drinking Water Branch and Clean Water Branch comments.

Wastewater Branch

The subject project is located in the Critical Wastewater Disposal Area (CWDA) as determined by the Maui County Wastewater Advisory Committee where no new cesspools will be allowed.

As indicated in the draft EIS, septic systems are the primary means of wastewater disposal within the summit. The Department has no objections to the use of individual wastewater system (IWS) for the subject site.

All wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater System." We do reserve the right to review the detailed wastewater plans for conformance to applicable rules. Should you have any questions, please contact the Planning & Design Section of the Wastewater Branch at (808) 586-4294.

**State of Hawai‘i, Department of Health  
Environmental Planning Office (cont.)**

Dr. Foltz  
October 20, 2006  
Page 2 of 5

Safe Drinking Water Branch

We understand there is no source or supply of water for the subject project and a rain-catchment system supplemented by hauled water will be used. Federal and State regulations define a public water system as a system that serves 25 or more individuals at least 60 days per year or has at least 15 service connections. All public water system owners and operators are required to comply with Hawaii Administrative Rules, Title 11, Chapter 20, titled, “Rules Relating to Potable Water Systems.”

All new public water systems are required to demonstrate and meet minimum capacity requirements prior to their establishment. This requirement involves demonstration that the system will have satisfactory, technical, managerial, and financial capacity to enable the system to comply with safe drinking water standards and requirements.

Projects that propose development of new sources of potable water serving or proposed to serve a public water system must comply with the terms of Section 11-20-29 of Chapter 20. This section requires that all new public water system sources be approved by the Director of Health prior to their use. Such approval is based primarily upon the submission of a satisfactory engineering report which addresses the requirements set in Section 11-20-29.

The engineering report must identify all potential sources of contamination and evaluate alternative control measures which could be implemented to reduce or eliminate the potential for contamination, including treatment of the water source. In addition, water quality analyses for all regulated contaminants, performed by a laboratory certified by the State Laboratories Division of the state of Hawaii, must be submitted as part of the report to demonstrate compliance with all the drinking water standards. Additional parameters may be required by the Director for this submittal or additional tests required upon his or her review of the information submitted.

All sources of public water system sources must undergo a source water assessment which will delineate a source water protection area. This process is preliminary to the creation of a source water protection plan for that source and activities which will take place to protect the source of drinking water.

All public water systems must be operated by certified distribution system and water treatment plant operators as defined by Hawaii Administrative Rules, Title 11, Chapter 11-25 titled: “Rules Pertaining to Certification of Public Water System Operators.”

Should you have any questions regarding the potable water system, please contact Mr. Kumar Bhagavan of the SDWB Compliance Section at 586-4258 in Honolulu.

State of Hawai‘i, Department of Health  
Environmental Planning Office (cont.)

Dr. Foltz  
October 20, 2006  
Page 3 of 5

Clean Water Branch

The Department of Health (DOH), Clean Water Branch (CWB) has reviewed the subject document and offers the following comments:

1. The Army Corps of Engineers should be contacted at (808) 438-9258 for this project. Pursuant to Federal Water Pollution Control Act (commonly known as the “Clean Water Act” (CWA) Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for “[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters...” (emphasis added). The term “discharge” is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40, Code of Federal Regulations (CFR), Section 122.2; and Hawaii Administrative Rules (HAR), Chapter 11-54.
2. In accordance with HAR, Sections 11-55-04 and 11-55-34.05, the Director of Health may require the submittal of an individual permit application or a Notice of Intent (NOI) for general permit coverage authorized under the National Pollutant Discharge Elimination System (NPDES).
  - a. An application for an NPDES individual permit is to be submitted at least 180 days before the commencement of the respective activities. The NPDES application forms may also be picked up at our office or downloaded from our website at:  
<http://www.hawaii.gov/health/environmental/water/cleanwater/forms/indiv-index.html>.
  - b. An NOI to be covered by an NPDES general permit is to be submitted at least 30 days before the commencement of the respective activity. A separate NOI is needed for coverage under each NPDES general permit. The NOI forms may be picked up at our office or downloaded from our website at:  
<http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html>.
    - i. Storm water associated with industrial activities, as defined in Title 40, CFR, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi). [HAR, Chapter 11-55, Appendix B]
    - ii. Construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. **An NPDES permit is required before the commencement of the construction activities.** [HAR, Chapter 11-55, Appendix C]

**State of Hawai‘i, Department of Health  
Environmental Planning Office (cont.)**

Dr. Foltz  
October 20, 2006  
Page 4 of 5

- iii. Discharges of treated effluent from leaking underground storage tank remedial activities. [HAR, Chapter 11-55, Appendix D]
  - iv. Discharges of once through cooling water less than one (1) million gallons per day. [HAR, Chapter 11-55, Appendix E]
  - v. Discharges of hydrotesting water. [HAR, Chapter 11-55, Appendix F]
  - vi. Discharges of construction dewatering effluent. [HAR, Chapter 11-55, Appendix G]
  - vii. Discharges of treated effluent from petroleum bulk stations and terminals. [HAR, Chapter 11-55, Appendix H]
  - viii. Discharges of treated effluent from well drilling activities. [HAR, Chapter 11-55, Appendix I]
  - ix. Discharges of treated effluent from recycled water distribution systems. [HAR, Chapter 11-55, Appendix J]
  - x. Discharges of storm water from a small municipal separate storm sewer system. [HAR, Chapter 11-55, Appendix K]
  - xi. Discharges of circulation water from decorative ponds or tanks. [HAR, Chapter 11-55, Appendix L]
3. In accordance with HAR, Section 11-55-38, the applicant for an NPDES permit is required to either submit a copy of the new NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the DOH that the project, activity, or site covered by the NOI or application has been or is being reviewed by SHPD. If applicable, please submit a copy of the request for review by SHPD or SHPD's determination letter for the project.
4. Any discharges related to project construction or operation activities, with or without a Section 401 WQC or NPDES permit coverage, shall comply with the applicable State Water Quality Standards as specified in HAR, Chapter 11-54.

The Hawaii Revised Statutes, Subsection 342D-50(a), requires that “[n]o person, including any public body, shall discharge any water pollutants into state waters, or cause or allow any water pollutant to enter state waters except in compliance with this chapter, rules adopted pursuant to this Chapter, or a permit or variance issued by the director.”

State of Hawai'i, Department of Health  
Environmental Planning Office (cont.)

Dr. Foltz  
October 20, 2006  
Page 5 of 5

If you have any questions, please contact Mr. Alec Wong, Supervisor of the Engineering Section, CWB, at (808) 586-4309.

We strongly recommend that you review all of the Standard Comments on our website: [www.state.hi.us/health/environmental/env-planning/landuse/landuse.html](http://www.state.hi.us/health/environmental/env-planning/landuse/landuse.html). Any comments specifically applicable to this project should be adhered to.

If there are any questions about these comments please contact Jiakai Liu with the Environmental Planning Office at 586-4346.

Sincerely,



KELVIN H. SUNADA, MANAGER  
Environmental Planning Office

c: EPO  
WWB  
SDWB  
CWB  
OEQC  
Mr. Mike Maberry, University of Hawaii Institute for Astronomy  
Dr. Charlie Fein, KC Environmental, Inc.

# State of Hawai'i, Department of Health, Maui District Health Office

LINDA LINGLE  
GOVERNOR OF HAWAII



CHIYOME L. FUKINO, M. D.  
DIRECTOR OF HEALTH

LORRIN W. PANG, M. D., M. P. H.  
DISTRICT HEALTH OFFICER

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
MAUI DISTRICT HEALTH OFFICE  
54 HIGH STREET  
WAILUKU, MAUI, HAWAII 96793-2102

September 21, 2006

Dr. Craig Foltz  
ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Dear Dr. Foltz:

Subject: **Advanced Technology Solar Telescope (ATST)**  
**TMK: (2) 2-2-007: 008**

Thank you for the opportunity to comment on the Draft Environmental Impact Statement for the Advanced Technology Solar Telescope project. We have no comments to offer at this time.

Should you have any questions, please call me at 808 984-8230.

Sincerely,

A handwritten signature in black ink, appearing to read "H. Matsubayashi", enclosed in a hand-drawn oval.

Herbert S. Matsubayashi  
District Environmental Health Program Chief

c: OEQC  
EPO  
Mike Maberry  
Dr. Charlie Fein

State of Hawai'i, Department of Land and Natural Resources,  
Division of Forestry and Wildlife

LINDA LINGLE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF FORESTRY AND WILDLIFE  
1151 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813

October 2, 2006

PETER T. YOUNG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

ROBERT K. MASUDA  
DEPUTY DIRECTOR FOR LAND

DEAN NAKANO, Acting  
DEPUTY DIRECTOR FOR  
THE COMMISSION ON  
WATER RESOURCE MANAGEMENT

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
COMMISSION ON WATER RESOURCE  
MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND  
RESOURCES ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE  
COMMISSION  
LAND MANAGEMENT  
STATE PARKS

Dr. Charlie Fein  
University of Hawaii Institute for Astronomy  
2680 Woodlawn Drive  
Honolulu, Hawaii 96822-1897

Dear Dr. Fein:

Subject: Draft Environmental Impact Statement for Advanced Technology Solar Telescope (ATST) by 1) proposing agency: National Science Foundation, Division of Astronomical Sciences – Dr. Craig Foltz, 2) accepting agency: University of Hawaii Institute for Astronomy – Dr. Charlie Fein, 3) Consultant: KC Environmental, Inc. – Dr. Charlie Fein. Makawao District, Island of Maui TMK: (2) 2-2-007: 008.

Department of Land and Natural Resources, Division of Forestry and Wildlife appreciate the opportunity to review and comment on your project relating to the impacts the proposed construction of ATST will have on the natural resources on Haleakala mountain. We provide the following comments for your consideration.

- We are concerned that the construction vehicles and equipment used for the construction of the ATST will have a major impact on the current access road to the project site. We recommend that additional funding be allocated for road maintenance or road repair resulting from daily impacts of transporting heavy equipment to the project site. In addition, the EIS does not mention future road maintenance and public access, will the University of Hawaii (UH), National Science Foundation (NSF) or who will be responsible for ongoing road maintenance and access for the area – Federal Aviation Administration (currently), NSF or UH? Are public funds available for future maintenance?
- Considering the amount of traffic up and down the mountain, we request that construction workers "carpool" to the work area.
- The view planes resulting from this ATST development will have a significant impact on Haleakala mountain.
- About 85 percent of the Hawaiian Petrel population a federally listed endangered ground-nesting seabird, makes its home at Haleakala National Park on Maui. These seabirds excavate nesting burrows along large rock outcrops, under cinder cones, or under old lichen-covered lava. Burrows are generally 3 to 6 feet deep, although some may be as long as 15 feet. The Hawaiian Petrel is most vulnerable during their breeding season

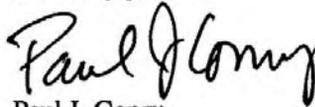
State of Hawai'i, Department of Land and Natural Resources,  
Division of Forestry and Wildlife (cont.)

between March and November. Construction work should be done to minimize impacts to the nesting burrows of the Hawaiian Petrels and avoid any take of this federally listed species. Please consult with Haleakala National Park Biologists or State Wildlife Biologists for further information. If incidental take is anticipated, a State Habitat Conservation Plan should be obtained.

- One of the greatest long-term threats to Haleakala summit area and nearby state managed forest reserves is the introduction and spread of invasive species. The transportation of equipment and materials to the construction project may bring unwanted invasive species to the summit area. We recommend that the project coordinators adopt procedures to restrict invasive species introductions, and apply preventive measures for monitoring and detection to catch these species before they enter the summit area or the island of Maui and become widespread in the islands. For transcontinental shipments between the mainland and Hawaii, the risk of importing the invasive fire ants, killer bees, snakes or other predators is increased significantly if equipment goes unchecked prior to their arrival at Hawaii's ports.

Thank you for the opportunity to comment on your project.

Sincerely yours,



Paul J. Conry  
Administrator

C: Maui DOFAW – NAH, Wildlife staff  
DLNR, OCCL

~~David Craig Fisher, NSF, DAG~~

State of Hawai'i, Department of Land and Natural Resources  
Office of Conservation and Coastal Lands

LINDA LINGLE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
OFFICE OF CONSERVATION AND COASTAL LANDS

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

PETER T. YOUNG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA  
DEPUTY DIRECTOR

DEAN A. NAKANO  
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

Ref: OCCL:MC

Correspondence MA-07-54

Dr. Charlie Fein  
KC Environmental Inc.  
PO Box 1208  
Makawao, HI 96768

**SUBJECT: REQUEST FOR COMMENTS**

Draft Environmental Impact Statement  
Advanced Technology Solar Telescope  
Haleakalā High Altitude Observatories, Pu'u Kolekole,  
Waiahoa District, Maui, Hawai'i  
TMK (2) 2-2-07:08

2006 OCT 19 A 3:32  
RECEIVED  
NATURAL RESOURCES  
STATE OF HAWAII

Dear Dr. Fein:

The Office of Conservation and Coastal Lands (OCCL) has reviewed the Draft Environmental Impact Statement for the proposed Advanced Technology Solar Telescope (ATST) at the Haleakalā High Altitude Observatories (HO) site on Haleakalā. HO lies in the State Land Use Conservation District.

As noted in the EIS Table 1.4 *Anticipated Permits and Approvals Required for the Proposed Action*, the project will require a Conservation District Use Permit (CDUP) from the Board of Land and Natural Resources. The applicant should submit a **Conservation District Use Application** (CDUA), a **Comprehensive Management Plan**, and the **Final EIS** to OCCL. OCCL will review the application in light of the criteria outlined in Hawai'i Administrative Rules (HAR) Chapter 13-5 *Conservation District*, Subchapter 4 PROCEDURES FOR PERMITS, SITE PLAN APPROVALS, AND MANAGEMENT PLANS.

OCCL would like to offer the following comments on the Draft EIS:

- The Draft EIS acknowledges that the proposed telescope will have a potentially significant impact on Native Hawaiian cultural and spiritual practices. The document mentions that the applicant will develop a Memorandum of Agreement (MOA) with Native Hawaiian groups. OCCL would like a copy of the MOA included with the CDUA. We would also be interested in knowing how the applicant selected the Native Hawaiian groups that it drafted the agreement with.

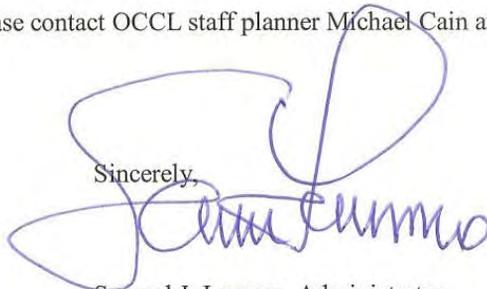
**State of Hawai‘i, Department of Land and Natural Resources  
Office of Conservation and Coastal Lands (cont.)**

Correspondence MA-07-54

- The Management Plan should include a discussion on the estimated lifetime of the ATST, and what options exist should the telescope become obsolete.
- The Final EIS should include a discussion of what mitigation measures were considered to mitigate the impact of the project on Native Hawaiian cultural and spiritual practices.
- The endangered ‘ua‘u, or Hawaiian dark-rumped petrel (*Pterodroma phaeopygia sandwichensis*) nests in and near the project area. The Final EIS should include a thorough discussion of what mitigation measures will be taken during both construction and operation of the facility to protect the burrows both during and after the breeding season.
- The impact of the project on Haleakalā’s view plane has become a major issue for the residents of Maui. The Final EIS should contain a discussion of what design measures were considered to mitigate the project’s visual impact.
- The Long Range Development Plan for HO proposes that the ATST replace the UH Mees Solar Observatory and the UH Atmospheric Airglow instrument platform (Figure 7.1: *Table of Existing and Proposed Facilities at the Haleakalā High Altitude Observatory Site*). This should be addressed in the Final EIS.

Should you have any questions, please contact OCCL staff planner Michael Cain at 587-0048.

Sincerely,



Samuel J. Lemmo, Administrator  
Office of Conservation and Coastal Lands

cc: DLNR Chair  
Historic Preservation Division  
Division of Forestry and Wildlife  
State Parks  
UH Institute for Astronomy

# State of Hawai'i, Department of Land and Natural Resources, State Historic Preservation Division

LINDA LINGLE  
GOVERNOR OF HAWAII



## STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

PETER T. YOUNG  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA  
DEPUTY DIRECTOR - LAND

DEAN NAKANO  
ACTING DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONSERVATION  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCES ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

October 23, 2006

Dr. Charlie Fein  
KC Environmental Inc.  
P.O. Box 1208  
Makawao, Hawaii 96768

LOG NO: 2006.3502  
DOC NO: 0610MK17  
Archaeology

Dear Dr. Fein:

**SUBJECT: National Historic Preservation Act (NHPA) Section 106 Review –  
Request for Comments on the Draft Environmental Impact Statement for the  
Advanced Technology Solar Telescope, Haleakala High Altitude Observatories,  
Puu Kolekole, Waiakoa District  
Papaanui Ahupuaa, Makawao District, Island of Maui  
TMK: (2) 2-2-007:008**

Thank you for the opportunity to provide comments on the Draft Environmental Impact Statement for the proposed Advanced Technology Solar Telescope (ATST) at the Haleakala High Altitude Observatories (HO) site on Haleakala.

SHPD offers both specific and general comments on the Draft EIS:

1. The document should mention that the proposed project area is within the boundaries of the Crater Historic District (SIHP 50-50-11/12-1739). In addition to the State Inventory of Historic Places, the Crater Historic District is also listed on the National Register of Historic Places. An historic park road significant under Criterion "A" (association with development of the National Park system) and Criterion "C" (for its association with the Rustic park design of early NPS development circa 1930s), one bridge, 11 box culverts and original culverts with mortared stone headwalls are within the APE, as construction vehicles will be transiting through the park to the site. Cumulative impacts to these historic properties should be addressed.
2. Section 4.2.1. The definition used for "significant impact" on historic and cultural resources as referencing only irrevocable losses of said resources is not appropriate in this circumstance. The implication is that if the impact does not result in an irrevocable loss, it is a "less than significant" impact. In the case of the Haleakala summit area, we believe the threshold should be lower, given the community input regarding the significance of this Traditional Cultural Property.
3. Sections 4.2.2, 4.2.3, and 4.17.2: As stated in the document, the proposed actions are "significant but mitigable to less than significant impact". We believe that the cumulative impacts of the project have not been addressed regarding mitigation, and that significant impacts to the historic district/property and traditional cultural property of Haleakala are not adequately addressed in the document.
4. As a Traditional Cultural Property and sacred place, the summit of Haleakala is eligible under Criterion "A" for its association with the cultural landscape of Maui, Hawai'i and this is reflected

**State of Hawai‘i, Department of Land and Natural Resources,  
State Historic Preservation Division (cont.)**

Dr. Charlie Fein  
Page 2

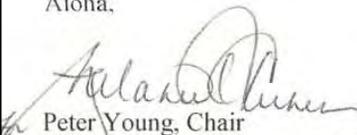
in the number of known uses, oral history, *mele* and legends surrounding Haleakala. The summit of Haleakala, as a Traditional Cultural Property is also significant under Criterion “C” because it is an example of a resource type, a natural summit, a source for both traditional materials and sacred uses. The value ascribed to Haleakala as a TCP can be expressed in five distinct attributes, solidifying the role of the summit as a place of value. First, Haleakala Summit is considered by Indigenous Hawaiians, as well as more recent arrivals to Hawai‘i, as a place exhibiting spiritual power. This was expressed in your Cultural Resource Evaluation (Maxwell, 2006). Second, the summit of Haleakala is significant as a traditional cultural place because of practice. For both Hawaiians and outsiders who live and visit here, the summit is a place of reflection, and rejuvenation. Third, the *mooolelo* and chants surrounding the summit of Haleakala present a cluster of stories suggesting the significance of Haleakala as a Traditional Cultural Property. Fourth, it can be argued that the summit possesses therapeutic qualities. Finally, Haleakala summit clearly provides an “experience” of place which few people are likely to forget once having been there.

In light of the significance of Haleakala Summit as indicated in the responses to the proposed ATST by the community, and the identification of the Summit as both an Historic District, and a Traditional Cultural Property, we believe that the cumulative effects of a project such as this have not been adequately addressed in the Draft EIS. Using National Register Bulletin 38 it is clear that “districts, sites, and objects *do not have to be the products of, or contain, the work of human beings* in order to be classified as properties.” Based on the above mentioned attributes, Haleakala Summit unquestionable represents a Traditional Cultural Property. The cumulative impacts of the proposed ATST must be adequately addressed during the Environmental Impact Statement process. These impacts include the visual as well as the concern of the community that the location of the ATST will “open the door” for future construction of similar facilities at the summit of Haleakala.

While we appreciate the scientific value of the proposed project, the community has expressed concerns regarding impacts to this Traditional Cultural Property. We believe that additional consultation regarding any newly proposed mitigation for the cumulative impacts posed by the project must occur prior to preparation of a Final Draft EIS and/or Memorandum of Agreement of adverse effect. We recognize your efforts to date to conduct consultation.

Should you have any questions, please contact Dr. Melissa Kirkendall, State Historic Preservation Division, Maui Section, at (808) 243-5169.

Aloha,

  
Peter Young, Chair  
State Historic Preservation Officer

MK:kf:gvf

c: Thelma Shimaoka, Maui Community Resource Coordinator, Office of Hawaiian Affairs,  
Bijan Gilanshah, National Science Foundation FAX 703 292-9041  
Michael Cain, Office of Conservation and Coastal Lands  
Elizabeth Gordon, Haleakala National Park, Cultural Resources Program Manager FAX 572-4498  
Hinano Rodrigues, Culture and History Branch, SHPD  
Charles Maxwell, Chair, MLIBC

# State of Hawai'i, Office of Environmental Quality Control

LINDA LINGLE  
GOVERNOR OF HAWAII



GENEVIEVE SALMONSON  
DIRECTOR

## STATE OF HAWAII OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET  
SUITE 702  
HONOLULU, HAWAII 96813  
TELEPHONE (808) 586-4185  
FACSIMILE (808) 586-4186  
E-mail: oeqc@health.state.hi.us

October 17, 2006

Dr. Craig Foltz, Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, Virginia 22230

Dr. Rolf-Peter Kudritzki, Director  
University of Hawaii Institute for Astronomy  
2680 Woodlawn Drive  
Honolulu, Hawai'i 96822-1897

Dr. Charles Fein, Vice-President  
KC Environmental Inc.  
P.O. Box 1208  
Makawao, Hawai'i 968768

Dear Drs. Foltz, Kudritzki, and Fein:

The Office of Environmental Quality Control has reviewed the draft environmental impact statement for the Advanced Technology Solar Telescope and offers the following comments.

1. **Traditional and Cultural Practices:** In Appendix F (Cultural Resource Evaluation), the **conclusion** on page 62 appears somewhat abruptly, after extensive disclosure of geographical, cultural, historical, botanical, archaeological, informant knowledge, cultural protocol, Reber Circle, the ahu on Kolekole and photographs. For clarity, we would respectfully recommend that a new section **assessing and discussing** the disclosed information with respect to the impact of the proposed telescope and facility be prepared. This section should precede the conclusion to guide the reader through the investigator's own analytical thought processes.
2. **Unresolved Issues:** Please include a section discussing any and all unresolved issues, if any.

Thank you for the opportunity to comment. Please call Mr. Leslie Segundo, Environmental Health Specialist at (808) 586-4185 if you have any questions.

Sincerely,

  
for GENEVIEVE SALMONSON  
Director

# State of Hawai'i, Office of Hawaiian Affairs

PHONE (808) 594-1888

FAX (808) 594-1865



**STATE OF HAWAII**  
**OFFICE OF HAWAIIAN AFFAIRS**  
711 KAPI'OLANI BOULEVARD, SUITE 500  
HONOLULU, HAWAII 96813

HRD06/2048C

October 2, 2006

Dr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Blvd., Room 1045  
Arlington, VA 22230

**RE: Draft Environmental Impact Statement for the proposed Advanced Technology Solar Telescope, Haleakalā, Maui; TMK: 2-2-007:008**

Dear Mr. Foltz,

The Office of Hawaiian Affairs (OHA) is in receipt of the Draft Environmental Impact Statement (DEIS) issued September 1, 2006 for the Advanced Technology Solar Telescope (ATST), which the National Science Foundation (NSF) proposes to build on Haleakalā, Maui. OHA is the "principal public agency in this State responsible for the performance, development, and coordination of programs and activities relating to native Hawaiians and Hawaiians." Hawai'i Revised Statutes (HRS) § 10-3(3). It is our duty to "[a]ssess[] the policies and practices of other agencies impacting on native Hawaiians and Hawaiians, and conduct[] advocacy efforts for native Hawaiians and Hawaiians." HRS § 10-3(4). In this capacity, we offer the following comments.

OHA appreciates that NSF has entered into formal consultation with the U.S. Fish and Wildlife regarding the impacts on the endangered 'u'au that live and breed within the preferred project site. We also commend the agency's attempt to address environmental and cultural concerns through an EIS and the consistent use of correct Hawaiian spelling, including the usage of 'okina and kahakō.

We have serious concerns with the DEIS, however. As further explained below, the DEIS was not used as a decision-making tool prior to NSF's decision to build the ATST at Haleakalā, as required by the National Environmental Policy Act (NEPA) and the Council for Environmental Quality (CEQ) regulations. In addition, the alternatives presented in the DEIS do not represent a true opportunity for NSF to make an informed choice of location for the ATST, nor for adequate public input in the process.

To rectify these deficiencies, OHA requests that NSF issue a supplemental draft EIS that includes the final three sites, which were identified by NSF as suitable for the ATST, as alternatives for comparison. This would provide decisionmakers and the public the opportunity

Mr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
October 2, 2006  
Page 2

to review all reasonable alternatives to the proposed action using environmental and cultural criteria, in conjunction with technical criteria, as required by NEPA. Until NSF completes a proper environmental review for the ATST project, OHA opposes this EIS and the project.

#### Timing of the NEPA process

NEPA “declares a broad national commitment to protecting and promoting environmental quality.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989). To achieve this policy goal, NEPA requires that each federal agency consider the potential environmental impacts of all “major Federal actions significantly affecting the quality of the human environment” through the preparation of an environmental impact statement. 42 U.S.C. § 4332. This directive is known as a “set of action-forcing procedures that require that agencies take a ‘hard look’ at environmental consequences.” *Robertson* at 350.

Proper timing is essential for NEPA procedures to be effective in meeting the national goal of environmental protection. Pursuant to CEQ Regulations, an EIS “shall be prepared early enough so that it can serve practically as an important contribution to the decisionmaking process and will not be used to rationalize or justify decisions already made.” 40 C.F.R. § 1502.5. The Ninth Circuit Court of Appeals has stated that “NEPA’s purpose is to ensure that federal agencies take a ‘hard look’ at environmental consequences *before* committing to action.” *Ground Zero Center for Non-Violent Action v. United States Dept. of the Navy*, 383 F.3d 1082, 1086 (9th Cir. 2004) (emphasis added).

The requirement that NEPA procedures begin as early in the decisionmaking process as possible is not limited to specific final actions, such as the “siting, construction, and operation” of the ATST. DEIS at 1-1 (“NSF has prepared this EIS to evaluate the potential environmental impacts associated with the siting, construction, and operation of the Proposed Action.”) Rather, “[a]gencies shall integrate the NEPA process with other planning at the *earliest possible* time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts.” 40 C.F.R. § 1501.2.

It is clear from the brief overview that follows that NSF did not comply with NEPA regulations by considering environmental effects of its proposed project “at the earliest possible time.” Rather, environmental and cultural concerns were considered only *after* the decision to construct at Haleakalā was made. All of the following information was taken from the DEIS at pages 2-1 through 2-3:

- 1998 – Idea to construct an ATST was born; first criteria for defining an astronomically optimal site for the ATST were established
- 2000 – International science community refined site criteria
- 2001 – 72 potential sites chosen based on scientific criteria; after evaluation, sites were narrowed down to 6

## State of Hawai‘i, Office of Hawaiian Affairs (cont.)

Mr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
October 2, 2006  
Page 3

- 2002 – Physical testing of 6 sites began, and after a year, testing continued on 3 of the 6 sites
- 2004 – Final report “concluded that Haleakalā met the criteria for the primary science outputs – annual required hours of good seeing and dark skies.”
- 2005 – “Upon selection of Haleakalā as the proposed site, the procurement process was initiated in January to identify an environmental engineering company to provide support for the EIS process and related cultural studies and consultations.”

By NSF’s own admission, environmental and cultural concerns were considered only *after* the decisionmaking process was completed. OHA appreciates that extremely technical decisions must be made for the placement and construction of this telescope and that technicalities are best left to NSF scientists and experts. As a federal agency, however, NSF is bound by NEPA and CEQ regulations. CEQ regulations state, “[e]ach agency *shall* . . . [i]dentify environmental effects and values in adequate detail so they can be compared to economic and technical analyses. Environmental documents and appropriate analyses shall be circulated and reviewed *at the same time* as other planning documents.” 40 C.F.R. § 1501.2 Thus, it is absolutely clear under NEPA that environmental values are not to come second to economic and technical considerations, as occurred in this situation.

### Alternatives Analysis

The heart of an EIS is its discussion of alternatives. 40 C.F.R. § 1502.14. Every EIS must contain a “rigorous and objective” analysis of “all reasonable alternatives” to the proposed action, including a discussion of the “no action” alternative as a base-point to which the proposed action can be compared. 40 C.F.R. § 1502.14(a). Although not every alternative must be considered, “[t]he existence of a viable but unexamined alternative renders an environmental impact statement inadequate.” *Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1057 (9th Cir. 1985). The requisite alternatives are determined by the stated purposes and goals underlying the proposed agency action, however, “an agency cannot define its objectives in unreasonably narrow terms.” *Carmel-by-the-Sea v. U.S. Dep’t of Transportation*, 123 F.3d 1143, 1156 (9th Cir. 1997). The alternatives offered must “foster both informed decision-making and informed public participation.” *California v. Block*, 690 F.2d 753, 761 (9th Cir. 1982).

The purpose of the project appears to be the construction of a “powerful, flexible system that would serve the U.S. and international solar physics communities as the primary ground-based facility into the middle of the 21<sup>st</sup> century and beyond.” DEIS at 1-14. The alternatives presented in the DEIS must therefore reflect this purpose, while providing the decisionmaker all reasonable alternatives for comparison of technical and environmental considerations.

OHA appreciates that the “no action” alternative was included in the DEIS, however, the other two alternatives offered did not properly take into account the environmental effects of the

Mr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
October 2, 2006  
Page 4

the project will go ahead on Haleakalā, instead of using the NEPA process in deciding where the project will go forward.

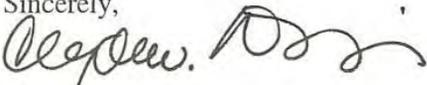
OHA is not requesting that NSF analyze the environmental impacts of all 72 sites identified by NSF as potential locations for the ATST. We do believe, however, that an analysis of the final three sites that remained viable options would be reasonable and sufficient to comply with NEPA. By analyzing the final three sites (Big Bear, Haleakalā, and La Palma) through an EIS, NSF will have a tool to consider not only the technical comparisons of the various sites, but the environmental and cultural impacts as well. This would allow NSF decisionmakers the opportunity to "reach enlightened policy decisions by taking into account environmental effects." *Environmental Defense Fund v. Massey*, 986 F.2d 528 (D.C. Cir. 1993) (requiring NSF to comply with NEPA before implementing an organic waste incineration program in Antarctica).

Proffered Solution

In summary, to cure the deficiencies with the timing and alternatives requirements of NEPA and CEQ regulations, OHA strongly suggests that NSF issue a supplemental draft EIS that compares the environmental impacts of the final three sites that were previously analyzed by NSF for technical criteria only. This will allow NSF decisionmakers to consider all required factors before a decision is made as to where the ATST should be built. It will also allow the public the opportunity to properly respond to and comment on the proposed project, as envisioned by Congress through NEPA. We note that incorporating proper alternatives into a final EIS is not satisfactory, because a legally sufficient EIS will involve significant changes on which the public must have an opportunity to comment. *See, Block*, 690 F.2d at 770.

Thank you for this opportunity to comment and for continuing to work with our Maui community resource coordinator, Thelma Shimaoka, regarding the cultural impacts of the ATST. We look forward to reviewing your supplemental DEIS. If you have any further questions or concerns please contact Koa Kaulukukui at (808) 594-0244 or [koalanik@oha.org](mailto:koalanik@oha.org).

Sincerely,



Clyde W. Nāmu'o  
Administrator

CWN:kk

C: Thelma Shimaoka, Community Resource Coordinator, OHA, Maui  
Genevieve Salmonson, Director, Office of Environmental Quality Control  
Mike Maberry, Associate Director, University of Hawai'i Institute for Astronomy  
✓ Dr. Charlie Fein, KC Environmental, Inc.

# U. S. Department of the Interior, Fish and Wildlife Service



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Pacific Islands Fish and Wildlife Office  
300 Ala Moana Boulevard, Room 3-122, Box 50088  
Honolulu, Hawaii 96850

In Reply Refer To:  
1-2-2006-F-494

SEP 28 2006

Dr. Craig B. Foltz  
ATST Program Officer  
Division of Astronomical Sciences  
National Science Foundation  
4201 Wilson Boulevard  
Arlington, Virginia 22230

Subject: Initiation of Formal Consultation for the Construction and Use of the Advanced Technology Solar Telescope, Haleakala High Altitude Observatories Site, Maui

Dear Dr. Foltz:

Your request for initiation of formal consultation dated August 28, 2006, contains all information necessary for us to initiate consultation on the effects of construction and use of the Advanced Technology Solar Telescope (ATST) at the Haleakala High Altitude Observatories site on the endangered Hawaiian petrel (*Pterodroma sandwichensis*). Thank you for sending us the additional information we requested in our July 20, 2006, letter, regarding the proposed project. We have assigned log number 1-2-2006-F-494 to this consultation. Please refer to that number in future correspondence on this consultation.

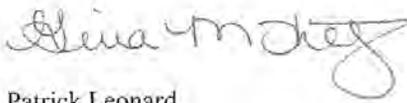
Section 7 allows the Service up to 90 calendar days to conclude formal consultation with your agency and an additional 45 calendar days to prepare our biological opinion (unless we mutually agree to an extension). Therefore, we expect to provide you with our biological opinion no later than January 10, 2007.

As a reminder, the Endangered Species Act requires that after initiation of formal consultation, the Federal action agency may not make any irreversible or irretrievable commitment of resources that limits future options. This practice insures agency actions do not preclude the formulation or implementation of reasonable and prudent alternatives that avoid jeopardizing the continued existence of endangered or threatened species or destroying or modifying their critical habitats.

We appreciate the opportunity to assist you with the proposed project. If you have any questions or concerns about this consultation or the consultation process in general, please feel free to contact me or Fish and Wildlife Biologist Dawn Greenlee (808) 792-9400.

Sincerely,

TAKE PRIDE<sup>®</sup>  
IN AMERICA 

  
 Patrick Leonard  
Field Supervisor

**NOTE: The USFWS Informal Consultation Document can be found in Vol. II-Surveys and Assessments, Appendix M.**

**U. S. Department of the Interior, National Park Service,  
Haleakalā National Park**



IN REPLY REFER TO:

**United States Department of the Interior**

**National Park Service**

**Haleakalā National Park**

**PO Box 369**

Makawao, Maui, Hawai'i  
96768

October 19, 2006

Dr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard; Room 1045  
Arlington, VA 22230

Dear Dr. Foltz:

It is the National Park Service's contention this Draft Environmental Impact Statement (DEIS) falls far short in adequately evaluating the numerous cumulative, adverse impacts to the park's resources, our visitor experiences, and overall park operations. Overall we disagree with the definitions of "significant impact" and "cumulative impact" used throughout the document. Taking into account the national and international significance of the natural, cultural, and historic resources found within Haleakalā National Park (HALE), the 1.7 million annual visitation the park currently receives, and the desecration of a highly sacred site to the Native Hawaiian culture that will be impacted, the bars for significant and cumulative impacts in this DEIS have been established far too high to be considered reasonable, rational, logical, and/or creditable for a project the scope and size of the proposed ATST.

One glaring complete omission from this DEIS is the adverse impact this proposed project will have on HALE park operations. Our overall park operations will be heavily impacted and there is no mention within the DEIS of these impacts and/or mitigation to these impacts. For example, considerable effort and staff time will be necessary to control traffic, inspect vehicles/materials/equipment/etc for invasive species/weeds/etc, monitor natural resource impacts, and maintain the park roadway and associated facilities. Also the park's entrance station will not allow safe passage for the size construction vehicles and machinery outlined in this proposal. These and other similar concerns are viable impacts of the proposed project and must be evaluated within a proper DEIS.

The DEIS was very confusing and difficult to logically follow. There were numerous inaccuracies and inconsistencies within the document. Also generally the DEIS contains numerous errors and misinterpretations of reports pertaining to vertebrate and invertebrate wildlife. Many of the sources used to base species information are reports that are not peer-reviewed by subject matter experts, are brief excerpts on what was reported, and/or are reports that are specific to particular projects. All sections pertaining to vertebrate and invertebrate wildlife should include peer-reviewed published reports to be creditable. Additionally interpretation of these reports and publications should be substantiated.

The following will outline our specific concerns and issues with the DEIS:

## U. S. Department of the Interior, National Park Service, Haleakalā National Park (cont.)

- **ES- 2.0 and Section 2.0 Proposed Action and Alternatives:** Although the site selection criteria are mentioned in ES- 2.1, Appendix J (1) lists the criteria and all 72 sites. Paragraph two of ES- 2.1 states "Initially 72 sites around the world were evaluated with respect to the science criteria above". Then it lists the 6 sites "carried forward for further evaluation" based on the site selection criteria and feasibility of construction and operations. There is no table of site criteria/feasibility scores that provides the reader with an understanding of why the final 6 sites were selected. Table 1 of Appendix J (1) does list the lake area (acres), distance to ocean, and annual sunshine hours but does not address all of the listed criteria. For the site selection, the DEIS does not provide a clear justification for the final 6 sites. Also it listed Sacramento Peak in New Mexico in the final 6 when it was not listed among the 72 sites considered.

- **ES- 2.2 Alternatives Considered but Removed from Further Consideration:** The information provided on sites removed from further consideration seems inconsistent and suspect. This is based on the lack of data provided within the DEIS on why sites were removed, the selection of the 6 final sites, and the fact that sites were included in the final 6 that did not even meet the basic feasibility of construction and/or operations.

- **ES- 3.6 Visual Resources and View Plane:** Park's annual visitation is approximately 1.7 million and not a million annually as stated. The DEIS erroneously states that the view of west Maui and the isthmus is west from various lookouts. The view is actually northwest.

- **ES- 3.2 Historic and Cultural Resources:** The DEIS states the Region of Influence (ROI) for cultural and historic resources is considered to be the entire summit area of Haleakalā. This ROI is within the boundaries of the Crater Historic District (Hawaii State Inventory of Historic Places Site #50- 50- 11/12- 1739) which is listed on the National Register of Historic Places. The Crater Historic District includes the entire Haleakalā High Altitude Observatories (HO) area. For the DEIS to focus only within the Pu'u Kolekole area is flawed.

Document states "The Haleakalā Crater Road State Road 378 is the only route to the summit of Haleakalā." At the park boundary Crater Road is no longer State Route 378; it becomes an National Park Service (NPS) owned and maintained roadway. The DEIS does not specifically discuss and/or analyze the direct or cumulative impacts of heavy construction vehicles/traffic on this park road, which was built between 1933- 1935. This historic roadway has been evaluated by the NPS and Historic American Engineering Record (HAER) as eligible for listing in the National Register of Historic Places (under criterion A for its development of the National Park System, the development of early NPS landscape architectural design styles, and the craftsmanship of the CCC) and Criterion C (for its association with rustic park design that characterized early NPS development during the 1930s). Historic features of this roadway include: 1 bridge, 11 box culverts and original culverts with mortared stone headwalls.

Heavy construction vehicle/equipment associated with the proposed project could have major adverse impacts on this historic road and associated features that may need to be mitigated. Therefore, HALE must be a consulting party in the Section 106 consultation process.

- **ES- 3.13.4 Recreational Facilities:** There is no mention that approximately 24,000 acres of HALE is remote, pristine designated wilderness acclaimed for its beauty, serenity, and tranquility. This designated wilderness area of the park begins just below the proposed ATST site. Also in this section there is no mention of the approximately 1.7 million annual visitors and the impacts to their park experiences.

DEIS states "concessionaires sponsor their own trips ..." HALE does not have concession operations within the park. Current commercial operations are Commercial Use Authorizations for individual companies. Also this section only mentions hiking trips and not horse trips.

## U. S. Department of the Interior, National Park Service, Haleakalā National Park (cont.)

Also the DEIS states that HALE's visitor center is east of the HO when it is actually northeast.

- **Section 3.4.3.3 Invertebrate Resources:** the DEIS states "no species were found that are locally unique to the site, nor were there any species found whose habitat is threatened by normal observatory operations." This is consistent with what was reported in the Arthropod Inventory and Assessment prepared by Pacific Analytics, but was only a brief excerpt of the full report. In the Summary of the Arthropod Fauna section of the Arthropod Inventory and Assessment it goes on to say that the species *Lycosa hawaiiensis* (native wolf spider), *Blackburnia rupicola* (native ground beetle), and *Thyrocopa apatela* (Haleakalā flightless moth) are "unique to the higher elevations of Haleakalā and have made interesting adaptations to the harsh environment". Overall the information presented in the DEIS is insufficient to fully assess the impacts to arthropods within the proposed project site.

Specific issues not presented in the DEIS include:

- It is likely there are more arthropod species unique to the Haleakalā summit than what was reported in the Arthropod Inventory and Assessment. Saying there are no species unique to the site is misleading.
- There are USFWS species of concern present in the proposed site. The Haleakalā flightless moth is a listed Species of Concern. Park biologists have also collected from the summit two other native bees - - *Hylaeus difficilis* and *Hylaeus volatilis* - which are also listed as Species of Concern. Neither of these are mentioned in the DEIS.
- There is no mention in the DEIS of the two invasive species - Argentine ant and yellow jackets - which are present within the proposed site. These aliens are reducing the habitat of unique endemic summit species, making each piece of unaffected habitat all the more critical.

- **ES- 4.2 and Section 4.2 Historic and Cultural Resources:** Overall HALE contends the definition of significant impact for historic and cultural resources only being an irrevocable loss is inappropriate for the size and scope of this proposal and the number and importance of the resources that will be adversely impacted. This means any impact that does not result in an irrevocable loss is a less than significant impact. The threshold for determining significant impacts should be drawn lower. To establish this threshold so high is a pre-determination that the historic and cultural resources impacted are trivial and not worthy of preservation/protection.

The DEIS bases their ROI to only the HO lands, neglecting the rest of the Crater Historic District of which the HO lands are part.

The DEIS states that for the proposed actions the direct, indirect, and cumulative impacts are "significant but mitigable to less than significant impact". It is premature to make this assessment since no agreement has been reached yet about mitigation measures with the Hawaii State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation, Native Hawaiians, and other consulting parties. If no agreement is reached, then the impact remains a significant impact. How the mitigation measures proposed in the DEIS been received by these interested parties during Section 106 consultation is not stated. And there is no mention of what other mitigation measures have been proposed for the project during any Section 106 consultation meetings. As stated previously HALE should be included as a consulting party for Section 106.

- **ES- 4.4 and Section 4.4, Biological Resources:** The DEIS ROI should include not only the park resources immediately adjacent to the HO, but also the areas along the park roadway. Therefore the affected environment in the DEIS does not adequately describe the complete areas of impact. This must include the roadway and adjacent areas throughout the park. Construction vehicles

## U. S. Department of the Interior, National Park Service, Haleakalā National Park (cont.)

traveling along the park roadway could disturb 'ua'u and Nēnē nestings near the road. Additionally construction vehicles and cargo are a potential vector of invasive species along the full length of the road corridor.

The DEIS identifies three endangered vertebrate species. These include the *Pterodroma sandwichensis* ('ua'u or Hawaiian petrel), *Branta sandvicensis* (Nēnē), and the *Lasiurus cinereus* (Hawaiian bat).

'Ua'u – there are numerous errors and misinterpretations pertaining to the 'ua'u in the DEIS. These include:

- The correct common name for the 'ua'u is Hawaiian petrel and the correct scientific name is *Pterodroma sandwichensis*. This needs to be corrected throughout the DEIS.
- The entire description of the 'ua'u should be based on published documents such as the species account published in The Birds of North America. Table 3- 3 should be revised utilizing information from these sources for all species within the table. Also for verbal information to be creditable it must be substantiated with specific information and/or cross referenced with published reports.

The proximity of 'ua'u burrows to the proposed project site and staging areas is not adequately described. There are two burrows near the MEES site and both were active in 2006, both producing eggs. One burrow is approximately 20 meters (66 feet) from the MEES site; the other burrow is approximately 8 meters (26 feet) from the actual ATST site.

Section 4.4.5 of the DEIS states that possible significant impacts to 'ua'u could occur from construction activities. This statement contradicts the less than significant impact to the 'ua'u stated in Section 4.4.2.

The DEIS does not adequately address the impacts to the 'ua'u. The document states the impacts at either of the proposed sites will be less than significant. This statement is contentious for several reasons:

- There have been no projects that are comparable to the magnitude of the proposed ATST in such close proximity to 'ua'u. Therefore utilizing information on past projects as stated under Section 4.4.1 is not creditable.
- Though the DEIS does state in Section 4.4.2 that impacts from construction could include the potential for disturbance of the habitat, it only indicates 'ua'u may leave their nests and collapse of burrows is possible. In addition to these already significant disturbances, the 'ua'u may also abandon incubating eggs, causing the mortality of those eggs. This potential was not mentioned and/or evaluated.
- Section 4.4.2 states current activity at HO does not have adverse effects on nesting 'ua'u and that confirmed cases of adult mortality include predation by introduced predators and collision with buildings. It further states that although these risks exist at HO no 'ua'u mortality has been documented. This information is based on a report completed by the HALE Wildlife Biologist for a specific project. The report referenced within the DEIS is taken totally out of context and only examined burrow activity and fledging success. The report did not measure nesting success and only covered activity at the HO for a specific time frame. HALE biologists have documented egg and chick mortality for the colony directly below the MEES site. Additional mortality may have occurred from striking buildings and/or predators, however, HALE staff does not survey HO areas on a regular basis for 'ua'u carcasses. This is another example of the inadequacies of the DEIS in properly examining potential impacts to this species.

The possible adverse impacts to 'ua'u by the proposed project and associated construction to the 'ua'u burrows, eggs, and overall mortality are significant to the species as a whole. The proposed

## U. S. Department of the Interior, National Park Service, Haleakalā National Park (cont.)

project will have direct, indirect, and cumulative adverse impacts to the species. It is only after 25+ years of habitat protection and monitoring by HALE staff that signs of recovery are now becoming evident. A peer-reviewed study conducted by HALE staff shows that habitat protection is not only benefiting the species within the park's boundaries but also in areas adjacent to the park, including the HO site. The proposed project as outlined in the DEIS would negatively impact the `ua`u and compromise efforts by the NPS to recover the species.

Nēnē – as with the `ua`u the species description should be based on publications such as The Birds of North America. The source for figure 3- 7 map showing distribution of Nēnē is inaccurate.

Increased traffic along the park roadway during and after construction will increase the mortality of Nēnē no matter how slight the DEIS states the chance may be. Any mortality of Nēnē within HALE is significant for the species as a whole. The wild population is currently unstable. Without the release of propagated Nēnē within HALE, the species would likely be extinct within the park.

‘Ope`ape`a – the impacts to `ope`ape`a (Hawaiian bat) are not adequately described, researched, and/or evaluated within this DEIS. Radar surveys conducted near the summit have detected bats flying near the HO site. To adequately evaluate and address the potential impacts, further detailed surveys, including nest surveys is required for this DEIS.

- **ES- 4.5 and Section 4.5 Topography, Geology, and Soils:** the term topography should refer to both natural and man- made features.

The proposal to increase Pu`u Kolekole by 24 feet to restore the natural slope with the excess soil and rock as being a beneficial impact contradicts the construction of the 143 foot ATST and associated tunnel as having no impact to the topography. The composition of the "restored" slope would not replicate the actual layering from/during an eruption. The surface would take much time to mature with fine particles either blowing away during windy weather and/or permeating into the ground during rain.

The DEIS claims the cultural restoration of Pu`u Kolekole via the restoration of the truncated cone will be a beneficial impact. HALE disagrees with this assertion due to the unnatural appearance of the created slopes.

- **ES- 4.6 and Section 4.6 Visual Resources and View Planes:** The DEIS states there will be less than significant impacts to visual resources and view plane from Pu`u Ula`ula because it would not dominate the current vista towards HO and/or significantly reduce the vista for park's current 1.7 million annual visitors. We disagree with the methodology to assess these impacts. This determination is strictly subjective with no scientific and/or aesthetical basis. Impacts to the visual resources and view plane are a social/experiential based impact. Therefore a social science study is necessary to properly document the range of acceptable, minimally acceptable, and unacceptable visual conditions for the summit area of Haleakalā. This would best be achieved by a survey of a statistically valid sample of the people of Maui and the visiting public. Only then can there be solid baseline data from which to assess the impacts of the project proposal.

We disagree with the definition of "significant" impact for the visual resources and view plane as only being a new or irrevocable loss of visual resources. This means any impact that does not result in an irrevocable loss is a less than significant impact. This threshold is far too high to be rationale and/or logical considering the size and scope of this proposal.

Also we disagree with the direct, indirect, and cumulative impact assessment for the proposed actions being less than significant because the HO would not dominate or displace a significant fraction of the vistas available to those who view Haleakalā. HALE contends the cumulative

## U. S. Department of the Interior, National Park Service, Haleakalā National Park (cont.)

impacts of the HO area that includes the proposed ATST at 143 feet in height, along with the existing AEOS at 110 feet in height, and the other visible structures contained within the HO site will be significant on the visual resources and view plane because of the concentration of visible development at one spot on the summit of Haleakalā vista, which is otherwise mostly undeveloped.

- **ES- 4.8 and Section 4.8 Hazardous Materials and Solid Waste:** While the DEIS spells out in detail the types of hazardous waste substances that will be involved with the proposed site and its removal from the site, it does not state the frequency nor method of transport of these hazardous material through the park road. The omission of the potential impacts of the frequency and method of transport of these hazardous materials through the park's already busy roadway is of great concern. There was also no mention of mitigation of potential spills along the park road and its impacts to visitors, employees, and/or the natural/cultural resources.

- **ES- 4.9 and Section 4.9, Roadways and Traffic:** as previously stated beginning at the HALE boundary, the road up to the summit becomes an exclusively NPS owned and maintained roadway. This road is also eligible for inclusion on the National Register of Historic Places for its cultural significance. The DEIS maintains there would likely be negligible impacts to the roadway and traffic except when there is infrequent short- term adverse impacts on traffic conditions during heavy construction equipment/materials delivery and that most roadways require very little maintenance and have considerable longevity. It is HALE's contention the impacts to the roadway and traffic are grossly incorrect and understated. The park roadway is already reaching total failure due to the increase of heavy equipment traffic in recent years. To fully assess the actual impacts of this proposed project on the park roadway, HALE has requested Federal Highways complete an analysis of both the short and long term effects of this proposed project and its construction. The park is currently awaiting this analysis and will provide that information once received from Federal Highways. We anticipate this information will be available by mid- November.

The DEIS tends to ignore the cumulative effects definition regarding the impacts of traffic on the park roadway. The addition of the ATST at the HO will increase overall traffic to the summit both during the construction and the operations of the facility. While defining the number of cement trucks which will impact traffic flow, the DEIS did not define the number for trucks delivering materials, supplies, and/or equipment. Therefore, the DEIS assessment that there will be infrequent short- term adverse impacts on traffic conditions is flawed.

- **ES- 4.10 and Section 4.10 Noise:** Noise from the construction activities is anticipated to be a less than significant impact. The DEIS states that impacts would be primarily from point source emitters such as machinery and equipment during construction. Heavy construction vehicles and equipment leaving the ATST site and descending the steep park road and into the upper Kula residential area will subject the environment to the loud braking noises (i.e. jake/compression brakes). This impact was not included nor evaluated as a potential source of noise.

- **ES- 4.11 and Section 4.11 Air Quality:** HALE is a Class I Air Quality Airshed. The impacts of the dust during construction were not properly evaluated in this DEIS. For example, the dust created during the process of restoring Pu'u Kolekole's natural slope will be significant during any earthmoving process unless mitigation measures are in place. Mitigation measures stated only relate to fugitive dust and intermittent exhaust.

- **ES- 4.13.4 and Section 4.13.4 Recreational Facilities:** the DEIS repeats the less than significant impact of the visual resources and view plane when comparing it to the visitor's experience of the view shed of the existing HO from Pu'u 'Ula'ula. The DEIS contends the level of impact is subjective and states the ATST is just another additive to an otherwise pristine view. The definition of pristine means in a pure state uncorrupted by civilization or typical of the earliest time

## U. S. Department of the Interior, National Park Service, Haleakalā National Park (cont.)

or condition. Therefore, the addition of the proposed ATST will be a significant adverse impact to the pristine view plane.

- **ES- 4.17 and Section 4.17.6 Visual Resources and View Plane:** the DEIS states the cumulative impact to visual resources and view plane from existing facilities is subjective, and thus ignores the cumulative impact definition provided within the document under ES- 4.17. This is yet another example of the inconsistencies found within this document. Also view planes from the HALE designated wilderness should be addressed for visual intrusion.

- **ES- 4.17.9.5 and Section 4.17.9 Roadways and Traffic:** The DEIS does not quantify any cumulative impacts created by the proposed action with other projects. Although the document states here the proposed action would result in collateral damage to roadways caused by heavy vehicular traffic and interfere with visitor traffic during peak traffic times, they do not consider this significant. In a national park, visitor experience is significant. This entire section does not address the issues and/or impacts and only serves to confuse the overall roadway/traffic issues.

- **ES- 4.18 and Section 4.18 Mitigation:** DEIS defines mitigation as including avoiding, minimizing, rectifying, reducing, or compensating for the impact by replacing or providing substitute resources or environments. Specific concerns include:

- **ES- 4.18.2 and Section 4.18.2 Historic and Cultural Resources** – DEIS states to mitigate the significant adverse impacts by the proposed action would require the consultation of a Cultural Specialist prior to and during the construction. Additionally the National Science Foundation (NSF) is consulting with the SHPO and Native Hawaiian organizations, individuals, and members of the public to develop a mitigation strategy and Draft memorandum of Understanding. Should this consultation fail, the Final EIS would consider the impacts on the cultural resources as adversely significant. This process seems weak and pre- decisional.
- **ES- 4.18.4 and Section 4.18.4 Biological Resources** – The video surveillance of the `ua`u colony is stated as being the mitigation for the adverse impacts to this endangered bird. This is a monitoring, not a mitigation measure. The monitoring currently taking place is not and will not be showing impacts to the birds during actual construction. Also the described video monitoring may potentially be having adverse impacts on `ua`u. `Ua`u may be disturbed by persons setting up the cameras, by the cameras themselves, and/or become injured by the camera wires. USFWS biologists have already questioned the effects of the camera after watching `ua`u behavior documented by this monitoring equipment. These biologists noted that `ua`u appeared to be examining the camera at the burrows.

The DEIS states that burrows within HALE will also be monitored with this video equipment. As of this writing, HALE has not approved the use of the video monitoring equipment within the park.

Mitigating the adverse impacts for `ua`u is difficult. There are currently no facilities in the world that have the ability and/or knowledge to propagate `ua`u. Previous translocation efforts have been unsuccessful. Previous efforts for the long- term rehabilitation of injured `ua`u have also been unsuccessful.

**Section 4.18.4 Increased Mitigation Efforts to Prevent Accidental Introduction of Non- native Plants and Animals** – the mitigation outlined here in the DEIS falls grossly short of the measures necessary to ensure that non- native species, both plant and animal, are not introduced into HALE and/or the proposed site. The DEIS states that “construction would be conducted in accordance with the practices and measures outlined in the LRDP”, yet the

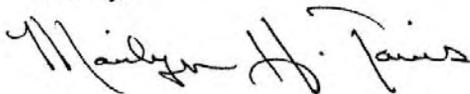
**U. S. Department of the Interior, National Park Service,  
Haleakalā National Park (cont.)**

specific stated measures in the DEIS contradict the LRDP. Construction vehicles/equipment/machinery will not be allowed access through the park based on the mitigation outlined within this DEIS.

- ES- 4.18.5 and Section 4.18.5 Topography, Geology, and Soils -- the DEIS states in this section the rounding of Pu`u Kolekole to a more natural appearance is the mitigation. This might be the mitigation for cultural adverse impacts, however, it is not mitigation for the movement of the soils and topography and the unnatural appearance the slopes will have.
- ES- 4.18.6 and Section 4.18.6 Visual Resources and View Plane – DEIS stated no mitigation to the impacts on the visual resources and view plane. This seems unreasonable considering the significant impacts to the view plane and visual resources.
- ES- 4.18.9 and Section 4.18.9 Roadways and Traffic – coordination of construction- related projects and traffic with affected parties is not adequate mitigation for the scope of impact to the park roadway. Also to suggest a preferred mitigation measure is to implement carpooling only serves to trivialize the cumulative adverse impacts to the park roadway and traffic issues.
- ES- 4.18.10 and Section 4.18.10 Noise – the DEIS states the mitigation measure to the `ua`u colony will be the video monitoring system along with noise monitoring equipment. Again these are monitoring activities and do not mitigate the adverse impacts to the birds.
- ES- 4.18.13 and Section 4.18.13 Public Services and Facilities – again no mention of the impacts and/or any mitigation measures proposed that will incur to park facilities and operations.

In conclusion, the NPS must strongly oppose the construction of this facility adjacent to the HALE boundary based on the information presented within this DEIS. The number of gaps, inconsistencies, and inaccuracies within this DEIS argue that moving forward to a Final EIS at this time is untenable. We suggest it more prudent to prepare a Supplemental Draft EIS and request that the NPS be consulted in its preparation. Should you have questions and/or need further clarification to our comments please contact me at 808- 572- 4401.

Sincerely,



Marilyn H. Parris  
Superintendent

cc: Dept. of Health, Office of Environmental Control, Honolulu, HI  
Mike Maberry, Associate Director University of Hawai`i Institute for Astronomy  
Dr. Charles Fein, KC Environmental, Inc.  
Regional Director, Pacific West Regional Office, NPS

**U. S. Department of the Interior, Office of the Secretary,  
Office of Environmental Policy and Compliance**



**United States Department of the Interior**

OFFICE OF THE SECRETARY  
Office of Environmental Policy and Compliance  
Pacific West Region  
1111 Jackson Street, Suite 520  
Oakland, California 94607

IN REPLY REFER TO:  
ER06/0909

Via email

31 October 2006

Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Blvd., Room 1045  
Arlington, VA 22230

Subject: Review of the Draft Environmental Impact Statement (DEIS) for Advanced Technology  
Solar Telescope (ATST) at the Haleakala High Altitude Observatory (HO) Site, Haleakala,  
Island of Maui, Hawai'i

Dear Dr. Foltz:

The Department of the Interior has received and reviewed the subject document, and offers the following comments for your consideration.

National Park Service (NPS) has specific concerns about adverse impacts to Haleakala National Park's natural, cultural, historic & economic resources, visitor experiences, and overall park operations (see attached Haleakala comment letter dated 19 October 2006).

NPS believes some of these impacts may be inconsistent with its resource conservation and non-impairment mandates under the NPS Organic Act, 16 U.S.C. § 1 et seq., as amended and supplemented, and Haleakala National Park's enabling statute, 16 U.S.C. §§ 394, 396b. Any modifications to the summit road due to the ATST project will require NPS approval under its authorities, including the aforementioned park statute, the National Environmental Policy Act, and possibly NPS regulation 36 C.F.R. 5.7.

Formal consultation is required under National Historic Preservation Act (NHPA) section 106, on appropriate mitigation. Memorandum of Agreement must be executed with the Advisory Council on Historic Preservation and/or Hawai'i State Historic Preservation Officer.

Fish & Wildlife Service (FWS) is currently conducting Endangered Species Act section 7 formal consultation with NSF, and reserves specific comment on the DEIS.

The Department has numerous concerns about this project and requests the opportunity to meet with NSF project staff. The following contacts are available to begin dialogue to address and jointly resolve our concerns. We anticipate exploring adaptive management strategies to achieve a mutually-advantageous EIS and outcome.

Kaiini (Kimo) Kaloi  
Director, Office of Hawai'ian Relations, Dept. of the Interior  
202.513.0712, [kaiini\\_kaloi@ios.doi.gov](mailto:kaiini_kaloi@ios.doi.gov)

**U. S. Department of the Interior, Office of the Secretary,  
Office of Environmental Policy and Compliance (cont.)**

**ER 06/0909:** Review of the DEIS for Advanced Technology  
Solar Telescope (ATST) at the Haleakala High Altitude  
Observatory (HO) Site, Haleakala, Island of Maui, Hawai'i

Page 2 of 11

Patricia Sanderson Port  
Regional Environmental Officer, OEPC, Region IX, Dept. of the Interior  
510.817.1477, [oepcsfn@aol.com](mailto:oepcsfn@aol.com)

Frank Hays  
Pacific Area Director, Honolulu, National Park Service  
808.541-2693x723, [frank\\_hays@nps.gov](mailto:frank_hays@nps.gov)

Marilyn Parris  
Superintendent, Haleakala National Park (HALE), National Park Service  
808.572.4401, [marilyn\\_h\\_parris@nps.gov](mailto:marilyn_h_parris@nps.gov)

Thank you for the opportunity to review this project. We look forward to discussing and resolving these issues with you promptly.

Sincerely,

Patricia Sanderson Port  
Regional Environmental Officer

Cc:

Director, OEPC, HQ  
Regional Director, Fish & Wildlife Service, Portland, OR  
Kimo Kaloi, Director, Office of Hawai'ian Relations, DOI  
Jonathan Jarvis, Regional Director, Pacific West Region, NPS  
Frank Hays, Pacific Area Director, Pacific West Region, NPS  
Marilyn Parris, Park Superintendent, Haleakala National Park (HALE), NPS  
Stephanie Toothman, Program Chief, Cultural Resources Pacific West Region, NPS  
Alan Schmierer, Environmental Compliance Program, Pacific West Region, NPS  
Peter Young, State Historic Preservation Officer, Hawai'i Dept. of Lands & Natural Resources  
Advisory Council on Historic Preservation

Attach.

*For attachment, see comment for U. S. Department of the Interior, National Park Service,  
Haleakalā National Park, October 19, 2006.*

# U. S. Department of Transportation, Federal Aviation Administration



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

Western-Pacific Region  
Real Estate and Utilities Section, AHNL-54B

P. O. Box 50109  
Honolulu, Hawaii 96850-5000

October 17, 2006

Dr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of  
Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Dear Dr. Foltz:

By letter from Dr. Charlie Fein, Vice President of KC Environmental, Incorporated of September 1, 2006, the Federal Aviation Administration (FAA) was asked to review and comment on the Draft Environmental Impact Statement (DEIS) for the proposed Advanced Technology Solar Telescope (ATST) to be constructed at the University of Hawaii Institute for Astronomy located at Haleakala, District of Waiakoa, Papaanui, Makawao, Island of Maui, State of Hawaii, (Tax Map Key No. 2-2-2-007-008).

The FAA recognizes the value and importance of this project, however, the FAA must strongly object to the use of either of the proposed locations at Haleakala. There would be a significant reduction of coverage from the FAA Haleakala Remote Communications Air to Ground (RCAG) facility due to the physical obstruction created by the proposed 143-foot tall ATST building.

Depending on the altitude of the aircraft, the frequencies at Haleakala could experience reduced air to ground voice communication coverage from approximately 20% to 75% in the direction between 115 to 120 degrees from true north for the proposed primary site and between 87 to 93 degrees from true north for the alternate site.

It is hoped that another location may be found that will meet or exceed your facility's requirements. Please contact me at the above address, if there are any questions.

Sincerely,

A handwritten signature in cursive script that reads "Darice B. N. Young".

Darice B. N. Young  
Realty Contracting Officer

cc:  
Department of Health, Office of Environmental  
Quality Control (OEQC), REF: ATST  
235 South Beretania Street, Room 702  
Honolulu, HI 96813

Mr. Mike Maberry, Associate Director  
University of Hawai'i Institute for Astronomy  
P. O. Box 209  
Kula, HI 96790-0209

Dr. Charlie Fein, Vice President  
KC Environmental, Inc.  
P. O. Box 1208  
Makawao, HI 96768

# U. S. Environmental Protection Agency



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

October 30, 2006

Dr. Craig Foltz  
ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Subject: Draft Environmental Impact Statement (DEIS) for the Advanced Technology Solar Telescope (ATST), Haleakala, Maui, Hawaii (CEQ# 20060368)

Dear Dr. Foltz:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

The National Science Foundation (NSF) proposes to construct the Advanced Technology Solar Telescope (ATST) and support buildings within the 18,166-acre University of Hawaii Institute for Astronomy (IfA) Haleakala High Altitude Observatories (HO) site at the summit of Mount Haleakala on the Island of Maui, Hawaii. The ATST would be the world's largest optical solar telescope and would be housed in a 143-foot tall structure.

Based on our review, we have rated the DEIS as Environmental Concerns – Insufficient Information (EC-2) (see enclosed "*Summary of Rating Definitions*"). EPA recognizes the scientific importance of the ATST on Mount Haleakala and we support the decision to complete an EIS. EPA is concerned that the NSF has not fully acknowledged the significance of impacts on the affected environment and has not provided sufficient detail regarding mitigation measures in the DEIS. EPA believes there should be identification and commitment to mitigation before the adverse impact is considered reduced to a level of less significance. EPA is concerned about the negative impacts associated with locating additional structures on a site that is considered to be sacred to the Native Hawaiians. EPA is also concerned about direct impacts on Haleakala National Park (HALE); cumulative impacts due to construction and traffic; and impacts on endangered species, particularly the `ua`u (Hawaiian petrel).

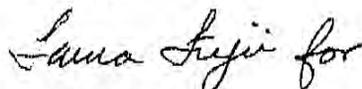
The Final Environmental Impact Statement (FEIS) should include more information on the mitigation proposed for the affected environment and details of any Memorandum of Agreement (MOA) which may be implemented at a later date. EPA recommends that a conceptual mitigation plan be developed and be agreed upon by the agencies involved. EPA also recommends that the NSF consider adopting a formal adaptive management plan to ensure implementation of mitigation measures. If an Environmental Management System (EMS) has not

## U. S. Environmental Protection Agency (cont.)

been implemented, EPA recommends that the NSF consider this. Mitigation measures should be included as a component of the EMS to ensure implementation and re-evaluation.

We appreciate the opportunity to review this DEIS. When the FEIS is released for public review, please send one (1) hard copy to the address above (mailcode: CED-2). If you have any questions, please contact me at (415) 972-3843 or Ann McPherson, the lead reviewer for this project. Ann can be reached at (415) 972-3545 or [mcperson.ann@epa.gov](mailto:mcperson.ann@epa.gov).

Sincerely,



Enrique Manzanilla, Director  
Communities and Ecosystems Division

Enclosures: Summary of EPA Rating Definitions  
Detailed Comments

## SUMMARY OF EPA RATING DEFINITIONS<sup>1</sup>

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

### ENVIRONMENTAL IMPACTS OF THE ACTION

#### **"LO" (Lack of Objections)**

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

#### **"EC" (Environmental Concerns)**

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

#### **"EO" (Environmental Objections)**

The EPA review has identified significant environmental impact that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

#### **"EU" (Environmentally Unsatisfactory)**

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

### ADEQUACY OF THE IMPACT STATEMENT

#### **"Category 1" (Adequate)**

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

#### **"Category 2" (Insufficient Information)**

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

#### **"Category 3" (Inadequate)**

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

<sup>1</sup> From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

## US EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE ADVANCED TECHNOLOGY SOLAR TELESCOPE, HALEAKALA, MAUI, HAWAII, OCTOBER 30, 2006

### 1. Project Description

The National Science Foundation (NSF) proposes to construct the Advanced Technology Solar Telescope (ATST) within the 18.166-acre University of Hawaii Institute for Astronomy (IfA) Haleakala High Altitude Observatories (HO) site near the summit of Mount (Mt.) Haleakala on the Island of Maui, Hawaii. The ATST would be the world's largest optical solar telescope and would be housed in a 143-foot tall structure, supported by caissons extending a maximum of 20 feet down into the basalt bedrock. During the site selection process, 72 sites from around the world were evaluated. The HO was determined to be the only site capable of meeting or exceeding specified scientific criteria.

Three alternatives were considered in the Draft Environmental Impact Statement (DEIS): 1) Mees Site at the HO (Proposed Action); 2) Reber Circle at the HO; and 3) No-Action Alternative, which would mean that the ATST would not be constructed. The HO contains several existing observatories and other structures including the Air Force Maui Space Surveillance System; the Faulkes Telescope; the MAGNUM and Subaru Observatories; and the University of Hawaii's Mees Solar Observatory. The HO is located about 0.3 miles from the summit of Mt. Haleakala, which is in Haleakala National Park (HALE). The HO is not located within the perimeter of HALE, although access to the HO is through the HALE.

### 2. Concern about Significance of Impacts and Lack of Detailed Discussion about Mitigation

EPA is concerned that the NSF has not fully acknowledged the significance of impacts on the affected environment or included detailed discussion about mitigation within the DEIS. EPA believes that there should be identification and commitment to mitigation before the adverse impact is considered reduced to a level of less significance.

Mitigation is discussed, briefly and conceptually, in Section 4.18 (pgs. 4-78 through 4-87). However, Section 4.18 lacks details of specific mitigation measures that will be implemented. Mitigation measures are also discussed in The Archaeological Field Inspection (Xamanek Researchers, LLC, 2005) and Section 9.3.2 of the University of Hawaii IfA HO Long Range Development Plan (KC Environmental Inc., 2005). For example, the IfA maintains a program that includes "Sense of Place" training for everyone working at HO, coordination with and oversight by a cultural specialist for all construction projects, and areas set-aside for exclusive use by *Kanaka Maoli* (indigenous Hawaiian people) to practice cultural and spiritual ceremonies (pg. 3-7). Although these mitigation measures may have been implemented, EPA believes additional mitigation measures should be considered given the significant cumulative effects of the proposed ATST.

*Recommendation:*

EPA recommends that additional mitigation measures be considered for impacts to:

- 1) Native Hawaiian community
  - a. Historic and cultural resources;
  - b. Environmental justice;
  - c. Visual resources and view plane;
- 2) Haleakala National Park
  - a. Haleakala Crater Road – Maintenance and Section 106 compliance;
  - b. Personnel for traffic control, inspection of vehicles/equipment/material for invasive species;
  - c. Personnel for additional monitoring programs; and
- 3) Endangered species.

*Recommendation:*

EPA recommends that the NSF identify and commit to mitigation before the adverse impact is identified as reduced to a level of less significance. This comment is applicable to the following categories of affected environment:

- a. Historical and cultural resources (See number 3)
- b. Roadways and traffic (See number 4)
- c. Topography, geology, and soils (See number 5)
- d. Visual resources and view plane (See number 6)
- e. Endangered species (See number 7)

**3. Historical and Cultural Resources - National Historic Preservation Act (NHPA) - Compliance with Section 106 (3-14)**

**a. Mt. Haleakala/Section 106 Compliance**

Haleakala is considered to be a sacred site that holds strong cultural, traditional, and religious significance to the Hawaiian people. Numerous archaeological sites have been recorded on the crest and in the crater of Mt. Haleakala. The cultural resources associated with Haleakala date back more than a thousand years and are an integral part of the Hawaiian culture, both past and present (pg. 3-6).

The NSF is required to initiate Section 106 review as a result of the National Historic Preservation Act (NHPA). The State Historic Preservation Officer (SHPO) coordinates the State's historic preservation program and consults with agencies during a Section 106 review. The NSF must also consult with all interested Native Hawaiian organizations. Informal consultations with the Native Hawaiian community were initiated in January 2005 and formal consultation meetings were held in March 2006 and May 2006. During the course of Section 106 consultations, the issue of "cultural desecration" was raised due to the excavation of material from Haleakala; the caissons which extend up to 20 feet into the basalt bedrock; and the 143-foot tall structure which would mar the view of the mountain.

## U. S. Environmental Protection Agency (cont.)

We recognize the efforts to receive input from Native Hawaiian organizations regarding the proposed location and construction of the ATST. The consultations with Native Hawaiian organizations have resulted in NSF arriving at a finding of "adverse effect" to the cultural and historic resources of Haleakala, should the ATST be constructed at HO (page 3-8). NSF also arrived at a finding that the summit area of Haleakala constitutes a Traditional Cultural Property (TCP) "that is eligible for inclusion in the National Register of Historic Places (NRHP) because of its association with cultural practices or beliefs of a living community." The NSF is in the process of working with the Native Hawaiian organizations and local communities to mitigate adverse effects. NSF is hopeful that this process will culminate in a Draft Memorandum of Agreement (MOA) with the affected communities.

*Recommendation:*

EPA recommends that the NSF discuss and implement additional mitigation measures to address the historical and cultural resource effects of the ATST. The FEIS should discuss in detail all activities associated with compliance in conjunction with the NHPA. The FEIS should include information about the Section 106 process, consultations with the Native Hawaiians, and references to any MOA which might be implemented at a later date. EPA is supportive of an MOA to address the adverse effects of the proposed project.

*Recommendation:*

EPA recommends that the FEIS describe suggestions from Native Hawaiians and local communities and the ways in which the agency will respond to these concerns. Resolution strategies and mitigation plans should be discussed in detail. Mitigation measures could include funding for Hawaiian cultural educational programs, improved cultural centers, and research on sacred sites within HO.

*Recommendation:*

The NSF identifies the impact to historic and cultural resources as being "*Significant but Mitigable to Less Than Significant*" within the DEIS (pgs. 4-6, 7). EPA recommends the impact be identified as "*Significant*" because no agreement on the level of significance or mitigation has been reached. The terms of agreement and mitigation must be discussed and agreed upon with the Native Hawaiian communities, SHPO, and the ACHP before this issue can be resolved.

### b. Haleakala Crater Road/Section 106 Compliance

The Haleakala Crater Road was constructed in the 1930's and is approximately 21.3 miles in length. This road has been evaluated by the National Park Service (NPS) and Historic American Engineering Record (HAER) and deemed eligible for listing in the NRHP under Criterion A and Criterion C.

*Recommendation:*

EPA recommends that NSF conduct Section 106 consultations with the NPS, HALE, and the SHPO.

#### 4. Direct, Indirect, and Cumulative Impacts due to Construction and Traffic on NPS Roads

The Haleakala Crater Road (State Road 378) is a two lane highway, approximately 21.3 miles in length, with steep inclines and numerous switchback curves (at least 32). The Haleakala Crater Road is the only route to the summit of Haleakala (10,023 feet) and is one of the fastest ascending roads in the world. The road becomes an NPS owned and operated road at the entry to HALE. The State of Hawaii Department of Transportation (HDOT) conducted a 24-hour survey of traffic volume on Haleakala Crater Road in April 2003. The traffic volume totaled 1,616 vehicles in a 24-hour period (pg. 3-40). The DEIS does not specifically discuss or analyze the direct, indirect, or cumulative impacts of heavy construction vehicles or increased traffic on the park road. The DEIS discusses potential damage to the HO roadways but fails to discuss damage to the HALE roadway (pg. 4-44). The NSF identifies construction related impacts on roadways and traffic as being "*Less Than Significant*". Mitigation measures suggested by the NSF include coordinating construction-related projects and traffic with affected parties and carpooling (pg. 4-84).

*Recommendation:*

EPA is concerned about traffic impacts on the Haleakala Crater Road and believes that construction of the project could directly impact HALE, Haleakala bicycle tours, visitors to HALE, and workers at HO. EPA recommends that HALE complete their Draft Traffic Management Plan (pg. 3-40) and then discuss potential mitigation measures with the NSF. Road modifications may be required to accommodate heavy construction equipment and increased traffic and to ensure safety on the roadway. Operators of the Haleakala bicycle tours should also be included in these discussions. Additional signage regarding construction traffic will need to be posted.

*Recommendation:*

EPA recommends the impact be identified as "*Significant*" until mitigation has been discussed and agreed upon.

#### 5. Topography, Geology and Soils - Excavation of Soils and Reconstruction of Pu`u Kolekole Cone

Construction of the ATST would require extensive excavation. The NSF plans to place excess soil at different locations in HO. One option under consideration is restoring Pu`u Kolekole (at Reber Circle) from its present truncated cone shape to a closely rounded natural appearance by increasing the height of the cone by approximately 24 feet. NSF asserts that this could be viewed as a beneficial impact (page 4-19) and classifies the action as having "*Less Than Significant Impact*" on the topography, geology, and soils.

During the course of Section 106 discussions, the issue of "cultural desecration" due to excavation of Haleakala's material was raised. The Native Hawaiian people may have objections to the reconstruction of the Pu`u Kolekole cone for cultural or spiritual reasons. HALE personnel

should also be consulted because of their expertise in geological history, restoration, public education, and stewardship.

*Recommendation:*

EPA recommends that the NSF consult with Native Hawaiians organizations and HALE personnel concerning the reconstruction of the *Pu`u Kolekole* cone. We recommend the FEIS describe and evaluate other soil placement alternatives.

*Recommendation:*

EPA questions whether the reconstructed hill will look natural and be stable, especially since there will be no internal bonding between the excavated soil and the underlying cone. Soil erosion may be an issue of concern as well.

*Recommendation:*

EPA recommends the level of significance be identified as "*Significant*" until a suitable plan for the removal of excavated soil is agreed upon.

### **6. Visual Resources and View Plane**

Currently, the tallest telescope at HO is 110-foot tall and was completed in 1994. It is easily seen with the unaided eye from most areas within the Central Valley and from some windward and leeward communities. In addition, two white 50-foot domes built in 1965 are also visible from many of these areas (pg. ES-11). The NSF does not consider the visual effects of the construction of a 143-foot tall structure as significant.

The Native Hawaiians consider the construction of the ATST to be a cultural desecration of a sacred site. Specific objections from the Native Hawaiian communities include: 1) the excavation of material from Haleakala; 2) the caissons which would extend 20 feet down into the basalt bedrock and support the telescope; and 3) the construction of a 143-foot tall structure which would mar the view of the mountain. Some of the Native Hawaiians would find the foundation excavation to be a "wound" to Haleakala. Part of the cultural value of the summit area is the ability to see only mountain when viewing the summit area of Haleakala.

*Recommendation:*

The impact of the proposed ATST on visual resources and view plane is significant to the Native Hawaiian people. The identification of visual impacts in the FEIS should be considered "*Significant*" until there is a commitment to and description of mitigation that would result in a "*Less Than Significant*" level of impact.

### **7. Endangered Species**

Three federal- and state-listed animal species occur in the summit area and slopes of Haleakala. These are the *ua`a*, or Hawaiian petrel, the *nene* (Hawaiian goose), and the

ʻōpeʻapeʻa (Hawaiian hoary bat). The ʻuaʻu is the only seabird that is federally listed as an endangered species. Once numerous throughout the Hawaiian Islands, the species is now confined to higher elevations, and most of the population resides within HALE boundaries. HALE biologists have been conducting regular monitoring and searches of ʻuaʻu nests since 1988. The ʻuaʻu reside at the Haleakala colony from February through October of each year and are absent from November through January. The birds make their nests in burrows and tend to use the same burrow year after year. Biologists report that there are ʻuaʻu burrows along the perimeter and in the proximity of HO (Appendix I, page 2).

Although NSF describes adverse impacts to ʻuaʻu, construction-related impacts are identified as “*Less Than Significant Impact*” (pg. 4-12; pg 4-16). The DEIS states that construction activities could induce ground vibration that could disrupt resident avifaunal resources at HO, adversely affecting ʻuaʻu nesting and fledging success (pg. 4-12); and that construction noise, vibration, or human proximity could impact the nesting habits of the ʻuaʻu to the extent that they may not return to, remain in, or otherwise utilize the burrows that are inhabited each year (pg. 4-13).

*Recommendation:*

Given the above potential impact of the proposed ATST on the ʻuaʻu, it is likely these effects could be significant. The FEIS should identify these effects as “*Significant*” until additional mitigation measures are described which would reduce the adverse effects to “*Less Than Significant*.”

*Recommendation:*

EPA supports monitoring. We understand that the NSF has undertaken a monitoring program to minimize potential consequences of construction and to increase scientific understanding of the ʻuaʻu. The NSF should work closely with biologists at HALE and the U.S. Fish and Wildlife Service (FWS) to ensure that the video surveillance does not adversely impact this endangered species.

## **8. Environmental Justice**

The DEIS contains a very short Environmental Justice discussion regarding the potential environmental health risks to children. However, this discussion does not evaluate other potential disproportionate impacts to low-income or minority populations. Given the gradual loss of integrity of the cultural resources of Haleakala and the underlying significance of these resources to Native Hawaiians, the Proposed Action would appear to constitute a cumulative and disproportionate impact to a minority population<sup>1</sup>.

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<sup>1</sup> “Disproportionately high and adverse environmental effects: When determining whether environmental effects are disproportionately high and adverse, agencies are to consider the following...factors to the extent practicable: (a) Whether there is or will be an impact on the natural or physical environment that significantly (as employed by NEPA) and adversely affects a minority population, low-income population, or Indian tribe. Such effects may include ecological, cultural, human health, economic, or social impacts on minority communities, low-income communities, or Indian tribes when those impacts are interrelated to

*Recommendation:*

The FEIS should include a more thorough and detailed analysis of impacts on the Native Hawaiians, a minority population. The NSF should conduct an Environmental Justice Screening Analysis to more clearly and thoroughly bring into focus the environmental justice impacts of the Proposed Action. (See Toolkit for Assessing Allegations of Environmental Injustice, USEPA Enforcement and Compliance Assurance, EPA 300-R-04-002, November 2004).

**9. Selection of Alternatives**

The list of 72 sites under consideration for the ATST is located in table 1, Appendix J. This list was reduced to six sites after a preliminary evaluation. However, there is no further discussion regarding the 72 sites and the process and criteria used to evaluate or rank them as suitable sites for the ATST.

*Recommendation:*

The FEIS should describe the process and criteria to evaluate alternative sites. The FEIS should explain why the alternative sites do not meet the site selection criteria. If the sites were ranked, then the ranking system should be explained and the ranks should be included in table 1. Providing a description of the site selection process and criteria would lend credence to selection of the HO site as the only viable site of the 72 sites considered. For instance, the FEIS should describe why the Mauna Kea and Mauna Loa sites on the Big Island, Hawaii, were not recommended for further consideration.

*Recommendation:*

One of the six sites selected for further consideration (pg. 2-4) was Sacramento Peak, New Mexico (NM) which does not appear in the table 1, Appendix J. It appears that Sacramento Peak, NM site may be cross-referenced as Sunspot, NM in this table. Consistent site names should be used throughout the EIS.

**10. Implementation of Adaptive Management**

Adaptive management is an iterative process that requires selecting and implementing management actions, monitoring, comparing results with management and project objectives, and using feedback to make future management decisions. The process recognizes the importance of continually improving management techniques through flexibility and adaptation instead of adhering rigidly to a standard set of management actions. Although adaptive management is not a new concept, it may be relatively new in its application to specific projects.

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impacts on natural or physical environment...." P. 26, Environmental Justice Guidance Under the National Environmental Policy Act, Council on Environmental Quality, 1997.

## U. S. Environmental Protection Agency (cont.)

As stated in a recent CEQ report, Modernizing NEPA, the effectiveness of adaptive management monitoring depends on a variety of factors including:

- a) The ability to establish clear monitoring objectives;
- b) Agreement on the impact thresholds being monitored;
- c) The existence of a baseline or the ability to develop a baseline for the resources being monitored.
- d) The ability to see the effects within an appropriate time frame after the action is taken;
- e) The technical capabilities of the procedures and equipment used to identify and measure changes in the affected resources and the ability to analyze the changes;
- f) The resources needed to perform the monitoring and respond to the results.

*Recommendation:*

EPA recommends that the NSF consider adopting a formal adaptive management plan to ensure implementation of mitigation measures and to provide flexibility to meet changing research needs. Action alternatives would incorporate the principles of adaptive management by using monitoring and evaluation to determine if management actions were achieving objectives and adjusting actions accordingly. EPA recommends that the NSF review the specific discussion on Adaptive Management in the NEPA Task Force Report to the Council on Environmental Quality on Modernizing NEPA.

**UNIVERSITY OF HAWAII AT MANOA**  
**Environmental Center**

November 7, 2006  
RE:0755

Dr. Craig Foltz  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Dear Dr. Foltz:

Draft Environmental Impact Statement  
Advanced Technology Solar Telescope (ATST)  
Haleakala, Maui

The NSF, through an award to the National Solar Observatory (NSO), is proposing to fund construction of the proposed ATST at the University of Hawai'i Institute for Astronomy (IfA), Haleakala High Altitude Observatory (HO) site, on the island of Maui, Hawai'i. An extensive campaign of worldwide site testing has identified Haleakalā Observatory as the optimal location for this next-generation solar observing facility. With its unprecedented 4.2-m (165-inch) aperture, advanced optical technology, and state-of-the-art instrumentation, the proposed ATST would be an indispensable tool for exploring and understanding physical processes on the sun that ultimately Advanced Technology Solar Telescope (HRS 343 DEIS) affect Earth. The telescope enclosure and a support facility would be placed at one of two identified sites within the existing observatory boundaries. The DEIS addresses both of these sites and the potential environmental impacts of on-site construction, installation, and operation of this proposed new solar telescope.

This review was conducted with the assistance of Kiope Raymond (Hawaiian Studies, Maui Community College) and Richard Mayer (Economic/Geography Emeritus, Maui Community College).

**General Comment**

Our main concern is with the Cultural Impact Assessment and we will comment on that issue at some length below. We would like to acknowledge that the site chosen is in an area that was set aside for research in astronomy. However, the summit of Haleakala was sacred to Hawaiians long before the site was designated. However, we would encourage those who are evaluating the FEIS, to consider their own personal reaction if this telescope was being proposed to be located on the Mall in Washington D.C. in front of the Lincoln Memorial, or perhaps at a site considered sacred to members of their own religion, such as on Calvary Hill in the city of Jerusalem, or besides the Wailing Wall also in Jerusalem, or in the city of Mecca.

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In addition to our comments on cultural impacts, we have noted a number of other issues to be addressed in the FEIS following our lengthy discussion on cultural impacts.

### **Cultural Impact Assessment**

Our major observation is the overall lack of adequate adherence to the June 2004 Hawai'i State Guidelines for Assessing Cultural Impacts of the Office of Environmental Quality Control (OEQC). There are six general recommendations the Environmental Council makes to preparers of assessments analyzing cultural impacts. There are also 11 protocols that should be addressed in the assessment concerning cultural impacts. We believe that most recommendations and protocols outlined by the OEQC are inadequately addressed.

Of equal concern is the ample evidence that the Cultural Assessment is inadequate in providing enough information to compel a reader to clearly understand the spiritual sacredness and cultural relationship of Hawaiians to Haleakala as a whole; and the summit area in particular.

Finally, there is evidence of an awkward bias on the part of the authors of the Cultural Assessment, apparent in their language and conclusion that does not seem appropriate when assessing a cultural impact. The bias indicates a predetermined finding that, "...no matter what the objections to the building of the ATST on Haleakala, it will get built anyway...." We point out that that decision to implement the proposed action does not rest with the preparer(s) of the Cultural Assessment! Therefore, because of the inadequate and/or biased preparation of the document, we believe that federal and state decision makers cannot make a sound, fully informed decision regarding the cultural impacts of ATST.

#### **Specific Objections:**

1. Inadequate discussion with Native Hawaiian organizations. Glaring by its omission is lack of contact with the United States Office for Native Hawaiian Affairs, Department of the Interior; created in 2005: "SEC. 4. ESTABLISHMENT OF THE UNITED STATES OFFICE FOR NATIVE HAWAIIAN AFFAIRS (a) IN GENERAL - There is established within the Office of the Secretary of the Department of the Interior the United States Office for Native Hawaiian Affairs. (b) DUTIES OF THE OFFICE - The United States Office for Native Hawaiian Affairs shall - (1) effectuate and coordinate the special trust relationship between the Native Hawaiian people and the United States through the Secretary, and with all other Federal agencies." (<http://www.doi.gov>)
2. Inadequate reference to materials such as prior land use proposals, decisions, and rulings which pertain to the study area, or are inextricably linked to IfA-related Hawaiian Cultural Assessment issues. For example, there are numerous instances where culturally relevant information is provided in the three documents cited below, but were not included in the ATST Cultural Assessment

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- The Cultural Assessment of Faulkes Telescope by McGuire and Hammatt, 2000.
  - The Kū i ka Mauna Traditional Practices Assessment by CKM, 2002.
  - The Kū i ka Mauna Cultural Resources Evaluation by CKM, 2003.
3. Inadequate reference to the 2005 UH Institute for Astronomy Long Range Development Plan. Even though that document’s section on Hawaiian cultural practices contains some inaccuracies and insufficient specificity it still should have been cited in the cultural impact assessment for the ATST.
  4. No or inadequate reference to the BLNR CDUA findings for Mauna Kea. The Mauna Kea observatories are also under the auspices of the IfA. And, there are numerous similar cultural issues which can be found in the website:  
  
[http://www.kahea.org/maunakea/pdf/20051128\\_mk\\_hearing\\_findings\\_old.pdf](http://www.kahea.org/maunakea/pdf/20051128_mk_hearing_findings_old.pdf)
  5. No or inadequate reference to Hawaiian genealogy indexes.
  6. No or inadequate reference to Hawaiian Māhele, land court, census and tax records.
  7. No or inadequate primary source materials consulted such as other previously published or recorded ethnographic interviews and oral histories, community studies, old maps, photographs, newspaper articles, and visitor journals regarding Haleakalā and especially the summit area. For example, the Craigiela House visitor journal 4/23/1902 (at the Maui Historical Society), references a cave named Anamakauahi, a seven hour hike from Ulupalakua (south) up what is now known as the Skyline Trail, perhaps near Kolekole. Further research may uncover historically relevant materials regarding Kolekole. Also, inadequate discussion, especially regarding the Upcountry Community Plan and other Maui County Plans, Bishop Museum and Maui Historical Society Photo Collections, or Hawaiian Language Newspaper articles referencing Haleakalā.
  8. Inadequate reference to secondary source materials such as historical, sociological, and anthropological texts, manuscripts, and similar materials regarding Haleakalā and especially the summit area. As examples:
    - No use or reference to Martha W. Beckwith’s Hawaiian Mythology, and references therein to demigod Māui exploits in Hawai‘i and Oceania; especially relating to slowing the sun.
    - No use or reference to Elspeth P. Sterling’s Sites of Maui, with its extensive references to Māui/Maui/Haleakalā and relevant bibliography.

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- No or inadequate reference to heretofore published legends. See previously mentioned Faulkes assessment by McGuire and Hammatt and their research on “Legends That Mention Haleakalā.” It includes approximately 50 stories from at least 10 different sources; listed by story topic.
  - None or inadequate use of Pan-Pacific literature from Mangareva, New Zealand, Tahiti, Tonga, and Samoa referencing the related exploits of the demigod Māui.
9. Inadequate use of dictionaries for place names and inadequate consistency regarding definitions of cultural use terminology. All scholastic Hawaiian dictionaries are available online at <http://www.wehewehe.org>
  10. No references to proverbs and poetical sayings regarding Haleakalā to confirm cultural importance. See Pukui Ōlelo Noeau.
  11. Inadequate references to other Hawaiian deities such as Poliahu, Kāne, Kū, Lono, or Kanaloa in their sun, wind, rain, snow, plant, bird, insect, etc. forms and the attendant religious, spiritual, and cultural importance to the project area
  12. No or inadequate reference to spiritual connection to sky father/earth mother (Wākea and Papa) and therefore connection to atmosphere (Iewa lani), mountaintops, and land masses of the entire archipelago.
  13. No discussion of the 1961 Executive Order of then Governor Quinn: “So long as Government Survey Triangulation Station “Kolekole” remains in use, there shall not be erected any structure exceeding in height to obstruct or to block the lines of sight from said Station.” Also, inadequate discussion of implications of the Executive Order to historical, present, and possible future IfA (or other user) fees connected to HO in context of Native Hawaiian Ceded Lands trust for cultural preservation or other uses. For example, most recently, Pan STARR 1’s consortium will contribute \$10 million dollars for its operation. Why no discussion on possibilities for Hawaiian cultural revitalization via consortium user fees? <http://www.hawaii.edu/cgi-bin/uhnews?20061003170512>
  14. No interviews were conducted with previous interviewees or any Hawaiian Studies faculty of the University of Hawai‘i system.
  15. Inadequate discussion of the impact to the view plane looking up the mountain from Department of Hawaiian Homes Lands at Kahikinui. There is no rendering of the proposed ATST from Kahikinui or other places along Southeast Maui coastline where current Mees Solar Observatory can be seen and where ATST will be seen by native Hawaiians.

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16. The conclusion of the cultural impact report needs clarification. For example, the first paragraph is contradictory. The first sentence states "any building...is an intrusion on the sacredness and spirituality..." but then the second sentence states, "One must find the balance of building..."? Can one either build on sacred ground or not? The conditions for such activity are not articulated. The quotation "...protect at best the cultural impact and methods used to mitigate these impacts." needs re-wording or clarification. It reads that the impact and methods used to mitigate the impacts need to be protected; not the culture. The second paragraph assumes saying prayers to Pele will mitigate impact of digging into her kinolau. (Kinolau is the Hawaiian word for the form(s) a Hawaiian deity might assume. One of Pele's forms is lava.) That is untrue and unacceptable in Pele worship. Paragraph three assumes construction will take place and so mitigation includes awareness of cultural rules by taking sense of place classes. The conclusion assumes mitigation is a forgone conclusion and does not allow for the no action alternative; another possible solution. If the cultural concerns are, in fact, of great sacred significance, it is inappropriate to not list no action as a possible solution. The last paragraph also assumes mitigation, but does not articulate in detail how all the rock should be handled when moved and re-sited. Not all of the ~ 4,500 cubic feet of rock could fit on Reber circle. The conclusion does not state the conditions to be imposed on use/protection of the rest of the rock/soil when moved. Can the IfA move rock/soil to build another structure? Will rock/soil placed in any other area of HO remain there in perpetuity?
17. Eight (8) of the 24 bibliographic references are duplications.

In addition to the Cultural Resource Evaluation and Traditional Practices report, we raise these issues in the DEIS:

1. No discussion of IfA/Hawaiian cultural shared governance of HO in context of Ceded Lands.
2. No discussion of a Master Plan for the entire mountain, not just a Long Range Development Plan for the Ifa's use of 18.66 acres. As the IfA Self-Study of 2001 indicates, "The UH and the IfA have not been required to generate a multi-use Mauna Kea-style "master plan."
3. Inadequate discussion of the cumulative effect of the current uses inside HO; and the communications, television, Coast Guard and other structures of the summit area. National Park and Commercial (horse tours, bike tours, tourists, etc.) use impacting Native Hawaiian as they attempt to use the summit for spiritual/religious purposes cannot be overemphasized.

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4. Inadequate discussion of possible impact on areas/property owners adjoining HO from a Hawaiian cultural perspective.
5. No or inadequate discussion of place names use for the summit; especially USGS quadrant versus ahupua`a, pointed out in the testimony by Mary Evanson in Vol. II Appendices of DEIS.
6. No discussion of parking for cultural practitioners w/in HO if more than 2-3 people are in attendance at ceremonies at either or both of the two shrines.

In summary, there is overall lack of inadequate adherence to the June 2004 Hawai'i State Guidelines for Assessing Cultural Impacts of the Office of Environmental Quality Control (OEQC). Also, there is ample evidence that the Cultural Assessment is inadequate in providing enough information to compel a reader to clearly understand the spiritual sacredness and cultural relationship of Hawaiians to Haleakala as a whole; and the summit area in particular. Finally, it is my personal opinion that there is an awkward bias on the part of the authors of the Cultural Assessment, apparent in their language and conclusion that does not seem appropriate when assessing a cultural impact.

#### **Haleakala National Park Impacts**

A major deficiency of the DEIS is the inadequate treatment of the effects of the ATST on the Haleakala National Park. The National Park Service will be contributing its own comments on the DEIS. However, I would like to reinforce their concerns. The DEIS has trivialized the impact of the ATST with only minor references to the disruption to the view corridors and no mention of the reduced quality of the tourist experience. The Red Hill lookout is the highest point on Haleakala. The proposed ATST site is a mere 1,500 feet from Red Hill where approximately one million tourists come each year to view one of the most beautiful and unique views on the planet. Even the astronauts who were planning to go to the moon came to this location because of its very special environment. Unfortunately, the DEIS grossly underestimates the impact of the "in-your-face" 143 feet high telescope and the adjacent service building. The Upcountry Community Plan states as a Land Use Policy (page 18): *"Recognize the value of open space, including agricultural lands and view planes to preserve the region's rural character."*

Furthermore, the Red Hill overlook is located within the 55 db noise contour emanating from the construction of the ATST. Although this is shown on the map on page 4-50, and despite that this high noise level would be in "exceedance of the state standard for maximum permissible daytime sound levels in class A zones", the DEIS describes this as being "less than significant." It is not.

These visual and oral disturbances (individually and in combination) of a major viewing site from a United States National Park are unacceptable, and definitely a most significant environmental impact. The fact that the DEIS ignores or trivializes these impacts seriously undermines the quality of the entire document.

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### **Scoping Meetings**

There were problems with the scoping meetings the public was not well informed about the actual height of the telescope facility and the attached service building. In fact, it appears that there was an actual attempt to mislead the public. The photos and sketches shown to the public were all aerial shots which gave the impression that the telescope was actually shorter than the top of the mountain. The telescope actually will rise to a height about 100' above the highest natural point on the mountain. Furthermore, when asked the height of the telescope at the scoping meeting, the figure given by the ATST spokesperson was approximately 93 feet; the actual height is approximately 50 percent greater.

The height of the service building was not given, and I do not believe it is even given in the DEIS although it appears that it too would violate the 35' height limitation imposed by the Upcountry Community Plan Ordinance.

Because the public was misled on the height, it was less able to comment accurately on the enormous visual impact of the planned facility. It was not until several weeks later that the Maui News reported accurately on the actual telescope height, too late for the scoping meetings.

### **Land Ownership (p. 1-5)**

Absent from the discussion of ownership of these lands is the problems of “ceded lands.” The DEIS indicates that the University of Hawaii was given these lands by Governor Quinn’s Executive Order # 1987. The DEIS states on pages 1-5 that the University is now the “fee owner” of these lands. What the DEIS neglects to point out is that the Hawaii State Governor may not have had the right to give away these lands in 1961 since neither he nor the State of Hawaii owned the lands. The lands at the summit of Haleakala are “ceded lands” which have numerous implications, not the least of which is the need by users to pay rent. Furthermore, the courts may rule someday that users of these lands may need to pay reparations to the Hawaiian Kingdom that was overthrown in January 1893 by United States naval forces.

### **Coastal Zone Management Act, Chapter 205A, Hawaii Revised Statutes (p. 1-27)**

Section 1.7.3 states in the last sentence that the “HO complex would not be the Coastal Zone Management Area (CZMA).” The entire state of Hawaii is in the coastal zone for purposes of the CZMA. The proposed project is not in the Special Management Area (SMA) as delineated under the CZMA. The SMA is a strip of land along the coast and some streams usually up to 1000’ from the shoreline. There are additional permit requirement placed on proposed projects in the SMA. The proposed ATST is not in the SMA.

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**Department of Health Environmental Planning Office** (p. 1-27 to 1-28)

The paragraph in section 1.7.5 describes the Office of Environmental Quality Control, an Office placed in the Department of Health for administrative purposes. The Environmental Planning Office is a separate part of the Department of Health. The heading of this section should be retitled **Office of Environmental Quality Control**.

**Site Selection** (p. 2-1)

There are two separate problems with regards to the selection of sites:

1. Although the literature provided at one of the scoping meetings indicated that there were advantages to constructing a ground-based telescope instead of a space-based telescope on a satellite, the DEIS neglected to even consider a space-based telescope as a potential site. It would seem that a space-based telescope would have many of the advantages which were found at Haleakala and would avoid the need for adaptive optics. A space-based solar telescope should be included in the Final EIS as an alternative site.
2. The DEIS has limited its evaluation only to the 18 acre site operated by the UH IfA. The DEIS then attempts to make a careful analysis between two almost similar sites, both in the 18 acre HO location. Consequently, a potentially superior site, perhaps in the saddle to the Southwest of the 18 acre site, was not even considered and certainly was not evaluated. This alternative site could potentially avoid many of the visual problems of being located so close to the Haleakala National Park. The site also may avoid some of the problems with Hawaiian cultural sites. It was not even investigated.

**Placement of Excess Soil** (p. 2-23 to 2-26)

There seems to be some confusion as to what will happen with the excavated soil from the proposed site. On pages 2-24 and 2-26, it is suggested that it will be deposited at site A. However, site A has been given two different functions: as a site for soil placement and as the "construction staging" area. Which is it?

**East and West Ahu** (p. 3-6 to 3-10)

The description and construction technique are related in many places in Sections 1, 2 and 3 of the DEIS. In the space of the above cited pages, they are mentioned three separate times. Perhaps some of the redundancy can be reduced in the FEIS.

**Infrastructure and Utilities** (p. 4-42)

In the Executive Summary (ES 23 & 24) and on page 4-42 an upgrade to the MECO substation is mentioned. No mention is made as to who will pay for this upgrade. Will the

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burden fall on the general population of Maui who will see the capital cost of MECO rise, plus a subsequent increase in the community's electric power rates?

On this same page is a brief discussion of other projects in addition to the ATST: Pan-STARRS; NASA Transportable Laser Ranging System; and the AEOS Mirror Coating Facility. However, these proposed facilities are not discussed in subsequent section on their cumulative impacts. They are all being built on the same land parcel with federal funding, and should be part of a discussion on cumulative impacts at the very least on electrical power generation and use. The FEIS should address the cumulative impacts of these planned for facilities.

**Socioeconomic Impacts** (p. 4-57 to 4-62)

Aside from the reference on page 3-45 that tourism is Maui largest industry there seems to be little discussion of the potential for the proposed project to impact the industry. Might not a large telescope detract from the visitor's experience at the summit of Haleakala, among the most visited sites on Maui? There should be a discussion of the impacts on the visitor and any economic effect it might have on Maui's tourism industry as a whole, in the FEIS.

**Appendix Reports**

The FEIS should contain the complete, unedited, transcripts from each of the scoping meetings held in 2005. During those meetings much valuable testimony was given by the public; a recorder was present and took down all the comments verbatim. Specifically, comments made at the meeting which are not included or reflected in the DEIS should be placed on the record in an appendix section in the FEIS.

Thank you for the opportunity to review this Draft EIS.

Sincerely,

Peter Rappa  
Environmental Review Coordinator

cc: OEQC  
Dr. Charlie Fein, KC Environmental, Inc.  
Michael Maberry, University of Hawai'i Institute for Astronomy  
James Moncur, WRRC  
Kiope Raymond  
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**University of Hawai'i at Manoa, Gary Ostrander, Ph.D.,  
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**UNIVERSITY OF HAWAII AT MĀNOA**

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VICE CHANCELLOR FOR RESEARCH  
AND GRADUATE EDUCATION  
E-Mail: gko@hawaii.edu

November 28, 2006

Dr. Craig Foltz  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

**SUBJECT:** University of Hawai'i at Manoa Environmental Center's Comments on Draft Environmental Impact Statement Advanced Technology Solar Telescope (ATST) Haleakala, Maui

Dear Dr. Foltz:

I have reviewed the comments submitted to you from Mr. Peter R. Rappa, who is an UH extension agent and indicates an affiliation with the UH Environmental Center (housed under our Water Resources Research Center) as an Environmental Review Coordinator. Of course, we support and promote academic freedom at the University of Hawai'i and we encourage individual faculty members to respond to requests for public comment. However, after reviewing testimony submitted to you on this same subject by retired Maui Community College Teacher Mr. Dick Mayer and Associate Professor of Hawaiian Studies at Maui Community College, Mr. Kiope Raymond, it appears that Mr. Rappa has largely reiterated these views and submitted them to you on the Environmental Center's letterhead. It should not be assumed that these views are those views of the center, its employees, or affiliates. Moreover, I wish to comment on this issue from the standpoint of the administration at University of Hawai'i at Mānoa.

I do want to assure you that the University of Hawai'i is excited about Haleakala, the House of the Sun, having been chosen over more than seventy sites around the world as the best site from which to study the sun with the world's largest most advanced solar telescope. We appreciate that you have shown respect for the site and the community by undertaking both a State and Federal Environmental Impact Statement, and that you have acknowledged the cultural significance of the summit of Haleakala and are engaged in consultations in accordance with National Historic Preservation Act Section 106.

Should you have any questions, please do not hesitate to contact me.

Sincerely,

Handwritten signature of Gary K. Ostrander in cursive script.  
Gary K. Ostrander

cc: Rolf Kudritzki, Director, University of Hawai'i Institute for Astronomy  
Charlie Fein, KC Environmental, Inc.  
Michael Maberry, University of Hawai'i Institute for Astronomy  
Jim Gaines, Interim Vice President for Reserach, University of Hawai'i  
Denise Konan, Interim Chancellor, University of Hawai'i, - Manoa

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# Foster Ampong

September 27, 2006

Subject: **Advanced Technology of Solar Telescope (ATST) atop summit of Haleakala, Maui, Hawai'i**

To Whom It May Concern:

Aloha. My name is Foster Ampong, born, raised and currently residing on Maui. I oppose the proposed construction/development of the Advanced Technology Solar Telescope (ATST) on the summit of Haleakala, Maui. The proposed project will further exasperate adverse effects presently plaguing our community and environment socially, culturally and at the core of our existence spiritually.

Upon review of the Draft Environmental Impact Statement (VOLUME I) for the Advanced Technology Solar Telescope, provided by the National Science Foundation September 2006 proposed sites other than Haleakala such as **Bear Lake, California and La Palma, Canary Islands, Spain have been determined and documented to be second and third best (ie. *Alternative*) sites respectively.**

I have and continue to support the pursuit of knowledge in all areas of education. The necessity to further study and understand the science of our sun and effects it has upon us must continue. However, the balance of our ecosystem relative to the studies and pursuit of knowledge must not discount the psychological, emotional and especially the spiritual elements of our community, in everyway a very important part of this ecosystem.

The mind (psychological), body (emotional) and soul (spiritual) in every person upon this planet is essentially part of this delicate balance, a balance which must be maintained. I believe to achieve this balance the psychological, emotional and spiritual concerns of the community must be seriously weighed in equally and without prejudice or bias.

It seems the scientific objectives can still be met at Bear Lake, California or La Palma, Canary Islands, Spain. Together with the fact that development of the ATST facility here will only exasperate negative conditions the community presently are addressing here on Maui, no more time or money should be put into selling this proposal to the community of Maui.

To imply Haleakala is the only location to achieve your objectives is misleading. It is the same as saying you need to reach Maui from California today. You insist on fly First Class, but there are only coach seats available. Would you choose not get to your destination because you will sit no where else other than First Class, or would you willingly accept the next available seat and reach your destination?

Be considerate and sensitive to the people of Maui, but more importantly be sincere about it.

Sincerely,

  
Foster Ampong

## Dorothy Betz

Dr. Craig Foltz  
ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, Virginia 22230

RE: Haleakala National Park

Dear Dr. Foltz,

I have recently read of your intention of placing yet another telescope at the summit of Haleakala.

Haleakala National Park is a PARK, get it? A PARK! It is supposed to be natural, quiet, and beautiful. It is not supposed to have large buildings perched on the rim of the crater, where they can be seen for miles, thereby offending the sensibilities of not only the people who have come from all over the globe to enjoy its pristine natural beauty, but also those of us who live here and have to put up with the less-than-scenic buildings that are already up there. And your new project, according to the newspaper story I read, would be much, much larger than that.

Oh, and by the way, the bit about creating more jobs for us poor benighted Mauians is quite a joke. The article said "up to 25 jobs" and "some of which" would be given to locals. The way I read it, that means two or three minimum-wage maintenance or security jobs for us, and the rest for imported techies.

Why don't you put your giant building on the Big Island, where we won't have to look at it? There's another place I'd like to suggest that you put it, but we won't go there.

Leave our PARK alone!

Sincerely,



Dorothy V. Betz

cc: Hawaii Department of Health, Office of Environmental Quality Control  
Mike Maberry, Univ. of Hawaii Inst. for Astronomy  
Charlie Fein, KC Environmental, Inc. ✓

## Suzanne Burns

Dr. Craig Foltz,

I am Hawaiian, and am an ECET (Electronics and Computer Engineering Technology) major at Maui Community College. I will continue my education in the technology field. I would like to teach here at MCC one day.

I am also Caucasian, and I look it. I have lived as a “foreigner” (haole), for most of my life because that is the way I was raised and treated. I left Hawaii when I graduated high school, never intending to return. I never had a place to call home, where I felt I belonged. After 13 years, I returned to my family, but I didn’t recognize the place I had grown up. Military uniforms everywhere, no pineapple fields, a huge mall in my little town. Overpopulated, cement, road rage... I trickled over to Maui to make enough to hop on a plane outta here!

A dear friend who was raised here, but is not of Hawaiian decent tried to teach me by example, what is the right way to live here. I didn’t get it until I went to Pi’ilani Hale (a sacred place) with Ho`okahua. I need to say first that I am not a religious person. But something happened to me on that heiau that science can’t explain. It was personal and spiritual. I knew at that instant that this is my home. I don’t need to search anymore. I am home.

I was asked by the Ho`okahua Program Director (I believe the Ho`okahua Program is funded by the National Science Foundation to assist students who are pursuing degrees in: science, technology, engineering, and math) to an ATST meeting at Hawaiian homes back in May of this year. Being from O`ahu, I didn’t know much about Haleakalā. She explained a little, and the other locals and Hawaiians knew a lot more about Haleakalā, and were getting upset just talking about it. Some of the older folks looked hopeless, they already knew, “The haoles just going build anyway, no sense waste time.”

I wanted to go and see. I wanted to see the faces of those who’s goals and dreams were so important that they could go ahead and ignore our lives. The way we live. The way I am learning to live, the right way for this place. I met Jeremy who has loved telescopes since he was a boy. My professor wants to see it happen. I met a few others at the meeting who were for the telescope being built on Haleakalā. Regular folks...

I listened to the other Hawaiians... some shared, yelled, begged, chanted, asked... but we were told something to the effect “The law only says we need to hear you, we don’t have to abide by your wishes.” I am requesting for all oral testimonies to be submitted and viewed by the deciding committee for which I am commenting. Not the condensed written version with a count of how many people touched on a particular issue. I am hereby submitting all video testimony to be viewed and translated if necessary as part of the final DEIS. We have poured out our hearts; the law says you must hear us. I spoke that day; I’m told that it was very moving. I want my oral testimony to be included

## Suzanne Burns (cont.)

as well as Jeremy's oral reply. Please forgive my not knowing the proper protocols for making requests. The very essence and meaning is removed when the testimonies are written.

This summer, I participated in the CfAO internship. I was really excited about being chosen, but reluctant when I found out about my internship site. I worked at AEOS; a huge military telescope on sacred land. CfAO and the company I worked under were great. CfAO had a Kahu come and teach us about the land and how it should be respected. Mike Maberry and Dr. Jeff Kuhn were very respectful, and had taken the time to learn about the mountain and Hawaiian tradition.

We were taken to two ahu's or 'alters' where Hawaiians may come at anytime and worship. But to Hawaiians, the whole top of Haleakalā is sacred. Not only are we kept from our freedom (if we wish to worship) to all the acreage on the top, but we now have marked off where we are allowed to go. Like mini reservations on a massive alter. In our culture, if a woman is having her period, we don't go on sacred land. I worked up there for two months, just like everyone else. Even if I had been given a week off for that time, during the other three weeks of the month, I would still defecate and urinate on a sacred alter. I spent a lot of time in churches growing up. I never saw a toilet or bathroom built on the alter. I didn't belong there (on Haleakala), I felt like I was trespassing. My experience in technology was phenomenal; I loved my project and the team I worked with. But no facilities belong there.

The ATST folks want to negotiate, "If you want, after we build, you can study and possibly work there too...". I am not interested in participating in any project that desecrates sacred land of any culture.

I spoke with Dr. Jeff Kuhn extensively; I believe I understand the benefits of Haleakala: high altitude away from dust and big  $r_0$  for a clearer image. He explained that we need a large mirror to collect more light. I would like to see him have his telescope, anywhere but on sacred land. This project is important, I hope you find a place to build it where you have support from those around the proposed site. This is our home. We have nowhere else to go.

Every day, when I would leave AEOS, a red Jeep would be parked on the lava. There was a room in the parking lot, but this Airman continued to park there daily. Not only was he destroying a delicate environment, but he was crushing the cinder into particles which aren't good for the telescopes. I went to a man in charge of the site, Roger Russel, and complained. He said he had an idea who it was, and would talk to him. So, for a few days, the man went and parked on another patch of lava where other cars parked when the lot was full. But, then returned to his favorite spot.

## Suzanne Burns (cont.)

Because of this man, and other experiences at the summit, I wrote this poem, I hope you find something in it that will help you to decide not to allow any more building on sacred land:

*I am Hawaiian and this is my home.*

*I would like to welcome to my home, under the condition that you behave as you would like any guest in your home to behave.*

*When I come to your home, I will try to learn your ways to keep harmony.*

*When something is meant for me, I will only take enough for me and my family.*

*I will not diminish your natural resources or supplies for profit.*

*I will not take what is not mine to take.*

*When I come to your home, I will treat your things with respect.*

*I will not desecrate your sacred objects, alters and cemeteries.*

*I will not trespass where I am not welcome.*

*When you show me your hideaways, I will keep them as our secret, so your grandchildren can enjoy them.*

*I will protect your natural resources by cleaning up after myself.*

*I will be careful not to bring things that don't belong in your mountains, valleys, streams and oceans.*

*I will be careful not to disturb nature's sometimes delicate structure.*

*I will not justify any cause to be great enough to disrespect your cultural rights or rights as a human being.*

*I hope we can share and learn from each other.*

*I hope we can respect each other, despite our beliefs.*

Please feel free to contact me regarding my request or any other concerns. If you need it worded differently, please let me know.

*Suzanne Burns*

**From:** CE9:  
**Sent:** Saturday, September 30, 2006 11:20 PM  
**To:** Foltz, Craig B.  
**Subject:** Proposed telescope at Haleakala

I want to voice my disapproval of plans to build the Advanced Technology Solar Telescope on Haleakala. This is a site that is sacred to Hawaiians as well as people who enjoy nature, undisturbed by development. Haleakala is a site I visit frequently for its beauty and serenity and I would hate to see it and the natural environments and creatures that inhabit it compromised.

I know there are other sites under consideration for this project and hope that one of them will be chosen.

Or how about using advanced space technology as the Japanese have.....

## Japan launches rocket carrying sun observation satellite

The Associated Press

Published: September 22, 2006



**TOKYO** Japan's space agency on Saturday launched an observation satellite into orbit around the Earth to study violent eruptions on the sun's surface and other solar phenomena.

An M-V rocket carrying the satellite lifted off from Uchinoura in southwest Japan early Tuesday, according to a live Web broadcast by the Japan Aerospace Exploration Agency, or JAXA. The satellite split from the rocket and entered Earth orbit about an hour later, and was expected to start observations in about 10 days.

The 900-kilogram (1,984-pound) SOLAR-B satellite —

## Carol Evanson (cont.)

dubbed Hinode, or sunrise in Japanese — was developed by Japan, the United States and Britain and incorporates a trio of telescopes designed to observe the sun's violent outer atmosphere, the characteristics of which still baffle scientists.

Researchers especially hope to discover why the outer reaches of the sun, with temperatures reaching 2 million to 3 million degrees Celsius, is far hotter than its surface temperature of about 6,000 degrees Celsius, according to JAXA executive Yasunori Motogawa.

"Many of the sun's properties are still a mystery," Motogawa said. "The satellite will stay in continuous sunlight for most of the year, so we're hopeful it can amass data that may help us understand the sun's energy better."

Hinode will also study solar flares and geomagnetic storms that cause the colorful auroras in the Earth's northern and southern hemispheres, he said. A major solar eruption can also interfere with radio signals and knock out satellites.

Though launched for an initial three-year mission, JAXA hopes Hinode, which is powered by solar cells, will stay in operation much longer — possibly for as long as 10 years, about the full duration of the solar activity cycle.

Hinode's launch follows a string of successes for Japan's space agency, which has struggled in the past.

The agency launched two H-2A rockets from the southern island of Tanegashima in January and February, each carrying observation satellites.

Japan is racing to catch up with China, a regional rival that has put astronauts into space twice since 2003, becoming only the third country to send a human into orbit on its own after Russia and the U.S.

Following Beijing's success, Japan — which put its first satellite in orbit in 1972 — said it was reconsidering its focus on unmanned missions and announced plans to send its first astronauts into space and set up a base on the moon by 2025.

Earlier this month, the agency launched its third intelligence-gathering satellite amid concerns over neighboring North Korea's nuclear weapons and missile programs.

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Earlier this month, the agency launched its third intelligence-gathering satellite amid concerns over neighboring North Korea's nuclear weapons and missile programs.

I know there are other realistic more sensible selections that Haleakala...give us a break.

Aloha, Carol Evanson B.Ed, M.S.W.

# Mary Evanson

Sept. 28, 2006

ATST public meeting, Pukalani

Although I was born and raised on O'ahu I came to Maui often as a child and Maui was always NO KA 'OI, the very best. I have always loved Haleakala and am very protective of it. There is only one Haleakala on this planet and it is very beautiful and spiritual place for many people and it must continue to be protected.

I understand why Haleakala was chosen for this ATST and I understand why the University of Hawai'i wants it. But what is the cost to our small island and what is the cost to future generations. This project is so huge it will change Haleakala forever. Please find another site.

I am deeply troubled by the DEIS. This document has many errors yet it is printed and distributed to many individuals and libraries and is posted on the internet. A document should be checked and double checked and checked once again before being posted on the internet. I expect more from a document that has the National Science Foundation's logo on the cover!

Exhibits: just a few examples

Map of Haleakala Highway - Pg 1-6

"Haleakala Crater Road": name was changed several years ago to Haleakala Highway Pgs 13, 14, 24 etc

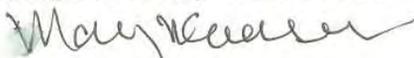
"Ko'a": this type of shrine is found along coastline or streams ES 74

East & West ahu: restored or erected? Both words are used ES 2, 21, 2-23, 24

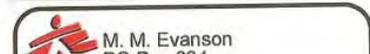
Kolekole means red or raw like raw meat.

These errors are so obvious they do raise doubts about the accuracy of other documents relating to this project. Be accurate and true to Haleakala and the Hawaiian culture.

Respectfully submitted



Mary M. Evanson



Draft Environmental Impact Statement – Advanced Technology Solar Telescope (ATST)

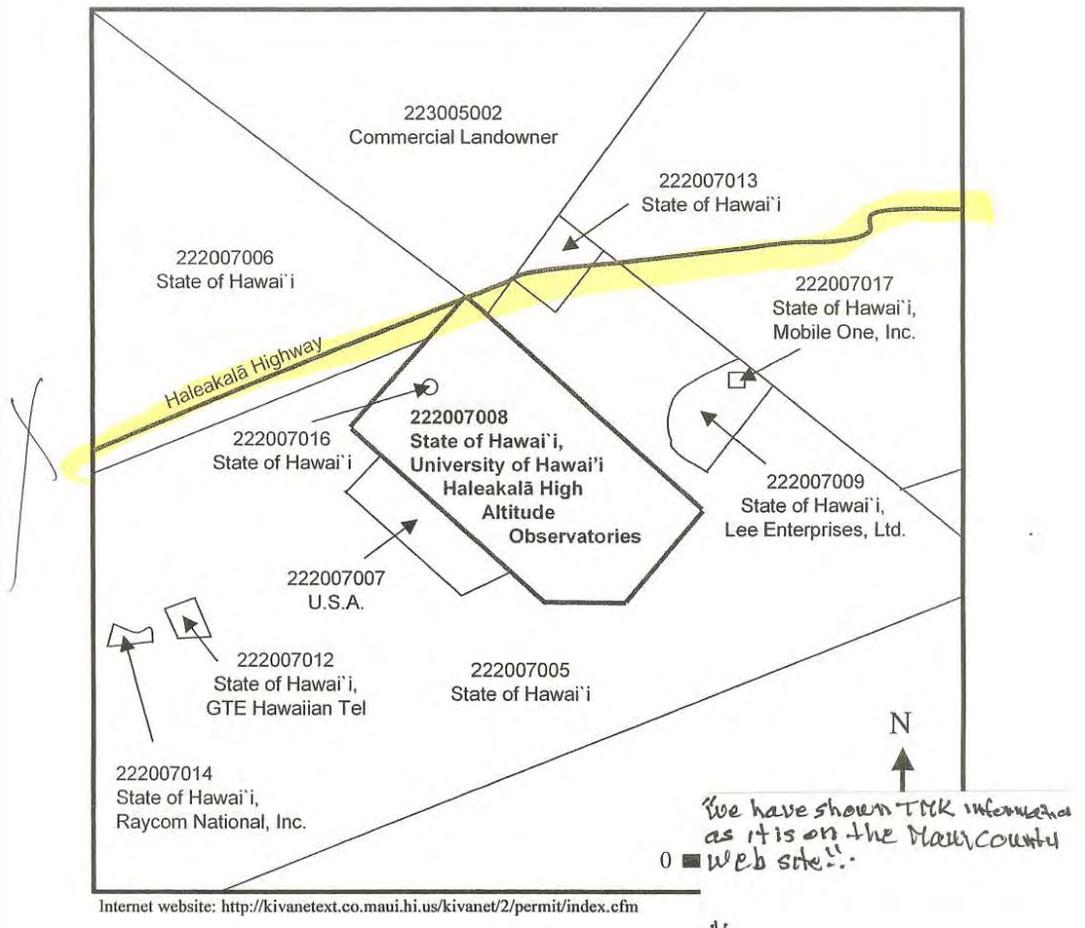


Figure 1-6. Haleakalā High Altitude Observatories and Adjacent Properties.

1.3 IDENTIFICATION OF AGENCIES PROPOSING THE ACTION

**National Science Foundation**

NSF serves as the lead federal agency for review under NEPA. NSF would fund construction of ATST if the project were to be approved.

The NSF is an independent federal agency created by Congress in 1950. The NSF's Statutory Mission is "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense."

Draft Environmental Impact Statement – Advanced Technology Solar Telescope (ATST)

Haleakalā in rites of passage such as birth and death.

X Haleakalā has long been recognized as a traditional traveling route through East Maui. In the sixteenth century a high chief constructed a trail around the island and over Haleakalā, uniting politically important districts. Peoples of Honua‘ula buried their dead in Haleakalā Crater and several references specify burials of both chiefs and commoners in Haleakalā Crater; and one possible burial is recorded on the northwest boundary of HO property. *Akaup, Muli too*

Today, spiritual practices continue in and around Kolekole. Flora and fauna are still collected for hula adornment by Kumu Hula (hula master), and native Hawaiians frequent the site for sunrise or sunset practices. The mana (spirit) of the area is wholly dependent on the vistas that can be viewed and the connection with earth and sky. For example, Native Hawaiians know that the spiritual essence is not something tangible at the summit area, but that one can feel the presence of the gods.

X Construction of former and existing buildings at Kolekole may have removed much of the physical evidence of Hawaiian traditional and cultural practices in the area, although, as described in the archaeological surveys (UH IfA, 2005, and Appendix A-Archaeological Field Inspection), ko‘a (ceremonial rock formations) and temporary habitation shelters still exist at HO. As part of the LRDP, an area has been set aside for use by Kanaka Maoli for religious and cultural purposes (Fig. 3-3). A Native Hawaiian master dry-stack mason undertook the restoration of an East- and West-facing ahu (an altar or shrine), as shown in Figure 3-4. These ahu signify a sacred ceremonial site. Ho‘omahanahana (dedication or “warming” offering) for each ahu was held and Native Hawaiians practicing cultural traditions are welcome to utilize these sites, as indicated by the sign at the entrance to HO (Fig. 3-2).

*Kolekole - red, raw as meat, red earth*

*ko'a - shrine built along the shore, fishing shrine*

*restoration? or was built*

## Mary Evanson (cont.)

### CULTURAL RESOURCE EVALUATION AND TRADITIONAL PROCTICES OF THE PROPOSED ADVANCED TECHNOLOGY SOLAR TELESCOPE AT HALEAKALA HIGH ALTITUDE OBSERVATORIES

I have read this document and call attention to the following:

Page i: Footnote: There is no Kaupo District. See attached maps.

Page 1: Outline

Throughout this document the author uses names of quadrangles in place of ahupua'a and districts. Kolekole is entirely within the ahupua'a of Papa'anui, Makawao District.

C. The tangent areas of research are all quadrangles and not ahupua'a.

Page 3: Last paragraph: the author writes that according to "Place Names of Hawai'i" Kolëkôle is located in Makena ahupua'a. This and the next sentence are erroneus. Neither Pukui or USGS use "ahupua'a as land designations. There is no Makena ahupua'a.

Footnote 3: Again the author confuses Districts and Quadrangles. Haleakala peak is in the Kaupo quadrangle not Kaupo district. Haleakala peak is 8201' not 10,023 - Pu'u Ula'ula (Red Hill), the summit of Haleakala is 10,023'.

Page 4. Kilohana ahupua'a and in footnote, Kilohana District, neither is correct. Kilohana is a quadrangle.

Page 5: All Tangent Areas of Research are quads not ahupua'a as stated.

Page 19: Last paragraph. The variety of Sandalwood found near Park Headquarters and Hosmer Grove is Santalum haleakalae. The lanaiense named in this report is found in the Auwahi area of south Maui a long distance from Kolekole.

Page 20: Ka'ape'ape or Ape'ape is not found in the Kolekole area or in ahupua'a of Papa'anui. It only grows in very wet areas miles away from the dry alpine area of Kolekole or Papa'anui.

It is unfortunate that these errors were not caught and corrected before being printed as fact and being posted on the Internet. Be accurate and true to the Hawaiian culture. These errors are so obvious they do raise doubts about the accuracy of other documents relating to this project.

Respectfully submitted,

March 13, 2006



Mary M. Evanson

*4 attachments  
(not included in Punalani  
meeting)*

# William Evanson

William D. Evanson

October 23, 2006

Dr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045, Arlington, VA 22230

RE: Draft Environmental Impact Statement for the Advanced Technology Solar Telescope, Haleakala, Hawaii

Aloha Dr. Foltz:

Please find enclosed herewith my comments on the above-referenced. I believe the DEIS is inadequate and/or insufficient. It is based on faulty assumptions and biased in its conclusions for the following reasons:

#### ES-1.2 Need for the Project

"...discovery about the Sun and how it affects life on Earth...A primary goal of the Proposed Action would be to help scientists understand the solar magnetic activities ... and the hazards it creates for ... communications to and from satellites." The need to develop alternative communication methods not so vulnerable is not addressed. The importance of this aspect of the Project is not fully disclosed and not adequately addressed. What are the current costs of these hazards in relation to the costs of the proposed construction, installation, operation and maintenance over the life of this project?

#### ES-1.3 Purpose of the Project

"The field of solar physics has developed rapidly during the last decade, to a point where sophisticated theories and models await critical observational tests. However, existing instrumental capabilities no longer are sufficient to meet this challenge. Recent incorporation of practical adaptive optics systems in astronomical telescopes, coupled with other advances in unique and powerful instrumental techniques, now promises a major advance in solar observing capabilities."

The statement of the Purpose is described in terms that indicate the science is still developing: "...developed rapidly...await critical observational tests. Recent incorporation...coupled with other major advances...now promises..." One could

Deduce that, under these rapidly changing facts and circumstances, there is a high probability that this project may be obsolete before it is even finished. The DEIS fails to address this possibility and/or provide any measure of probability of this occurrence.

ES-3.2 Historic and Cultural Resources

Negative impact to historic and cultural significance downplayed along with number of objections from Hawaiian community at large in comparison with positive comments. Lack of information about the significance and significant number of mo'olelo (stories), oli (chants) and hula (dances) that reference Haleakala. The fact that the mountain or its image is often used to symbolic represent the Island of Maui as a whole. The fact that the two words used most often in conjunction with Haleakala are "kila kila" (majestic, tall, strong), "haaheo" (pride) and "hanohano" (glorious, magnificent, stately) Haleakala is held in high esteem and with great reverence in native Hawaiian history and culture.

ES-3.6 Visual Resources and View Plane

Negative impacts to Visual Resources and View Plane are similarly insufficiently and inadequately addressed. For example, methodology for analyzing visual impacts to visitors to the National Park was inadequate because it did not include any data from visitors themselves (e.g. visitor survey about how would it impact their experience at the National Park). No or inadequate assessment was done of the very high value view resources and view plane at the summit of Haleakala in relation to tourism and our number one visitor attraction on Maui. Our economic driver on Maui and in the State is tourism. Haleakala National Park is the island's number one visitor attraction and the biggest attraction there is at the summit with its spectacular visual resources and view plane. Visitors go to Haleakala to see the natural beauty and vistas not telescopes and concrete. How much will this project affect those factors? Statements such as: "...we cannot describe that impact as an irrevocable loss of visual resources." And "...less than significant adverse impact on the Maui viewshed..." indicate inadequate analysis or biased conclusions, we are talking about building the tallest building on the island up there now!

ES-3.9.3 Roadways and Traffic

Likely negative impacts associated with Roadways and Traffic are not addressed at all in the DEIS. How the project might affect other road users, adjacent homeowners and downhill bike tours that are already experiencing problems with overcrowding and traffic at the summit and all along Haleakala Highway and Baldwin Avenue? Especially lacking is reference to impacts associated with long heavy trucks negotiating sharp turns over long distances and periods (they have to cut the corner on turns to make it, thereby creating a risk and hazard to other motorists). Not addressed is how vehicular traffic associated with the facility impact proposed new transportation plans for Haleakala National Park that would limit traffic on the roadway.

## William Evanson (cont.)

### ES-3.10 Noise

Negative impacts of increased noise from vehicles, primarily heavy equipment (semi trucks) associated with construction, installation and maintenance of the facility on residents living adjacent to the roadway is not addressed. They already suffer from traffic noise at all hours of the day, especially early morning hours due to sunrise traffic.

### ES-3.13 Public Services and Facilities

Negative impacts to Public Services and Facilities are not adequately addressed in the DEIS. What impact will this project have on current and future energy production and transmission needs/costs that are now primarily passed along to consumers, namely the public. Maui is having a hard time meeting its' energy demands given the current supply. Is the public going to end up paying for the energy demands of this project in the long run especially as it will consume large amounts of power to operate?

In conclusion, Dr. Foltz your project is a good project but in the wrong place. Our Island is too small, the mountain too sacred and special and your proposed telescope is too big.

Mahalo,



William D. Evanson

cc: Dept. of Health, OEQC

# Friends of Haleakalā National Park

Draft

Dr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

RE: Testimony by Friends of Haleakala National Park, Inc. on the Draft Environmental Impact Statement for the Advanced Technology Telescope, Haleakala, Maui, Hawai'i.

The Friends of Haleakala National Park (FHNP) strongly opposes locating the Advanced Technology Solar Telescope (ATST) Project on Haleakala. This project will adversely change the summit of Haleakala forever, causing irrevocable loss of natural, cultural and scenic resources -- negatively impacting the significance of Haleakala National Park. Another site should be given priority for the ATST. FHNP asks that the no-action alternative be selected for Haleakala, and we challenge the DEIS's assumption that significant impacts to the natural and cultural resources can be mitigated.

--We reject the conclusion on page 4-12 that impacts to the endangered Hawaiian petrel, Ua'u, are less than significant. There is no evidence that suggests the construction noise, vibration or human proximity will not impact Ua'u nesting sites. The fact that mitigations are proposed on page 4-81, supports the credibility of our assertion.

--We reject the conclusion of pages 4-6 to 4-8 that construction and operations related impacts are significant, but mitigable to less than significant impacts. Native Hawaiians, in written and verbal comment have overwhelmingly stated that the construction and operation of ATST constitute significant impacts and no mitigation the DEIS provides will compensate for the defilement of the cultural and spiritual values this project represents. It is clear to FHNP the majority of native Hawaiians prefer the no-action alternative. The mitigations proposed on pages 4-79 and 4-80 have been derived from *Cultural Resource Evaluation and Traditional Practices Report, January, (the Proposed Advanced Technology Solar Telescope (ATST) at Haleakalā High Altitude Observatories), January 2006*. This document was commissioned by the promoters of the ATST, and as a result, lacks credibility as an unbiased expression of the thinking of native Hawaiians. Even the principal author has stated opposition to this project, and was motivated to propose token mitigation, feeling the project "*a done deal*" based on past experience. "*a done deal*" FHNP believes that the ATST promoter should listen foremost to the native Hawaiians who are unaffiliated with the Institute for Astronomy.

We understand the project's funding source, the National Science Foundation, has not yet conducted the required Senior Review; and furthermore it will not be available to the public until November. FHNP would like to know why the public comment period closes before this review has been disclosed.

submitted by: Mary Evanson, Vice President FHNP  
@ Kula CA Sept 29, 2006

# Friends of Haleakalā National Park

Friends of Haleakalā National Park, Inc.  
P.O. Box 322  
Makawao, Hawai'i 96768

October 18, 2006

Dr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Dear Dr. Foltz:

RE: Testimony by Friends of Haleakalā National Park, Inc. on the Draft Environmental Impact Statement for the Advanced Technology Telescope, Haleakalā, Maui, Hawai'i.

The Friends of Haleakalā National Park (FHNP) strongly opposes locating the Advanced Technology Solar Telescope (ATST) Project on Haleakalā. This project will adversely change the summit of Haleakalā forever, causing irrevocable loss of natural, cultural and scenic resources -- negatively impacting the significance of Haleakalā National Park. Another site should be given priority for the ATST. FHNP asks that the no-action alternative be selected for Haleakalā, and we challenge the DEIS's assumption that significant impacts to the natural and cultural resources can be mitigated.

--We reject the conclusion on page 4-12 that impacts to the endangered Hawaiian petrel, Ua'u, are less than significant. There is no evidence that suggests the construction noise, vibration or human proximity on State of Hawaii land will not impact Ua'u nesting sites. The fact that mitigations are proposed on page 4-81, supports the credibility of our assertion.

--We reject the conclusion of page 4-6 to 4-8 that construction and operations related impacts are significant, but mitigable to less than significant impacts. Native Hawaiians, in written and verbal comment have overwhelmingly stated that the construction and operation of ATST constitute significant impacts and no mitigation the DEIS provides will compensate for the defilement of the cultural and spiritual values this project represents. It is clear to FHNP the majority of native Hawaiians prefer the no-action alternative. The mitigations proposed on pages 4-79 and 4-80 have been derived from *Cultural Resource Evaluation and Traditional Practices Report, January, the Proposed Advanced Technology Solar Telescope (ATST) at Haleakalā High Altitude* project, and was motivated to propose token mitigation, feeling the project was a "done deal," based on past experience. FHNP believes that the ATST promoter should listen foremost to the native Hawaiians who are unaffiliated with the Institute for Astronomy.

We understand the project's funding source, the National Science Foundation, has not yet conducted the required Senior Review; and furthermore it will not be available to the public until November. FHNP would like to know why the public comment period closes before this review is closed.

Sincerely,

Mary Evanson  
Acting President

COPY

## Friends of Haleakalā National Park

-----Original Message-----

From: Kiope Raymond [mailto: ]  
Sent: Friday, October 13, 2006 2:13 PM  
To: Van Citters, Wayne; Foltz, Craig B.  
Subject: ATST

Aloha Wayne, aloha Craig,

The final DEIS Public meeting for the proposed ATST was held at the Kula Community Center on September 29, 2006.

Mary Evanson, vice-President of the Board of Directors of the Friends of Haleakala National Park (FHNP) and representing the FHNP, read a draft of testimony from the FHNP which she intends to submit by October 23, 2006 to Dr. Foltz, et al.

As Ms. Evanson does not have a way to communicate with you via e-mail, she has asked me to relay an observation and a question she has.

N.B. I am also a Board member of the FHNP. I was in attendance at the September 29 meeting but offered no oral testimony. I concur with Mary's observation. I also join her in asking the question.

Mary's observation was that it was rude of Dr. Foltz to offer comment on her testimony right after the testimony was given. Ground rules had been set by Mediation Services. No one was to speak without first signing up to do so.

Part of Mary's testimony (draft) stated:

"We understand the project's funding source, the National Science Foundation, has not yet completed a required Senior Review; and furthermore it will not be available to the public until November. FHNP would like to know why the public comment period closes before this review has been disclosed."

Mary questions and seeks clarification of Dr. Foltz's assertion in his comment regarding her testimony. She (and I) understood him to say that the Senior Review "has absolutely nothing to do with the ATST." (Transcripts by Iwado Court Reporters will probably clarify the specific statements.) I, personally, am going to guess that Dr. Foltz may have meant that the Senior Review has nothing to do with the DEIS process for the proposed ATST.

However Wayne, I recall the informal Public Scoping meeting of March 27, 2006; the evening we first met. I was standing at the microphone asking about the timeline for completion of the Senior Review; as I had read that the original target date for publication was March 31, 2006. I asked who Dr. Van Citters was. Lo and behold, you were sitting there! (No one, that evening, had been introduced.) It is my understanding that since the findings of the Senior Review are of great import to your field, it was essential to not rush the conclusions. However the public, because the publication of the Senior Review was delayed approximately six months, does not have the opportunity to assess the National Science Foundation's conclusions derived from the Review.

It is not reasonable to ask the public for input in an information-gathering time-frame shorter than that of the funding organization's.

The public funds the funding organization.

Mahalo,  
Kiope Raymond

## Response to Friends of Haleakalā National Park (cont.)

-----Original Message-----

From: Foltz, Craig B.

Sent: Tuesday, October 17, 2006 10:26 AM

To: 'Kiope Raymond'

Cc: Van Citters, Wayne

Subject: RE: ATST

Dear Kiope:

Thank you for your email. I am replying with my comments. Wayne may choose to add additional information.

First of all, in no way did I intend to be rude or offensive to Mary. As I hope you understand from our many interactions, we have tried very hard to maintain a respectful tone and demeanor during our meetings on Maui. As you know also from these experiences, emotions run hot on both sides of the issue in these meetings.

In that many of the comments requested a response in real time while others did not, the issue of my not signing up to speak is probably a bit of a red herring. I do not recall whether I asked Mary if she wanted a response; perhaps I did not and if that is the case, I apologize again. However, those speakers who did wish to hear a response did not request that we sign up to speak, nor would this have been a tractable procedure to follow.

With respect to the Senior Review, as you suspected, my point was that the recommendations of the Senior Review had no impact on the DEIS for the ATST, i.e. the central focus of the public meetings. Whether this is precisely what I said or not may be clarified by the transcript. To clarify my comment, this review was convened to examine the balance in our current ground-based facilities and to make recommendations as to where we might identify funds to move forward with new projects and facilities. If you follow the link to the Charge to the Committee, you will see that several boundary conditions were imposed on the review. The third of these states: "The Committee will not revisit the priorities and recommendations of community reports such as the Decade Survey; the committee will not consider proposals for future individual projects nor will it determine how funds are to be distributed among individual ongoing development efforts, but rather identify resources that can be distributed to these future efforts through AST's normal review and priority setting processes." This means that the Committee will not make specific recommendations on which of the future projects (including ATST) should move forward first; be removed from consideration; etc. This is not to say that the Committee will not include the potential existence of new facilities in their deliberations on the future but they will not comment on the prioritization that has been established by the Astronomy and Astrophysics Decadal Survey and similar studies.

The Senior Review report will be presented to the Mathematics and Physical Sciences Advisory Committee, a formal Federal (FACA) committee that provides advice to NSF, on November 3. At that time it will be released to the public and we will post the report on our web site. There is no formal public comment period for this report since none is required nor are we required to respond to comments. However, we expect to receive a number of comments and questions and, if you choose to, you can send comments via email to <mailto:astsenior-review@nsf.gov>.

On a personal note, we were all very concerned about the early reports on the recent earthquake both for professional and personal reasons. As the dust has settled, so to speak, we are somewhat relieved by what we are hearing from the news and personal contacts. I hope that you and your family came through it unscathed.

With best wishes,  
Craig

20 October 2006

Aloha Charlie, Sharon, Tom

Enclosed are petitions to add  
to the documentation; specifically those  
opposing the construction of the  
proposed ATST.

Mahalo,

Ki'ape



## Friends of Haleakalā National Park (cont.)

### Petition in Opposition to proposed Advanced Technology Solar Telescope on Haleakala; Maui

We oppose the plan to construct the Advanced Technology Solar Telescope (ATST) on Haleakala. It is so huge and intrusive it will adversely change Haleakala forever and cause irrevocable loss of natural, cultural and scenic resources.

Signature Name (please print)	Street Address City, State, Zip	Phone Email
Kalea Raymond		
SOMIE DIEGO-PORDOIRO		
Cheyenne Silva		
Jorie Joaquin		
<del>John Wilson</del>		
Lisa Schaffenburg		
Elizabeth Russell		
Deanna Huelle		
Krista Strohman		
Lisa Carey		
Rose Bailey		
S. Black		
Janet Pollard		
Tommy Paul Makiki Bailey		
<del>John</del> <sup>Montana</sup> <sub>Nakali</sub>		
Andres Catalano Bailey		
Jamie Nade James Nativu		
TERESA SONG		
SHELLEY JACOBS		
Charlotte Horstman		
Heather Mancini		
HEATHER MANCINI		
Paul Walker		
Paul Walker		
Leslie Resnick		
Petra Brumm		
Kehauana Lake		
Kira		
Maria Keawe Bryan		
Kier		
<del>John</del>		

Please Return To: FHNP; P.O. Box 322; Makawao, HI 96768

# Friends of Haleakalā National Park (cont.)

## Petition in Opposition to proposed Advanced Technology Solar Telescope on Haleakala; Maui

We oppose the plan to construct the Advanced Technology Solar Telescope (ATST) on Haleakala. It is so huge and intrusive it will adversely change Haleakala forever and cause irrevocable loss of natural, cultural and scenic resources.

Signature Name (please print)	Street Address City, State, Zip	Phone Email
Zoe Miner		
Dan Sythe		
Liam Horowitz		
Judy Mawani		
Constance Palmere		
Joan Hill		
Ellen Hill		
Joseph Palmere		
Malia Gibson		
Drew Frimpton		
GAU RESTA		
Leslie ENOL		
Patty A. Schumacher		
Keala Koopuiki-Santis		
Mama Lawrence Gullagher		
Drew JANSSEN		
Mike Janssen		
Arthur		

Please Return To: FHNP; P.O. Box 322; Makawao, HI 96768

## Response to Friends of Haleakalā National Park

Thank you for your comments, which are noted.

# Mikahala Helm

September 21, 2006

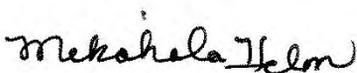
Dr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Dear Dr. Foltz,

This letter concerns the Section 106 Process for the proposed Advanced Technology Solar Telescope (ATST) on Haleakalā. I am very concerned because numerous Hawaiians, including myself, who feel that avoidance is the appropriate option are being excluded from the consultation that is required to take place pursuant to Section 106. It is my understanding that the pre-scheduled Section 106 meetings at the end of this month on Maui will occur only with those individuals who seek to minimize or mitigate adverse effects of the project. Individuals who seek avoidance are being asked to attend meetings for the general public.

I do not feel that culturally appropriate Section 106 consultation has occurred to date. The May 2006 meeting at the Paukukalo Community Center was a frustrating experience for those in attendance in that the ATST representatives spent an inordinate period of time with presenting the project leaving insufficient time for comments and consultation. Many individuals left frustrated and angry. The scheduling of the DEIS public comment and Section 106 meetings during the week of the Maui County Fair, one of the busiest weeks for our community, is an example of the culturally insensitive manner in which the Section 106 process is being conducted. In addition, the last minute and insufficient public notification of the 1-hour reduction to each of the three September meetings is also a hindrance to public and Section 106 participation. Haleakalā is a traditional cultural place which has great cultural and religious significance to Hawaiians. Please inform me how your agency intends to proceed with the Section 106 process so it is fair, inclusive and culturally appropriate. Mahalo.

Sincerely,



Mikahala Helm

cc: Dr. Charlie Fein, KC Environmental, Inc.

## Mikahala Helm (cont.)

Date: October 23, 2006  
To: Dr. Craig Foltz  
From: Mikahala Helm  
Re: Comments on the Draft Environmental Impact Statement (DEIS) for the proposed Advanced Technology Solar Telescope (ATST)

I have already submitted my Section 106 proposal for "avoidance" of the ATST proposed for Haleakalā on Maui. As Hawaiians, loving our land means caring for it. This is essential especially for sacred places like Haleakalā. This means doing no harm and ensuring that the native plants and animals thrive. It also means that we protect these places to ensure that those living now and future generations will be able to experience and honor Haleakalā which is well known in our legends, in our chants and in our songs. This mean leaving the land described as the Reber and Mees sites undisturbed. Building the ATST will have significant negative impacts:

- How will you address the negative impact that the building of the ATST will have upon our kupuna, Hawaiians and community members of all ages who have already testified against this project? They have mentioned the personal hurt that this would cause. Why have you chosen to disregard the overwhelming testimony against building the ATST on Haleakalā as no significant impact?
- How is it that the oral testimony that was transcribed at Section 106 and other meetings (with a majority against the ATST) was left out of the DEIS? We were told that it would be included in the DEIS. Transcriptions of oral testimony must be included in the DEIS in order to have complete records as these comments relate to the Section 106, preparation of and comments on the DEIS. For centuries the Hawaiian culture has flourished through oral traditions. Even in the 21<sup>st</sup> century many people prefer speaking about their concerns rather than providing them in written form. These oral comments are as important as any written comments received for this project.
- Noise pollution, visual impact, hazardous waste risks are among the many things that have not been sufficiently addressed. The cumulative effect of building the ATST is far greater than the DEIS states. The cloudy images shown during ATST meetings do not mask this impact. We already clearly see the current telescopes from central Maui particularly when we travel to Haleakalā. The construction of the ATST would be a direct assault on our sacred mountain.

In closing, I do not feel that cultural protocol and training of staff is enough to rectify the harm that is proposed by the building of the ATST. Clearly this is not the place for your telescope. Respect Haleakalā and leave it in its beauty. It is essential to our Hawaiian people, to our culture and practices ... all alive and thriving in our community.

  
\_\_\_\_\_

## Comment and Response - Mikahala Helm

**From:** <kcesharon@hawaii.rr.com>  
**To:** <mikahalalah...>  
**Cc:** "Gilanshah, Bijan" <bgilansh@nsf.gov>; "Charlie Fein-kce" <charlie@kcehv.com>  
**Sent:** Tuesday, October 24, 2006 9:12 AM  
**Attach:** Section 106 Transcripts May 01-2006.pdf; Section 106 Transcripts Mar 28-2006.pdf  
**Subject:** Re: Comments on the Draft Environmental Impact Statement for the proposed Advanced Technology Solar Telescope (ATST)

Hi Mikahala,

Attached are the transcripts you requested for the March 28 and May 1, 2006 Section 106 meetings. We will address your other comments once we have sorted through all the comments we have received.

Thank you for your interest in this project. Take care.

Sharon Loando-Monro  
KC Environmental, Inc.  
Planning Projects Manager

---

**From:** Mikahala Helm [mailto:...]  
**Sent:** Tuesday, October 24, 2006 2:02 AM  
**To:** Gilanshah, Bijan  
**Subject:** Fwd: Comments on the Draft Environmental Impact Statement for the proposed Advanced Technology Solar Telescope (ATST)

Aloha e Bijan,

Attached, for your information, are my comments on the ATST DEIS sent to Dr. Craig Foltz today (10/23/06). I am writing as a follow up to our discussion on September 27, 2006 at the Public Comment meeting held at the Cameron Center Auditorium. At that time I requested that the "oral testimony transcriptions" from Section 106 and other ATST meetings be sent out because the DEIS did not include them.

Transcriptions of oral testimony must be included with the DEIS and in the upcoming EIS in order to have complete records as these comments relate to Section 106 and to the preparation of and comments on the DEIS. For centuries the Hawaiian culture has flourished through oral traditions. Even in the 21st century many people prefer speaking about their concerns rather than providing them in written form. These oral comments are as important as any written comments received for this project. It is because of the aforementioned that I request that all "oral testimony transcriptions be mailed to everyone and every agency that received the DEIS. I would truly appreciate a copy. In addition, I hope that you will also send the oral transcriptions to the following (if they are not on that list):

- Hawai'i Senator Daniel Inouye
- Hawai'i Senator Daniel Akaka
- Hawai'i Representative Neil Abercrombie
- Governor of Hawai'i - Linda Lingle
- Lt. Governor of Hawai'i - Duke Aiona
- Mayor of Maui - Alan Arakawa
- County Council of Maui
- Maui's representatives to the State legislature
- State of Hawai'i Department of Land & Natural Resources

Thank you very much for your assistance, Bijan. Mikahala Helm

# Liana Horovitz and Wehiwehi O Leilehua Hula Halau

From: "Liana Horovitz" <>  
To: <charlie@kcenv.com>, <cfoltz@nsf.gov>  
Subject: Community input on proposed telescope atop Haleakala  
Date: Mon, 23 Oct 2006 13:15:34 -1000  
X-Mailer: Microsoft Office Outlook 11  
Thread-index: Acb2+SQT0ibguwJWRn60sE3u+tKLpQ==  
X-Virus-Scanned: Symantec AntiVirus Scan Engine

Dear Sirs,

Please peruse the attached comments from the women of hula halau Wehiwehi O Leilehua in regards to the proposal to build a new telescope atop Haleakala.

Mahalo,  
Liana Horovitz

October 18, 2006

From: Gordean L. Bailey Email: \_\_\_\_\_  
To: Dr. Charlie Fein  
K C Environmental, Inc.  
P.O. Box 1208  
Makawao, Hi 96798

On October 2, 2006 we visited the summit of Haleakala after dark to witness the night sky and the peace of our mountain. These were some of the comments of the women who went to dance and chant.

Charlotte Horstman: Haleakala nights should be preserved from man-made noise.

Shelley Henry: The peace, calm and stillness atop our Haleakala is something to respect and treasure. The disturbances created by generators, buzzing lights and a new 14 story building to this sacred space is a shameful act and a violent assault on our senses, our dignity, and our human rights.

Rici Conger: Purist night sky – We hear our kupuna whisper to our hearts be kind to the aina – in our souls we feel their manao and we listen.

Margit Tolman: Peace and the silence on top of the crater brings me to my inner self. This is as close as I can get to heaven. A 14-story building will destroy forever the peace and silence for future generations. Keep the place free from noise pollution, keep the tranquility.

Konstance Palmore: The silence of the night is one more of our precious Hawaiian treasures threatened with extinction. Our obligation and kuleana is to preserve a pono relationship with our wahi pana and our ancestors for future generations.

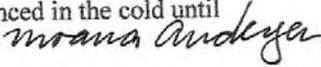
Joanie Liu: The buzz of the generators seem offensive to peaceful silence of the night sky.

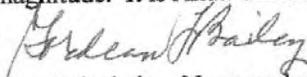
*Joanie Liu*  
*Lana Moku*

## Liana Horovitz and Wehiwehi O Leilehua Hula Halau (cont.)

2-2 Kokua Haleakala

Liana Horovitz: The bright lights, un-natural humming and unsightly buildings of Science City are a blight to the senses as one tries to communicate with one's personal gods and guiding spirit in the tranquility of the night sky. 

Moana Andersen: The mist shrouded the stars and moon. We danced in the cold until their faces peeked out of the dark sky. Listen to the generations! 

Gordean Lee Bailey: Enough – the night sky is magnificent with the human eye but the disturbance is deafening when you stand beside the machines that fuel the telescope. Deafening in that it disrupts the perfect silence of the night. How dare we! It is a violation of the highest magnitude. It is Akua's arena. Let us honor his creation with less intrusion, not more. 

We stand together to protect Haleakala. No more building at the summit forever!  
See October 2006 National Geographic cover: Places we must save. World Parks at risk.  
America's threatened sanctuaries. Our National Parks in Peril.

Is anybody listening? Thank you for your attention.

cc: Dr. Craig Foltz, ATST Program Manager  
Mr. Mike Mayberry, UH Institute for Astronomy  
Senator Dan Akaka  
Senator Dan Inouye

## Comment and Response - Michael Howden

**From:** <kcesharon@hawaii.rr.com>  
**To:** <michael@...>  
**Cc:** "Charlie Fein-kce" <charlie@kcenv.com>  
**Sent:** Wednesday, October 18, 2006 4:39 PM  
**Subject:** Request for testimony at ATST DEIS Public Comment Meeting

Hi Michael,

Attached is a file per your request for a copy of your testimony at the ATST DEIS Public Comment meeting held at the Kula Community Association on Sept. 29, 2006. Per our telephone conversation, I will also put a hardcopy in the mail to you. Thank you for participating in the ATST public comment meeting.

Sharon Loando-Monro  
KC Environmental, Inc.  
Planning Projects Manager

----- Original Message -----

From: "Charlie Fein" <charlie@kcenv.com>  
To: <kcesharon@hawaii.rr.com>  
Sent: Monday, October 02, 2006 9:40 AM  
Subject: Testimony Request

> Sharon:

>

> Michael Howden called me to request a copy of his testimony at the DEIS  
> public meeting so he can prepare his written comments. I told him that  
> the transcripts typically take about two weeks, which is fine with him.  
> When Iwado sends the document, please send him his testimony. His address

## Michael Howden (cont.)

-----Original Message-----

From: Michael Howden [mailto:[Michael.Howden@hawaii.edu](mailto:Michael.Howden@hawaii.edu)]  
Sent: Saturday, October 21, 2006 08:43 PM  
To: [charlie@kcenv.com](mailto:charlie@kcenv.com)  
Cc: [kiope@hawaii.edu](mailto:kiope@hawaii.edu)  
Subject: ATST Written Testimony

Thank you for a copy of my testimony given at the Kula Community Center on 29 September, 2006.

Here is my written testimony against the installation of the ATST on Haleakala:

My name is Michael S. Howden. I presently live in Kula, and have lived on Maui first in the Hana District, in Kaupo, and, later, in 'Ulupalakua, for close to forty years now. I work at Kula Hospital & Clinic as an acupuncturist and Chinese herbalist; I also have an office at an integrated clinic in Wailuku. My other work is in Permaculture Design, designing and helping implement sustainable designs on agricultural properties.

I really come to share my mana'o relative to my training as a haumana with Papa Henry 'Auwae, Po'okela Kahuna La'au Lapa'au, in Hawai'ian healing and Hawai'ian culture. My testimony is in relation to the Historical and Cultural impacts, as discussed in the DEIS.

One of the things I noticed in the beginning of reading through the DEIS, was that Pu'u Kolekole was considered to be a place of prayer and inner attunement. And I've got to say that for all of us who love this mountain and who have been touched by it, it doesn't matter in my heart whether you have koko(actual Hawai'ian lineal descent), but how you receive it. And I find it incredible that this European scientific mindset would want to impose upon a sacred landscape what can only be considered in spiritual terms really a monstrosity. This is a place of prayer. It's a place sacred for ceremony. And I think at some point, this madness toward building and accumulation and the carelessness with which this is approached in terms of imposing on this landscape something that would be not only cultural desecration, but an aesthetic and spiritual desecration. I don't see this quite obviously as simply a Native Hawai'ian issue, though I was formally hanaied(adopted)by my teacher, Papa Henry. I see it as a community issue, and really in some senses, a metaphor for Maui's destiny--whether we become concerned so much with externals, or whether what Maui has been and what Hawai'i has been in terms of a place of healing and a place of prayer, and of great inner nourishment--or whether we just go onward toward a wholly material culture.

We don't actually seem to know how to live on the earth. I'm a member of the Maui County Board of Water Supply, and among the issues before us, are the poisoning of our water resources. And when we look at this as a Board, then we also have to look at what kind of agriculture do we have on top of these water resources, and what are the health effects for our community of all this. You can't just look at one thing. I deeply admire what science has taught us, especially about the earth and the heavens and the human body and nature in general. But science in the West has been very impersonal and amoral. And science has also produced what the Hopis call the gourd of ashes, nuclear weapons, which threaten all life on earth.

And we just keep on doing this when there are people who are homeless, people who are dispossessed. We're certainly not looking at what the actual needs of our community are, we're just going on toward this madness.

Thank you for you consideration in this matter,  
Michael S. Howden,

## Joe and Karen Johnson

-----Original Message-----

**From:** Joe W Johnson [mailto:joewjohnson@hawaii.gov]  
**Sent:** Tuesday, October 3, 2006 04:12 PM  
**To:** cfoltz@nsfgov.com  
**Cc:** charlie@kcenv.com  
**Subject:** ATST Haleakala

Craig Foltz and Charlie Fein

I have been a Maui resident for 12 years and the correspondence is to state my **support** of the new solar telescope on Haleakala.

This is a great project and we trust the environmental issues will be addressed above and beyond the call of duty. Thanks for all of your hard work in this decision and we look forward to the benefit of this project here on Maui.

Joe Johnson  
Karen Johnson  
Kihei, Maui Hawaii 96753



## Paul Kamakawiwo‘ole

Charlie Fein  
KC Environmental Inc.  
P.O. Box 1208  
Makawao, HI 96768;

My name is Paul Kaho‘okipa‘olu‘olu Kamakawiwo‘ole. My ‘ohana is Kanaka Maoli. I am writing in reference to the Draft Environmental Impact Statement for the Advanced Technology Solar Telescope.

In reviewing the Draft Environmental Impact Statement for the Project Proposal of the Advanced Technology Solar Telescope planned to be built on the summit of Haleakala, I find the DEIS sorely lacking in breadth of the proposed site selection.

In the DEIS, the 18 acres at the summit are consistently mentioned as the location when evaluating the Haleakala site for the ATST. The DEIS does not value nor address the entire summit and for that matter, the entire mountain in its evaluation. This is sorely short sighted. Haleakala is a sacred place. It is not divided into parts more sacred than others. A church is not a place where only the back, or the front, or the bottom, or the top is the place of sacredness. Like so, Haleakala cannot be divided into sacred sections.

In the DEIS, the issue of view plane at the summit of Haleakala is concluded to be subjective to the one who is doing the viewing. I submit to you this is offensive at best. The view has everything to do with a sacred place. A construction of any kind can and will interrupt and impede the spirit of the place. Haleakala is her spirit. The cultural spirituality is significantly affected by the proposed telescope. I would be personally offended to have to view anything that impedes my cultural spiritual practices.

The DEIS also mentions that permissions will be granted to selected sites for Native Hawaiian’s to perform cultural ceremonies. The DEIS did not address why there are “no” or not many “sites” to inventory. Two ahu were built to mark the spot for ceremonial use. I find this extremely offensive to think that a corporation would dictate where to perform my cultural religion, and also that I would need the granting of permission to exercise my religion. This sounds like depressing my freedom of religion. This needs further clarification.

The DEIS also claims to create educational advancements and programs particularly for Native Hawaiians. There is not enough discussion as to how this is going to occur. The curriculum, or the selection process of which Native Hawaiians these programs are going to benefit. It also does not address how the proposed project is going to fund these programs.

Haleakala is a sacred place. Her sacredness and spirit cannot be divided. Hawaiians have revered her throughout our history, and we will continue to keep her spirit alive.

Please do not build upon her spirit.

Mahalo a ke ho‘opomaika‘i ke ‘Akua ia ‘oe,

Paul Kaho‘okipa‘olu‘olu Kamakawiwo‘ole

## Comment and Repsonse - Alan Kaufman

From: "Alan Kaufman, DVM, R\(\B\), ABR, CRS, GRI"  
To: "'Jeff Kuhn'" <[kuhn@pelea.ifa.hawaii.edu](mailto:kuhn@pelea.ifa.hawaii.edu)>  
Subject: Solar Telescope  
Date: Thu, 19 Oct 2006 06:56:19 -1000  
MIME-Version: 1.0  
Content-Transfer-Encoding: 7bit  
X-MimeOLE: Produced By Microsoft MimeOLE V6.00.2900.2962  
Thread-Index: AcbygJZr0JUmpCfiTwi19Oc56Ly3twBHIC+A

Jeff,  
My question at the KCA Board meeting focused on a single potential benefit of the telescope...protecting/increasing the food supply for the planet. Can you provide a concise list of other potential benefits? This is for discussion with the rest of the Board.  
Mahalo nui,  
Alan

Alan Kaufman, DVM

Date: Thu, 19 Oct 2006 07:12:31 -1000 (HST)  
From: Jeff Kuhn <[kuhn](mailto:kuhn)>  
Subject: Re: Solar Telescope  
To: [kuhn@pelea.ifa.hawaii.edu](mailto:kuhn@pelea.ifa.hawaii.edu), [kaufman](mailto:kaufman)  
MIME-Version: 1.0  
Content-MD5: ZAg67yz4C/0w3x+uRAbk1Q==

## Response

Alan,  
Your question is not an easy one. How will society use the knowledge that ATST generates? The fundamental goal of the scientists that will use this tool is to understand why the Sun changes. We are successful when we have the ability to predict what the Sun will do over timescales from minutes to years to decades. There should be no question that this knowledge will help us plan for protecting our sensitive technology from disruption (this is the short timescale problem associated with solar flares and coronal mass ejections). We seek this knowledge to know when to activate backups for communication (cellular, GPS, and all satellite-based systems) but also for communication that depends on bouncing radio signals off the earth's ionosphere which is also disrupted by these solar storms. On longer times we need to know that the Sun will be, for example, 0.3% dimmer over the next 50 years (as it was during the Maunder minimum of the late 1600's) in order to anticipate climate changes that affect everything from power consumption to agriculture. As I described to the board last week, we believe that these longer-term changes had profound effects on entire civilizations (two examples were the decline of the Mogollon/Anasazi/Hohokam and the sustenance of the Viking culture in western Greenland). Why is ATST a good gamble for achieving this knowledge? For me the biggest reason is simply that it is our largest leap forward in capability in many many years. And as I tried to describe, its not just the telescope that makes this possible, it is the combination of the telescope and the sky it sits under -- there is no other place we know of that makes such a powerful combination of man-made machine plus natural observing condition like this site on Haleakala.

I hope this is helpful. Please call me at 268 5086 if I can provide any further information.

Cheers, -- Jeff

**Richard Kinoshita**

Date: 9/8, 2006

Dr. Craig B. Foltz  
4201 Wilson Blvd., Rm. 1045  
Arlington, VA 22230

Re: Advanced Technology Solar Telescope on Haleakala; Maui

Dear Dr. Foltz:

I oppose the proposed ATST on Haleakala. I believe the proposed project will have significant adverse effects on the environment and the cultural and spiritual values of Haleakala. I request a copy of the draft EIS so that I may review it and see if I wish to submit further comments.

Sincerely,



(Signature)

Name: Richard Kinoshita

Address:

copy of DEIS mailed 9-21-06  
by KCE.

# Response to Richard Kinoshita



P.O. Box 1208  
Makawao HI 96768  
(808) 573-1903  
fax: (808) 573-7837  
charlie@kcenv.com

September 21, 2006

Mr. Richard Kinoshita

Dear Mr. Kinoshita:

Per your request, attached for your review is a CD of the Draft Environmental Impact Statement (DEIS). Please let me know if you wish to receive a hardcopy. The DEIS was prepared pursuant to the joint Federal National Environmental Policy Act (NEPA) and State of Hawai'i EIS law (Hawai'i Revised Statutes, Chapter 343) and the EIS rules (Hawai'i Administrative Rules, Title 11, Chapter 200). This DEIS can also be found at all Maui public libraries and on the Internet at: <http://atst.nso.edu/>.

TITLE OF PROJECT: Advanced Technology Solar Telescope (ATST)  
LOCATION: Island of Maui, Hawai'i, District of Waiakoa, Papaanui, Makawao  
TAX MAP KEY NUMBER: 2-2-2-007-008  
APPLICANT ACTION: X

**Public Comment Period:** The NSF welcomes and invites Federal, state, and local agencies, and the public to participate in the 45-day comment period for the completion of this EIS. The 45-day public comment period begins September 8, 2006, and ends on October 23, 2006. Public comment meetings will take place on the island of Maui, Hawai'i, with notification of the times and locations published in the local newspapers, as follows:

1. Cameron Center Auditorium - September 27, 2006, Wednesday, 7:00 to 10:00.
2. Hannibal Tavares Community Center, Multi-purpose Room (Pool Room)  
September 28, 2006, Thursday, 7:00 to 10:00 pm.
3. Kula Community Center - September 29, 2006, Friday, 7:00 to 10:00 p.m.

ORIGINAL comments should be sent to the applicant:

Dr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045, Arlington, VA 22230  
Telephone: 703-292-4909, Fax: 703-292-9034, email: [cfoltz@nsf.gov](mailto:cfoltz@nsf.gov)

COPIES of comments should also be sent to:

1. Dept. of Health, Office of Environmental Quality Control (OEQC), REF: ATST  
235 South Beretania Street, Room 702, Honolulu, HI 96813, fax: 808-586-4186

Page 2

2. Mr. Mike Maberry, Associate Director  
University of Hawai'i Institute for Astronomy  
P. O. Box 209, Kula, HI 96790-0209, fax: 808-876-7603
3. Dr. Charlie Fein, KC Environmental, Inc.  
P. O. Box 1208, Makawao, HI 96768  
Telephone: 808-573-1903, Fax: 808-573-7837, email: [charlie@kcenv.com](mailto:charlie@kcenv.com)

Your comments must be received or postmarked by October 23, 2006.

#### Section 106 – National Historic Preservation Act:

During NSF's trip to Maui, pre-scheduled meetings will also be held on September 27<sup>th</sup> to 29<sup>th</sup> with interested individuals and groups who submit resolution proposals that seek to minimize or mitigate adverse affects by virtue of a Memorandum of Agreement as contemplated by the National Historic Preservation Act. Please submit resolution proposals to KC Environmental, Inc. at the address above. In addition, Section 106 consultations will also be part of the discussion during the public comments to the DEIS and all proposals can be further submitted at those meetings.

If you no longer need this EIS, please recycle it or return it to KC Environmental, Inc. Thank you for your participation in the EIS process!

Sincerely,

Dr. Charlie Fein  
Vice President

CC: OEQC

# Mayumi Marks and Suga Jazz Dance Studio Deligate

October 23, 2006

From : Mayumi Marks

To: Dr. Craig B Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Blvd, Rm. 1045, Arlington, VA222230  
Telephone: 703-292-4909, Fax ; 703-292-9034, email: cfoltz@nsf.gov  
Cc: Dept.of health, Office of environmental quality control,REF:ATST,  
Mr. Mike Maberry, Associate Director, University of Hawai'i,  
Dr.Charlie Fein, KC Environmental, Inc

Re : Opposition to the proposed Advanced Technology Solar Telescope (ATST) on  
Haleakala ,Maui

Dear Dr. Foltz:

Aloha ,

I'm sending Fax of petition for opposing Advanced Technology Solar Telescope on  
Haleakala for Japanese people.

Please review all of the voices of people who really understand Hawaiian culture and  
taking care of our planet Earth ,

Please study Hawaiian culture really well before you think or plan to do something on  
Hawaii,

And, please find somewhere else, please do not to build ATST on Haleakala.

Please try to know that many of people of the world have a voice of opposition for ATST  
on Haleakala .

Sincerely,

Mayumi Marks

SUGA KUNITOMO,  
Suga Jazz Dance Studio Deligate

Dear Dr. Foltz,

We can hear the voice of Earth,  
the voice of Mother Earth who has been warmly embracing all of us.  
We humans have been making mistakes so long,  
we can't commit errors any more.

Nursing and protecting Haleakala is the mission of those who we are living on Earth now.

Because The Advanced technology Solar Telescope project on Haleaaka is so huge and intrusive  
it will adversely change Haleakala forever, causing irrevocable loss of natural,cultural and scenic  
resources.

**WE STRONGLY OPPOSE LOCATING THE ADVANCED TECHNOLOGY SOLAR  
TELESCOPE ON HALEAKALA.**

**WE UNCOMPROMISINGLY PROTECT SACRED HALEAKALA FROM ANY MORE OF  
DESTRUCTION.**

Sincerely,

SUGA KUNITOMO,  
SEIKO SUGI,  
MARINA TOMIOKA,  
CHIYOKO II,  
MATSUMI YAMADA,  
YU HOSOKAWA,  
HISUI IWASAKI,  
MIHO FUJIMOTO,  
KEISUKE KOBAYASHI,  
MASAMI ASANO,  
TOSHIYUKI MIYA,  
MIYUKI FUKU,  
SETSUKO AKIMOTO,  
AKI IKEGAMI, SHO IKEGAMI,  
SHINNOBUKE OJIMA,  
ATSUKO SASAGAWA,  
HIROYUKI KOBAYASHI, NOBORU INOUE,  
TAICHI MORIMUNE, AYUMI TOMINAGA,  
NORIYUKI KOBAYASHI, YUICHIRO OJIMA, KOJI SATO,  
NAGISA TSUBOKAWA,

***MAUI ARCHITECTURAL GROUP, INC.***

***2331 W. MAIN STREET  
WAILUKU, MAUI, HAWAII 96793  
Phone 244 - 9011 + FAX 242 - 1776  
[www.MauiArch.com](http://www.MauiArch.com)***

**MEMO**

**To: ATST: Dr Craig Foltz; OEQC DOH; Mike Mayberry, UH Charlie Fein, KC Environmental**

**From:** Jim Niess

**Date:** October 23, 2006

**FAX:**

**Subject: ATST – Draft EIS Comments**

Thank you for this opportunity to comment on the draft EIS for the ATST proposed for location atop Haleakala. As a 40 year resident of Maui with daily views to the summit of this unique and majestic mountain, and as a practicing architect here all those years I do have a few comments on the document under review:

First, let's assume the ATST is a very desired and necessary piece of hardware that will provide invaluable solar data that will have a direct and lasting impact on the world community..... Second, let's assume that it will be built, as proposed, very prominently at the summit of Haleakala.

- This D-EIS is a very poorly organized presentation of the project. In my business I have seen many of these documents for much more humble projects with much greater depth, sensitivity to the issues at hand, more thorough analysis (including the null hypothesis), and thoughtful empathy for those who will be impacted by the project.
  - It is mostly a re-hash of the sites-selection process with a cursory nod to cultural, view plane, color selection, and other pertinent issues.
  - Its cursory nature appears to belie an academic arrogance; a rush to get past the general public; it's petty and insignificant concerns; the messiness of public debate, criticism, requests to modify the project in some way.
  - A \$175M project can surely do a better job of presenting itself to those who it will impact.

## Comment – Maui Architectural Group, Inc. Jim Neiss (cont.)

- Make no mistake.....this proposed project will have a *very* significant impact on those who are forced to view its towering mass from the valley floor.
- Regarding treatment of its exterior, why was only brown color compared to the highly reflective (and objectionable) white? This is a myopic mistake. This towering mass should be camouflaged from view from the island's valley floor. The background color here is a much lighter misty blue. This may not have the same thermal reflective properties as dead white but it will surely outperform the dark brown that was studied.
- Assuming the 145 feet is the only way this hardware can be configured (is it? Have other configurations been studied? Where are the alternatives to such a towering structural mass?) why has no consideration been given to burying a significant portion of the structure below grade?
- Why is there no mention on other impacts to the community this operation will be joining
  - The Road – I was the Safety Engineer for the satellite tracking mounts in the early seventies then administered by Avco Everett. The most dangerous part of the entire operation was getting to and from work. More accidents occurred on the highway than at the facility. How will this operation impact road safety? Both during and, especially after, construction.
  - How will the operation of this facility impact the hyper-critical housing market in this community?
- The proposed structure should be illustrated with views from various parts of the island; the valley floor (Wailuku, Kahului, Maalaea, Paia); the leeward communities of Kihei, Wailea, Makena; the windward communities of Makawao, Haiku. This is not difficult to accomplish with the software products in use today.
- It is my opinion that a less reflective presentation can significantly mitigate the building's mass, making it far more acceptable to the community at large. Showing the project from various views as suggested can be a valuable tool by understanding the true visual impact of this massive project, by putting irrational fears to rest, and by being more forthright with the community it hopes to join.
- There is an old adage: "Doctors can bury their mistakes but architects can only plant vines...." Vines won't grow at this elevation....that leaves you only with paint. This needs more study.

## Maui Cultural Lands, Inc., Edwin Lindsey, Jr.

Maui Cultural Lands, Inc.  
1087-A Pookela Rd.  
Makawao, Hi 96568  
Oct. 23,. 2006

It is with great concern that many of us Kanaka Maoli are compelled to give testimony against a project that is so destructive to the well being of the Hawaiian culture and its scared sites. The building of the solar telescope need to addressed at four levels, legal, physical, political, and cultural.

Through executive order by the late Governor Quinn, the University of Hawaii was given control to develop a science city on our sacred mountain sites. However, your project proposal goes counter to the many federal, state and county laws:

- a. Hawaiian Admissions Act, Public law 86-3, 73 stat. 4(f)  
The betterment of the conditions of Native Hawaiians.
- b. Hawaii State Constitution, Art. XI sect. 1, protect Natural cultural and Religious resources.  
Article XVI sect 7, Public Trust for Native Hawaiians.
- c. US Constitution First Amendment Religious Freedom. Native Hawaiian Religious Practitioners' rights will be violated.
- d. Federal Law, Endangered species and Habitat Act.
- e. EPA hazardous materials act
- f. County ordinances concerning community plans.
- g. Failure for the University of Hawaii to develop a comprehensive use plan where the public is able to give input.

While this may just be the beginning, other laws and legal problems may surface as more people become aware of what is happening on Haleakala. To ignore or to try mitigation proposals of these laws of the land weakens the fabric of those values we hold close to our state and national foundations.

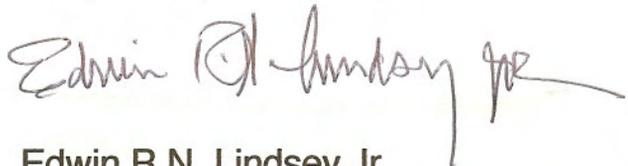
The physical and environmental make up of Haleakala is among the most unique in the world. Endangered and threatened endemic plants, insects, animals and habitat cannot be successfully mitigated once excavations of many pylons going down into the bowls of this dormant volcano 20-40 feet deep. Excavations now and in the past has always encouraged invasive species to take hold. To proceed with your project would contribute to the destruction of our native ecosystems that have already started at the base and the solar telescope would destroy our natural treasures from the summit.

The National Historic and Preservation Act while a legal requirement, falls more into the politics of getting away with your project needs instead of doing what the community demands to be the correct path. In spite of Sect. 106, mitigate, minimize or avoidance, all the testimony against a project given by the host culture may be ignored. Other politically motivated reason to support this telescope may be unethical because of future contractual agreements. One hundred seventy five million dollars worth of contracts will attract many "friends" and supporters. The love of money supersedes ethical behavior.

Many indigenous cultures through out the world recognizes many works of nature as sacred. When a culture depends on these natural wonders of their environment for survival and reverence communications to a power higher than themselves, all care must be given to this practice. Haleakala is noted through out polynesia as one of a most sacred area. There are stories, legends, events, but most important, prayers by generations of Kahunas. As many visitors can testify there is a life force within these rocks that have influenced their lives. For the National Science Foundation, and scientists to belittle this belief, they unknowingly contribute to the genocidal practice of wiping out the people of Aloha.

In conclusion, do NOT minimize the host culture of these islands, to do so would be unworthy for you to study the sun.

Respectfully submitted,



Edwin R.N. Lindsey Jr.  
President, Maui Cultural Lands, Inc.  
Board Member, Kila Kila O Haleakala

## Comment – Dick Mayer

-----Original Message-----

From: Dick Mayer <

Date: Thu, 12 Oct 2006 13:47:16

To: Flammerfamily@ Hari Ajmani >, Debbie vonTempusky  
David Jenkins, Elliott Krash  
flammerfamily@, Pam Gould  
Harlan Hughes Steve Sutrov  
, Alan Kaufman kmossman@  
kulafolks@, Mitchell Silver, Terry McBarnet  
, Tolmachoff@ wjs@!

Cc: Mike Maberry <maberry@hawaii.edu>  
Subject: Haleakala Telescope vs Windmills

Aloha KCA Board,

RE: Statements made at our 10-10-2006 Board Meeting. When the visibility of the proposed 143' tall telescope from the upper viewing area at the Haleakala summit was mentioned, Dr. Jeff Kuhn, Assoc Director, Institute of Astronomy at University of Hawaii stated that the windmills on West Maui were much higher. I stated that at least the windmills reduced air pollution and allowed us to conserve oil. He replied seemingly knowingly that the windmills actually required MORE oil to be burned by MECO, so that they could stabilize the quality of the electric output. I questioned that this was true on an annual basis; and he got rather perturbed. I checked today with a spokesman from the MECO power plant; he stated that the windmills are in fact allowing MECO to burn LESS oil. I wonder if Dr. Kuhn's enthusiasm for this project, on which he has been working for so many years, may possibly limit his ability to understand community concerns. Dick  
cc: Mike Mayberry

Date: Tue, 17 Oct 2006 20:35:45 -1000 (HST)  
From: Jeff Kuhn <kuhn@pelea.ifa.hawaii.edu>  
Subject: windfarm oil consumption, for the record.  
To: dickmayer@, flammerfamily@, ajmani@  
axisdeer2@, creationdesign, ekrash@  
flammerfamily@, gouldp001@, harlan@  
inolikespam@, jjw121@, kaufman@  
kmossman@, kulafolks@, silver@  
terry@  
Cc: kuhn@ifa.hawaii.edu, fein@maui.net  
MIME-Version: 1.0  
Content-MD5: odAWbd9n6qIISI+mJH9/5A==

Dick Mayer:

For the record -- My statement was that the poorly regulated power generated by the Maui windfarm forces MECO to burn more oil to regulate the frequency of our power during times of low load and I have confirmed this from an expert retired MECO engineer. I \*did not say\* nor imply that the overall yearly MECO oil consumption has gone up (as I understand you have asserted). The issues concerning wind power generation and energy policy are complex but here are two public sources you might find useful for historical and technical information

<http://www.telosnet.com/wind/index.html>  
[http://practicalaction.org/docs/technical\\_information\\_service/wind\\_electricity\\_generation.pdf](http://practicalaction.org/docs/technical_information_service/wind_electricity_generation.pdf)

Jeff Kuhn  
Associate Director  
Institute for Astronomy

## Response

To: Dr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 10045, Arlington VA 22230

October 22, 2006

From: Professor (Emeritus) Dick Mayer. Economics and Geography

RE: FEDERAL/STATE D.E.I.S. -- ATST (Haleakala Solar Observatory)

CONTENTS:

- I) General comments
- II) A list of issues and deficiencies that need to be addressed in a FINAL .E.I.S.

I) General Comments

1) The views that I express below are my own and not necessarily those of any organization or association.

2) For many years I reviewed E.I.S. documents for the Environmental Center at UH Manoa. During that period I rarely saw an E.I.S. that was so obviously unfair to the spirit of the E.I.S. legislation as this 2006 ATST D.E.I.S. It is a one-sided defense of the proposed Solar Observatory. It seems more the product of a hired P.R. firm. The DEIS is a defense of the project's impacts. It was NOT an E.I.S., as envisaged in the original enabling legislation. (Or, as the DEIS states on several occasions when there is an unmitigated problem, "that's only a 'subjective' opinion.")

I had hoped that this 2006 Federal/State D.E.I.S. would be an unbiased assessment. Unfortunately, the sheer size of the document in no way reflects a quality assessment of the environmental impact of the proposed project. In fact, the D.E.I.S. makes it very difficult for reviewers to detect the actual environmental impact of the proposed project.

II) A list of issues that need to be further discussed or included in a FINAL .E.I.S.

1. **SCOPEING MEETINGS** There were problems with the scopeing meetings: the public was not well informed about the actual height of the telescope facility and the attached service building. In fact, it appears that there was an actual attempt to mislead the public. The photos and sketches shown to the public were all aerial shots which gave the impression that the telescope was actually shorter than the top of the mountain. (The telescope actually will rise to a height about 100' above the highest natural point on the mountain!!) Furthermore, when asked the height of the telescope at the scopeing meeting, the figure given by the ATST spokesperson was approximately 93 feet; the actual height is approximately 50 percent greater.

The height of the service building was not given, and I do not believe it is even given in the DEIS although it appears that it too would violate the 35' height limitation imposed by the Upcountry Community Plan Ordinance.

Because the public was misled on the height, it was less able to comment accurately on the enormous visual impact of the planned facility. It was not until several weeks later that the Maui News reported accurately on the actual telescope height, too late for the scopeing meetings.

2. **SITE SELECTION** There are two separate problems with regard to the selection of sites:
  - A) Although the literature provided at one of the scopeing meetings indicated that there were advantages to constructing a ground-based telescope instead of a space-based telescope on a satellite, the DEIS neglected to even consider a space-optics. A space-based solar telescope should BE included in the Final EIS as an alternative site.

B) The DEIS has limited its evaluation only to the 18 acre site operated by the UH IfA. The DEIS then attempts to make a careful analysis between two almost similar sites, both in the 18 acre HO location. Consequently, a potentially superior site, perhaps in the saddle to the Southwest of the 18 acre site, was not even considered and certainly was not evaluated. This alternative site could potentially avoid many of the visual problems of being located so close to the Haleakala National Park. The site also may avoid some of the problems with Hawaiian cultural sites. It was not even investigated.

3. **HEAT AVOIDANCE CAUSING EXCESSIVE HEIGHT** Despite the fact that since 1996 there has been a 35' height limit in the Upcountry Community Plan district, the proposed telescope would violate this ordinance. It would be the tallest building in Maui County. The DEIS describes the telescope's "143 feet height" as being necessary to avoid being too close to the ground where there is considerable heat coming off of the dark lava rock.

In literature supplied at one of the scoping meetings it was mentioned that a potential solution to the considerable ground heat would be the installation of a white apron extending approximately 10 meters from the telescope's base. It is further stated that this white apron would provide numerous other benefits, such as containing spilt lubricating oil and collecting water runoff.

Unfortunately, this white apron was not discussed in the DEIS. If it had been included in the building design, evaluated and discussed, it might be possible to reduce the height of the telescope, maybe also the proposed illegally tall service building, and perhaps even the overall cost of the project. If the white apron were built, what would be the telescope height needed?

4. **SPIRITUAL AND CULTURAL" SIGNIFICANCE** I will limit my own comments about the "spiritual and cultural" significance of the Haleakala Summit site because so many others with far more knowledge will be commenting on this matter. However, I would encourage those who are evaluating the FEIS,

to consider their own personal reaction if this telescope was being proposed to be located on the Mall in Washington D.C. in front of the Lincoln Memorial, or perhaps at a site considered sacred to members of their own religion, such as on Calvary Hill in the city of Jerusalem, or besides the Wailing Wall also in Jerusalem, or in the city of Mecca. (Why would these sites not even be considered as potential locations for a grand scientific experiment that might benefit all of humankind?)

5. **LAND OWNERSHIP** When discussing the ownership of these lands, the DEIS indicates that the University of Hawaii was given these lands by Gov. Quinn's Executive Order # 1987. The DEIS states on P. 1-5 that the U. H. Is now the "fee owner" of these lands.

What the DEIS neglects to point out is that the Hawaii State Governor may not have had the right to give away these lands in 1961 since neither he nor the State of Hawaii owned the lands. The lands at the summit of Haleakala are "ceded lands" which have numerous implications, not the least of which is the need by users to pay rent. Furthermore, the courts may rule someday that users of these lands may need to pay reparations to the Hawaiian Kingdom that was overthrown in January 1893 by United States naval forces.

6. **OFF-SITE CONNECTIONS AND CUMULATIVE EFFECTS** Several references are made in the DEIS to connections to off-site facilities. The references are to some kind of "base" for communication (p. 3-39) & (p. 4-43), to an off-site computer "server", and to a vague facility where many of the telescope's workers will be employed. Although the DEIS refers to these locations, there is no description or evaluation of these off-site locations. In fact, the DEIS says on page 4-43 that "The details of the connectivity have not yet been determined." How then can the DEIS claim in the same section that there is "NO IMPACT"?

Is the connectivity referring to the military's computer located in Kihei (South Maui)? To the Waiakoa Astronomy facility? To the new astronomy building being constructed in Kula Malu? All of these locations? Or none of them?

Until the cumulative impacts of this project and its relation to other sites and over whose lands are understood, the EIS will be incomplete. For example, is the design and construction of the Kihei-Upcountry Highway connecting the ATST telescope to its military computer actually a portion of this project?

7. **MILITARY RELATED COMPONENTS and SECURITY IMPLICATIONS** In several places within the DEIS, there are indications that there may be military connections to this project. For example, there is a discussion of communication links via a fiber optic cable. Does this mean that this telescope will be digitally tied to the military computer located in Kihei (South Maui)? There is also mention made that the telescope will occasionally be serviced by the Air Force's Mirror Coating Facility which is located at the Hawaii Observatory. Finally, the scientific results from the ATST's observation and analysis of the "solar mass ejections" and solar wind would be of great use to the United States' emerging "militarization of space". Is the ATST actually part of the federal government's military program?

The close ties of the ATST to the military will result in potential security concerns for the facility, the workers, the "connections" to other facilities, and one million plus tourists who visit the area. Security issues must be addressed in the Final EIS.

8. **SCOPEING MEETING TRANSCRIPTS ARE ABSENT** The final EIS should contain the complete, unedited, transcripts from each of the scopeing meetings held in 2005. During those meetings much valuable testimony was given by the public; a recorder was present and took down all the comments verbatim.

Specifically, I made comments at the meeting which are not included or reflected in the DEIS. Some of my comments are reflected in this letter; some are not, and should be placed on the record.

9. **ELECTRICITY UPGRADES AND THE MAUI RESIDENTS** In the Executive Summary (ES 23 & 24) and on page 4-42 an upgrade to the MECO substation is mentioned. No mention is made as to who will pay for this upgrade. Will the burden fall on the general population of Maui who will see the capital cost of MECO rise, plus a subsequent increase in the community's electric power rates?

10. **CUMULATIVE IMPACTS FROM OTHER NEW ACTIVITIES** Page 4-42 indicates that there are other projects in addition to the ATST: Pan-STARRS; NASA Transportable Laser Ranging System; and the AEOS Mirror Coating Facility. However, the DEIS is notably and very significantly silent on the cumulative impacts of these other projects and their interaction with the ATST. They are all being built on the same land parcel with federal funding, and there is NO DESCRIPTION OF CUMULATIVE IMPACTS (except for a new electric substation). None. There is also the nearby federally funded 100 foot Homeland Security tower.

Are there traffic concerns? Biological considerations? Cultural considerations? Disrupted view corridors? Etc. The final EIS should address these issues. Does each of them have a CDUA?

11. **HALEAKALA NATIONAL PARK IMPACTS** A major deficiency of the DEIS is the inadequate treatment of the effects of the ATST on the Haleakala National Park. The National Park Service will be contributing its own comments on the DEIS. However, I would like to reinforce their concerns. The DEIS has trivialized the impact of the ATST with only minor references to the disruption to the view corridors and no mention of the reduced quality of the tourist experience.

The Red Hill lookout is the highest point on Haleakala. The proposed ATST site is a mere 1,500 feet from Red Hill where approximately one million tourists come each year to view one of the most beautiful and unique views on the planet. Even the astronauts who were planning to go to the moon came to this location because

of its very special environment. Unfortunately, the DEIS grossly underestimates the impact of the “in-your-face” 143 feet high telescope and the adjacent service building. The Upcountry Community Plan states as a Land Use Policy (P. 18), *“Recognize the value of open space, including agricultural lands and view planes to preserve the region’s rural character.”*

Furthermore, the Red Hill overlook is located within the 55 db noise contour emanating from the construction of the ATST. Although this is shown on the map on page 4 - 50, and despite that this high noise level would be in “exceedance of the state standard for maximum permissible daytime sound levels in class A zones”, the DEIS describes this as being “less than significant”! It is NOT.

These visual and oral disturbances (individually and in combination) of a major viewing site from a United States National Park are unacceptable, and definitely a most significant environmental impact. The fact that the DEIS ignores or trivializes these impacts seriously undermines the quality of the entire document.

12. **SUPER WHITE REFLECTIVE PAINT** There is a reference to the super white paint being utilized on the telescope. However I could find no discussion of the impact of that white paint on the visibility of the telescope. In discussions during the scoping, it was pointed out that the white paint would be “extremely reflective”, much more so than the neighboring AEOS telescope. Consequently, the visual impact of the 143 feet high ATST will be amplified by its reflected radiance. The final EIS must report on this affect.

13. **ECONOMIC IMPACTS ON MAUI’S TOURIST INDUSTRY** It is expected that an EIS will examine carefully the economic impacts of a proposed project. The ATST DEIS is woefully lacking in economic analysis. It does not even describe the major basic economic activity on Maui, the industry which brings in most of the income and provides most of the jobs, namely tourism. I could not find in the entire DEIS even a single reference to tourism, tourist employment, and tourism dependency.

(The employment figures on Page 3 - 46 hide, rather than point out, the significant and vital role of tourism.)

If the tourism industry had been accurately considered in the DEIS, it would have indicated that Maui Island has for many years been considered the "Number One" tourist destination island in the whole world. (See last ten years of *Conde Nast* magazine's selections.) Tourists come to Maui for both the special cultural experience as well as the incredible scenic beauty of the island. The summit of Haleakala is probably the most visited spot on the island, and at the summit lookout the ATST will be a direct assault on that tourist experience. There will be consequences: a serious erosion of the visual experience. This is not just some mere "subjective" observation, as the DEIS attempts to portray the view plane. It is why more than a million people each year come to see the views. It is why there is a substantial Haleakala summit tour business.

Moreover, the tranquility of the overlook will be engulfed by the nearby construction noise. And finally, and not insignificantly, tourist traffic up the mountain will be seriously impacted by the very heavy, slow-moving concrete trucks that will be unable to pull-over to allow a long line of tourist cars to pass. (Only vague mitigative measures are provided.)

All of these effects will impact the quality of Maui's tourism industry. Consequently, there may be fewer tourists coming to Maui, less money being spent and less jobs available. It is inappropriate that the DEIS has totally neglected to even mention this, Maui's major industry. I expect the Final EIS to comprehensively study the impact of the ATST on the tourist experience and tourist industry.

In this regard the (Upcountry) Makawao-Pukalani-Kula Community Plan states (P. 12), *"this Community Plan region is the home of significant resources, including water shed areas and the Haleakala National Park, which is significant in terms of its resource preservation, enhancement and protection values. From an economic standpoint, the National Park is viewed as an important component of the region's economy."*

14. **EXCAVATED SOIL** On pages 2 – 24 and 2 – 26 there seems to be some confusion as to what will happen with the excavated soil from the proposed site. It is suggested that it will be deposited at site A. However site A has been given two different functions: as a site for soil placement, and as the “construction staging” area . Which is it?

15. **RESIDENT AND COMMUNITY PREFERENCE FOR RURAL AMBIENCE** There is a strong feeling among residents in the surrounding community that this area should NOT be impacted by urban, large or industrial-type facilities. These feelings have been expressed in the vision of the Kula Community Association (which includes the ATM site within its community). The KCA vision statement reads as follows: *“The vision of the Kula Community Association is to preserve open space, support agriculture, maintain a rural residential atmosphere, and to work together as a community.”*

These sentiments also form a basis for the legally adopted and enforceable (Upcountry) Makawao-Pukalani-Kula Community Plan which governs the use of land in the region which includes the summit of Haleakala and the ATST site. It states as a problem (P. 11), *“LOSS OF RURAL CHARACTER. One of the primary attributes which make the Makawao-Pukalani-Kula region unique to the island is the rural and serene environment which defines Upcountry Maui’s character. The loss of this rural ambiance is of significant concern to the region’s residents.”*

As a Policy and Objective under Economic Activity, it states on page 17, *“Recognize the rural, open space character of the Upcountry region as an economic asset of the island.”*

16. **MASTER PLAN FOR THE WHOLE SUMMIT AND FOR ALL THE ACTIVITIES** The (Upcountry) Makawao-Pukalani-Kula Community Plan which governs the use of land in the region that includes the ATST site, the whole UH IfA site, the Haleakala summit, and the Haleakala National Park indicates the direction for use of the environment. It states clearly on Page 24 as the Goal for the Environment,

*“ENVIRONMENT Goal Protection of Upcountry’s natural resources and environment as a means of preserving and enhancing the region’s unique beauty, serenity, ecology, and productivity, in order that future generations may enjoy and appreciate an environment of equal or higher quality.”*

To achieve this Goal, it specifies an Objective and Policy (P. 25), *“Encourage Federal, State and County cooperation in the preparation of a comprehensive Haleakala summit master plan to promote orderly and sensitive development which is compatible with the natural and native Hawaiian cultural environment of Haleakala National Park.”*

*In the year 2001 the Maui County Council passed Resolution 01-45 entitled, “Urging the State of Hawaii to Fund Master Planning for Haleakala”. Unfortunately, to-date the Master Plan is only for the 18 acre IfA site. There is an obvious need to plan not just the IfA 18 acres, but the whole summit region of Haleakala. Only in this way will the interaction among the various activities be known and the problems mitigated. It is equally obvious that this DEIS has yet to grasp the multiple impacts of the ATST on other activities at the summit.*

17. **35-FOOT HEIGHT LIMITATION THROUGHOUT THE REGION** The height and the scale of the proposed 143' ATST facility and the approximately 70' adjoining service building violate an important design guideline contained within the (Upcountry) Makawao-Pukalani-Kula Community Plan. In fact, the DEIS totally ignores this guideline, perhaps because its impact can NOT be mitigated by the proposed project. The guideline (Page 30) reads as follows, *“Enforce a two-story or 35-foot height limitation throughout the region, except for public/quasi-public uses such as auditoriums, gymnasiums, and fire stations.”*

Since I was vice chairman of the Citizens Advisory Committee that recommended the restrictive guideline, I know that the guideline clearly applies to the ATST facility.

Although it is a publically owned facility, it is not one needed by the general public as do those in the examples given (auditoriums, gymnasiums, and fire stations).

**Since the Community Plan is a Maui County ordinance and because a CDUA permit requires that every application must conform to ALL State and County ordinances, the ATST would be ineligible to receive a CDUA permit from DLNR.** (NOTE: Neighboring HO telescopes, such as the 110' AEOS telescope were permitted before the adoption of the 35' maximum in the 1996 Community Plan.)

Mahalo for your consideration of these comments; I look forward to the Final EIS response.

Sincerely,

Prof. (Emeritus) Richard "Dick" Mayer

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**PERSONAL NOTE** Thank you for your attention to and response to these concerns. The rural atmosphere of the Upcountry region is cherished by Upcountry residents whose wishes are clearly expressed in the (Upcountry) Makawao-Pukalani-Kula Community Plan, as well as in the Kula Community Association vision.

CC. Office of Environmental Quality Control, Hawai'i Dept. of Health  
Mr. Mike Mayberry, UH IfA  
Dr. Charles Fein, KC Environmental Inc.  
Mr. Michael Foley, Maui County Planning Department

## Vicky McCarty

**From:** Vmcarty n [mailto: ]  
**Sent:** Saturday, October 21, 2006 5:43 PM  
**To:** Foltz, Craig B.  
**Cc:** Vmcarty  
**Subject:** Comments...please distribute to all appropriate parties

I am currently a member of the Mayor's West Maui Advisory Committee but I am speaking as an individual.

Thank you for offering me the opportunity to read and comment on your DEIS. Based on the information contained in the DEIS, I must restate my opposition to the proposal to use Haleakala as the sight for your telescope.

After reviewing the information it is clear that the violation of this cultural site will be devastating; the 'ua'u will be endangered as well as other flora and fauna; and the sacredness of the area will be forever changed.

It is not reasonable nor is it acceptable to damage this hallowed area for the sake of someone else's desires – no matter what the reason.

Recently, the Cultural Resources Commission ruled against the building of the telescope adding its voice to the overwhelming number of unified voices speaking out against this proposal.

Please respect the wishes of the Hawaiian people and the people of Maui. Do not build this telescope on Haleakala...do not desecrate this sacred site...do not impose your will over the wisdom of the ancient ones who chose this site before you.

You have other choices...please use one of your other choices. Please do not destroy the sanctity of Haleakala.

Mahalo,  
Vicki McCarty

Comments for DEIS for  
ATST Project on Haleakalā

Submitted to  
Dr. Craig Foltz, National Science Foundation  
OEQC Hawaii State Dept of Health  
Mr. Mike Maberry, UH IfA  
Dr. Charlie Fein, KC Environmental, Inc.

Submitted by  
Richard Lucas  
Kathleen McDuff  
Michael Lucas  
Sean McDuff  
Hanna Bearden

October 23, 2006

**Ua mau ke ea o ka aina i ka pono**

*The life of the land is perpetuated in righteousness*

There are places in the world that command such awe and mystery that to visit them changes one's life. The pyramids of Egypt. Mt. Zion in Jerusalem. Machu Picchu in Peru. Vacations to these places are as much a pilgrimage as a journey. Haleakalā is one of these places.

The summit of Haleakalā is a special place of spirituality to the Hawaiian people. In ancient times, the spiritual use of Haleakalā was for meditation and receiving spiritual wisdom, and its use was limited to priests and their students. Today, the sacredness of Haleakalā to the Hawaiian people has not diminished, despite intrusions and desecrations upon its sacred soils. Hawaiians still travel to Haleakalā's summit to pray, to meditate and to chant to their ancestors and to their creator.

To even propose to construct yet another structure on the summit of this sacred mountain is an insult to the people and culture of Hawaii. But perhaps the word "insult" is overly accusatory, in that it implies an intentional affront. It may be more appropriate to suggest that such a proposal arises from a lack of knowledge and sensitivity to the Hawaiian culture.

The Hawaiian culture is referred to as the "host culture" of the islands. This is a recognition that those of us who are non-Hawaiian are guests of the Hawaiian people and owe gratitude and respect to our hosts. The Hawaiian culture, even more than the natural beauty of this special place, is what sets our island home apart from other tropical venues around the world. The Hawaii Economic Momentum Commission, appointed by the governor, issued a final report in December, 2005. In that report, the Commission concluded that *"the Hawaiian culture, including its value systems . . . , not only defines Hawaii, but is the only thing that distinguishes our islands from every other sea, sand and sun resort"* in the world.

It is not enough to incorporate a few Hawaiian words and phrases into our conversations, or to wear an aloha shirt on special occasions, to show our gratitude and respect for the culture that welcomes us so generously. We must also learn and observe and defend those practices and beliefs that are important to this culture. And that means that any place that is sacred in the Hawaiian culture is necessarily sacred to all of us. That is a principal that must be accepted without question. That is what a courteous guest does. And it doesn't matter if that guest is an individual or a corporation or a foundation. Good manners transcend organizational charts.

This commentary will be limited to a single issue, consisting of two distinct parts:

What is the precise nature of the significant impact that the proposed ATST facility will have on the historical and cultural importance of Haleakalā?

and

Is it possible to mitigate the precise nature of the significant impact?

### **The Concept of Mitigation**

The concept of mitigation must be examined from a practical point of view. Although CFR Title 40, Section 1508.20 proposes guidelines to be applied, it must be recognized that a strict set of guidelines cannot serve justice in all circumstances. Take into consideration the following examples:

A man loses his arm in an accident caused by the negligence of another. True mitigation would be to fit the man with a bionic arm capable of performing all of the tasks that he could perform with his lost arm. That would truly eliminate the harm caused by the loss (other than the psychological impact of the trauma). At the present time, bionic limbs are not available. It is equally recognized that prosthetic limbs do not come close to replacing the limb that was lost. Therefore, the most common remedy for this type of loss is to award monetary damages to the injured man, to allow him to cover the costs of having tasks performed for him which he can no longer perform. This concept is called “compensation”. It is different from true mitigation, but is recognized by CFR Title 40, Section 1508.20 as the last (as apparently least adequate) standard for what is referred to legally as “mitigation”.

But even compensation, to be considered adequate within the CFR standards for “mitigation”, must adequately address the actual loss. Merely paying out money does not, in every situation, erase the debt. Take the situation of the man who suffers a permanent and catastrophic brain injury as a result of the negligence of another. There is no procedure or “bionic implant” that can restore him to normalcy, so mitigation in the true sense of the word is not an option. But does monetary compensation actually address the loss he has suffered? Unlike the man with the lost arm, the brain-injured man cannot simply pay someone to do what he is now incapable of doing. No amount of money can restore his consciousness, his opportunity to participate in and enjoy life. Even under the expanded legal concept of mitigation, mere compensation is inadequate.

### **The proposed ATST facility will create a Significant Impact**

The DEIS for the proposed ATST site on Haleakalā concludes that the impact of this project on the Historical and Cultural importance of the Haleakalā summit is

SIGNIFICANT. This point must not be lost in the hundreds of pages that comprise the report, and deserves repeating:

***THE IMPACT OF THE PROPOSED ATST INSTALLATION ON THE HISTORICAL AND CULTURAL IMPORTANCE OF HALEAKALA IS SIGNIFICANT.***

Now that this conclusion has been reached, only two options remain:

1. Do not build on this site (the “no action” option); or
2. Adequately mitigate the impact.

While the first option (“no action”) can be chosen, the second option must be proven. In other words, it is not sufficient to simply say that the proposed mitigation is sufficient; it must be examined and proven to adequately address the precise harm such as to constitute “mitigation.”

**What is the precise nature of the Significant Impact?**

The logical starting point is to examine the nature of the harm that will be caused by the ATST installation on Haleakalā. The DEIS itself is replete with analyses of this problem.

*“The cultural resources of Kolekole date back more than a thousand years and are an integral part of the Hawaiian culture, both past and present. . . . It was a place where the kāhuna could absorb the tones of ancient prayer and balance within the vortex of energy, for spiritual manifestations, the art of healing, and for navigation. Kolekole itself was a very special religious place used by the Kāhuna Po’o (head priest) as a training site in the arts.” (DEIS, section 3.2.1).*

*“These [numerous archeological sites] are all remnants of the very elaborate spiritual and cultural life that the kanaka maoli (indigenous Hawaiian people) focused around the summit area.” (DEIS, section 3.2.1).*

*“Native Hawaiians know that this area [Kolekole] provides significant cultural value as a remnant of the Native Hawaiian landscape because of its ceremonial and traditional importance.” (DEIS, section 3.2.1).*

*“Kolekole, known as the summit of Haleakalā, or “Science City” as it is sometimes referred to, is a very sacred place for the Kanaka Maoli, past and present. It is surprising at best, that the buildings were even allowed to be built in this place that the Hawaiians call “Wahi Pana” (a legendary place). It was considered the Piko (navel), the center of Maui Nui O Kama (the greater Maui), and legends abound about the gods*

*and goddesses that dwelled there in mythological times. These identities are still revered by the Kanaka Maoli of modern times. People from all over the world have felt the "essence" of Haleakalā on their visits and have documented in numerous publications their feelings of being "one with the gods" at the summit." (CKM Cultural Resources report from 2003, cited in the DEIS in section 3.2.1).*

It should be clear from these statements cited in the DEIS that the historical and cultural importance of Haleakalā is the place itself and its deeply spiritual and cultural significance to the Hawaiian people (indeed, to many non-Hawaiians who have visited the summit as well). The importance of Haleakalā is not limited to the numerous archeological features that have managed to survive the onslaught of western man. The place itself is a spiritual center, a natural cathedral if you will, to the culture and spirituality of the Hawaiian people. To tread upon the summit is to walk on holy ground. It is not required that one understand or accept that fact, but it is expected that we will respect it.

Constructing any structure on sacred ground is a desecration of that ground. No one would attempt to justify building a subdivision over an ancient cemetery (unless they had never seen the movie *Poltergeist*). No one would allow a governmental authority to use its powers of eminent domain to condemn a church for development purposes (in fact, in New York City a skyscraper was built around a church that refused to sell its land). Even U.S. troops looking for insurgents in Iraq are cautioned to exercise extreme care not to damage or intrude upon sacred religious sites or mosques (historically, people were protected within the walls of a church or place of worship, a practice known as "sanctuary"). The significance of Haleakalā to the Hawaiian people is no less important than these other sites, and deserves equal respect.

It should be clear from this discussion that it is the very presence of any structure on the summit of Haleakalā that is the Significant Impact, not just "construction activity" or "operational activity." This is the starting point for the discussion of whether or not "mitigation" is possible.

### **Can the Significant Impact be mitigated?**

In the Methodology for Impact Assessment (Section 4.2.1 of the DEIS) and the Evaluation of Potential Impacts (Sections 4.2.2 and 4.2.3 of the DEIS), the methodology is conveniently and inexplicably limited to the impact of construction activities and the impact of operational activities. No mention is made, and no examination conducted, as to the impact of the VERY PRESENCE of the proposed facility on the sacred ground that is the Haleakalā summit.

This is a curious situation in that the first sentence of the conclusion of the Cultural Resources Evaluation, commissioned by KC Environmental (the author of the DEIS) for inclusion within the DEIS, states clearly and precisely:

*“... the fact remains that any building or structure built on this site is an intrusion on the sacredness and spirituality of this mountain revered by the Hawaiian people past and present.”* (CKM Report, page 62 attached as Appendix F to the DEIS).

In fairness, it is acknowledged that the CKM report does discuss possible mitigation techniques. However, it is respectfully submitted that those techniques are inadequate and not directed to the harm caused.

The word “desecrate” is defined as “to violate the sanctity of (a thing or place)”. *Webster’s New Collegiate Dictionary*. It is not improper to conclude that, based upon the above-referenced language from the CKM report, the building of any structure on Haleakalā is a desecration of a sacred place. No matter what religious preference or spiritual outlook we come from, most reasonable people can agree that the desecration of a sacred site is not an acceptable course of action.

When agreement on that principal is reached, the only remaining question to be considered is: Are there degrees of desecration, or is the act of desecration absolute? Is it not a desecration if I burn down only part of a church? Am I free of guilt if I only disturb some of the graves in the cemetery? Can a mosque be raided by fewer than six soldiers in an acceptable manner?

Or perhaps more to the point, can I desecrate a sacred place and negate the desecration by offering local schoolchildren programs in astronomy or science? Can I reduce the significance of the desecration of a sacred site by creating job training programs in science and technology for the local workforce? The answer to these questions should be obvious.

It should be stated that the goals of the National Science Foundation in sponsoring the development of an ATST facility appear to be laudable, and that the proposed mitigation techniques seem to be offered in good faith. This analysis is not to be construed in any way as a criticism of their goals or methods. But it is submitted that an act which desecrates a sacred site is absolute, and the only way to minimize or mitigate that result is to avoid the act *ab initio*. No amount of good intentions or noble purpose can change that result.

It has been suggested by some commentators that this project has a less significant impact on the sacredness of Haleakalā because previous projects have already been constructed near the site (inferring that the “damage has already been done so one more won’t really make that much difference”). This is a short-sighted approach that defies all logic. It fails to acknowledge that all human endeavors are necessarily impermanent. This is particularly true of buildings. If all future construction is stopped immediately and no further action of any type is taken, then at some designated point of time in the

foreseeable future Haleakalā will be returned to its natural state. Each additional project moves that target date further into the future, and subjects this sacred site to more desecration. At what point will Haleakalā be irretrievably altered? Certainly it is time to stop the carnage and repair the damage. Haleakalā undoubtedly deserves that much respect.

**Conclusion**

This commentary began with a popular Hawaiian phrase: *Ua mau ke ea o ka aina I ka pono* (“The life of the land is perpetuated in righteousness”). This saying predates statehood and predates the overthrow of the Hawaiian monarchy. It may even predate the first contact that the Hawaiian people had with Captain Cook. It is a principal that has guided the Hawaiian people for generations, and underscores the importance of place in the Hawaiian culture. It suggests that the use of the land should be directed by what is right, not what is convenient or profitable.

If this principal is understood and applied, a clear answer to the proposed ATST site on Haleakalā is obvious. A decision of NO ACTION is required. And lest one is tempted to dismiss this Hawaiian phrase as a quaint and antiquated notion, please take note:

**This is the Hawaii state motto.**

We respectfully ask you to listen to your heart and embrace the conclusion that Haleakalā must be respected and protected.

With aloha,



Richard Lucas



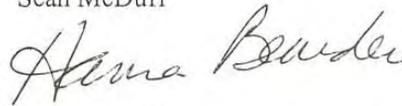
Kathy McDuff



Michael Lucas



Sean McDuff



Hanna Bearden

P.O. Box 1043  
Haiku (Maui), HI 96708

## Lola Milani

-----Original Message-----

From: Lola Milani [mailto: ]

Sent: Tuesday, October 3, 2006 04:15 PM

To: cfoltz@nsf.gov

Cc: charlie@kcenv.com

Subject: haleakala

please, please don't place that telescope up on haleakala. this is a sacred, holy area, not only to the hawaiians but to all of us who live here and share that sensitivity. there are other places to study the universe.

so much has been taken/altered here, not only for true hawaiians but for all of us that live here for the special spirit of this land. research and development certainly has their place, no doubt, but not right in the middle of consecrated, sacred land. not all churches have steeples, haleakala is the house of the sun, a church.

please help to do the right thing.

mahalo,  
lola milani

# Kaimookalani Muhlestein

September 27, 2006

Dr. Craig B. Foltz  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Blvd., Room 1045  
Arlington, VA 22230

RE: Comments to the Draft Environmental Impact Statement for the National Science Foundation's Proposed Advanced Technology Solar Telescope atop Haleakala Summit, Island of Maui, State of Hawaii

Over hundreds of generations, the first settlers established an intimate cultural attachment with its land and natural environment in the Hawaiian archipelago. This cultural attachment continues to be present in Hawaii. However, we, the descendants, struggle to maintain this cultural attachment as new land use policies and/or systems subjugate Hawaiian land use traditions, practices, and customs. These policies and/or systems also tend to subjugate our attitude toward our land. The environmental impact statement process is an example of a system that has traditionally subjugated the rights of Hawaiians to defend its culture and care for its environment in a Hawaiian context. I believe this statement will be validated when the proposed project is allowed to proceed in a non-Hawaiian context.

**Haleakala's cultural landscape and attachment:** Culture and the natural environment is one of the same for the Hawaiian people. This relationship is inseparable. This relationship is our cultural landscape and cultural attachment. One can argue that Haleakala's Hawaiian cultural landscape and cultural attachment is a thing of the past. Why is this? Modern society allows opportunity for change - a change inconsistent in a Hawaiian context. For example, the act of astronomers colonizing on Haleakala imposes an alteration and/or change that are inconsistent in a Hawaiian context - historical and cultural relationship to Haleakala. The cultural landscape and cultural attachment that existed for over hundreds of generations become devalued and non-existent when Haleakala, in whole or part, is used for purposes not consistent within a Hawaiian context.

**Hawaiian identity:** Hawaiian identity is our attitude to a sense of place where nature and culture co-exist and are one of the same. Our identity is how we personify the environment around us. Our identity is our values, spirituality and natural resources. Our identity exist were there is culturally zoned landscape and where Hawaiian gods and deities exist; where stories, traditions, practices and customs existed over hundreds of generations ago and passed to the generations thereafter to *kanaka* now known as cultural practitioners and cultural experts. It is though these practitioners and experts that keep Hawaiian identity and Hawaiian people alive. The impact of this proposed project will

## Kaimookalani Muhlestein (cont.)

cause Haleakala to assimilate in a modern community where cultural diversities are encouraged and where leaders continue to submit to the silent presence of cultural genocide in Hawaii.

Loss of the Hawaiian identity atop Haleakala is evidenced by erecting one (1) or more non-Hawaiian structure(s) on the summit and when island politics, astronomers, tourists, and part/full time island residences affiliate modern and/or western "*astronomy*" as a significant practice or identity to Haleakala. There will be further loss of Hawaiian identity atop Haleakala should the environmental impact statement identify Haleakala as a place where there is *no or insignificant* relationship to the Hawaiian cultural landscape, attachment, and identity in and/or near the proposed site.

It is my belief that additional development atop of Haleakala will further intimidate our indigenous rights to protect our integrity as a distinct people, cultural values and indigenous identity. (United Nations, Article 7 of the "United Nations draft declarations on the rights of indigenous peoples", August 26, 1994).

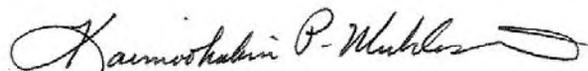
For us Hawaiians who are not practitioners and/or cultural experts, our *attachment* to the earth and culture is grounded through our attitude, values, spirituality, ancestors, Hawaiian gods and deities. We have a right to sustain our cultural attachment as any other indigenous people. We also have the right not to be subjected to any form of assimilation or integration by other cultures or ways of life imposed on us by legislative, administrative or other measures or any form of propaganda directed against us (United Nations, Article 7 of the "United Nations draft declarations on the rights of indigenous peoples", August 26, 1994). This proposed project violates these rights.

I observed that there is a pattern in environmental impact statements to ignore and/or insignificantly address the impacts of development where culture landscape, cultural attachment, and Hawaiian identity exist, endangered, and/or harmed. This pattern is evident by selling our landscape and culture attachment by allowing the development to proceed with a *mitigation plan*. For example, a common mitigation plan is to hire a Hawaiian cultural specialist to consult during planning and construction and require construction workers to attend a University of Hawaii-approved "sense of place" training. The consultant is used in a manner to negotiate a buffer zone and develop a cultural maintenance plan and/or education component to accommodate the historical Hawaiian site(s) within and around the development. *This is complete non-sense.*

I strongly urge the committee to consider the the impacts of this project as it relates to Hawaiian cultural landscape, attachment, and identity in a traditional and contemporary Hawaiian context.

Based on the reasons above, additional structures that are not within a Hawaiian context should not be erected atop of Haleakala. Thank you for this opportunity to comment.

Kaimookalani P. Muhlestein



Native Hawaiian & Cultural Advocate

# Na Kupuna O Maui, Patty Nishiyama

September 26, 2006

Subject: **Advanced Technology of Solar Telescope (ATST) atop summit of Haleakala, Maui, Hawai'i**

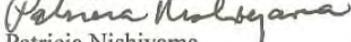
To Whom It May Concern:

We, of Na Kupuna O Maui oppose the proposed construction/development of the Advanced Technology of Solar Telescope (ATST) atop the summit of Haleakala, Maui, Hawai'i. The proposed project will further exasperate adverse effects presently plaguing our community and environment socially, culturally and at the core of our existence spiritually.

Upon review of the Draft Environmental Impact Statement (VOLUME I) for the Advanced Technology Solar Telescope, provided by the National Science Foundation September 2006 proposed sites other than Haleakala such as **Bear Lake, California and La Palma, Canary Islands, Spain have been determined and documented to be second and third best (ie. *Alternative*) sites respectively.**

With all due respect to science and the promotion of education, Na Kupuna O Maui believes the objectives the National Science Foundation pursuit to study the sun will be met at the ATST Facilities development at either Bear Lake, California or La Palma, Canary Islands, Spain.

Sincerely,



Patricia Nishiyama  
Na Kupuna O Maui

## Walette Pualani Lyn-Fah Garcia Pellegrino

>X-Originating-Email: [pellegrino2001@hotmail.com]  
>X-Sender: [pellegrino](mailto:pellegrino)  
>From: "Walette Pellegrino" <  
>To: [cfoltz@nsf.gov](mailto:cfoltz@nsf.gov)  
>Cc: [charlie@kcenv.com](mailto:charlie@kcenv.com)  
>Subject: To: Dr. Craig Foltz re ATST Public Comments  
>Date: Mon, 23 Oct 2006 13:54:46 -1000  
>X-OriginalArrivalTime: 23 Oct 2006 23:54:48.0981 (UTC)  
>FILETIME=[9FCD8450:01C6F6FE]

>

>Aloha e Dr. Foltz:

>

>As an educator, I am cognizant of the value of the proposed ATST for  
>future generations of learners and scientists.

>

>As a community member, I understand the need for economic  
>diversification and development which will grow a workforce in the  
>technology industry.

>

>As a Hawaiian, I am NOT convinced that what has been proposed for  
>the ATST is pono for Haleakala. Listen to the people.

>

>Mahalo.

>

>Walette Pualani Lyn-Fah Garcia Pellegrino

## Palmer Purdy

**From:** Ikuapurdy@aol.com [mailto:[ikuapurdy@aol.com](mailto:ikuapurdy@aol.com)]  
**Sent:** Tuesday, October 03, 2006 11:54 AM  
**To:** Foltz, Craig B.  
**Cc:** [charlie@keenv.com](mailto:charlie@keenv.com)  
**Subject:** Haleakala Telescope

We, the people of Hawaiian Ancestry, are concerned of the continuing disrespect to our native cultural entities...which are rapidly declining.

Mount Haleakala is our mana. It is sacred. It is our spiritual heritage. Desecration of it's spiritual grounds by your telescope cannot and will not be accepted by the kanaka maoli indigenous race. Our mauna should be left from further disturbances now and for the future.

Palmer Ulumaheihei. Purdy

## Comments - Kiope Raymond

>  
>Aloha Charlie,  
>I have had a chance to look over the March 28 and May 1 PDFs  
you sent.  
>Could you please now send the PDFs of the July 12-14 Public  
Scoping  
>meetings.  
>Also, please send the PDF for the March 27, 2006 Public  
Scoping Meeting  
  
>if taping/transcription was done. I do not recall an Iwado Court  
  
>Reporter there.  
>Mahalo,  
>Kiope



## Response

**From:** "Kiope Raymond" <kesharon@...>  
**To:** "Bijan Gilanshah" <bgilansh@nsf.gov>; "Charlie Fein-kce" <charlie@kcenv.com>  
**Sent:** Thursday, October 05, 2006 3:34 PM  
**Subject:** Re: Testimony

Aloha Sharon,  
Mahalo!  
Kiope

On 10/5/06 1:08 PM,  
<kesharon@...> wrote:

Hi Kiope,  
Attached is a PDF file for the July 12, 2005 public scoping meeting. I received only hardcopies for the July 13 and 14, 2005 public scoping meetings and will put copies in the mail to you today.

The March 27, 2006 meeting at the Haiku Community Center was an informal community meeting and not a required public scoping meeting; therefore, it was not recorded.

Please contact us if you have further questions and - just a reminder - the end of the public comment period is Oct 23, 2006.

Take care,

Sharon Loando-Monro  
KC Environmental, Inc.  
Planning Projects Manager

**Ki'ope Raymond (cont.)**

20 October 2006

Aloha,

Enclosed please find my written comments regarding the Draft Environmental Impact Statement for the Advanced Technology Telescope (ATST) on Haleakalā. Also, a disk containing a Power Point presentation of my perspective of the Hawaiian spiritual and cultural impact the ATST will have on myself and other Hawaiians.

Sincerely,

A handwritten signature in black ink that reads "S. H. Ki'ope Raymond II". The signature is written in a cursive style with a small mark at the end.

S. H. Ki'ope Raymond II

## Kīope Raymond (cont.)

20 October 2006

Dr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

**RE: Comments on the Joint Federal/State Draft Environmental Impact Statement (DEIS) on the Advanced Technology Solar Telescope (ATST); Waiakoa, Papaanui, Makawao, Island of Maui, Hawaii, TMK: 2-2-007:008**

Dr. Foltz,

I am Stanley H. Kīope Raymond II. I am Hawaiian. I was born in Lahaina on the island of Maui, Hawai'i. I currently reside in Waiakoa, Maui, Hawai'i at the 3,500 foot elevation of the mountain, Haleakalā. I am a tenured Professor in the University of Hawai'i system, and have taught Hawaiian Language and Culture courses at Maui Community College for over twenty-five years.

I am opposed to the proposed ATST because it would be a desecration of Haleakalā on Maui, one of the most sacred and spiritual places of Hawai'i. The approximately 14-story tall ATST structure would have a negative impact on me through the disturbance, alteration and removal of sacred natural resources (i.e. soil, rocks) and possible cultural artifacts. A significant cumulative consequence of the proposed development would be the adverse and devastating visual effect caused by the addition of this intrusive and culturally inappropriate structure.

My comments regarding the ATST DEIS are, in the main, in reference to the Cultural and Historical Compilation of Resources Evaluation and Traditional Practices Assessment, January 2006, produced by CKM Cultural Resources L.L.C. (CKM), in Volume II - Appendix F, of the above mentioned DEIS for the ATST. It is my understanding that specific concerns raised by the public regarding the ATST DEIS will be addressed in the Final DIS.

## Kīope Raymond (cont.)

My major objection to the Cultural Assessment is the overall lack of adequate adherence to the June 2004 Hawai'i State Guidelines of the Office of Environmental Quality Control (OEQC) for Assessing Cultural Impacts. There are six general recommendations the Environmental Council makes to preparers of assessments that will be analyzing cultural impacts. There are also eleven protocols that should be addressed in the assessment concerning those cultural impacts. My comments offer compelling evidence that most recommendations - and the protocols - from the OEQC are inadequately addressed. <http://www.hawaii.gov/health/oeqc/publications/guidebook.pdf>

Of equal concern to me is the ample evidence that the Cultural Assessment is inadequate in providing enough information to educate a reader enough to clearly understand the spiritual sacredness and cultural relationship of Hawaiians to Haleakalā as a whole; and to the summit area in particular. Also, it is my personal opinion that - when I read the document - there is an awkward bias on the part of the authors of the Cultural Assessment. The bias I refer to indicates predetermined findings that, for example, state: "Congress dictates what happens here..." and "...no matter what the objections to the building of the ATST on Haleakalā, it will get built anyway..." I must emphatically question that kind of bias - especially in the conclusion - being within the purview of the preparers of a Cultural Assessment!

Therefore, because of the inadequate and biased preparation of the document, I believe that no reader of the document can make a sound, fully informed decision regarding the impacts of the ATST on the Hawaiian culture.

### Specific concerns regarding the Cultural assessment document:

\* Inadequate and inaccurate discussion of Hawaiian religious history. The last paragraph of the first page of the Abstract (iii) and the first full paragraph of the following page (iv) state: "The Hawaiian people lost faith in their ancient gods..." and "...the association to the gods, were bypassed and eventually forgotten." Those statements are misleading. Certainly, there were conversions to other religions by many Hawaiians. That, however, absolutely should not be taken to mean that every Hawaiian lost faith or forgot their connection to their ancestral gods.

## KīoPe Raymond (cont.)

\* Inadequate reference to or use of Hawaiian genealogy indexes especially related to Maui and the land divisions mentioned in the application.

\* Inadequate reference to or discussion of the impact the possible collapse and death of the 'ua'u (petrel) will have on Hawaiian religious practitioners. Besides being the only sea bird on the endangered species list, the 'ua'u is considered an 'aumakua or ancestral guardian spirit by Hawaiians. See Puku'i and Elbert Hawaiian Dictionary.

\* Inadequate reference to or use of Hawaiian Māhele, land court, census and tax records especially related to Maui and the land divisions mentioned in the application.

\* Inadequate use of primary source materials consulted such as other previously published or recorded ethnographic interviews and oral histories, community studies, old maps, photographs, newspaper articles, and visitor journals regarding Haleakalā and especially the summit area.

- For example, the Haleakalā Craigiela House Visitor Journal at the Maui Historical Society, entry of 4/23/1902, references a cave named *Anamakauahi*, a seven-hour hike from Ulupalakua (south) up what is now known as the Skyline Trail leading to Kolekole. Further research by CKM may have uncovered other historically relevant materials regarding Kolekole. Also, there is inadequate reference to or use of the Maui County General Plan or the Kula Community Plan referencing development on Haleakalā; inadequate use of Bishop Museum and Maui Historical Society Photo Collections; and inadequate Hawaiian Language Newspaper articles referencing Haleakalā.

\* Inadequate reference to or use of secondary source materials such as historical, sociological, and anthropological texts, manuscripts, and similar materials regarding Haleakalā and especially the summit area. As examples:

- No use of or reference to Martha W. Beckwith's Hawaiian Mythology, and references therein to the demigod Māui's exploits in Hawai'i and Oceania; especially relating to slowing the sun.

## Kīope Raymond (cont.)

- No use of or reference to Elspeth P. Sterling's Sites of Maui, with its extensive references to Māui/Maui/Haleakalā; and relevant bibliography.

- Inadequate reference to heretofore published legends regarding Maui and Haleakalā specifically. See previously mentioned Faulkes assessment by McGuire and Hammatt and their research on "Legends That Mention Haleakalā." It includes approximately fifty stories from at least ten different sources; listed by story topic.

- Inadequate reference to or use of pan-Pacific literature from Mangareva, New Zealand, Tahiti, Tonga, and Samoa referencing exploits of the demigod Māui related to the island Maui.

\* Inadequate reference to or use of materials such as prior land use proposals, decisions, and rulings that pertain to the study area. For example, there is: inadequate reference to or use of the 2000 Cultural Assessment of the Faulkes Telescope by McGuire and Hammatt; inadequate reference to or use of the 2002 Kū i ka Mauna Traditional Practices Assessment by CKM; and inadequate reference to or use of the 2003 Kū i ka Mauna Cultural Resources Evaluation by CKM. There are numerous instances where culturally relevant information is provided in the above three documents but is absent in the ATST Cultural Assessment. Also, there is inadequate reference to or use of the 2005 UH Institute for Astronomy Long Range Development Plan (LRDP). This is an important omission because the LRDP is the overarching Plan for the IfA, and itself has inaccurate and/or insufficient specificity regarding Hawaiian Cultural Practices within the Haleakalā Observatories (HO) site. For example, using just a few quotes from the LRDP that are inextricable from the DEIS ATST Cultural Assessment:

Pg 21, "*The use of the summit area was only by priests.*" During times of ceremony certainly, but certain too is the idea that the summit was used as trail-way for others, including commoners, during other times; as discussed on pg 22 - 23. Pg 22 - 23, "*...Mana wholly dependent on vistas.*" This is an incorrect statement. Certainly, view planes and vistas are integral to any ceremony at the summit. However, they alone do not constitute all that is necessary to the religious and/or spiritual experience; and certainly are not the source from which all mana (spiritual power) at the summit is derived for Native Hawaiians. And, Pg 24, "*...Spiritual essence not tangible.*" This is an incorrect statement. Spiritual essence is, in fact, tangible in Hawaiian religious thinking via the rays of the sun, the touch of

## Kīope Raymond (cont.)

the wind, the rain, the temperature, the rock, and the flora and fauna at the site. Those are the manifestations of the gods. Page 63 of the LRDP describes: *"An area consisting of approximately 24,000 square feet and located Southwest of The Maui Space Surveillance Complex, as further identified and more particularly described as Area A in Figure 9-1, will be set-aside in perpetuity for the sole reverent use of the kanaka maoli for religious and cultural purposes, on a noninterference basis with site activities."* The area in the quote would include the West-facing 'ahu named Hinala'anui. I assume perpetuity means for as long as the IfA retains the lease to the acreage. There is no mention of the East-facing 'ahu named Pā'ele Kū 'Ai I Ka Moku. Pā'ele Kū 'Ai I Ka Moku does not seem to have a designation for Hawaiian use in perpetuity. Anyone participating in religious ceremonies at the Pā'ele Kū 'Ai I Ka Moku 'ahu does so with the knowledge that it is not formally designated as an area for their use. ATST construction - eighty feet from the East-facing 'ahu - is currently scheduled to be completed 6/22/2015 (National Solar Observatory Long Range Plan 2006-2010). The Cultural Assessment has no discussion on the impacts that lack of perpetuity, a six-year construction period, and the completed structure itself will have on Hawaiians using the East-facing altar. And, a final example quote from the LRDP: *"6.1 CULTURAL RESOURCES The cultural resources of Kolekole date back more than a thousand years (Appendix F) and are an integral part of the Hawaiian culture, both past and present (Figure 6-1). In ancient times, commoners could not even walk on the summit because it belonged to the gods. The sacred class of na poāo kāhuna (priest) used the summit area as a learning center. It was a place where the kāhuna could absorb the tones of ancient prayer and balance within the vortex of energy, for spiritual manifestations, the art of healing, and for navigation. Kolekole itself was a Wahi- Pana, a very special religious place. It was used by the kāhuna po' o as a training site in the arts. There were numerous gods and goddesses said to reside on the summit, in the crater, and all around the mountain. Pele, goddess of fire, Poli'ahu, the goddess of snow, Māui, the demigod, and others inhabited the area. In Hawaiian lore, it is said that Māui stood with one foot on Kolekole and the other on Hanakauhi Peak when he lassoed the Sun."* In the term **na poāo kahuna** (see above quote) is the word poāo. Poāo is not found in any Hawaiian Dictionary. This term needs citation and clarification. Ironically, the quote is an example of lack of oversight on the part of the preparer of the assessment in not including culturally relevant material that could have easily been obtained from other sources; sources that the preparer had created!

## Kīope Raymond (cont.)

\* Inadequate reference to or use of the State of Hawai'i Board of Land and Natural Resources Conservation District Use Application findings for the Keck outrigger telescopes on Mauna Kea. The Mauna Kea observatories are also under the auspices of the IfA, among others. There are numerous similar cultural issues at Mauna Kea that the ATST assessment should have incorporated.

[http://www.kahea.org/maunakea/pdf/20051128\\_mk\\_hearing\\_findings\\_old.pdf](http://www.kahea.org/maunakea/pdf/20051128_mk_hearing_findings_old.pdf)

\* Inadequate use of dictionaries for place names and inadequate consistency regarding definitions of cultural use terminology. All scholastic Hawaiian dictionaries are available on line.

<http://www.wehewehe.org>

\* Inadequate explanation of significance of archeological finds as relates to Hawaiian culture.

\* Inadequate reference to or use of proverbs and poetical sayings from Pukui's 'Ōlelo No'ēau regarding Haleakalā.

\* Inadequate references to other Hawaiian deities such as Kāne, Kū, Lono, or Kanaloa in their sun, wind, rain, snow, plant, bird, insect, etc. manifestations; and the therefore attendant religious, spiritual, and cultural importance of same to the project area.

\* Inadequate reference to spiritual connection of Haleakalā to the Hawaiian cosmogonic geneology of Wākea and Papa (sky father/earth mother); and therefore the interconnection in Hawaiian philosophical thinking of atmosphere, mountaintops, and land masses of the entire archipelago.

\* Inadequate discussion of the 1961 Executive Order "So long as Government Survey Triangulation Station "Kolekole" remains in use, there shall not be erected any structure exceeding in height to obstruct or to block the lines of sight from said Station." There could have been extrapolation on lines of sight for cultural purposes and the effect of structures thereto.

## Kīope Raymond (cont.)

\* Inadequate discussion of implications of the same Executive Order relating to Ceded Lands; and to historically retroactive, present, and possible future IfA (or other user) fees connected to HO in context of the Native Hawaiian Ceded Lands Trust. For example, most recently, Pan Starr 1's consortium will contribute \$10 million dollars for its operation. There could have been discussion on possibilities for Hawaiian Cultural revitalization via consortium user fees.

<http://www.hawaii.edu/cgi-bin/uhnews?20061003170512>

\* Inadequate discussion of Hawaiian cultural impacts due to the lack of a Master Plan for the entire mountain, beyond the limitations of the Ifa's Long Range Development Plan for the use of 18.66 acres. As the IfA Self-Study of 2001 for HO indicates, "The UH and the IfA have not been required to generate a multi-use Mauna Kea-style "master plan."

\* Inadequate discussion of the CUMULATIVE effect of the current uses inside AND outside the IfA HO acreage. Communications, Television, Coast Guard, National Park and commercial (horse tours, bike tours, tourists, etc.) use impacting Native Hawaiians as they attempt to use the summit for spiritual/religious purposes cannot be overemphasized here.

\* Inadequate discussion of possible impact on areas/property owners adjoining HO from a Hawaiian cultural perspective.

\* Inadequate discussion of place names use for the summit; especially USGS quadrant names versus ahupua'a names, pointed out in the testimony by Mary Evanson in Vol. II Appendicies of DEIS.

\* Inadequate discussion of access protocols, including parking, for cultural practitioners within HO if, for example, more than 2-3 people are in attendance at ceremonies at either or both of the two shrines.

## Kīope Raymond (cont.)

\* Inadequate explanation of the implications of the ten (10) interviews conducted for the Cultural Assessment.

\* Inadequate discussion of the nearly two year delay in communication between the applicant and Native Hawaiian Organizations once the applicant's architect had determined in 2003 that, "...the presence and visibility of a new large telescope on a spiritually significant mountain would likely be an issue..." and "The entire mountain is rich in traditional culture and spiritual significance to the indigenous Hawaiian culture. The presence of observatories on the summit is considered a desecration." <http://atst.nso.edu/projectbook/fac/reports/hale.html>

\* Inadequate discussion of the impact to the view plane looking UP the mountain from Department of Hawaiian Homes Lands (DHHL) at Kahikinui. There is no rendering of the proposed ATST from Kahikinui or other places along Southeast Maui coastline where the current Mees Solar Observatory can be seen; and where native Hawaiians on DHHL lands will see ATST.

\* Inadequate discussion of Native Hawaiian Organizations consulted. Glaring by its omission is a lack of contact with the United States Office for Native Hawaiian Affairs, Department of the Interior; created in 2005: "SEC. 4. ESTABLISHMENT OF THE UNITED STATES OFFICE FOR NATIVE HAWAIIAN AFFAIRS (a) IN GENERAL - There is established within the Office of the Secretary of the Department of the Interior the United States Office for Native Hawaiian Affairs. (b) DUTIES OF THE OFFICE- The United States Office for Native Hawaiian Affairs shall - (1) effectuate and coordinate the special trust relationship between the Native Hawaiian people and the United States through the Secretary, and with all other Federal agencies." <http://www.doi.gov>

It is my opinion that the Cultural Assessment's CONCLUSION is biased and in need of clarification. For example, the first paragraph is appears self-contradictory to me. The first sentence states, "Any building...is an intrusion on the sacredness and spirituality..." However, entwined into this logic is the converse; the second sentence then states, "One must find the balance of building..."

## Kīope Raymond (cont.)

This begs the question of whether one can build on sacred ground or not? Indigenous religious practitioners would say no. If yes, conditions for such activity are not clearly articulated in the assessment. The quotation "...protect at best the cultural impact and methods used to mitigate these impacts." needs re-wording or clarification. It reads that the impact and methods used to mitigate the impacts need to be protected, not the culture. The second paragraph assumes saying prayers to Pele will mitigate impact of digging into her kinolau. (Kinolau is the Hawaiian word for the form(s) a Hawaiian deity might assume. One of Pele's forms is lava.) That conclusion is untrue and unacceptable mitigation in Pele worship. Paragraph three assumes construction will take place and so mitigation also includes awareness of cultural rules by taking "sense of place" classes. The conclusion assumes mitigation is a forgone conclusion and does not allow for the no action alternative; which is another possible solution. If the cultural concerns are, in fact, of great sacred significance, it is inappropriate to not list no action as a possible solution. The last paragraph also assumes mitigation, but does not articulate in detail how all the rock should be handled when moved and re-sited. Not all of the ~ 4,500 cubic feet of rock could fit on Reber circle. The conclusion does not state the conditions to be imposed on use or protection of the rest of the rock and soil when moved. Will the IfA move the rock and soil in the future to build another structure? That is, will rock and soil placed in any other area during construction of the proposed ATST remain there in perpetuity? The assessment does not address this.

\* And, eight (8) of the (24) bibliographic references are duplications.

In summary, there is overall lack of inadequate adherence to the June 2004 Hawai'i State Guidelines for Assessing Cultural Impacts of the Office of Environmental Quality Control (OEQC). I have enumerated at least twenty-five (25) and provided examples for many. Therefore, the Cultural Assessment is inadequate in providing enough information to educate a reader to clearly understand the spiritual sacredness and cultural relationship of Hawaiians to Haleakalā as a whole; and the summit area in particular. Finally, it is my personal opinion that there is an awkward bias on the part of the authors of the Cultural Assessment, apparent in their language and conclusion, which does not

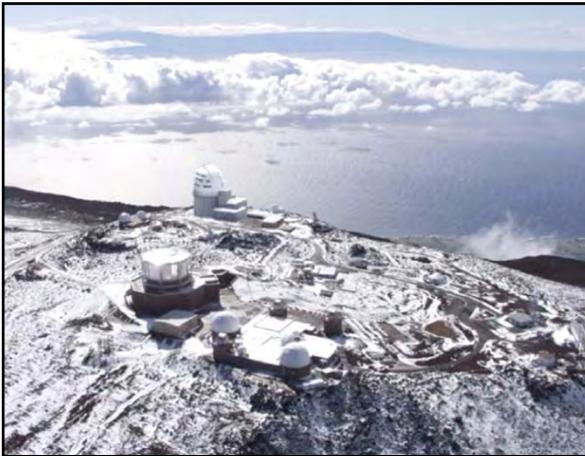
# Kiope Raymond (cont.)

- **A SPIRITUAL LOOK AT THE ATST (ONE HAWAIIAN'S POINT OF VIEW)**

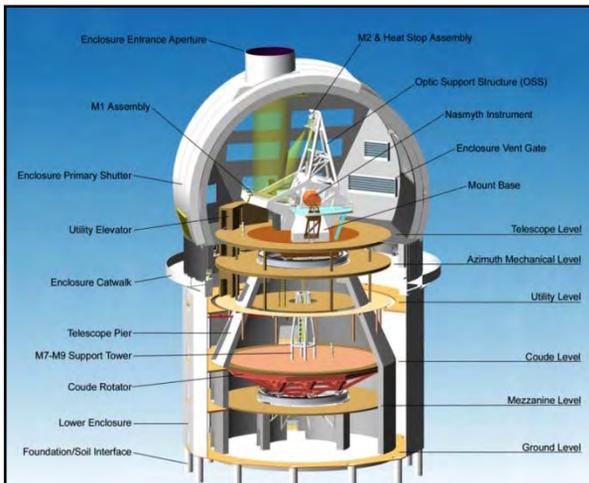
- **KIOPE RAYMOND**

- Hawaiian diacritical marks have been omitted from the text

- **THE PROPOSED ADVANCED TECHNOLOGY SOLAR TELESCOPE (ATST) IS SUPERIMPOSED IN THE UPPER LEFT OF FOLLOWING SLIDE. IT STANDS AT THE SUMMIT AREA OF HALEAKALA ON A PRECIPICE ABOVE THE SOUTHERN COASTLINE OF MAUI (VISIBLE AT CENTER-RIGHT) CALLED KAHIKINUI.**



- **HOW BIG WILL THE ATST BE IF YOU ARE INSIDE IT OR STANDING NEXT TO IT?**
- **IT WILL BE APPROXIMATELY 143' TALL WHICH IS ROUGHLY EQUAL TO 14 STORIES.**
- **THE NINE STORY MAUI COUNTY BUILDING IN WAILUKU IS SOMETHING MOST HAWAII RESIDENTS CAN ENVISION AND RELATE TO FOR PURPOSES OF SCALE.**
- **THE ORANGE DOT IN THE MIDDLE OF THE DOME IN THE NEXT PICTURE IS APPROXIMATELY 90 FEET HIGH; THE HEIGHT OF THE COUNTY BUILDING.**



- **AT LEAST TWO CONSTRUCTION ACTIONS NECESSARY TO BUILD THE PROPOSED ATST WILL CAUSE HAWAIIAN RELIGIOUS PRACTITIONERS AND MYSELF SPIRITUAL PAIN.**

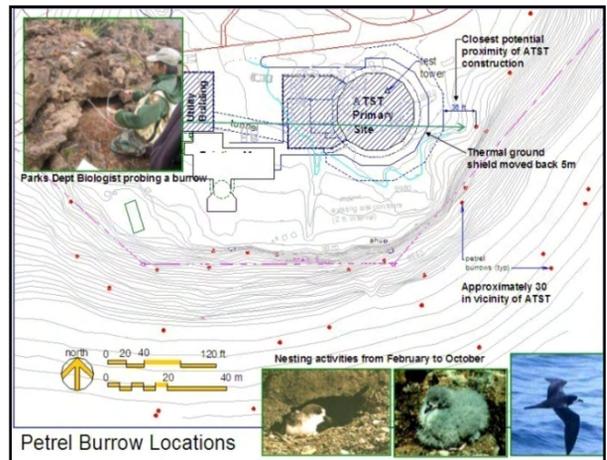
- **1. DIGGING INTO THE LAVA FOR LEVELING AND EXCAVATION**
- **2. THE COLLAPSE OF THE BURROWS OF ENDANGERED PETRELS - CAUSING THEIR DEATHS**

## Kīope Raymond (cont.)

- **WHY IS DIGGING A PROBLEM?**
- **PELE** is the word used by Hawaiians to describe the rock; first molten, then hardened. Lava is an Italian word. The rock is a kinolau or body form of the Hawaiian goddess. Therefore, all the rock of the mountain has a sacred aspect. Intrusive digging is a desecration.

- **HOW MUCH OF THE PELE IS GOING TO BE DISTURBED?**
- **~ 2,500 CUBIC YARDS FOR LEVELING, AND**
- **~ 2,150 CUBIC YARDS FOR EXCAVATION**

- **WHY WOULD THE DEATH OF PETRELS BE A PROBLEM?**
- The petrel is called uau in Hawaiian. It is considered an aumakua, ancestral guardian spirit, by Hawaiian religious practitioners. (Pukui, Hawaiian Dictionary)
- Uau burrows may collapse when the pier foundation holes are dug due to the heavy-equipment vibration. Therefore, digging will cause the deaths of aumakua.



- **TWO OTHER GREAT SPIRITUAL IMPACTS ARE THE CURRENT PROJECTION OF A SIX-YEAR CONSTRUCTION PERIOD STARTING IN 2009 AND ENDING IN 2015, AND THE PROXIMITY OF THE COMPLETED STRUCTURE TO THE ALTARS AT THE SUMMIT.**
- **THIS IS PAINFUL FOR MYSELF AND OTHER HAWAIIANS WHO EITHER WANT TO OFFER RESPECTFUL PRAYER TO ANCESTORS AT THE ALTARS; OR TO PRACTICE HAWAIIAN RELIGIOUS CEREMONIES WITH OFFERINGS TO DEITIES. THE THOUGHT IS CURRENTLY AN INDUCEMENT TO ANXIETY, AND WILL CERTAINLY CAUSE SPIRITUAL STRESS IN THE FUTURE.**

- **THE FOLLOWING SLIDE IS A WEST-FACING VIEW FROM THE ROCK-WALLED ENCLOSURE FOR ELDERS AND THOSE WHO CANNOT MAKE THE WALK TO THE ALTAR NAMED HINALAANUI**

## Kīope Raymond (cont.)



- **HOWEVER, TURN AROUND AT THAT SAME PLACE AND YOU WILL SEE THE CURRENT, SPIRITUALLY DISTURBING VIEW IN THE FOLLOWING SLIDE.**
- **FROM THE SAME PLACE, ONE ALSO HEARS THE SOUND OF THE AC CHILLERS; INTRUDING INTO THE SERENITY.**



- **WHEN CONTINUING TO TURN, THE CURRENT 30' MEES TELESCOPE COMES INTO VIEW; AS SEEN ON THE RIGHT SIDE OF THE FOLLOWING SLIDE.**

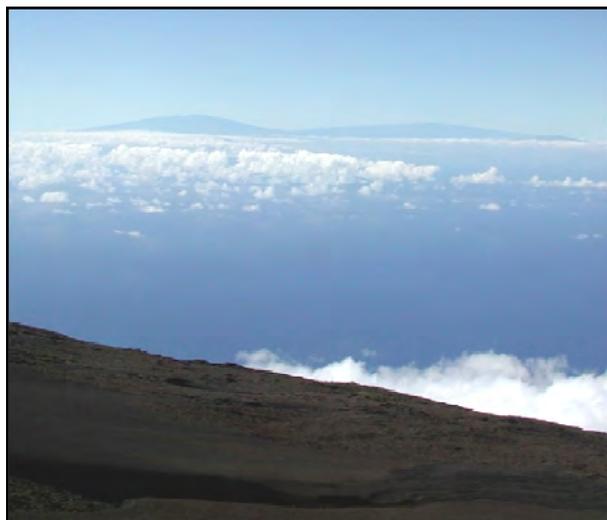


- **SUPERIMPOSE THE PROPOSED ATST NEXT TO THE MEES FACILITY, AND AN EVEN MORE SPIRITUALLY DISTURBING VIEW THAN THAT WHICH CURRENTLY EXISTS WILL BE CREATED.**

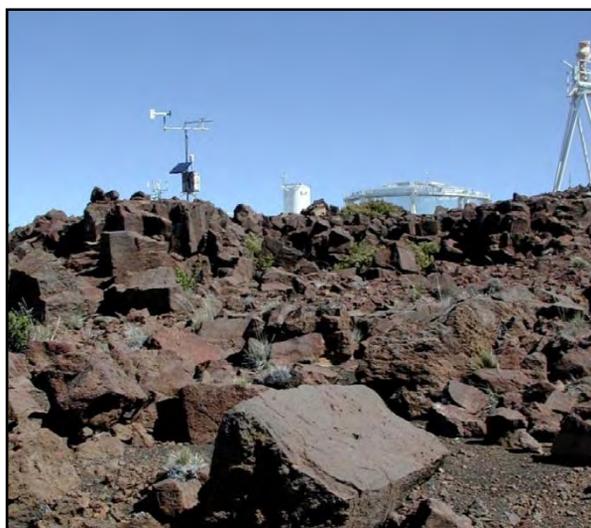
## Kīope Raymond (cont.)



- **HERE IS THE EASTERN VIEW FROM THE ALTAR NAMED PAELEKUAIIKAMOKU.**
- **THERE IS NO DESIGNATED VIEWING ENCLOSURE FOR KUPUNA OR THOSE WHO CANNOT WALK TO THE ALTAR.**



- **HERE TOO, TURN AROUND AT THAT SPOT AND ONE IS PRESENTED WITH THE SPIRITUALLY DISTURBING VIEW IN THE FOLLOWING SLIDE.**
- **THE TELESCOPE IS PROPOSED TO BE CONSTRUCTED APPROXIMATELY 90 FEET FROM THE EAST-FACING ALTAR, THE SPOT THE PICTURE WAS TAKEN FROM; AND SITUATED BETWEEN THE TWO NEAREST TOWERS IN THE PICTURE. SINCE THE TOPOGRAPHY AT THE SITE SLOPES DOWN TO THE ALTAR, THE TOP OF THE TELESCOPE STRUCTURE WILL ACTUALLY STAND 15 STORIES ABOVE THE ALTAR!**



- **I OPPOSE THE PROPOSED CONSTRUCTION OF THE ATST BECAUSE OF THE SPIRITUAL AND VISUAL IMPACTS SHARED THIS PRESENTATION; AND FOR REASONS ARTICULATED ELSEWHERE.**
- **A COPY OF MY WRITTEN COMMENTS TO THE NATIONAL SCIENCE FOUNDATION REGARDING THE ATST DEIS MAY BE OBTAINED BY CONTACTING ME:**
- **KIOPE@ [REDACTED]**
- **Mahalo**

**Donald Reeser**

October 23, 2006

Dr. Craig Foltz, ATST Program Manager  
National Science Foundation, Div. of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

**Re: Draft Environmental Impact Statement for the Advanced  
Technology Telescope ATST Haleakalā, Maui, Hawai'i.**

Dear Dr. Foltz:

The Draft EIS has failed to answer or address the arguments  
stated in my March 20, 2006 letter (Page 84, Appendix K).

The proposed observatory atop Haleakalā is culturally  
unsupportable and its significant impacts can not be  
mitigated. Therefore, another site must be selected for its  
construction.

Sincerely,

A handwritten signature in cursive script that reads "Donald W. Reeser". The signature is written in black ink and is positioned above the printed name.

Donald W Reeser

# Royal Order of Kamehameha I

-----Original Message-----

From: George Kaho'ohanohano [mailto: ]

Sent: Saturday, October 21, 2006 12:48 PM

To: cfoltz@nsf.gov, charlie@kcenv.com

Cc: alsponse , kaleboy05 , calakai ,

kay.garcia@ , @yahoo.com ,hotmail.com,

puniawalei( , moses\_kane , valler1 , hoomalu1

bobtokiko , Timmy\_Bailey , waianu( 1

Subject: Public Comments on ATST (Haleakala Solar Telescope)

Importance: High

Aloha,

Please refer to the attached comments on the Solar Telescope for Mount Haleakala. This is being sent to you via e-mail to make sure you get this before the deadline, and the palapala is going by the U.S. Post office.

Any comments please contact me. I do not have the e-mails for the Department of Health and Mr. Maberry, but copies are also being sent out by the Postal service.

Ali'i George Kaho'ohanohano  
Ku'auhau - Heiau 'O Kahekili IV  
Royal Order of Kamehameha I

# Royal Order of Kamehameha I (cont.)

September 29, 2006  
Kula Community Center

ATST Public Comment Meeting

## PUBLIC COMMENTS

Use this form if you wish to submit your comments after the meeting  
or if you prefer your comments be read by a Facilitator at the meeting.

I prefer my comments to be read by a Facilitator at the meeting.

check box

The National Science Foundation (NSF) has prepared a Draft Environmental Impact Statement (DEIS) for the proposed Advanced Technology Solar Telescope (ATST) Project. The DEIS is available at all Maui public libraries and on the Internet at: <http://atst.nso.edu/>.

**Public Comment Period:** The NSF welcomes and invites Federal, state, and local agencies, and the public to participate in the **45-day comment period beginning September 8, 2006, and ending on October 23, 2006.**

ORIGINAL comments should be sent to the applicant:

Dr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045, Arlington, VA 22230  
Telephone: 703-292-4909, Fax: 703-292-9034, email: [cfoltz@nsf.gov](mailto:cfoltz@nsf.gov)

COPIES of comments should also be sent to:

1. Dept. of Health, Office of Environmental Quality Control, REF: ATST  
235 South Beretania Street, Room 702, Honolulu, HI 96813 Fax: 808-536-4186
2. Mr. Mike Maberry, Associate Director, University of Hawai'i Institute for Astronomy  
P. O. Box 209, Kula, HI 96790-0209, Fax: 808-876-7603
3. Dr. Charlie Fein, KC Environmental, Inc.  
P. O. Box 1208, Makawao, HI 96768 Telephone: 808-573-1903, Fax: 808-573-7837, email: [charlie@kcenv.com](mailto:charlie@kcenv.com)

Comments:

Print Name Clearly: Royal Order of Kamehameha I,  
Heiau 'O Kahekili IV

It is in the best interest of the island of Maui and for the Heiau 'O Kahekili IV, of the Royal Order of Kamehameha I, that we state to you that we are NOT in support of the Advanced Technology Telescope project at the summit of Haleakala. The reasons that we are NOT in support of this project are (and these are a part of our concerns) to eliminate any further loss of our endangered Native Hawaiian natural and Cultural resources, such as the Ua'u and Ope'a'pea. Also to eliminate further degradation of our sacred mountain's cultural property. We also support Native Hawaiians that may have similar concerns about this project.

If this ATST project is allowed, a request is made for the operational plan for this project to include the Educational, Cultural, Economical and employment proprieties for the Kanaka Maoli of the Moku O Maui

Contact Person:

Ali'i George Kaho'ohanohano  
Ku'auhau, Heiau 'O Kahekili IV  
Royal Order of Kamehameha I



October 22, 2006

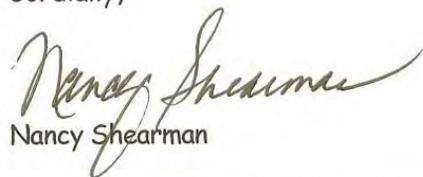
Dr. Craig Foltz  
ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington VA 22230

Dear Dr. Foltz,

The Maui News wrote that the telescope would be a plus for Maui if "... is constructed and operated in a way that is sensitive to legitimate concerns." I do not believe the damage can or will be controlled. This is revered land. Any more violation of Haleakala would be a huge toll on the environment, including visual and noise pollution. There are unknown excavating/building factors as well as the damage to flora and fauna. This is not for the people of Maui and does not serve our environment.

Culturally, it is wrong to build on the Hawaiians' place of worship. Please, do not do this. This summit is a sacred site. Existing telescopes are an insult; any more is not the behavior, we want to put on the history books. There is only one Haleakala. Please show the wisdom to let it be.

Cordially,



Nancy Shearman

cc: Department of Health, Office of Environmental Quality Control  
Mike Maberry, Associate Director, University of Hawaii Institute for Astronomy  
✓Charlie Fein, KC Environmental Inc.

## Comments - Douglas Sheehan

**From:** Doug Sheehan [mailto: ]  
**Sent:** Monday, September 11, 2006 4:00 PM  
**To:** Foltz, Craig B.  
**Subject:** Comments on Telescope

Dear Sir,

I just want to go on record that I am very much in favor of the telescope. I have lived on Maui since 1981, and was born on Oahu. I often visited Maui as I grew up, and can easily remember Haleakala as a child, when very few, if any, telescopes were even there. I do not feel that they detract from the view of the mountain, in fact I am very pleased to see them there--especially when I think how much good is being done for the betterment of human knowledge.

Sincerely,

Douglas Sheehan  
Kula, Maui, HI

## Response

**From:** "Foltz, Craig B." <cfoltz@nsf.gov>  
**To:** "Doug Sheehan" <t>  
**Sent:** Tuesday, September 12, 2006 1:26 AM  
**Subject:** RE: Comments on Telescope

Dear Mr. Sheehan:

Thank you very much for your message. I have shared it with the project team.

We greatly appreciate your comments and support. We feel strongly that the ATST project can potentially unlock secrets of solar activity which can, in fact, have an impact on life on Earth. Given that the environmental assessment process is an arduous one, receiving an email like yours lifts our spirits and strengthens our resolve.

Thank you again. If you ever have any questions about the project, please feel free to contact me!

With best wishes,

Craig Foltz  
NSF Astronomy

## Warren Shibuya

TESTIMONY: Advanced Technology Solar Telescope Project for Haleakala Summit, 29 Sept 2006.

Aloha and good evening members of National Science Foundation, National Solar Observatory, University of Hawaii Institute for Astronomy, KC Environmental, Inc., State Legislators, County Council members and fellow Maui residents.

Mahalo for this opportunity to testify on the Advanced Technology Solar Telescope project proposed for siting on the summit of Haleakala Mt, Maui. I am Warren Shibuya, a retired employee of the Space & Missile Systems Center.

I listened to numerous testimonies and tried to find a possible workable arrangement amongst various very valid community interests and concerns and comments as reflected in the EIS.

Tonight, I present four proposals for public and ATST consideration and hope this begins a positive dialog and working discussion amongst us. I do not represent any interest group, but I serve on Maui's General Plan Advisory Committee to develop plans to 2030.

Unfortunately, these four points do not fix injustices, but provides a heading toward a workable "win-win" for almost everyone.

First point. I ask National Science Foundation (NSF), National Solar Observatories (NSO), UH Institute for Astronomy (UH IfA) and State contribute to an subscribe to a workforce development program on Maui and hire Maui residents to work on ATST project. Not only the usual OJT (On the Job Training), but programming educational funding supporting studies of mathematics, physical and gaseous sciences, solar physics, thermo and plasma dynamics, engineering, and Hawaiian Culture. This proposal needs joint community, Stat and business support. State to provide land, facilities and faculty, create a 4-year University of Hawaii College of Sciences, Technology and Engineering on Maui, emphasizing close partnership with ATST project and the NSF.

Secondly, ATST is to employ Maui residents, as much as possible and develop ATST workforce through a close working relationship amongst NSF, NSO, UH, State, Maui County Mayor and Council and contributions from private and business partners. Start-up organization to manage development and implementing plans, coordinating funds for

## Warren Shibuya (cont.)

TESTIMONY: Advanced Technology Solar Telescope Project for Haleakala Summit, 29 Sept 2006.

construction and staffing needs everyone's buy-in and long-term commitment to making this proposal and ATST project work for everyone. No one group can do it alone. All mentoring and "bootstrap" type programs need everyone's involved commitment.

Thirdly, as initially suggested by Uncle Charlie K. Maxwell, ATST establish a Maui Solar and Hawaiian Culture Center, featuring staff, multimedia facilities and systems to share information, educate and ignite the passion and encourage Maui students getting needed skills and seek ATST employment. This cultural center informs the Hawaiian Culture through programs, explanation of on-line solar images and solar disturbance impact on Earth and satellite communications, our environment and even Astronauts in space and customized curriculum or presentations for residents, students, educators and visitors. Maui Solar and Cultural Center would proudly share ancient Polynesian navigational, Ohana concept, and Malama Aina skills, accomplishments and beliefs.

Fourth, ATST adopt and enter in written contract a "Sunset" for the ATST structure and program. Suggest at least a four-cycle (22.5 years each cycle) for a total approximately 90 years. This "Sunset clause" is precedent setting and requires ATST to remove ATST structures and restore used summit grounds to original Sacred configuration. Also, asking HU Institute for Astronomy remove most of remaining historical radio telescope structure, used in early 1950's by UH Professor Dr. Grote Reber. With consent and job site surveillance by appointed Hawaiian members (you would identify yourselves), Site 5443 would be restored to it's original Puu 24 feet height from required ATST excavation surcharge. Also, as I testified earlier, Hawaiian names or nomenclature would replace all non-Hawaiian street, road, facility names currently posted at the Haleakala Summit.

Please support these proposals and allow them to happen for everyone.

Mahalo for your patience and understanding!

Are there questions I need to answer?

Mahalo nui loa.

## Warren Shibuya (cont.)

-----Original Message-----

**From:** Warren Shibuya [mailto: |]  
**Sent:** Sunday, October 22, 2006 10:08 PM  
**To:** 'Craig B. Foltz Ph. D.', 'Jeremy J. Wagner', 'Bijan Gilanshah Esq.', 'Charlie Fein'  
**Cc:** 'Kalani J. English', 'Shan S. Tsutsui'  
**Subject:** Four points supporting Advance Technology Solar Telescope at Haleakala Summit  
**Importance:** High

Dear Dr. Craig Foltz, Mr. Jeremy Wagner, Mr. Bijan Gilanshah and Dr. Charlie Fein:

I hope National Science Foundation (NSF) and National Solar Observatories (NSO) can accept and include the following four points, offered to help mitigate most difficult issues highlighted by Section 106 (National Historic Preservation Act [NHPA]) and earlier ATST public testimonies. As you know, I am a private citizen who fully supports proposed siting the Advanced Technology Solar Telescope (ATST) project and facilities atop Mt. Haleakala, a Sacred Hawaiian site, currently within boundaries of University of Hawaii Institute of Astronomy (IfA). I present alternatives addressing serious Hawaiian objections and my understanding for needed advanced studies of our Sun and further understanding Sun's impact on Earth and our lives.

As a retired Space & Missile Systems Center employee who for 32 years supported and furthered basic research and applied technology into leading edge space and ground systems, I truly want ATST to operate atop Mt. Haleakala, the ATST project sharing sun knowledge and through a cooperative partnership ignite world interests and further educational opportunities on Maui! To ensure this shared partnership, please include the following points in ATST EIS.

1. Include a 'Sunset Clause' into contract providing for ATST Project on Mt. Haleakala, for studying the sun through four, sun-cycles or about a 90 year period. Each sun cycle is about 22.5 years, null to null of solar flares activities. At conclusion of this sun study, NSF and NSO shall remove entire ATST structures and restore site to original Sacred configuration. Sunset Clause is proposed to mitigate permanent impact of scientific intrusion into Sacred grounds. This sunset clause sets legal precedence. No other scientific or observatories in the World has sunset limitations. If acceptable, then all unused facilities on UH IfA grounds shall be removed and Puu (hills) and cinder grounds restored and respectfully include Hawaiian names, replacing

## Warren Shibuya (cont.)

existing non-Hawaiian names of roads and facilities.

2. The ATST project, front funded by NSF and NSO, as a facility lease payment, shall establish a Maui Solar and Hawaiian Culture Center, featuring staff, multimedia facilities and systems to share information, educate and encourage Maui and Hawaii State students getting needed skills and seek ATST employment. This cultural center proudly extends Hawaiian Culture through various programs, features on-line solar images from ATST-Haleakala and explains solar disturbance impact on Earth, satellite and world communications, and space environment hazards to Astronauts and travelers. Maui Solar and Cultural Center, as a minimum, to share ancient Polynesian navigational heritage, ?Ohana? concept, ?Malama Aina? skills, accomplishments and beliefs (Suggested by Uncle Charlie K. Maxwell). Proposed site may be available from donated lands by a Maui developer. State and County funding support for additional staff, structure, equipment and landscaping.
3. The ATST project, as an operational lease payment, shall fund advanced faculty, staffing and support for a four-year UH College of Sciences, Technology and Engineering on Maui. State to provide land and facilities and Maui County to provide access, grounds-landscaping development and infrastructure support. This proposal needs collaborative support from community, State and business-private support, in addition to NSF and NSO and ATST project funding. This College is extremely important for Maui and Hawaii to benefit directly from advanced and world-known scholars studying and visiting ATST facility atop Mt. Haleakala, the only ATST system in the World! Maui has bandwidth capability at Maui High Performance Computer Center, but with neighboring brainpower, can provide significant benefits to locals and visitors!
4. The ATST project shall hire locally, as much as possible. Employee development programs shall be conducted, concurrently with Maui UH College of Sciences, Technology and Engineering, in addition to OJT. ATST Project with NSF and NSO funding shall program, provide and staff educational studies for mathematics, physical and gaseous sciences, solar physics, thermodynamics and plasma dynamics, engineering applications and Hawaiian Culture. State and private supporters to provide land, facilities, faculty and staff support. Infrastructure shall be provided by County and ATST project. ATST support may end at conclusion of ?Sunset clause,? when all Haleakala summit facilities are removed and site restored.

ated these points with all current Maui State Legislators and leading Maui County members and Maui Mayor al contender (personally endorsed by Senator Daniel K. Implementing the ?Sunset Clause? for ATST project and facilities will be a major hurdle getting acceptance from Hawaiian and local groups.

ioned in my conversation with you, land title to UH IfA parcel is very contentious and might this could tie ATST project in extended litigations. Hawaiian Monarchy was taken by US military. A U.S. Territorial Governor appointed and conveyed Haleakala parcel to UH IfA through an Executive Order. Political coup was promoted by non-Hawaiians who wanted to get/purchase Hawaiian lands. Tactics and methods

employed can be debated, but in today's Courts, these facts will be a U.S. historical embarrassment, just as America stripped Japanese Americans of property, stripped them of personal dignity and incarcerated them.

Mahalo for your time and consideration!

Very Sincerely,

*Warren S. Shibuya*

## Comment and Response - Warren Shibuya

-----Original Message-----

**From:** Foltz, Craig B. [mailto:cfoltz@nsf.gov]

**Sent:** Friday, November 16, 2007 05:01 AM

**To:** 'Warren Shibuya', 'Bijan Gilanshah Esq.', 'Blanco, Caroline M'

**Cc:** 'Charlie Fein'

**Subject:** RE: Advanced Technology Solar Telescope (ATST) - Mitigation Proposal

Thank you for your words of encouragement, Warren. I trust this finds you well and look forward to seeing you again soon.

With best wishes and aloha,  
Craig

-----Original Message-----

**From:** Warren Shibuya

**Sent:** Thu 11/15/2007 8:54 PM

**To:** Foltz, Craig B.; Bijan Gilanshah Esq.; Blanco, Caroline M

**Cc:** Charlie Fein

**Subject:** Advanced Technology Solar Telescope (ATST) - Mitigation Proposal

Mahalo Craig, Bijan and Caroline Blanco for actively working ATST Project and DEIS issues, complying with specifics and spirit and intents of provisions in Section 106 of the National and Historical Preservation Act.

Mahalo also for keeping me informed of your progress and mailing me a recent Maui Community College mitigation proposal for ATST, "Akeakamai I Ka La Hiki Ola" (AIK). The AIK implementing proposal includes almost every point provided by Kahu Charles (Uncle Charlie) Maxwell and myself. Mahalo!

Craig, your long-range vision and generosity of sharing ATST gained knowledge with other scientists, includes a constructive inter-relationship among Hawaiian culture and our folks and students gaining knowledge and skills with astronomy, astrophysics, adaptive optics/photonics and other sciences, including technologies, engineering and math is certainly a true NSF legacy appreciated by residents and visitors of Maui and Hawaii! To advance goals of AIK, resources are needed from various sources including the NSF, Hawaii State, UH Institute for Astronomy, Center for Adaptive Optics at UCSC, Maui County, Maui District DOE, business and private partners, including the Polynesian Voyaging Society.

Looking forward to chatting with you all on your next visit to Maui!

Respectfully, Warren Shibuya

Comments for DEIS for ATST Project on  
Haleakalā

Submitted to  
Dr. Craig Foltz, National Science Foundation  
OEQC Hawaii State Dept of Health  
Mr. Mike Maberry, UH IfA  
Dr. Charlie Fein, KC Environmental, Inc.

Submitted by  
Maui Group Sierra Club  
as prepared by  
Kathleen S. McDuff and  
Richard M. Lucas  
October 23, 2006

## Haleakalā The Sacred House of the Sun

Hawaiian Protocol for Sacred Places

**E Ui No Ka 'Ae**

*Ask Permission,*

**E Mahalo Aku**

*Give Thanks,*

**E Komo Me Ka Hōano**

*Enter With Reverence,*

**I ka hele aku, e ho'oma'amau I ka wahi!**

*When you leave, return it as you found it!*

The summit of Haleakalā represents many things to the indigenous people of Hawai'i. The ancient spiritual use of Haleakalā was for meditation and receiving spiritual wisdom by na Kāhuna Po'o (the lead priests). It is said to be a place where the tones of ancient prayer are balanced within the vortex of energy for spiritual manifestations. In ancient times, only the Kāhuna and their haumana (students) lived at Haleakalā for initiation rites and practices. All who visit Haleakalā should strive to become sensitized to the subtleties of nature and the culture of this sacred place. Considering the aggregated eons of history at Haleakalā, this summit demands respect. It is a place of prayer; it is Ala hea ka la – the path to calling the sun.

When Pele, the goddess of fire, first visited Haleakalā, she dug a deep pit and made sixteen pu'u (hills, cinder cones). These pu'u form a sacred alignment from the summit of Haleakalā, to the tip of Haneo'o and continues for about 30 miles into the ocean. Along this path, on the eastern side of Haleakalā, there were over 300 heiau (temples), the highest concentration in the Hawaiian archipelago. The ancient Hawaiians knew these things about Haleakalā and kept its secrets for those coming after to love, protect and preserve. Those that ventured there in the days of old did so with care and reverence, to worship, and to observe the heavens (as well as for navigation).

To take any action, other than NO ACTION, would be a trespass on one of the most sacred and revered sites on Earth. When Jay April's wonderful film *Haleakalā: A Sense of Place* was shown at the Maui Arts and Cultural Center, Kahu Uncle Charlie Maxwell was asked the question if he thought it was appropriate to make a jump from how ancient Hawaiians observed and used the stars<sup>1</sup> to how UH IfA and the Air Force propose to use the sacred summit with defense projects such as Pan-STARRS. He responded by saying he didn't know, "...but they would have to follow all the rules that were set forth to follow cultural protocol and cultural respect of the land before anything is built." He then added " Oh, and one more I forgot: That if they are going to build anything, they got to tear something down and put it in its place."

None of the five buildings at the top of this inimitable summit have been taken down yet, but at the last informational community meeting at Pukalani in 2006, one of the members of the ATST team informed the public that each facility has an estimated service life. He further stated that at the conclusion of its useful service, the facility should be dismantled and the site returned to its natural state. He added that two facilities on the mainland would be dismantled when the ATST project was put up. Therefore, all references in the DEIS suggesting that this project has a less significant impact on the sacredness of Haleakalā, because previous projects have already been constructed near the site (inferring that the damage has already been done so one more won't really make that much difference) should be rethought. If all future construction is stopped immediately and no further action of any type is taken, then at some designated point of time in the foreseeable future Haleakalā will be returned to its natural state. Each additional project subjects this irreplaceable sacred site to more desecration. At what point will it be irretrievably altered? Certainly it is time to stop and repair

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<sup>1</sup> The Hawaiians observed and used the stars to navigate their way safely throughout Oceania. Hokule'a, Hawai'i's zenith star, Hokupa'a (the North Star) and the peaks of Mauna Kea and Haleakala were used to navigate their way safely into the 'Alenuihaha and 'Alalakeiki channels. The Kahuna Kilokilo (a priest who would watch the skies for omens) studied the sky from the summit of Haleakala.

the damage. Haleakalā undoubtedly deserves that much respect, and much much more. You might listen to the heartfelt song *Kilakila 'O Haleakalā* (Majestic Haleakalā), if you want to get a feel for the deep respect this wonderful mountain deserves.

As noted in the DEIS, the construction of the 14 story structure is viewed by Native Hawaiians to be a cultural desecration of a sacred site. It will have a significant impact on the view shed in an adverse manner and will irreversibly interfere with the United States Constitutionally protected spiritual practices of the indigenous people of Hawaii. For the above reasons alone, a decision of no action should be an easy and correct conclusion.

If you want other specific reasons, they are present as well. We are assuming for purposes of this comment, that all community comments presented at community meetings during the discussion periods throughout Maui Nui will be incorporated into the Final EIS. We were told when the members of the community presented their oral testimony that it would be transcribed and submitted to NSF to be included in the Final EIS, so we will not duplicate the comments presented at those meetings herein and the DEIS should be corrected accordingly.

**Mitigation of Cultural Resources:** In Kahu Charles Kauluwehi Maxwell Sr.'s Final Report entitled *E Malama Mau ka La'a*, there appears to be an initial assumption that this project will be constructed irrespective of the objections to the building of the ATST on Haleakalā. For purposes of a cultural resources and traditional practices evaluation, the preparer should have considered all possible options, including the option of "no action", which does not seem to be the case.

On page 62 of his report, Kahu Maxwell acknowledges that "any building or structure built on this site is an intrusion on the sacredness and spirituality of this mountain revered by the Hawaiian people past and present," and then goes on to conclude that a balance between building on the site

and the cultural practices of the Hawaiian people must be reached. There does not appear to be a logical correlation between these two statements, and he does not explain why he can come to the conclusion that a balance between digging and desecration is what should be achieved. In fact, an assessment with an open mind to "no action" should have drawn a completely different conclusion. This report is incomplete and should be re-evaluated with the "no action" alternative considered.

Additionally, there is no legal or rational nexus between the cause and effect listed in his report. He starts with the premise that "any building or structure built on this site is an intrusion on the sacredness and spirituality of this mountain revered by the Hawaiian people past and present," and then apparently concludes that this premise can be adequately mitigated by certain actions he suggests, including the use of cultural protocol before, during and after construction. Unfortunately, this proposed mitigation will not reverse, stop or even diminish the desecration. It might make some feel better about it, but the desecration will remain. The report seems to imply that the proposed violation would be lessened by building with cultural sensitivity. In fact, any construction on the summit is absolute desecration of sacred ground. Greater sensitivity on the part of the construction workers is not an appropriate response to desecrating sacred ground. As noted in the DEIS, any foundation excavation on the mountaintop would be a wound to a highly sacred place. The only way to stop the desecration is to prohibit it from happening in the first place. This possibility is blatantly ignored in the present report.

First Amendment religious rights are allowed to be absolute just because of their nature. They are not limited to shades of gray. This is one of those absolutes. "No action" should be indicated.

Interestingly, the National Science Foundation found that the summit constitutes a "traditional cultural property", a term used by the National Register of Historic Places to identify properties eligible for inclusion in the National Register because of their association with the cultural practices or beliefs

of a "living community." This view is shared by the State Historic Preservation Division at the DLNR. (Honolulu Advertiser October 12, 2006) When a property is placed within the Historic Registry, it is protected from such desecration as would occur on this site should the project go forward. Haleakalā should be offered the same protection as any other "traditional cultural property" and, when that standard is applied herein, no action should be taken.

In addition, the report never considered any similar projects that were proposed on sacred or cultural sites. In order to prepare a proper mitigation analysis on the sites at Haleakalā, other sacred sites with similar projects actually built upon them need to be considered, including whether the proposed mitigation actually worked or not. In addition, similar sacred sites that were considered, but the projects were not completed because the cultural resources could not be adequately protected or mitigated, should be discussed as well. Such comparisons are necessary to effectively present an adequate mitigation analysis. Otherwise, this could be deemed to be speculative in nature.

The cultural resources analysis should be reconsidered. The actual "least impact as possible" referred to in the report should not be limited to the mitigation matters suggested. The least impact as possible should be **not to construct the ATST on Haleakalā**. For once, put the needs of the Hawaiian people to the forefront. That would be pono.

### **View Planes:**

The summit of Haleakalā is one of the most beautiful vistas on Hawaii. It is almost comical to imply that a 14 story telescope on the summit of this magnificent mountain will not dominate or displace a significant fraction of that vista. Trying to focus people on the fact that you have the rest of the mountain to look at is not relevant to the issue. When you look at Haleakalā, where do your

eyes focus? Inevitably, they take you to the summit. The summit is the optimal view plane, and that is where this facility will be located. The fact that it is less obtrusive from different parts of the island is not the point. If it is obtrusive to kama'aina or tourists from any where on the island, that is sufficient reason to decide that it should not be built. Over 1,000,000 tourists go to the summit of Haleakalā National Park every year. They rise at 2 in the morning and drive to the Ranger Station overlooking the crater to view the sunrise over the crater. In the DEIS, it was noted that a big consideration at the La Palma site (second over-all choice) was the impact the telescope might have on the view from a specific peak called the Cumbrecita. This view is so important to the visitors of that area that the government enacted laws and the local courts handed down decisions that protected that special view plane. The telescope could not have been built there if it interfered with that particular view plane. Shouldn't the same consideration be given to Haleakalā, which is sacred as well as beautiful? (The findings in the DEIS are that there were no known archaeological or culturally important features in the area that would be impacted by construction of ATST at La Palma. Another reason it should be constructed at La Palma, not Haleakalā).

The DEIS makes the statement that the construction of the ATST would have a less than significant impact on the view plane. (pg ES-22). One of the factors the report relied upon in forming this conclusion, apparently, is their bold assertion that the 14 story starkly high white telescope on the summit of Haleakalā is considered by some to be not even noticeable and/or even beautiful. Of interest, we could not find one person who heard anyone testify that they thought the structure would be a beautiful addition to the vista. To try to imply that a majority or even a substantial minority of Hawaiians or visitors to the Island of Maui would find such a structure beautiful is simply misdirection. View planes can be subjective, but in coming to the conclusion of "less than significant impact", the report should give greater consideration to the opinions of the large majority of

individuals viewing this magnificent vista. The overwhelming majority opinion of those giving testimony regarding view planes is that it would interfere with their view plane and that was not acceptable. To state categorically that it is just a matter of opinion implies that it's closer to 50/50 than what it probably is -- at minimum 95/5. To state "we cannot describe that impact as an irrevocable loss of visual resources" is laughable. The view will be irrevocably lost. Hawaiian spiritual practitioners facing the summit of Haleakalā each morning will be irretrievably injured by this injustice and their indigenous religious rights will be unjustly damaged. This telescope can be built elsewhere, and that is what should happen.

### **Land Use/Archaeological:**

The County of Maui prohibits any building over the height of 12 stories. The ATST project apparently believes that it should be exempt from this law, because it is being built on ceded lands controlled by the University of Hawaii, a State entity. At the same time, the DEIS implies that they are in compliance with all local and state land use laws and community plans. The DEIS should state that if the project is not exempt, it would violate numerous county and local land use ordinances and guidelines.

This project could not be built in downtown Kahului, and it should not be able to be built on the top of Haleakalā. The County of Maui enacted the 12 story limit for many important reasons, including under its police powers, and these same reasons should apply to this facility as well, especially in light of the recent seismic events around the Islands.

In Section 1.8, the DEIS implies that the proposed action conforms to the Upcountry community plans, and this is not so. For example, the Makawao/Pukaluna/Kula Community Plan

(enacted in 1996) prohibits buildings over 35 feet tall. This facility would not fit within any of the exceptions therein and, therefore, is not in compliance.

The impact on the road from the Rangers Station to the summit is not addressed in the DEIS. Who will be doing the repairs on this road and what other impacts are there?

The DEIS asserts that there is no mitigation anticipated or planned for archaeological resources. What about the possible cave in the area named Anamakauahi? Surely at such an important cultural, historical site there are other archaeological concerns as well that have not been addressed.

There is none or inadequate reference to the Hawaiian Mahele and land titles. The issue of ceded lands in Hawaii has not been resolved and continues to be raised in litigation in state and federal courts, and it is irresponsible not to address this issue. The lands could also be subject to reparation and/or rent fees due and owing to the Kingdom of Hawaii, but this is not addressed anywhere in the DEIS. Notwithstanding the issue regarding whether Gov. Quinn actually had the right to give away these ceded lands, since neither he nor the State of Hawaii owned the lands, there is also an issue regarding the appropriate purpose of ceded lands<sup>2</sup>. As noted by the Office of Hawaiian Affairs in the comment in October 2005, these Public Trust lands may be used for educational purposes and for the betterment of Hawaiians. The State has a Constitutional responsibility to "conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals and energy sources...All public natural resources are held in trust by the State for the benefit of the people." (Hawai'i State Constitution, Art. XI, Section 1). The state also has a Constitutional responsibility to "protect all rights, customarily and traditionally exercised for

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<sup>2</sup> The subject lands are Section 5(b) lands of the Hawaii Admission Act (Act of March 18, 1959, Pub. L. 86-3, 73 Stat.4). j As such these are ceded lands, and per § 5(b) and the income derived therefrom, "shall be managed and disposed of for one or more" of the five listed purposes. The Act lists the five purposes as: for the support of the public schools and other public educational institutions, for the betterment of the conditions of native Hawaiians, ...for the development of farm and home ownership on as widespread a basis as possible, for the making of public improvements, and for the provision of lands for public trust.

subsistence, cultural and religious purposes" possessed by Hawaiians. (Hawai'i State Constitution, Art.. XII, Section 2) These considerations, as required by the State Constitution, must be given precedent over scientific needs of the world at large, especially since the scientific needs can be met elsewhere.

### **Biological Resources:**

It is inconceivable that a finding of less than significant could be anticipated in an area that abounds with unique Hawaiian plants and animals. As noted by Art Medeiros, one of the most knowledgeable experts on this particular topic "[t]he mark this monolith would make on Maui would be significant and irrevocable....The quest for knowledge is beautiful, but its demands must be weighed against the other sacred and beautiful things of the limited area of Maui, aspects of our Hawaiian culture, the lives of unique native plants and animals and the grace of the clean lines of Haleakalā's ethereal high Pacific mountain viewscales."

The effect on these resources could be quite significant. Construction activity could cause death to the 'ua'u; human proximity could cause them to abandon their burrows; construction would (not could) destroy hundreds of native plants; Nene would be affected by human proximity and also by potential pesticides and other contaminants, including but not limited to plastics and lead which they could ingest. The assumption in the DEIS that the botanical resources would not be permanently affected should clearly be re-examined.

We will not address this subject in depth, since it will be covered in detail in comments by more knowledgeable Native Hawaiian practitioners, but it is noteworthy that although there are listed endangered species at the sites on Haleakalā, there are no listed endangered species at the alternative site at La Palma. On the issues that could result in irreparable harm (such as vegetation

and habitat, cultural resources, view planes, etc), the DEIS appears to take the position that these can be mitigated easily enough. On the other hand, the dust issue at La Palma appears to be based in part on inconvenience, addressing monetary concerns and the time it would take to rectify the problem. Clearly some of the partners planning to use the facilities (such as the Department of Defense and Homeland Security) have enough funds to spend whatever money is necessary to take care of that issue and hire as many personnel as are needed, with no irreparable damage done to Haleakalā and its unique habitats.

### **Economic Concerns:**

The DEIS asserts that the ATST will bring economic gain to the County of Maui and State of Hawaii. What is not addressed are the negative impacts to Maui and state economies. As noted by the Association of Hawaiian Civic Clubs in its written comments, the construction of a 14 story telescope would destroy the pristine landscape of Haleakalā, which is a sacred cultural site, the unblemished beauty of which has been recorded for centuries in Hawaiian legends, chants and songs. They further note that Native Hawaiians revere this site as a place of great mana, and that it is one of the most popular tourist destinations on Maui. We agree with this esteemed Association and the Hawai'i Tourism Authority that well over half of Maui residents have listed "loss of Nature and open space" as a big problem on Maui.

Tourism is the economic life blood of Maui. Aside from government jobs, the tourist industry accounts for more than 50% of the total personal income of Maui residents, more than construction, real estate, manufacturing, finance, and retail trade combined. (DEIS 3-46, Table 3-8) Maui has been designated the number one tourist designation island in the world. It enjoys that distinction, in large part, due to its natural beauty and unspoiled vistas. The summit of Haleakalā is the single most

visited site on the island. It does not require a leap of faith to conclude that any diminishment of Haleakalā is likely to have significant, adverse economic impact on the island and its people. This aspect of the proposed project is not adequately addressed in the DEIS. This type of impact was addressed in your comments about La Palma regarding the effect of the view plane on tourists there, but it is noticeably absent in your evaluation of Haleakalā.

Hawaii is a unique and special place in the world. The Hawaii Economic Momentum Commission, appointed by the governor, issued a final report in December, 2005. In that report, the Commission concluded that "the Hawaiian culture, including its value systems . . . not only defines Hawaii, but is the only thing that distinguishes our islands from every other sea, sand and sun resort" in the world. Trying to educate and familiarize visitors of the significance and beauty of the Hawaiian culture, while desecrating one of the most sacred of Hawaiian sites, is an incongruity that cannot be explained away with slick marketing brochures. We cannot embrace the Hawaiian culture without first respecting it.

### **General Considerations:**

Haleakalā is the Sacred House of the Sun. The spiritual First Amendment rights of the Native Hawaiian people should trump any dust or sky brightness issues. Clearly this telescope can be built elsewhere. Over 70 sites were considered, and it is inconceivable that La Palma and Big Bear Lake could get to the top 3 sites if they were not viable. Another possibility is that the telescope could be built in space, which was not even mentioned in the DEIS, although it is a clear alternative. The fact that the Haleakalā sites may possibly have a few advantages in some areas should not be the deciding factor. The cultural and religious issues at Haleakalā should be given the greatest

consideration. Not only are these rights protected by the United States and Hawaii Constitutions, but, more importantly, it is the righteous and correct decision to make under the circumstances.

Another issue not adequately address is the clean up and disposal of the project when it is no longer necessary. Certainly, the current building(s) that have been abandoned (such as the former radio telescope site known as Reber Circle which goes back to the 1950's – and which interestingly enough was abandoned because it did not work) was not cleared out and the land was not returned to its natural habitat even though the facility was abandoned over half a century ago. In fact, it has now been there so long it has historical significance. There have also been voiced concerns from local residents who lived here during the first construction phases at Kolekole that trash was not handled responsibly at that time.

It is interesting to review the written comments contained in the DEIS. The ones supporting the project are 99% simply signatures on the exact same form letter with no personal comments or reasons for support. On the other hand, many of the comments opposing the telescope are written from the heart and display a great deal of emotion. A few examples of these: "There are 70 other possible sites for this telescope...there is only one sacred Haleakalā...there can be no compromise...this site is sacred to the Native people of Hawaii—it must be preserved." "The "house of the Sun" is holy. Would you build a 16 story telescope on the top of Notre Dame? Some places on our precious planet must be singled out...Haleakalā is one of these places. Please do not allow it to be dishonored." Those opposing this project speak out because they respect and honor Haleakalā – desecration is not inevitable and the project should be built elsewhere. Those supporting the project are speaking about the need for scientific data – not scientific data limited to Haleakalā. This data can be gathered on grounds that are not sacred. This is an extremely important point. The sacred summit of Haleakalā is limited to this particular site – the data is not.

## Sierra Club Maui Group, Kathy McDuff and Richard Lucas (cont.)

As noted above, the references throughout that the "grounds are already disturbed by development" should be played down as well, because those facilities will apparently be taken down at the end of their service life. If we keep building on this site, these significant impacts will never go away. Allow this sacred ground to be returned to its natural state as quickly as possible, and stop further desecration now. The prior damage can hopefully be remedied; if it continues it cannot. You did not consider Machu Picchu or Mt. Zion as plausible sites for this facility, and rightly so. Haleakalā is just as sacred. Please act accordingly.

Mahalo for your consideration.

Maui Group Sierra Club

A handwritten signature in black ink, appearing to read 'Kathy McDuff', written in a cursive style.

By Kathleen S. McDuff, Vice Chairman

## Comments and Response - Walt Steiger

**From:** "Mike Maberry" <maberry@hawaii.edu>  
**To:** "Walter Steiger"  
**Cc:** "Sharon Loando-Monro" <kcesharon@hawaii.rr.com>  
**Sent:** Wednesday, September 13, 2006 3:22 PM  
**Subject:** Re: Solar telescope

Walt,

Thank you for your kind words. Comments from you on the DEIS could be helpful. There is a link on the NSO web page or I can arrange for a hard copy to be sent to you.

Mahalo,

Mike  
[maberry@hawaii.edu](mailto:maberry@hawaii.edu)

Caution: This message was sent from my CrackBerry gizmo and may contain spelling errors. If you received this message in error, sorry...

-----Original Message-----

From: Walter Steiger <[wsteiger@hawaii.edu](mailto:wsteiger@hawaii.edu)>  
Date: Tue, 12 Sep 2006 11:31:36  
To: Michael Maberry <[maberry@hawaii.edu](mailto:maberry@hawaii.edu)>  
Subject: Solar telescope

Hi Mike,  
Reading the article in this morning's Advertiser makes me furious! Since when is Kolekole "sacred"? That is a modern term that has no meaning - or any meaning you want it to have. To me all of nature is sacred, including the human brain. And if we don't use it to its full capacity we are guilty of desecrating a natural gift. It is time the Hawaiians woke up to the fact that this is the Universe of 2006 and those societies that do not evolve are destined to extinction. The best thing the Hawaiian activists can do to preserve their culture is to help it adapt to the changing universe.

You don't need this lecture, but I had to get it off my chest. What can I do to help the cause?

Aloha,  
Walt

## Comments - Walt Steiger (cont.)

-----Original Message-----

From: Walter Steiger [<mailto:>] ]

Sent: Fri 9/22/2006 5:54 PM

To: Foltz, Craig B.

Subject: Re Solar Observatory on Haleakala

Dr. Craig B. Foltz  
National Science Foundation  
Division of Astronomical Sciences

Dear Dr. Foltz:

I offer herewith my thoughts on the Haleakala situation:

I am dismayed to learn that Hawaiian activists are attempting to block the development of the world's most advanced solar telescope from studying the Sun from Kolekole, near the summit of Haleakala, The House of the Sun! This is totally incongruous! Would not the ancient kilo hoku be delighted to learn that their fascination with the Sun and its role in their lives is still alive and well among the modern kilo hoku?

It is contended that Kolekole is sacred and should not be defiled by modern astronomers. I doubt very much that there remains anything pristine about Kolekole. When I first came to the area in 1955 it had already been widely used by the military during WW2, by the FAA, by TV transmitter stations, and pioneer radio astronomer Grote Reber, who made use of an abandoned army block house, as I did also after his departure.

As for the sacredness of the site, we all have our own feelings about what in this life is sacred. To me, all of nature is sacred and deserves care and respect. And human beings are a part of nature. And most sacred of all is the human mind! To use it wisely for the benefit of all is a birthright we all share. The search for knowledge and understanding of our universe is a birthright that modern astronomers share with the ancient kilo hoku.

Of course, in the pursuit of knowledge we must always be cognizant of the needs and values of others and be respectful and considerate of them. The scientists wishing to work in Hawai'i because of its unique environment would be the last ones wishing to defile that environment and are anxious to do whatever it takes to mitigate inappropriate behaviors. I sympathize with the native Hawaiians whose culture was cruelly suppressed after the take-over by the US in 1893, and I applaud the cultural revival that has developed in recent times. However, I do not feel that suppressing scientific development and advances in knowledge is in anyone's best interest.

Walter R. Steiger  
Professor Emeritus of Physics and Astronomy  
University of Hawaii

# Mele Stokesberry

-----Original Message-----

**From:** Mele Stokesberry [mailto: ]

**Sent:** Friday, September 29, 2006 10:17 AM

**To:** 'Fein, Charlie'

**Subject:** testimony - also faxed

*Read at Kula  
Comm Center  
meeting by  
David Brass.*

Dear Charlie,

I cannot attend the ATST meeting tonight to testify again, due to a commitment at the dojo (kids' testing night). I would, however, like to submit this testimony to be read orally tonight

Could you give it tonight to a "facilitator" to be read aloud, as per the public comment sheet I got at last night's meeting? Thanks. I will also be faxing a version of this to Dr. Foltz for the written final EIS testimony.

Thanks,

Mele

-----  
The 143 foot high Advanced Technology Solar Telescope (ATST) that is proposed to dominate the top of Haleakala, with a 40-foot deep excavation under it, must not be built at this location.

It's tremendous size cannot be placed on the summit of Haleakala without irreversible harm of a very serious nature to the endangered petrels whose burrows are all around the proposed sites. The ATST would also cause ruinous harm to the viewplanes, serenity and sacredness of the mountain, and as yet not fully charted harm to the entire summit environment, due to the huge excavation and disturbance it will entail.

There are other acceptable sites in the world for this telescope. The location of such an intrusive structure in the middle of a national park, in the middle of an area of archeological importance and fragile habitat of endangered species, and on the summit of a mountain sacred to the host-culture people is just bad ecology and bad politics.

Although I am a board member of the Friends of Haleakala National Park, a group that also opposes the ATST, I am submitting this testimony as an individual.

Mele Stokesberry

Kula, Maui

## F. L. Tabrah

**From:** F Tabrah [mailto: ]  
**Sent:** Thursday, September 14, 2006 5:57 AM  
**To:** Foltz, Craig B.  
**Subject:** <http://starbulletin.com/2006/09/13/>

Honolulu, HI. Just a few comments on the hassle about Haleakala and further scope construction. The unlimited use of the mountain for astronomical purposes is totally justified by the unique location, support resources, and seeing conditions extant.

Any mystical notions about it being a "sacred site" are trumped by the fact that these instruments, on either mountain, are truly cathedrals of the intellect, and are the gateway to comic comprehension by all people. If the population with narrow, superstitious, non rational views of the presence of astronomical equipment on these mountain tops can be encouraged to understand the grandeur and deep significance of data collected, and at least verbal praise given them for being non-obstructive, in time, as a few of them become truly educated in the sciences, further construction might continue without the endless fuss that has marred the past couple of years of planning.

If they simply want money, perhaps that can be arranged; if they want a stake in the enterprise, scholarships and opportunity for employment through the presence and operation of the facilities should all be considered.

In any case, wide publicity about what unique information and fascinating concepts arising out to the observatories (anywhere) should be a full time effort, despite the disinterest born of ignorance, so common in our society. True, the instrumentation can be sited elsewhere, but we must not let this happen, and it is worth a good fight.

Good luck. F L Tabrah MD

## Response

**From:** "Foltz, Craig B." <cfoltz@nsf.gov>  
**To:** "F Tabrah" <  
**Sent:** Thursday, September 14, 2006 2:11 AM  
**Subject:** RE: <http://starbulletin.com/2006/09/13/>

Dear Dr. Tabrah:

Thank you very much for sharing your thoughts on this issue. Your message was a breath of fresh air on a dreary morning across the Potomac from DC.

I want to share with you the fact that all NSF-supported centers have extensive education and public outreach components as part of their core missions. The NSF does not consider such activities to be optional. Indeed they are an integral part of our own mission. These programs include diverse activities such as internships, professional development programs, teaching training, curriculum development, public programs such as tours, lectures and viewing opportunities, educational web sites, etc. Specific programs are developed to promote science, engineering and math among underrepresented minorities and women.

The ATST project is developing a number of programs that would be put in place on Maui and the NSF is considering other possibilities under development by the University of Hawaii, the Maui Economic Development Board and Maui Community College among others. Please be assured that, in the view of the funding agency, construction can only proceed if linked to strong education and public outreach.

Thank you again for your thoughtful comments. Please don't hesitate to contact me with questions or further comments.

With best wishes,

Craig Foltz  
NSF Astronomy

## Penrod Vladyka

----- Original Message -----

From: [Penrod Vladyka](#)

To: [kcesharon@hawaii.rr.com](mailto:kcesharon@hawaii.rr.com)

Sent: Tuesday, September 26, 2006 6:54 AM

Subject: Support for IFA

Aloha,

My name is Penrod Vladyka and I am a vice Principal at Kalama Intermediate School, Upcountry Maui. Last year I started an astronomy club, and one of our projects includes studying/imaging the sun. Attached are some of our solar images. We have also been using the Faulkes Telescope (student images attached). Also attached is a group photo of our recent star party sponsored by IFA and HAA (Haleakala Amateur Astronomers).

IFA has been very active in their support of our efforts. Dr. JD Armstrong (solar astronomer) of IFA has dedicated 3 hours a week to come to Kalama to instruct our students. Gary Fujihara (IFA) is coordinating a live webcast of the Mercury solar transit Nov. 8th at the summit. Our students will be using a hydrogen alpha solar telescope to image this rare event. Dr. Joe Ritter (solar astronomer) is also active with our club. With the completion of the new Pan-starrs Observatory at the summit, our students will be involved in asteroid follow-up studies thanks to Mary Kadaooka of IFA and her educational outreach efforts.

One of our teachers at Kalama recently sent an e-mail to our staff asking them to sign a petition to prevent the construction of the new solar telescope. My response to this e-mail was to inform the staff of all of the benefits Kalama students are realizing as the result of our collaboration with IFA.

The students in our Astronomy Club and their parents are very excited about all of these new learning opportunities. I can't possibly convey the awe, joy, and wonder that these children (our future) are experiencing.

With the completion of the Pan-Starrs and new solar telescope, our students will have access to 2 of the most important scientific instruments in the world. The importance of studying the sun is well documented and understood, and the best location in the world to do this is at the summit of the House of the Sun. We (Kalama) will be a significant participant in this voyage of new discovery. My hope is that the citizens of Maui will support Kalama's Astronomy Club and its collaboration with the IFA.

Respectfully,

Penrod Vladyka  
Vice Principal  
Samuel Enoka Kalama Intermediate School

## Kathy Wong

Katherine Seidman Wong

September 29, 2006

Dr. Craig Foltz  
National Science Foundation  
4201 Wilson Blvd., Room 1045  
Arlington, Va. 22230

Dear Dr. Foltz,

Please do not build the telescope! I strongly oppose locating the Advanced Technology Solar Telescope project on Haleakala. This intrusive telescope structure that will be the tallest building on Maui, and painted white, will adversely change the visual, cultural, biological and geological landscape of Haleakala forever.

It is beyond comprehension that although this telescope is being built to study the sun, it will not have any solar panels or photovoltaic and do nothing but drain expensive power from Maui Electric.

I respectfully request that you please find another location for this project.

Sincerely,



Kathy S. Wong

Cc: Office of Environmental Quality Control, Honolulu, Hawaii

## Kathie Zwick

-----Original Message-----

From: Kathie Zwick [mailto: ]

Sent: Fri 9/22/2006 10:58 PM

To: Foltz, Craig B.

Subject: environmental impact study regarding Telescope on Haleakala

Hello Dr Foltz,

I would like a copy of the environmental impact report regarding the impact of the new telescopes being proposed for Haleakala. Please either email me the report to: egzwick#@ust.hk or send it to:

Kathie Zwick

I would appreciate it if you could send this ASAP, as I would like to read it before going to the meetings.

Thank you

Kathie Zwick

## Response

**From:** <kcesharon@hawaii.rr.com>  
**To:** < >  
**Cc:** "Foltz, Craig B." <cfoltz@nsf.gov>; <charlie@kcenv.com>  
**Sent:** Wednesday, September 27, 2006 8:12 AM  
**Subject:** environmental impact study regarding Telescope on Haleakala

Hi Kathie,

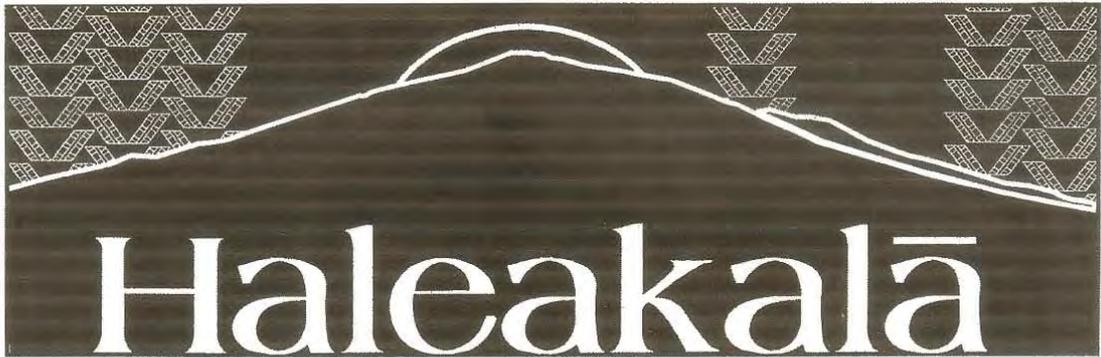
Thank you for your interest in the ATST draft environmental impact statement (DEIS). The DEIS files are very large, so I will put a CD in the mail to you today.

If you would like to review the DEIS before the public meetings, it can also be found online at:  
<http://atst.nso.edu/DEIS/>

Again, thank you for your interest in this project.

Sharon Loando-Monro  
KC Environmental, Inc.  
Planning Projects Manager

**“I OPPOSE” form  
received during DEIS Public Comment Period**



I am opposed to the proposed Advanced Technology Solar Telescope (ATST) because it would be a desecration of Haleakalā on Maui, one of the most sacred and spiritual places of Hawai'i. The approximately 14-story tall ATST structure would have a negative impact on our community through the disturbance, alteration and removal of sacred natural resources (i.e. soil, rocks) and possible cultural artifacts. A significant cumulative consequence of the proposed development would be the adverse and devastating visual effect caused by the addition of this intrusive and culturally inappropriate structure.

Aloha 'āina. Aloha Haleakalā.  
(Love of the land. Love for Haleakalā)

Please Print

Dehance Kahala  
First Name Last Name

[Handwritten Signature]  
Signature

10/21/04  
Date

*Individuals who submitted the same comment form shown previously.*

<b>Last Name</b>	<b>First Name</b>	<b>Last Name</b>	<b>First Name</b>
`Aikala	Manaloa	Bailey	John
`Akahi	Pomaikai	Baker	Amy
Abraham	Susan	Bal	Brandon
Ackermann	Dieter	Bassil	Galal
Acopan	Janice	Bayly	Katy
Adkins	Allen	Beck	Karen
Adkins	Reiko	Bell-Cockett	Palika
Agcaoili	Regina	Belmonte	Jake
Aiwohi	Ka`apuni	Benavides	Burke
Aiwohi	Maile	Benavides	Carlotta
Aiwohi	Pi`imauna	Benavides	Roxane
Aiwohi-Kolt	Hi`ilei	Biga	Jaydina
Akita-Kealiha	Thelma	Bissen	Isabella
Akiu	Renee	Boller	James
Alexander	Elena	Bolos	Laurie
Alo-Palau	Myrlynette	Bolos	Robin
Altinbay	Tan	Bonillon	Cheryl
Amakawa	Mayumi	Brada	Garett
Amaral	Debbi	Bras	R. Kalei
Ambrose	Kristlyn	Brault	Sachiko
Anakalea	Clyde	Brown	Debbie
Anseth	Andrew	Buetzer	Hans
Anthony	Iliahi	Bush	Alana
Anzai	Harriette	Bush	Nana
Apo	Alexander	Bush	Roger
Apo	Kelsey	Bustamente	Keahi
Aquino	Princess Lehuanani	Butterman	Ansgar
Arakaki	Jaye	Butterman	Ieka
Armitage	Malia	Cabrera	Ryan
Armstrong	Elisabeth	Cadiz	Corinna
Armstrong	Sue	Cagasan	Ed
Asis	Joe	Calabrese	Margo
Astrella	Rachael	Calandrella	Leanne
Atay	Daniela	Calvan	Roger
Atay	Don	Cantor	Anna
Athearn	Jamie	Capertina	Hulu/Theodore
Auhoon	Gardenia	Cappadocia	Ragita
Auwae	Makamae	Carbonni	Christopher
Avieiro	Scott	Carrion	Kili`ohu

*Individuals who submitted the same comment form shown previously.*

<b>Last Name</b>	<b>First Name</b>	<b>Last Name</b>	<b>First Name</b>
Carter	Jamie "Kamiki"	Diego	Maile
Casayuran	Jesse	Drake	Lee
Cashman	Ed	Dukelow	Jamie
Castro	Chaz	Dukelow	John
Chambers	Nancy	Dukelow	Kapualokeokuuleinani
Chappell	Graham	Dumangeng	Percival
Char	Corey	Duquette	Jason
Chargualaf	Christen	Duranleau	Nicole
Chin	Loretta	Dye	Rachael
Chong Kee	Kenneth	Eaton	Cleighton
Chong Kee	Rhoda	Eaton	June
Chow	Nara	Eaton	Kalena
Chun-Gilliland	Chalice	Eaton	Kaua
Clark	April	Eaton	Keomailani
Cohen	Joanne	Edlao	Gail
Collier	Kiai	Edlao	Heather
Collins	Lance	Elliott	Bill
Cornelio	Jeffrey	Ellis	Leilani
Crvalho	Carmelita	Emata	Gerilyn
Crow	Diana	Emata	Grace
Cusi	Karen	Ennehoser	Carolin
Czok	Jutta	Enos	Vicky
Davidson	Malia	Esotov-Chang	Maria
Davis	Jonathan	Evangelista	Danny
De Journette	Marie	Evangelista	Ernesto
DeFries	Heather	Evangelista	Justina
DeFries	Jacob	Evangelista	Teri
Dela Cruz	Joelyn	Evanson	Mary
Dela Cruz	Michal	Ewaliko	Catalina
Dela Cruz	Moi Maikai	Farin	Lokalia
Dela Cruz	Robert	Faye	Hoku
Delapinia	Thomas	Fazio	Tara
Delos Santos	Lesley	Feiteira	Jessie
DeMello	Bessie	Feliciano	Joella
DeMello	Melany	Fenzl	Ronnie
deNaie	Lucienne	Ferreira	Chad
DeShayne	Nece	Figuracion	Dimpag
DeStephano	Clara	Filimoe`atu	Kehaulani
Dias	Pohai	Flores	Ariana

*Individuals who submitted the same comment form shown previously.*

<b>Last Name</b>	<b>First Name</b>	<b>Last Name</b>	<b>First Name</b>
Fratantonio	Robert	Helm	Violet
Fujimoto	Karen	Helm	Wilfred
Fujiyama	Michelle	Henderson	Jason
Furukawa	Colleen	Hewahewa	Kepa
Gacek	Claudia	Higa	Mike
Gaddis	Summer	Higa	Rhys
Gangini	Carla	Higgins	Roberta
Garalde	Brian	Hill	Richard
Garnet	Tom	Hinaga	Garrick
Garrison	Charles	Hinau	Curtis
Gilliland	Puanani	Ho	Holiann
Godinez	Marcia	Ho	Kaipo
Goebel	Michael	Ho	Renfred
Goldberg	Tasha	Ho`pai	Kapono
Gonzales	Rosa	Hoe	Kawaiolima
Gormley	Kapa`ia	Hoisington	Wendy
Gottlieb	Brookelin	Hokoana	Queenie
Goudreau	Vincent	Holi	Puanani
Goya	Ernesto	Hong	Leah
Greenleaf	Masta	Hong	Leinani
Gusman	Brenda	Hooks	Ash
Haake	Kekuulani	Hu`eu	Jonah
Habbwitz	Jeanette	Hubin	Sheila
Hagerty	Patrick	Huerter	Carissa
Halbitter	Ute	Hueter	Samantha
Haleakala	Jaevin	Hueu	Sunnie
Hamoru	Charlotte	Hunt	Corinne
Hara	Kuninori	Iao	Maydeen
Hara	Maui	Ichiki	Vivian
Hara	Mitsuko	Ige	Stan
Harima	Keiko	Illegible	D. Ann
Harrowby	Caitlin	Illegible	Mathew
Hartman	Robert	Illegible	Jared
Haus	Dorothee	Inacker	Dr. Matthias
Haus	Werner	Inouye	Nichole
Hawkins	Anna	Irwin	Julie
Heffman	Jennifer	Ishii	Richard
Helm	Kandy	Ishikawa	Noelle
Helm	Rusty	Ishikawa	Trina

*Individuals who submitted the same comment form shown previously.*

<b>Last Name</b>	<b>First Name</b>	<b>Last Name</b>	<b>First Name</b>
Ishikawa	Wayne	Kanekoa	Noelani
Jamgochian	Jamie "Kamiki"	Kaniaupio-Crozier	Jeriann
Jamgochian	Mark	Kaniaupio-Crozier	Kaleialoha
Jarvier-Grodan	Anna	Kaniho	Natassja
Javier	Nic	Kaniho	Tiffany
Jennifer	Adamson	Kantarova	Pamela
Jensen	Jennifer	Kapaku	Kenda
Jeremiah	Debra Pua	Kapaku-Kahu	David
Johnson	Daryl	Kapu	Rochelle
Johnson	Faryn Kalei	Kare	Britta
Johnson	Ginger	Kasai	Katsuharu
Johnson	Kaylee	Kato	Mr. and Mrs. Gary
Johnson	Kiana	Katsutani	Michelle
Johnson	Melia	Kaufmann	Merrill
Johnson	Tanya	Kauhane	Keith
Jones	Sarah	Kauhane	Patti
Joy	Lawakua	Kawa`a	Kamalani
Kahakauwila	Aulii	Kawa`a	Luana
Kahula	Patience	Kawachi	Kurt
Kahalehau	Kaha	Kealoha	Daniel
Kaho`ohalahala	Haaheo	Keany	Mary
Kaho`ohalahala	Lynn	Kegahuna	Lono
Kaho`ohalahala	Pualani	Kekahuna	Ashley
Kaho`ohalahala	Sol	Kekahuna	Erika-Lei
Kaho`ohanohano	Iris	Kekahuna	Haokeakumehokealani
Kaho`ohanohano	Suzette	Kekahuna	Ilikea
Kaholokua	William	Kekahuna	N. Lonohiwa
Kahula	Illegible	Kekahuna	S. Kamaile
Kaikala	Pohai	Kekoolani	Tine
Kaina	Orpha	Keller	Karen
Kaiwi	Jasmyn	Kenolio	Punahele
Kalua	Manaiakalani	Kepano	Doreen
Kama	Jeremiah	Khalafalla	Ryoko
Kamakana	Liane	Kiakona	Pa`ele
Kamakana	Veronica	Kimokeo	Aliiloa
Kamalii	Jeremiah	Kimokeo	Puawehiwa
Kamalii	Robert	Kimokeo	Sommer
Kana	Charlene	Kincaid	Kaipo
Kanekoa	Kamalani	Kneubuhl	Robyn

*Individuals who submitted the same comment form shown previously.*

<b>Last Name</b>	<b>First Name</b>	<b>Last Name</b>	<b>First Name</b>
Koki	Claire	Lyman	Kahala
Kolt	Gaylord	Macik	Tyndale Mathew
Kong	Leinoa	Maeda	Doris
Kuaana	Danielle	Maeda	Richard
Kuailani	Steven Kapena	Maio	Bernadine
Kuali`i	Kipukai	Maldonado-Morgan	Justine
Kuamo`o	Pi`imaana	Manloue	Christina
Kukea-Shultz	Jonathan	Manoa	Brittney
Kupahu	Kahiwaonalani	Manuel	William
Kusunoki	Mea	Marchetti	Kathy
Kutsutani	Michelle	Marks	Mayumi
Lani	Pasha	Marks	Richard
Larin	Cherrie Ann	Marmack	Tim
Laymon	Lynn	Marple	Puanani
Leahy	Chris	Marrotte	Karla
Lee	Carol-Marie	Martin	Martha E.
Lee	J. K. L.	Martin	Joan
Lee	Jovel	Martin	Makana
Lee	Ka`uhano	Martinson	Lawrence
Lee	Kimoku	Matsumoto	Amy
Lee	Noelani	McBride	Dolores
Lees	Laura	McCarty	Vicki
Lemmo	Roni	McDuff	Kathleen
Leong	Debra	McKeown	Thomas
Levin	Penny	McLean	Glenn
Lewis	Ashley	McLean	Iliahi
Lewis	Lori	McLean	Luke
Librando-Souza	Kalani	McLinden	Michelle
Life	Kaiuipuni	Medeiros	Art
Lincoln	Jody	Mederiros	Ashley
Lincoln	Travis	Mederiros	Kanoelani
Llego	Shannon	Mederiros	Reina
Lockard	Jordan	Mercier	Deanne
Logotala, Jr.	Faalata	Meyer	Stacy
Lorenzana	Ashley	Michaels	Lesley
Lovell	Robert	Michaelson	Paul
Lu`uwai	Leona	Michimoto	Glenn
Lucas	Richard	Michimoto	Ryan
Lussich-Pretre	Nohea	Michimoto	Sandra

*Individuals who submitted the same comment form shown previously.*

<b>Last Name</b>	<b>First Name</b>	<b>Last Name</b>	<b>First Name</b>
Miftahittin	Shariff	Noneza	Carmela
Miguel	Edward	O`Rourke	Ann
Miguel	Laura Ann	Oana	Rosean
Miguel	Lori Michelle	Offerman	Robert
Miguel	Shari	Offerman	Susan
Mikell	Bob	Okamura	Gain
Miles	Sara	Okimoto	Andrew
Minker-Scorzelli	Margaret	Oliveros	Geraldine
Mitnick	Robert	Oliveros	Lisa Ann
Miyagawa	Doreen	Oliveros	Pedro
Mjehovich	Carol	Orikasa	Yoshimichi
Moleta	Chazz	Orikasa	Yukie
Molina	Jordan	Ornellas	Barbara
Molitu	Kapono`ai	Ornellas	Uluwehi
Moniz	Jaymie	Osterteus	Hoku
Montalvo	Yvette	Otsu	Clara
Montira	Gary	Paahana-Lake	Shirley
Morrison	Pua	Pacheco, Sr.	Stanley James
Muecher	Miriam	Pagaduan	Michelle
Murata	Akiyo	Page	Charles
Muromoto	Liane	Paladin	Ginger
Nae`ole	Joshua	Pali	Pikake
Naeole	Danileigh Kahealani	Palmeira	Chris
Nahoopii	Michael	Pamat	Mark
Nakagawa	Layne	Pang	Chadwick
Nakagawa	Melissa	Papaia	Elizabeth
Nakamoto	Ian	Pardillo	Jobelle
Nakamura	Rachel	Parker	Alvin
Nakamura	Wilma	Parker	Lapree Pua`olena
Nakoa	Noelani	Parker	Scott
Nakoa	Peter	Pasco	Ke`ala
Namau`u	Daunserly	Pascual	Cyrila
Needham	Kimo	Patrick	Katherine
Newlight	Nadine	Paul	Anne
Nickens	Ivy	Peck	Shannon
Nikaido	Mark	Perny	Deandra
Nishida-Magaoay	Crystal	Perrerira	Hulali
Nishikawa	Lois	Peterson	Leah

*Individuals who submitted the same comment form shown previously.*

<b>Last Name</b>	<b>First Name</b>	<b>Last Name</b>	<b>First Name</b>
Pittman	Lea	Romanchak	Wendy
Pitzer	Frances	Roush	Stephen
Plunkett	Kona	Rozel	Kia`aina
Plunkett	Leilani	Ruhnau	Hanne
Ponce	Cecelia	Rust-Sipili	Toni
Ponce	Maile	Ryan	Kaina
Porter	Nicholas	Ryder	Frank
Potler-Dunpop	Julie	Ryder	Miriam
Pratt	Abigail	Saffery	Maya
Prest	Ikaika	Sagadraca	Kahiaikapili
Puaa-Freitas	Kaulana	Saiki	Molly
Pule	Thomas	Saito	Robert
Purdy	Kaimana	Sakamoto-Ribao	Courtnee
Purugganan	Frank	Salzer	Paul
Purugganan	Leone	Sandi	Sasha
Pyle	Laura	Savaki-Kashiwa	Dawn
Quenga	`Ulili	Scattergood	Hakem
Quinto	Hannah	Schaff	R. Lavender
Raisbeck	Sarah	Schamber	Dean
Ralan	Derrick	Scott	Linda
Ramos	Glenda	Sebstad	Jeanene
Randall	Brent	Seelbach	Tanda
Range	Kealoha	Shaffer	Tracy
Ranney	Keith	Sheppard	Earl
Rano	Illegible	Shibano	Linda
Raymond	Kala	Shigematsu	Kikue
Reader	Carla	Shim	Ramiah
Redwell	Ronald	Silva	Jeffrey
Reeser	Donald	Simon	Andie
Reid	Joy	Skaff	Joshua
Riga	Lanakila	Skowronski	Francis
Ritte-Camara	Starr	Slate	Isaiah
Rivera	Isabelle	Smith	Deborha
Robinson	Curtis	Sneed	Margaret
Robinson	Kelly	Soriano	Cody
Rogers	Sandra	Sousa	Keoki
Romanchak	Abigail	Souza	Jonah
Romanchak	Ethan	Souza	Kennethy

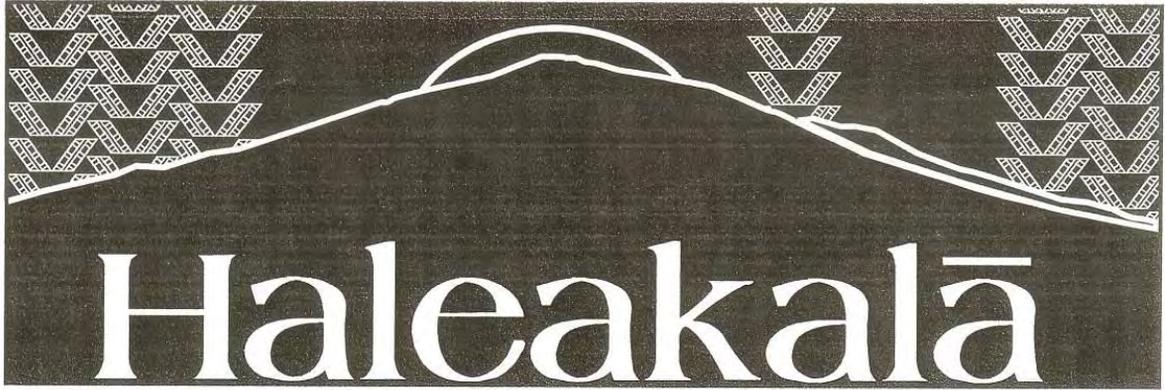
*Individuals who submitted the same comment form shown previously.*

<b>Last Name</b>	<b>First Name</b>	<b>Last Name</b>	<b>First Name</b>
Souza	Michael	Van Ambrugh	Todd
Speed	Lihinoe	Van Buren	Chelsie Ann
Stice	Brianna	VanHoose	Don
Stokesberry	Mele	Vargas	Daniel
Straatmann	Maria	Varholak-Madani	Laurie
Subega	Mikiala	Ventura	Daphne
Subiono	Anna	Verbena	Melissa
Suda	Ronnelle	Verzoga	Paulino
Summers	Ka`ohu	Viernes	Darlene
Suzuki	Shawn	Viernes	Kayla
Sylva	Cheyenne	Villa	Alex
Taasan	Koanani	Villanueva	Mililani
Tabisola	Allen	Villanueva, Jr.	Catalino
Tabosa	Laycie Ann	Villiers	Sara
Tachera	Cherilyn	Wailani Farm	
Tada	Robert	Wainui	Taiva
Tagalan	Monica Ku`uliekaimana	Walden	Linda
Takahashi	Kazihisa	Walin	Janice
Takamoto	Courtney	Wallace	Jodi
Talon	Konrad	Watson	Jesse
Tanida	Aki	Welker	Briana
Taua	Hokuloa	Wicklund	Cheryl
Taua	Rainee	Wikker	Susan
Tavares	Helen	Wilder	Kathryn
Taylor	Miki`ala	Williams	Elizabeth
Teves	Pilialoha	Williams	Ronald
Thoma	Marie	Williams	Steven Kapena
Thomas	Kimberly	Wilson	Dee
Tihada	Kahikina	Wilson	Janelle
Tinsley	Jazmin	Wilson	John
Toll	Rachel	Wilson	Sabrina
Tome	Louise	Wittler	Rosario
Tsutsui	Ayako	Wong	Donovan
Turrieta	Gregory	Wong	Justine-Marie
Urquijo	Eva	Wong	Kalani
Uyehara-Keliikea	Ha`aheo	Wong	Mathew Kainoa
Valle	Cassie	Wood	Debra-Jean
Vallente	Coral	Wood	Paul

*Individuals who submitted the same comment form shown previously.*

<b>Last Name</b>	<b>First Name</b>
Woolsey	Hope
Wright	Chelsea
Wright	Leipualokelani
Wright	Palani
Wyroster	Evy
Yamamura	Cheryl
Yasalk	Kuakea
Yonemura	Lloyd
Yonemura	Satoshi
Yoshida	Rosalie
Yoshioka	Melissa
Zane	Kuhao
Zimmer	Ute
Zwick	Kathie

**“I OPPOSE and wish to be a Section 106 consulting party” form  
received during DEIS Public Comment Period**



**Section 106 - Proposal  
for the Advanced Technology Solar Telescope (ATST)**

I understand that there are three alternatives regarding the proposed ATST: avoidance, mitigation and minimization. I am submitting this proposal for avoidance to prevent the building of this telescope because it would be a desecration to sacred Haleakalā on Maui. The approximately 14-story tall ATST structure would have a negative impact on our community through the disturbance, alteration and removal of sacred natural resources (i.e. soil, rocks) and possible cultural artifacts. A significant cumulative consequence of the proposed development would be the adverse and devastating visual effect caused by the addition of this intrusive and culturally inappropriate structure.

I am interested in becoming a consulting party regarding the religious and cultural significance of Haleakalā, as a traditional cultural place, through the Section 106 process.

Aloha 'āina. Aloha Haleakalā.

(Love of the land. Love for Haleakalā)

Please Print

CLIFF PAU AHUE

First Name

Last Name

Signature

Cliff M. Ahue

9/25/06

Date

*Individuals who submitted the same comment form shown previously.*

<b>Last Name</b>	<b>First Name</b>	<b>Last Name</b>	<b>First Name</b>
Agalerai	Melinda	Kaohu	Kathy
Ahue	Cliff Pali	Karratti	Margaret
Ampong	Paulette "Leihua"	Kerr	Cheryl
Bailey	Gordean	Kneubuhl	Alesa, Buzzy, and Robyn
Baker	Chris	Lee	Gordon
Barnard Ki`inani o`Kalani	Christy	Makanani	Attwood M.
Bass	Ron	Miller	Ane
Benz	Kylie	Miller	Chuck and Terry
Biga	Jordan	Mirkovich	Sincerity
Boteilho	Rose	Morando	Po`ouikaohuaino "Ohua"
Bulawan	Mary Frances M.	Murray	Heather Ku`ulei Makamae
Bulawan, Sr.	Bernard	Oliveira	Katrina
Callo	Kiana	Orme	Maile
Chock	April	Pulama-Collier	Wanda S.
Delapinia	Kaulana	Rabold	Jeanne
Edwards	Dylan	Rasmussen	Lena
Escobar, Jr.	Sharon and Fausto	Ryder	Leiohu
Gerard	Sheila	Sampson	Rina
Gibson	Lehua	Souza	Eula
Heintz	Heather	Subiono	David Kea
Helm	Mikahala	Thongtrakul	Leimomi
Hokoana	Lui	Thyne	Jacquelynn
Ishikawa	Lei		JoAnna, Kawaiokeolalani, and Mark
Ka`auwai	Kristen	Tsuha	
Kailihou	Clara-Leen	Whittle-Wagner	Jamie Moanikeala
Kaina	DeAnn	Wong	Annette
Kanoa	Beverly-Ann	Wong	Kerry
		Wong	Newton and Jodean

**“I SUPPORT” form**  
**Received during DEIS Public Comment Period**

Date: July 27, \_\_\_\_\_, 2006

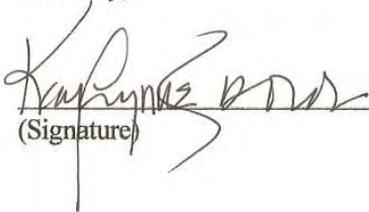
Dr. Craig B. Foltz  
National Science Foundation  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

RE: Advanced Technology Solar Telescope on Haleakala<sup>~</sup>, Maui

Dear Dr. Foltz:

I SUPPORT the proposed construction of the ATST on Haleakala<sup>~</sup>. I believe the proposed project will result in major advances in solar research toward understanding space weather and how it affects life on Earth. It will be beneficial for educational outreach and will be a source of continued employment in the hi-tech field already on Maui. In summary, ATST is a worthy project for Maui.

Sincerely,

  
(Signature)

Print Name: KAY SATTLER  
Please Print Clearly

Address:

*Individuals who submitted the same comment form shown previously.*

Last Name	First Name
Aguinaldo	Sheila
Ah Loy	Darleen
Anger	Robert
Bangerter	Bob
Bernardo	Kristin
Bobbio	Kate
Bourque	Monique
Brandenburg	Donald
Cameron	Ashley
Cameron	Jyl
Carrajal	Christina
Ceravolo	Debra
Ceravolo	Peter
Conrad	Cynthia
Cost	Curtis
Cost	Elliott
Currell	Illegible
Currell	Pat
DeAngelis	Pierpaolo
Devey	Graham
Domsitz	Nikki
Doran	James
Doyle	Linda
Dunn	Sara
Durish	Gary
Elkins	Robert
Erickson	Becky
Filler	Tim
Findley	Malcolm
Flanders	Carmen
Fleming	Shaun
Foreman	Craig
Frost	Karen
Fujuhara	Gary
Garcia	Megan
Gaxion	Cesar
Gentry	Kristopher
Gibbs	Francina
Gresham	Mike
Guenther	Kirsten
Hallett	Illegible
Hamai	Jean
Heafey	Derek
Heasley	James
Hofmann	Andrea
Hogan	Lauren

Last Name	First Name
Illegible	Willie
Illegible	William
Illegible	James
Illegible	
Illegible	Stephen
Inskie	Karen
Janoski	Darlene
Javier	Paul
Jedicke	Robert
Jennings	Karen
Jennings	R. Virginia
Kadooka	Mary Ann
Kamibayashi	Jacob
Kanen	Randi
Kasprzycki	Jan
Kikuyama	Ben
King	Dorian
Kolahi	Bobby
Kornreich	Steven
Land	Larry
Lite	Gary
Lombardi	Henry
Long	William
Makaena	Felisha
Marie	Lynn timer
Martinez	Sal
Mathews	Geoffrey
Maune	Kay
McCreight	David
McLaren	Robert
Meola	Gary
Moessner	Debra
Mooney	Wendy
Morales	Desiree
Morales	Nancy
Munger	Kelly
Nagasaki	D.
Nassir	Michael
Nathan	Melidee
Nitta	Gary
Orwig	Darrell
Perreira	Warren
Pope	Julian
Popkipala	Jean
Putris	Xander
Quimby	Larry

*Individuals who submitted the same comment form shown previously.*

<b>Last Name</b>	<b>First Name</b>
Rafaman	Chester
Reeve	Clara
Resta	Piero
Rogers	Colin
Sanchez	Johna
Sattler	Kay
Smith	Ron
Souza	Lisa
Talbot	Kristina
Talbot	Thomas
Wagstaff	Winnie
White	Dennis
Young III	Louis

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**MATRIX OF COMMENTS AND RESPONSES TO DEIS TRANSCRIPTS MADE DURING THE PUBLIC COMMENT MEETINGS**

Site Selection		
<b>Received from:</b>		
1. Foster Ampong, 09-27-06	4. J. Kapu, 09-27-06	7. Friends of Haleakalā National Park (M. Evanson), 09-29-06
2. Dan Kanahele, 09-27-06	5. P. Vladyka, 09-28-06	8. K. Kamakawiwoole, 09-29-06
3. B. Medeiros, 09-27-06	6. D. Mayer, 09-29-06	
<b>Comment:</b>		
1. To imply Haleakala is the only location to achieve your objectives is misleading.		
2. So I appreciate the benefits, the science of astronomy. I guess what I do not appreciate is maybe the selection of Haleakala as a place to build another telescope.		
3. On the alternative sites that you list on your EIS sacred places, not very many places have host cultures that protect their places that have been passed on from our ancestors. [Implication is that the other sites are preferable for this reason.]		
4. Why not just build it on Mauna Kea? There's four or five of them over there already. We don't need one here.		
5. I take my own solar telescope up to the summit because that's where the best imaging is. I compare notes with other solar amateur astronomers from around the world and the imaging from up at the summit is just suburb. It's just obviously the best place in the world to do this.		
6. You have only looked at areas within the 18-acre site as if that's the only area on Haleakala that you looked at. You looked all over the world and then decided to stay only within that 18-acre area, which is very close to the national park, the national treasure of the United States. Maybe a mile away from the summit, further to the south dropping it to down to 9,800 feet so it wouldn't stick above the top of the mountain.		
7. The Friends of Haleakala National Park strongly oppose its locating the Advanced Technology Solar Telescope project on Haleakala. This project will adversely change the summit of Haleakala forever causing irrevocable loss of natural, cultural and scenic resources negatively impacting the significance of Haleakala National Park. Another site should be given priority for the ATST. The Friends ask that the no action alternative be selected for Haleakala.		
8. The Faulkes Telescope can be run remotely. If the ATST could be run remotely, it could be placed anywhere other than Haleakala, but still have the data go back to Hawaii. With the ATST project's federal money, take kids from Hawai'i to wherever this other location is. That's the best education we can give our keikis is get them off of Maui and see how other people are doing business.		
<b>Response:</b>		
1 through 6. Some background information might be helpful: two proposals related to the proposed ATST Project were submitted by the NSO (an astronomy center operated by (AURA) to NSF for funding. The first of these two proposals was for research and design (R&D Proposal), which did not trigger NEPA compliance. The second proposal, submitted to NSF in January 2004, was to seek funding for construction of the proposed ATST Project; that proposal did trigger NEPA compliance. With that understanding in mind, an explanation of the requested information follows.		

The effort to identify scientifically-viable sites began prior to the submittal of the R&D Proposal and continued after that proposal was considered and approved. The process for identifying scientifically-viable sites was extensive and began in 1998. In partnership with other entities in the scientific community, NSO was responsible for identifying sites that would meet the scientific criteria. That process began with an initial evaluation of 72 potential sites; those sites were evaluated based on a broad set of scientific and logistical criteria developed by the solar research community. *See* Vol. I, Section 2.2.1- Site Selection Chronology, Vol. II-Appendices J(1)-Sites Evaluated for Scientific Criteria, pp. 1 to 4 and J(2)- Supplemental Discussion of the Constraints of Solar Science Development, pp. 1 to 5. After the extensive site identification process, it was determined that only one location met the scientific criteria of the proposed ATST Project. Two sites were available within the HO reserve, and those two sites became the two action alternatives under NEPA.

For a detailed explanation of the site selection process by the scientific community, please see Sections 2.2-Site Selection, 2.2.1-Site Selection Chronology, 2.3.1-Site Selection in Detail, and Vol. II, Appendix O-ATST SSWG Final Report.

6. The 18 acres comprising HO were set aside by Executive Order for observatory purposes and is the only property on Maui with a designated land use for observatory purposes is the HO site. HO was established in 1961 by Governor Quinn under Executive Order 1987, which set aside 18.166 acres of land at the summit of Haleakalā in a place known as Kolekole to be under the control and management of the University of Hawai‘i. A Long Range Development Plan (LRDP) was produced by IfA and was reviewed by the public. As mentioned above, two sites were identified within HO for inclusion in the LRDP for a telescope like ATST. If built at the alternate Reber Circle site, the proposed ATST Project would be higher in elevation, thus, would be more visible. The preferred Mees site is lower and, therefore would be less visible because it is further away from the ridge. It is blocked by the Air Force facility and the ridge itself.

Putting the telescope outside of HO and in the saddle presents a number of issues. Although this area is located within a State of Hawai‘i Conservation District. The Saddle Area is located outside HO and does not have a designated land use for observatory purposes. Under these constraints, this site could not be considered as an alternative site for the proposed ATST Project. In addition, because the Saddle Area is both lower and downwind from the facilities at HO, the “seeing” quality for the scientific requirements could not be met unless the facility was considerably taller than the proposed 143 feet. In order to meet the science requirements, the observing requirements for the proposed ATST Project, the telescope must be above the ground layer and above the disturbed air that comes out across the surface of Haleakalā. If the proposed ATST Project were located in the saddle area, the building would be lower, but the telescope would actually have to be significantly higher and essentially the same height that it is at the top to reach above the ground layer and the disturbed air. That is why the telescopes typically must be situated on ridges on the top of the mountains.

Visibility from the Saddle Area to populated areas on Maui would not have the terrain blocking that the primary Mees site enjoys. Therefore, the proposed ATST Project may be far more visible to most Maui residents, if located at the Saddle Area than at the preferred Mees site. For these reasons, this alternative was not carried forward for further consideration.

For additional information on the site identification process, see Section 2.3.2-Response to Public Comment Regarding Alternative Siting on Haleakalā states.

See also the information presented in Sections 1.7.2-State Land Use Law, Chapter 205, Hawai‘i Revised Statutes and 3.1-Land Use and Existing Activities state: “The existing State Land Use District for the proposed ATST Project is designated as Conservation District, General Subzone. The objective of the General Subzone is to designate open space where specific conservation uses may not be defined, but where urban use would be premature. During the past few years, the OCCL within the DLNR has administered CDUPs for numerous potential uses, among them astronomical facilities on Haleakalā. The

proposed ATST Project would be located in the area of the Conservation District that has been set aside for astronomical research (HAR§13-5-25: Identified land uses in the General Subzone, which is applicable from R-3 Astronomy Facilities, (D-1) Astronomy facilities under an approved management plan); and many facilities conducting astronomy and advanced space surveillance already exist within HO.”

**Military Component and Security Implications**

**Received from:** 1. Kapali Keahi, 09-27-06 2. M. Howden, 09-29-06

**Comment:**

1. As long as that flag is waving, it's never going be one good time for you guys. And we can say this now in this day and time because, well, your predecessors, your ancestors wen' shut our people up. And the only reason why America Is here is because of the military. I mean, anything that goes on on our island, period, is by virtue of the military being here.
2. I admire what I've learned from science. But I think science has been very impersonal and amoral. And science has also produced nuclear weapons, which threaten life on earth. And we just keep on doing this when there are people who are homeless, people who are dispossessed. I mean we're not looking at what the needs of our community are, and we're just going on toward this madness.

**Response:**

There is no military component in the purpose and mission of the proposed ATST Project.

**Public Meetings**

**Received from:**

- |                              |                                                                |                            |
|------------------------------|----------------------------------------------------------------|----------------------------|
| 1. Unnamed speaker, 09-27-06 | 4. M. Helm, 09-27-06                                           | 7. Vicky McCarty, 09-27-06 |
| 2. B. Medeiros, 09-27-06     | 5. Kalei Ka'eo, 09-27-06                                       | 8. D. Mayer, 09-29-06      |
| 3. V. McCarty, 09-27-06      | 6. Friends of Haleakalā National Park<br>(M. Evanson) 09-27-06 | 9. S. Burns, 09-29-06      |

**Comment:**

1. Will you clarify the time for the next two meetings? Are the times of the next meetings in the Maui News so the public knows? Did it say 6:00?
2. Was it coincidental that you planned these meetings during the time of Maui's biggest event, the County Fair? Members of the Hawaiian language community, the people who are involved in preserving the culture are heavily involved in the fair every year. The meetings were scheduled at the convenience of the proponents of this project, but not at the convenience of the people who care about Maui. We want you to speak to us, okay? You guys screwed up the way you guys arranged and scheduled this meeting completely. In the future, talk to the people from Maui. Go back to Paukukalo, go to Kula, go to Haiku, go to Hana, go to Lahaina, go to Kihei. Come to Olowalu where I live. Don't schedule meetings like you have on this round I understand you had some challenges, but I'm pretty sure you all can overcome that.
3. You've not had any meetings in Lahaina. You've ignored places on this island that have much to say about this telescope. You've been dismissive here this evening about families and communities and organizations that wait all year to raise money for their families and for their clubs and for their keiki at the fair. That tells me you don't understand this community.
4. In addition, I would like to also express my concern that this meeting -- I understand, Charlie, you said they can only come on this particular time. But for our community, this particular evening has at least two major meetings, one is the super ferry and one is this. So from mauka to makai we are being affected.

And this is the public comment period and our County fair?

5. So for me, the younger people speaking over here, because they're alive. (Testimony given in Hawaiian language). We're going to endure. We'll endure by resisting. What is wrong is wrong. What is right is right. And for God's sake, fair week. This is obvious. This is obvious to us. This is not coming from the community. This is obvious to us. There's an attempt here supposedly to keep the community out of here. All you had to do was go to the last meeting at Paukukalo. We had three times more people there.
6. We understand the project's funding source, the National Science Foundation, has not yet conducted the required senior review, and furthermore, it will not be available to the public until November. The Friends would like to know why the public comment period closes before this review has been disclosed.
7. You've not had any meetings in Lahaina. You've ignored places on this island that have much to say about this telescope. You've been dismissive here this evening about families and communities and organizations that wait all year to raise money for their families and for their clubs and for their keiki at the fair.
8. At your scoping meetings, I made a number of comments, wrote them down. My comments were left without your reaction, your comment, and I think that is something that's negligent on your part. At the scoping meeting, several people asked the question on the height of the building, and it was stated at the meeting, not in the Maui News, that the height of the building was 92 feet. And many people left that meeting thinking it was 92 feet. The diagrams behind correctly said 143 feet, but the individuals conducting that meeting repeated 92 feet several times. It's not 92 feet, which would have been lower than the present facility up there, but it's 143 feet high. I think that has misled the public and maybe has lulled the public into thinking it's a smaller facility than it actually is. The aerial photos were taken from an angle such that it looked like the top of the building was far below the summit of Haleakala when, in fact, the top of this telescope would be approximately 100 feet higher than anything else on the top of that mountain. It will look like the nipple on the top of a breast.
9. Because the meetings are set up at the same time as the Superferry and the Fair, could you please consider setting up a time where we could in a Hawaiian community? Not a lot of Hawaiians live up here. So please consider it before the 23rd, just let them speak. Is that a possibility?

**Response:**

1 to 5, 7, 9. These meetings were planned in conjunction with publication of the Draft Environmental Impact Statement. If you are familiar with the state process, the document goes through the Office of Environmental Quality Control and is accepted on a certain date, published on a certain date, which begins the clock for the public comment. The public comment period continues for 45 days. These meetings need to be held within that period of time. Because we have individuals who come from Washington D.C., Tucson, and so on, we had a very narrow window of choice. And these three days are actually the only time that these gentlemen are available. As of Friday, they are in different parts of the world. Unfortunately, the timing is such that the fair is this week, but that is another reason for having three meetings. There's no requirement in the law to have three meetings, but if an individual or a group cannot make one meeting, then the intent is to provide two additional opportunities for people to participate.

Originally the time was 6:00 p.m.; but three weeks before the meeting, we noticed that we had a conflict. Unfortunately, some of the publications carried the original time of 6:00 p.m. We sent out dozens of post cards and reposted it in the media as 7:00 p.m. for all three nights. The corrected time of 7:00 p.m. was posted in the Maui News for two separate weeks; it was also posted in the Haleakalā Times and Maui Times.

6. To clarify, the senior review the speaker referred to is unaffiliated this with the proposed project. It is a review of our current facilities with an eye towards how we move into the future. The recommendations of that review do not bear in any way on the proposal to fund this project

8. In our very first scoping meeting, the Maui News misreported the height of the telescope as 92 feet. That was an error. The figures and graphics that we brought correctly showed the 143-foot structure. This building would not be 100 feet taller than anything on the summit. The advanced electro-optical system or AEOS telescope is 120 feet above ground level. This telescope would be 23 feet taller than that, although they would not be built at the same ground level.

**Meeting Transcripts**

**Received from:** 1. M. Helm, 09-27-06 2. Unnamed speaker, 09-27-06

**Comment:**

1. My concern is where is the voice that you continue to hear this evening? Where is the voice in that DEIS, besides small little sentences, that say the consultation occurred? And so my concern -- I hope you will address this -- is with how this whole DEIS comment period is being addressed, the sincerity in getting our community's input both from Section 106 for Hawaiians and non-Hawaiians alike, then I think that we need to be sure that in the environmental impact statement that these are clearly listed there. The oral testimony and everything must be listed there to show the depth of concern and support for avoiding this telescope on Haleakala.

I have concerns about the DEIS process as well as the Section 106 process. The Section 106 meetings that are held are limited to those who have submitted mitigation and minimization proposals. My concern is where is the voice that you continue to hear this evening? Where is the voice in that DEIS, besides small little sentences, that say the consultation occurred?

2. You stated that you, not you but the other gentleman, stated that in the final EIS, what is said here doesn't all get put into the EIS. Who is in charge of selecting the script that goes in if it's not verbatim? And is that a neutral person, or is that a person, a proponent of the project? How does that work? Does everything tonight get transcribed? Is this verbatim when it comes out? Will all of this that's been recorded this evening be in the public record? Meaning, printed in the EIS in addition to the Section 106 meetings that were not included in the draft?

You stated that what is said here doesn't all get put into the Final EIS. Are you saying that people only know what I and other people said here tonight, if they get a lawyer and do a Freedom of Information Act request? I think that's outrageous. Who is in charge of selecting the script that goes in if it's not verbatim? And is that a neutral person, or is that a person, a proponent of the project? How does that work? There's no control on the selective script that goes into the record. There's a lot of latitude of what you put in.

Comments may be listed in the document but not given a weight that the majority of the people expressed this particular statement or sentiment. When you talk about Section 106 meetings that we had, and it seems more than one person saying something, but it doesn't seem to say what percentage of them did. If 99 percent of the people said that, I mean that should make a difference whether National Science Foundation makes a decision on funding this project or not. The oral testimony and everything must be listed in the EIS to show the depth of concern and support for avoiding this telescope on Haleakala.

**Response:**

- 1, 2. Public comments and requests were made that transcripts from all formal public meetings be included in the EIS. To accommodate these requests, transcripts were sent to requesters and verbatim transcripts for the Public Scoping Meetings, the DEIS Public Comment Meetings, and formal Section 106 meetings are provided in Vol. III, Appendices B through D-Meeting Transcripts (2005, 2006, 2008) and in Vol. IV, Appendix C for the SDEIS Public Hearings (June 2009). The proceedings of each meeting were taken by machine shorthand and thereafter reduced to print by means of computer-assisted transcription. The transcriptions represent, to the best of each stenographer's ability, a true and correct transcript of the proceedings.

It should be noted that transcripts were not taken during the June 8, 9, and 10, 2009 Section 106 consultation meetings at the suggestion of HALE. Instead of transcripts, HALE provided several note-takers. As of the date of publication of this FEIS, those notes were not yet finalized. Once they are, they will be posted on the project website: <http://atst.nso.edu/library/NHPA>. The notes of the facilitator of the June 8, 9, and 10, 2009 Section 106 consultation meetings, however, are included in Vol. IV of this FEIS. All oral and written comments are considered part of the official record of this process and will be considered, along with all other portions of the official record by the NSF Director prior to his issuance of a decision regarding whether to fund the proposed ATST Project.

**Land Use**

**Received from:**

Walter Kanamu, 09-27-06

**Comment:**

Your whole southern boundary 7,000 acres is mine. I have the lease for 7,000 acres of that land. Did you guys know that? From the summit down to 3,500 feet of Kahikinui, Hawaiian homelands, belongs to life living in this forest ecosystem. And I received -- at the last meeting I introduced myself as just a Hawaiian kanaka. Today I'm introducing myself as the lessee for the land that abuts your boundary. Make sure you stay on your boundary now, and I want to see that. I want to see all the boundaries all drawn out because I went through your entire draft and it was very vague.

**Response:**

See Section 1.2-Land Ownership and Figure 1-6, which shows the HO site and adjacent properties.

**Management Plan**

**Received from:**

D. Mayer, 09-29-06

**Comment:**

The community plan for upcountry Maui calls for a master plan of the summit. The university did a master plan only of their 18 acres. Until that master plan is done, I believe this is jumping ahead in the timetable of what needs to be done.

**Response:**

Haleakalā High Altitude Observatories (HO) site is located on 18.166 acres of State of Hawai‘i Conservation District land. The IfA will comply with Hawai‘i Administrative Rules (HAR) Chapter 13: Department of Land and Natural Resources (DLNR), Subtitle 1: Administration, Chapter 5: Conservation District. The Proposed Action conforms to the LRDP, which would serve as the IfA contribution to any summit master plan. There are more than 25 separate State, Federal and private entities with interests in the summit area of Haleakalā. IfA is the only one of these entities that has undertaken long-range planning for the property under its jurisdiction. The LRDP has specific protocols and measures that ensure orderly and sensitive development that is designed to be compatible with the intended land-use and purposes for the 18.166 acres of land under the stewardship of IfA.

In accordance with HAR 13-5, Exhibit 3, the IfA is preparing a MP for HO. The Management Plan will consist of a general description of the land use, ownership, the resources on the property, constraints such as topography, geology, easements, etc., proposed land uses, environmental monitoring strategies, and reporting to the DLNR of those areas under the jurisdiction of IfA. The decommissioning and restoration of facilities within HO will also be included in the MP. The MP will be accompanied by a Programmatic Environmental Assessment (PEA). The LRDP and MP, along with the PEA, will comprehensively address planning, monitoring, and reporting for the 18.166 acres of HO and will comply fully with Exhibit 3 of HAR 13-5.

<b>Cultural, Historic, and Archeological Resources</b>		
<b>Received from:</b>		
1. Albert Dizon, 09-27-06	11. K. Kekahuna, 09-27-06	21. M. Howden, 09-29-06
2. Jonah Kapu, 09-27-06	12. K. Kamakawiwoale, 09-27-06	22. Mr. Rizzo, 09-29-06
3. Richard McCarty, 09-27-06	13. Haumea Hanakahi, 09-27-06	
4. Kalei Kaeo, 09-27-06	14. M. Evanson, 09-28-06	
5. Nameaina Hoshino 09-27-06	15. P. Vladika, 09-28-06	
6. Vicky McCarty, 09-27-06	16. S. Burns, 09-28-06	
7. Walter Kanamu, 09-27-06	17. Friends of Haleakala National Park (M. Evanson), 09-29-06	
8. Brianna Welker, 09-27-06	18. L. Bruce, 09-29-06	
9. Bill Mederiros, 09-27-06	19. M. Stokesberry, 09-29-06	
10. Verna Nahulu, 09-27-06	20. K. Kamakawiwoale, 09-29-06	
<b>Comment:</b>		
<p>1. I'm opposed of this because there's always recognition for astronomers who went to school. There's no respect for the kupuna who has the gifts and learned from the kupunas. We promote the importance of education, but not all education is found in textbooks. Our education was passed on from our ancestors. We were taught by our kupuna to also keep our aina, our land, as natural and undisturbed as possible.</p> <p>2. Come on now, why you guys no just build it on Maunakea? Get four or five of them over there. No need one. I no like drive around Maui looking at Haleakalā and all you see is this big white ball. Come on now. I been on big island, I seen Maunakea, and it's like I just like broke that. I no care about this. Why you guys like learn about the sun for? I mean, come on now. I know the thing stay affecting our environment and affecting the world a lot; but still yet, that's not you guys' responsibility. E ke akua like this happen, so be it. Maybe he's trying for tell us that this world gotta change already, because right now, now get this, we stay dealing with development, come on now. How much more issues we're going to have to fight for just so you guys finally need one slap behind your head from our kupunas telling you guys to wake up. Right now this is not pono.</p> <p>3. This is your problem to show respect for this area. And to think about what is happening. Throughout history, if somebody wanted to desecrate a culture, what would they do? They would tear down the statues of their heroes, they'd go into their sacred spots and desecrate them. Because once you take that away, the culture is gone.</p> <p>4. Aloha to our friends and foes. Aloha. I don't say that lightly. A fool is one who disrespects, doesn't listen, doesn't adhere to what I have said many times before. So if I come here and I sound angry, I am. I'm burning up inside. It's not the first time. I know how to go on. This is part of a large major campaign which have been perpetrated on my people for generations. Other native peoples have been pi[[ed on and s[[t on across the islands, across the Pacific, across north America, across the world since the time of that great supposed European explorer Columbus. Looking for gold, god and glory, who cut off the hands of the native, who sicked his maddening dogs on the women and children for the sake of science. Let's talk a little bit about history. Because when I look at your culture reports it sounds like, man, some people missed some classes or courses here. There's a bunch of history that was just ignored.</p> <p>5. This place Haleakala is house of the sun. You guys like look at the sun? What that prove to you, brah? Proving nothing. This place is a sacred place, brah. And what the thing going do for our culture, huh? If I stay sailing out there, I stay looking at that place, hey, I think going throw me off, because us we used to look at the stars, not this telescope.</p>		

6. It's a sacred place. It is a sacred place. It is a sacred place. What gives you or anyone the right to interfere with the cultural practices and the sacredness of this site?
7. You see, from long time ago, I believe akua led the Hawaiians to this land. God led the Hawaiians to this land. He gave this land to the Hawaiians knowing that they were the people that would malama aina and aloha aina. And that's why we're here today, because we are going to malama aina and aloha aina.
8. Aside from the personal, everyone in this room can articulate better than I can the spiritual, the Hawaiian significance of Haleakala. But to me it does. I can feel it. I am not kanaka maoli, but I was born here. This is my home. I can feel it up there. So the very last thing that I would challenge you to do is go to Haleakala. Don't go to the site of your telescope. Go to the mountain that these people are talking about.
9. On the alternative sites that you list on your EIS sacred places, not very many places have host cultures that protect their places that have been passed on from our ancestors. So what I say is respect the voices of the Hawaiian people, our ancestors and our aumakua, and I join with the rest of them as I say that I oppose this project.
10. I'm a school teacher, retired elementary school teacher, and I would like to present a different perspective than has been stated here tonight. I would like to represent the children. There are so many things that we don't know because in some way we were held back to our parents' and grandparents' past. I would like to see our children claim their future. There is so much that I see of the solar telescope being up on Haleakala. I am in touch with her. She is in favor of education on Haleakala. And she has asked me to do everything I could to bring this to a possibility for the children. There is -- our ancestors were really close to the sun, and they learned everything about the sun, and they taught the children everything they knew about the sun. But there was even more that they didn't know yet that we have an opportunity to bring to the children who are our children here today. I know that there are resistances to this, and I respect everything that has been spoken tonight. But there are even more to be said, and there is the children to consider. The children have the future, and we are not part of their future. The children's future belongs to them and their children. And I would like to see the ATST as an opportunity for them to learn about the sun that all of us have no idea about yet. But the children can take that information and soar with it. I am a native Hawaiian, and this is my mana'o. There are no children here to speak for their future. And this is why I am here. I am here to speak for their future.
11. It is not for the Hawaiian people. It is not for the Hawaiian people of different ethnicities. We're Hawaiian, but I'm Hawaiian something else, something else, something else. I come from many backgrounds. However, we speak from our Hawaiian core, because this is where we are from. And I just have to end too with saying I resist, I resist for my generation, I resist for my son's generation, and I resist as a keiki.
12. So why are we going to do something -- my mana'o is, why we going build this thing and then years from now we're going to say, you know, we gotta save Haleakala. Now the president gotta go make a monument for something to happen?
13. As far as mitigation, proponents are coming up with a plan of how to manage the mountain. By providing a cultural monitor, simply having someone of Hawaiian blood standing there watching as land is desecrated does not mitigate anything. We need to have a much more comprehensive plan that is approved by the communities and a nonbiased board.
14. There is mentioned a couple of times ko'a. A ko'a is a shrine that one finds down on the shoreline. The EIS says there is a ko'a up on the top of the mountain? I don't think so. Two archeologists confirmed that no, probably not. There is some coral up there, but it has nothing to do with a shoreline. This project is so huge, it will change Haleakala forever.

15. I see there is a unification of science and the mountain also. It's called the House of the Sun. It's unifying in a way and it's very spiritual also to me as just an average citizen.
16. There are things you just don't do on sacred land. If you are a woman and it's not one of the three good weeks of the month, then you don't go. Using the bathroom while up there is breaking a couple more rules. I think I'm cutting some possibilities here, but that's okay because there is always science, you can go to the second site, you can make it -- push yourself beyond the limits that you have today and make it better. You can have lots of telescopes, there is only one Haleakala. And very few places that are sacred to us and that one is just deteriorating.
17. We challenge the draft EIS's assumption that significant impacts to the cultural resources can be mitigated. Native Hawaiians in written and verbal comments have overwhelmingly stated that the construction and operation of ATST constitute significant impacts and that no mitigation the draft EIS provides will compensate for the defilement of the cultural and spiritual values this project represents.  
  
This document was commissioned by the promoters of the ATST, and as a result, lacks credibility as an unbiased expression of the thinking of the native Hawaiians. Even the principal author has stated opposition to this project and was motivated to propose token mitigation feeling the project was a done deal based on his past experience.
18. This proposed use of Haleakala summit for another telescope is undesirable, culturally offensive and ethically questionable. It's undesirable because it is a further covering of our mountain's open space and special viewscapes. It is culturally offensive because it further intrudes on our sacred Hawaiian aina. People I know on the island, including myself, feel hurt, offended and invaded by outsiders' intrusions on our wahipana, our sacred places that lose their pristine character and cultural significance by being used for large, obtrusive structures that obliterate the emptiness we value so highly on our mountaintop. The NSF proposal is ethically questionable because it imposes on Hawaiian people, Hawaiian culture and the singularly important place on Maui that should suffer no more intrusions. NSF should decide to do what is best for Haleakala. Please choose the no action alternative and move your Advanced Technology Solar Telescope elsewhere.
19. The ATST would also cause ruinous harm to the view planes, serenity and the sacredness of the mountain and its yet not fully characterized harm to the entire summit environment due to the huge excavation and disturbance it will invade. There are other acceptable sites in the world for this telescope. The location is an intrusive structure in the middle of a national park in the middle of an area of archeological importance and fragile habitat of endangered species and on the summit of a mountain sacred to the host cultural people.
20. I think the EIS is very shortsighted. It only is looking at the top. The fact of the matter is Haleakala has been and is known to be a sanctuary, I mean sanctuary in a sense of a church sanctuary, a sacred sanctuary. And please, we cannot, we cannot allow it to be a sanctuary like a reserve sanctuary. We don't want to go there. We're there now with the Northwest Hawaiian islands. I don't want to see the day when I can only talk about and show pictures of Haleakala and being on the summit to my kids.
21. I find this incredible that this European scientific mindset would want to impose upon a sacred landscape what can only be considered in spiritual terms really a monstrosity. This is a place of prayer. I don't see this obviously simply as a native Hawaiian issue. I see it as a community issue.
22. I don't know enough about Haleakala to know how much of the mountain is sacred. Is it the whole mountain? Is it certain sections? If it could go in an area around the summit that is respectful to the Hawaiian people, if that could be pursued, I think that would be a great thing for everybody.

**Response:**  
 1 through 22. The Supplemental Draft Environmental Impact Statement (SDEIS) was prepared in response to public and agency comments of the DEIS and was described in the “Note to Reviewer” inside the cover of the SDEIS. In a number of respects, the SDEIS was considerably revised from the DEIS; comments received warranted additional surveys and studies, which were completed after the DEIS was published. In particular, a Supplemental Cultural Impact Assessment to further identify cultural resources issues was conducted in May 2007, and the results are analyzed in Section 4.2-Cultural, Historic, and Archeological Resources. That Section of the document was substantially revised to reflect the comments on the DEIS, the information learned from the Supplemental Cultural Impact Assessment, and the comments received during the more than 30 formal and informal Section 106 consultation meetings that were held as part of NSF’s Section 106 compliance responsibility. All individual and agency comments and responses from additional formal Section 106 meetings and informal consultations with the Native Hawaiian community and other members of the public since 2006 are reflected in this FEIS. In addition, Section 4.5- Visual Resources and View Planes was revised to address comments such as those raised in comment #19.

**Biological Resources and Endangered Species**

**Received from:**  
 1. M. Stokesberry, 09-28-06                      2. Friends of Haleakala National Park (M. Evanson ), 09-29-06                      3. M. Stokesberry, 09-29-06

**Comment:**  
 1. I oppose the 143-foot high ATST being built on Haleakala. There are other places that it could be built and it's probably a good project, but I don't think it belongs on Haleakala. Its tremendous size cannot be placed on Haleakala without irreversible harm of a very serious nature to the endangered petrels whose burrows are all around the proposed site.  
 2. We challenge the draft EIS's assumption that significant impacts to the natural resources can be mitigated. We reject the conclusion on Page 4-12 that impacts to the endangered Hawaiian petrel and the 'ua'u are less than significant. There is no evidence that suggests that construction noise, vibration or human proximity will not impact the 'ua'u nesting sites. The fact that mitigations are proposed on Page 4-81 supports the credibility of our assertion. We reject the conclusion of Page 4-6 to 4-8 that construction and operations related impacts are significant but mitigable to less than significant impacts.  
 3. The ATST must not be built at this location It's tremendous size cannot be placed on the summit of Haleakala without irreversible harm of a very serious nature to the endangered petrels whose burrows are all around the proposed sites.

**Response:**  
 See Section 3.3.3.1-Endangered, Threatened, Listed or Proposed Avifaunal and Vesper Bat Species for a description of the species present within the ROI. See also Section 4.3-Biological Resources, which describe the impacts to those species anticipated from the proposed ATST Project. Along with the mitigation measures described in Section 4-18, mitigation from the LRDP and on-going 'u'au monitoring, the ESA Section 7 Informal Consultation document (Vol. II, Appendix M) prepared by USFWS in 2007 contains a number of specific requirements to avoid or minimize potential effects to 'ua'u, all of which support the conclusions raised in the analysis contained in the FEIS.



mercury will not be used to strip the mirror if that's the technology that's released up until now?

What substance will the mirrors be floating on?

4. In the many years they [Mauna Kea] were using it, they were telling us that there was no problem and that it was safe. They were telling us it was the newest technology available at the time, and we had no worries. Now, we're hearing that this is a newer more progressive technology, and I respect that. I'm not equipped to discuss the technology. Science is not an exact discipline. Just take the story of the mongoose in Hawaii. But we no longer believe it when you tell us there are no worries and there are no problems. This is not the place to experiment and to find out about this technology. This is a sacred place.

**Response:**

- 1a. Responded by Mr. Fein at the meeting: The material will be stored in certified containers. There are containers that are appropriate for each kind of hazardous material. Those containers are placed in an area that has containment, so that any containers that were to leak would, in fact, leak into the containment area and be held in that area. The hazardous material that becomes hazardous waste after use is stored in the certified containers. They would be taken down the mountain. It is, in fact, shipped to Oahu. There's a facility on Oahu, Campbell Industrial Park, that manages most of the hazardous waste for the state, and they are licensed to do so. All of that handling must be done by people who are licensed to handle it, transport it. You can't just put it on a truck. It has to be put on a vehicle that's certified to carry that.
- 1b, 3,4. Mercury will not be used at the facility. Section 2.4.4-Telescope Operation Activities provides information about hazardous materials. Hazardous materials that would be used at the proposed ATST facility and their uses are shown in Table 2-5.
- 1b, 2.3. The disposal of the effluent and other waste materials from the mirror stripping process is specified in the ATST Hazardous Material and Hazardous Waste Management Program (Vol. II, Appendix D-ATST Hazardous Materials and Hazardous Waste Management Program, Section 11.6, p. 10). As described therein, the effluent is required to be captured and contained in special-purpose holding tanks, tested on site to determine pH and other potentially hazardous properties, and disposed of in accordance with local authorities. Criteria for determining hazardous waste, as well as procedures for storage, transport and disposal by a licensed hazardous waste contractor are also described in that document (Vol. II, Appendix D, Sections 5 and 7).
3. Responded by Jeff Kuhn and Dr. Craig Foltz at meeting:  
Jeff Kuhn: What you are speaking about is from the old days. We used to take a bag of mercury that was used to support the mirror because the mercury was heavy – it won't happen. It uses electronic actuators and motors.  
  
Dr. Craig Foltz: It uses a six and a half meter mirror and the secondary mirror at the top is half the size of this. The actuators that one uses can be dramatic where they are powered by air cells. It could be hydraulic, which is a concern. And in our telescope, it was such a concern that we would not use hydraulics, not because of spills but for other reasons due to contamination.

<b>Visual Resources and View Plane</b>		
<b>Received from:</b>		
1. Walter Kanamu, 09-27-06	4. M. Stokesberry, 09-28-06	7. Mr. Rizzo, 09-29-06
2. Verna Nahulu, 09-27-06	5. K. Kamakawiwoole, 09-28-06	
3. Dick Mayer, 09-29-06	6. V. Nahulu, 09-29-06	
<b>Comment:</b>		
<p>1. In your draft statement, in your picture, you don't have one picture depicting Kahikinui right below you. Right on your border. There's nothing.</p> <p>2. I am a native Hawaiian, and this is my mana'o. There are no children here to speak for their future. And this is why I am here. I am here to speak for their future. I liken this to -- most of the resistances are to the outside of the structure. It is like having a beautiful ukulele that plays incredible music and criticizing the case of the ukulele. When we look inside, we can see the benefits that is produced. This structure is a 143-foot structure that sits right behind the Air Force telescope that is 120 feet high. So 143 feet ATST will be peaking up like the roof will be seen. 256-foot windmills are sitting on the mountains way above 143-foot ATST. Eighteen of these windmills are up on the mountain, 260-foot each.</p> <p>3. In the draft, I didn't see a description of the impact on Haleakala National Park and the visual element at the top of that mountain. We have somewhere in the order of 2 million people a year going to the summit of Haleakala in this building, and it is going to be right in the face of these people. It's a very bright object up there, and it's certainly going to be in the visual view plane. You have some photos up there that simulate it, but it doesn't give I think the true impression of how big this building will be right near the very summit of the mountain. The original photos of pictures or diagrams that are in the draft and eventually in the final should be from ground level at the summit, what the tourists that go up there actually see.</p> <p>4. I oppose the 143-foot high ATST being built on Haleakala. There are other places that it could be built and it's probably a good project, but I don't think it belongs on Haleakala. Its tremendous size cannot be placed on Haleakala ..... without ruinous harms to the view planes.....”.</p> <p>5. It is described in the EIS and what they do is they try to convince you, you know, it is big, it's massive, and it's white, and you're going to see it for miles, so that actually all you're going to see is that little piece on the top. And that, according to this, is not a severe impact. Why is mitigation even in here? Why would there be a need to mitigate unless something was going to be wrong in the first place? How to minimize the impact? By trying to fake out the public that you know what, this big building is not that big, it's not that white, the visualization that you're going to see and the height and everything is a manini thing because of the way it's situated, you're only going to see this much. Is the height and the weight and the color really -- is that the issue? That's not the issue. Whether it's 140 feet high or whether it's 14 centimeters high, it doesn't belong up there.</p> <p>6. I've been to Haleakala. I have never, ever had those telescopes in my face. I have looked down to the summit with the pu'us and everything. I do not see Science City. It is in the back. I think it is a mistake saying that it is in our face because it certainly is not.</p> <p>7. I know people are concerned what it looks like. It's an observatory. It's going to look like an observatory. You talk about ugly buildings. The County building is an ugly building. And somebody else was talking about Haleakala National Park keeping it, you know, pristine and just experiencing Haleakala National Park. I wish the park lady was here, because I would tell them to get rid of the bike tours and that would really clean up Haleakala National Park. Driving around the island, when it is cloudy you can't really see it. When it's not cloudy, you've got that shiny AEOS dome up there.</p>		

<p><b>Response:</b></p> <p>1. Figure 4-19 (Mees Site Rendering, View From Kahikinui and Map Showing Photographer Location, May 11, 2006) has been provided in the SDEIS in response to your request for a map depicting Kahikinui.</p> <p>2, 6. Thank you for your comments, which are noted.</p> <p>3, 4, 5. The Supplemental Draft Environmental Impact Statement (SDEIS) was prepared in response to public and agency comments of the DEIS. The SDEIS was considerably revised from the DEIS; comments received warranted additional surveys and studies, which were completed after the DEIS was published. In the SDEIS see Sections 3.6, 4.6, 4.17.9, and 4.18.9 address visitor use and experience. Some of the view plane and viewshed modeling and photographic renderings were also updated in the SDEIS, see Sections 3.5, 4.5, 3.17.8, and 4.18.5. Based on comments received on the SDEIS, additional revisions to the viewshed analysis were made. Accordingly, in the SDEIS Section 4.5-Visual Resources and View Plane has again been modified to provide additional clarification of the viewshed issues.</p>
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<b>Environmental Justice</b>
<p><b>Received from:</b> D. Sytze, 09-27-06</p>
<p><b>Comment:</b>                      We have a mountain here that is revered. It's known throughout Polynesia and considered sacred throughout Polynesia from all over. This is like the Sistine chapel of the Hawaiians. And so when I look at the EIS, and it says that there's no environmental justice issues here, I question the very foundation. There's a lot of injustice that's gone on here both environmental and political and there's been cultural genocide that's happened here. I think anybody who walks into this environment without taking that seriously, and calls the environmental justice issue irrelevant is going to be walking on really shaky ground.</p>
<p><b>Response:</b> Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," provides that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." The comment seems to raise concerns about impacts to cultural resources and, in particular, to Haleakalā as a Traditional Cultural Property. These concerns have already been analyzed under Section 4.2-Cultural, Historic, and Archeological Resources. A typical environmental justice review under NEPA looks at whether the proposed project will have a disproportionate impact on an adjacent community of minorities or residents below the poverty line, as compared to other affected populations. It is noted that there is no minority population that resides adjacent to the project site. Section 4.12-Socioeconomics and Environmental Justice has been revised in response to this comment.</p>

<b>Environmental Consequences and Cumulative Effects</b>	
<b>Received from:</b>	
1. W. Kamanu, 09-27-06	3. Haleakalā National Park (Superintendent Marilyn Parris), 09-28-06
2. F. Skowronski, 09-28-06	4. Friends of Haleakalā National Park (M. Evanson), M. Stokesberry, 09-29-06
<b>Comment:</b>	
<p>1. In the statement that you have, one thing that stands out the most to me, no significant affect. In your entire proposal it says that everything you do will not have a significant affect. Well it's already affecting, and you have not even started.</p> <p>2. You're building the tallest structure that's ever been built on the island and you're putting it on the highest elevation and the highest parcel that is buildable on the island at the highest wind force and this construction warrants an EIS of no significant impact? Is that the essential implication of the Draft EIS?</p> <p>3. It is the National Park Service's contention that this Draft EIS falls far short in adequately evaluating the numerous cumulative impacts to our resources, our visitor experiences, and our overall park operations with the construction of this ATST. Therefore, the National Park Service must strongly oppose the construction of this facility adjacent to our boundary based on the information presented within this Draft EIS. We will be submitting more detailed documentations of these omissions, shortfalls, and our concerns to the National Science Foundation.</p> <p>4. Another site should be given priority for the ATST. The Friends ask that the no action alternative be selected for Haleakalā, and we challenge the draft EIS's assumption that significant impacts to the natural and cultural resources can be mitigated. We reject the conclusion on Page 4-12 that impacts to the endangered Hawaiian petrel and the 'ua'u are less than significant. There is no evidence that suggests that construction noise, vibration or human proximity will not impact the 'ua'u nesting sites. The fact that mitigations are proposed on Page 4-81 supports the credibility of our assertion. We reject the conclusion of Page 4-6 to 4-8 that construction and operations related impacts are significant but mitigable to less than significant impacts.</p>	
<b>Response:</b>	
<p>The Supplemental Draft Environmental Impact Statement (SDEIS) was prepared in response to public and agency comments on the analysis of impacts provided in the DEIS. The SDEIS was considerably revised from the DEIS; comments received warranted additional surveys and studies, which were completed after the DEIS was published. Many of these comments, along with others received on the SDEIS are addressed in Section 4.0-Environmental Consequences, Cumulative Effects and Mitigation. In particular, the intensity levels were revised such that the test is no longer whether the impacts are “significant.” The SDEIS was revised to include several intensity levels: negligible, minor, moderate, and major. In addition, impacts are discussed in terms of whether they are short-term or long-term and whether they are adverse. The FEIS uses these same measures for the analysis contained therein.</p>	
<b>Construction: Building Code</b>	
<b>Received from:</b> F. Skowronski, 09-28-06	
<b>Comment:</b>	
<p>In the EIS, is there a comparison of the size and scope and scale of the projected improvement as compared to other existing structures on the island of Maui? If constructed and as the island exists now, your proposed construction on Haleakala is going to be the tallest building that's ever been constructed on this island. The County of Maui Building Code allows only a 12-story structure. So if you were to build this structure any place other than federally owned land, you would not be able to get a building permit because you would be too high. But you don't have to get a building permit to build on this site. Is that true? So there will be no county, state, or federal reviews of the construction drawings of this proposed construction.</p>	

The idea here is that you're building a 14-story building that you couldn't possibly build anyplace else on the island and you're going 21 feet into the soil to hold it up. And you're building something that is the largest structure -- tallest structure that's ever been built on the island and you're putting it on the highest elevation and the highest parcel that is buildable on the island at the highest wind force and this construction warrants an EIS of no significant impact? Is that the essential implication of the Draft EIS?

**Response:**

This comment was raised and addressed at the DEIS Public Meeting: A county building permit is not required. However the State of Hawaii requires all construction plans to be submitted with a conservation district use application. Those plans, blue lines, and all of the construction details including the construction plan will be reviewed carefully by the state and become part of the application process.

The existing State Land Use District for the proposed ATST Project has been identified as Conservation District, General Subzone, where a Conservation District Use Permit (CDUP) will be required by the Dept. of Land and Natural Resources (DLNR) prior to construction. (See Section 1.7.2-State Land Use Law, Chapter 205, Hawai'i Revised Statutes and Section 1.6.4-Permits and Approvals). A CDUP decision will be made by the BLNR, for which the Proposed ATST Project would require a Board permit.

**Infrastructure and Utilities: Excavation**

**Received from:**

1. F. Skowronski, 09-28-06
2. M. Stokesberry, 09-28-06

**Comment:**

1. Can you explain what the soil placement area is on the top of -- in the course of this construction? Is the excavation of the footings and the caissons that are going to be replaced on top of the mountain in the effect as if it's a pu'u?
2. I oppose the 143-foot high ATST being built on Haleakala. There are other places that it could be built and it's probably a good project, but I don't think it belongs on Haleakala. Its tremendous size cannot be placed on Haleakala ....., and without as yet not fully charted harm to the entire summit environment due to the tremendous amount of excavation and disturbance that it will entail.

**Response:** The answers to the questions raised in comments #1 and #2 regarding excavation and ground disturbance can be found in Section 2.4.3-Construction Activities, which provides a detailed discussion on excavation, soil placement, and staging. With regard to the issue on site selection raised by commenter #2, the scientific viability of the available sites drove the site selection process by the scientific community. This is extensively described in Section 2.2-Site Selection and Section 2.3-Alternatives Considered But Removed from Further Evaluation.

**Infrastructure and Utilities: Roadways and Traffic**

**Received from:** M. Evanson, 09-28-06

**Comment:**

I do not feel comfortable with the document. The Draft EIS has many errors. This map has Haleakala Highway going through Science City. I brought it to the preparers attention – the response was that it came from the Maui County website. Two wrongs do not make a right. There is no Haleakala Crater Road anymore. There used to be. But several years ago the Maui Fire Department felt Haleakala Highway should extend from Hana Highway all the way up to the top of the mountain, and therefore Haleakalā Crater Road is no more.

**Response:**

The map referred to in the comment is shown in Section 1.2-Land Ownership in Figure 1-6- Haleakalā High Altitude Observatory Site and Adjacent Properties. This graphic was taken from the County TMK site as indicated under the figure. It was used to be consistent with the County TMK map. The reference to

Haleakalā Crater Road was taken from the Hawai'i Dept. of Transportation website, which refers to Haleakalā Crater Road (State Route 378) as such. This road ends at the Park entrance station.

**Infrastructure and Utilities: Electrical**

**Received from:**

1. K. Kamakawiwoole, 09-27-06
2. Unnamed speaker, 09-27-06
3. R. Lucas, 09-28-06

**Comment:**

1. The power that is needed for the air force telescope is massive. Estimated ten percent of Maui's electricity to run that one. This one is way bigger. That makes me a little nervous because, yes, we do have the windmills but my mana'o on that is that's a sustainable type of energy. So I have a little bit of a different spinoff on that.
2. Will this facility or any other facility that you may build in the future be used to capture or harness the sun's power?
3. Energy is being generated from burning fossil fuels down from Haleakala because you can't even put a single solar panel up here like we do in our houses so we're not burning up as much as of this carbon in your one little facility. 500 KVA is the power load of all of the other facilities. Look at your one little facility. 670 KVA. You're using one and a third times more power than all of the other facilities on this mountain top. You are expecting Maui Electric to generate it. They are going to import more oil to give you guys the electricity to exceed the power requirements of the entire top of this mountain. What is there in your proposal that's going to offset the amount of carbon that Maui Electric is putting into the air? What are you going to do in terms of carbon credits? How much of a reduction is expected from closing the two observatories? My question was directed to carbon dumping and carbon credits to offset the power usage that's generated by your site. I would appreciate to see, you know, after you look into it, what your conclusions are.

**Response:**

Section 2.4.4-Telescope Operation Activities under the subheading Electricity describes the electrical power for the proposed ATST Project that would be provided by connection to the MECO substation on HO. The maximum peak electrical demand of the proposed ATST Project is estimated to be 960 kVA.

1. Responded to at the meeting by Mr. Jeff Barr: The peak power potential of the ATST (if you turned on everything (lights, soldering irons) and operating the facility at the same time, would be one megawatt. We hope to keep that down to something like 600 kilowatts, which would be basically 60 percent of that in order to keep our own power flows down. That's less than half a percent.
2. Responded by Dr. Craig Foltz at the meeting: The Sun comes in, the sunlight is so far away, the sun leaves -- we're so far away, the rays of the sunlight are powerful. Here is the sunlight that comes in and hits this mirror, this four and a half meter dish concave mirror, which focuses the light, it makes an image of the sun up here. So all of that power, and it's about 20 kilowatts. You take ten irons and you plug it in your house, you are using 12 kilowatts of power. It's like 12 irons on your ironing board is about how much energy is used. It's not terrible. You don't want to do it. You pay for it. You might burn your shirts. But, anyway, up here is what is called a heat stop. Its job is to take most of that light, collect it, and take the heat away. And it takes it away and fluid -- I'm just getting started. The heat is eventually dissipated through a chilling system which will probably involve nothing else. So the heat is taking away the little bit of sunlight you are interested in studying. You are looking at the small part of a -- it shows in great detail. It sends down all the way down to the base, to the instrument. So in terms of it's not collecting an enormous amount of energy, number one. Number two, all of that energy is dissipated within the structure.

3. At this juncture, there has been no plan to close other observatories if the proposed ATST Project is approved for construction.

At the meeting, Jeff Barr presented additional information regarding the viability of using solar panels for the proposed ATST Project: As counterintuitive as it is, solar panels are not really an efficient energy savings alternative for the project. MECO sponsored a study on what logical and efficient ways for us to reduce our power consumption overall, our peak as well as our sort of overall average use. And they suggested a lot of alternative technologies including solar power. Photovoltaics are dark in color. We can't cover the building with these dark panels without doing more harm than good, requiring more energy for cooling than the panels would actually provide themselves. Even though we're a solar observatory, studying solar physics, we don't have any kind of access to any advanced kind of solar panels that as you say you wouldn't use on your own house. So basically we have the kind of off the shelf technology. Based on the 2,000 photovoltaic panels of the same type referred to in the MECO study, about 14 feet each, providing 155 watts each, would provide something like 330 kilowatts, roughly half the peak requirement. However this would cover virtually everything – every site area and getting pretty darn close to the petrel burrows and some of the other environmentally and archeological sensitive sites. It would be insensitive of us to put solar panels in all these places. Plus it expands the footprint three or four times. We may end up doing something, but nothing on a large scale.

**Additional Comments**

**Received from:**

Friends of Haleakalā National Park (M. Evanson), 09-29-06

**Comment:**

We understand the project's funding source, the National Science Foundation, has not yet conducted the required senior review, and furthermore, it will not be available to the public until November. The Friends would like to know why the public comment period closes before this review has been disclosed.

**Response:**

This comment was raised and addressed at the DEIS Public Meeting: Responded by Dr. Craig Foltz, NSF at meeting: The senior review the speaker referred to is unaffiliated with this proposed project. It is a review of our current facilities with an eye towards how we move into the future. The recommendations of that review do not bear in any way on the recommendation, to fund this or not.

**Education and Public Outreach**

**Received from:**

- |                         |                        |
|-------------------------|------------------------|
| 1. P. Vladika, 09-28-06 | 4. S. Burns, 09-29-06  |
| 2. V. Nahulu, 09-28-06  | 5. Mr. Rizzo, 09-29-06 |
| 3. V. Nahulu, 09-29-06  |                        |

**Comment:**

1. I'm in favor of the telescope; giving children the opportunity to learn and to discover; and to see people come from around the world to ask to look and see and to experience the joy of discovery together.
2. My whole presence here is to ask that the children be allowed the education that comes from such a structure, from within the structure, and not be held back any more. Our children can learn and discover and should be allowed the freedom of education.
3. There is so much to learn from -- from new technology in our world today, that an island way out in the Pacific, sometimes we don't have the facilities, we don't have enough of the educators that are in the mainland at other schools. Our children are sometimes left out of information going on nationally, and

<p>we're out here, so we don't get all of the information that we need. I feel that the ATST is a great blessing and a gift to our children, our children's future and our children's education. I feel personally that there are a lot of things that I didn't learn as a child from my grandparents because they were concerned that we should be more connected to their past. I feel today that our children should own their future and that we should not hold them back to our past, that they should speed on ahead. I would like to say that my Hawaiian ancestors felt it was so important to know about the sun, to know about the stars and to know the skies, because when we traveled throughout the Pacific, it was necessary to know about the sun. Why we are keeping this knowledge away from our children today, I do not know.</p>
<p>4. I talked to the kids at my college and nobody is interested in going and studying this. They like the stars, but this is for the sun.</p>
<p>5. I've had a unique opportunity over the last 20 years of accompanying hundreds of school children from Maui up to the observatories. These children are very excited and just really in awe of what's going on up there at the different facilities. And I just think it's an important thing. I believe that this is a great opportunity. A lot of the local children really express interest and they're pleased to know that they can get a great education here, especially that they don't have to go to the mainland. They can stay with their families. They can get the education that they want and have got an opportunity to do some fantastic science, some great technology and something really worthwhile here in Hawai`i.</p>
<p><b>Response:</b> Section 1.4.3.2 describes ATST Education and Public Outreach (E&amp;O) on several fronts that leverage and expand existing programs within the partnering groups and create unique opportunities offered by the ATST during both its development and operation, if approved.</p>

<b>Solar Cycle and Decommissioning</b>
<p><b>Received from:</b> Kapali Keahi, 09-27-06</p>
<p><b>Comment:</b> I really don't see what impact, positive or negative, this development will eventually do to our social well-being. But, right now, I mean, already get stuff up there and that never do nothing for us anyway. And, in fact, instead of adding stuff on, we should be taking stuff off.</p>
<p><b>Response:</b> Decommissioning of facilities constructed with NSF's financial assistance is determined on a case-by-case basis. Of course, decommissioning is taken into consideration as part of life-cycle project planning. With regard to the proposed ATST Project, NSF anticipates that the estimated lifetime of the telescope would be at least 45 years (spanning two 22-year solar cycles) after it becomes operational (if funding for construction is approved). If the construction of the proposed ATST Project is approved, NSF has committed to decommission, deconstruct or divest itself of any interest in the proposed ATST Project at the end of its productive lifetime. IfA is the lessor for all observatory facilities within HO and would be the responsible entity for coordinating with its lessees and/or determining a facilities' estimated service life.</p>

<b>Mitigation Proposals Submitted</b>
<p><b>Received from:</b> W. Shibuya, 09-29-06</p>
<p><b>Response:</b> Mitigation Proposals can be found in Section 5.2.2-Addressing Adverse Effects. Thank you for submitting a mitigation proposal. Elements of mitigation proposals are being considered for inclusion in a Programmatic Agreement (PA) prepared pursuant to 36 CFR 800.14(b) to address adverse effects to cultural/historic properties through the Section 106 consultation process of the National Historic Preservation Act. A draft PA containing several proposed mitigation measures is currently under review by the consulting parties.</p>

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## **APPENDIX B**

Appendix B contains comments and responses to the SDEIS published in May 2009. All comments were carefully evaluated during the preparation of the Final Environmental Impact Statement (FEIS), and, where appropriate, were incorporated into the Document.

This Appendix is organized as follows:

1. Matrix of comments and responses on the SDEIS.
2. Copies of public comments to the SDEIS.
3. Matrix of comments and responses to the SDEIS transcripts made during the Public Comment Meetings.

Substantive comments for both the SDEIS and the SDEIS transcripts are either summarized or excerpted in a matrix format and are organized in a box according to subject matter and type of comment received (i.e., individual letter, e-mail, form letter, etc.). Each commenter is assigned a number that corresponds to the comment and response within each subject matter box and, where comments are of a similar nature, they are grouped together. Responses to grouped and individual comments also appear in the matrix.

In some cases, comments were responded to immediately after being received. Copies of both the original comments and their responses are shown in the section containing the copies of the public comments following the matrix.

Copies of all comments on the SDEIS can be found in their entirety following the comment/response matrix. All comments are listed in alphabetical order, first by Agency and then by individuals and community groups. The verbatim transcripts for the SDEIS Public Comment Meetings can be found in Vol. IV, Appendix C.

## MATRIX OF COMMENTS AND RESPONSES TO THE SDEIS

Environmental Protection Agency Review and Rating
<p><b>Received from:</b> EPA, Kathleen M. Goforth, Manager, 06-18-09</p>
<p><b>Comment:</b> EPA reviewed the Draft Environmental Impact Statement (DEIS) and provided comments to the National Science Foundation (NSF) on October 30, 2006. We rated the DEIS as <i>Environmental Concerns - Insufficient Information (EC-2)</i> due to the apparent underestimation of direct impacts on cultural and natural resources, insufficient detail regarding mitigation, cumulative impacts from construction and traffic, and impacts on endangered species. We requested additional information regarding impacts to Haleakalā National Park, and the progress of the National Historic Preservation Act Section 106 consultation.</p> <p>The Supplemental DEIS (SDEIS) contains substantially more information on impacts to Haleakalā National Park and other resources and is much improved. It identifies impacts to Native Hawaiian sacred sites and cultural resources as major, adverse, and long-term. While such impacts are acknowledged to be unmitigable, the supplemental cultural impact assessment identified several mitigation proposals from the community that could allow Native Hawaiians to derive a benefit as a result of any project approval. We encourage the NSF to consider integrating one or more of these proposals into the proposed project or commit to implementing one or more as mitigation for identified impacts to cultural resources in the Final EIS. The SDEIS adequately addresses our previous concerns and requests for additional information; therefore. We are rating the preferred alternative of the SDEIS as <i>Lack of Objections (LO)</i> (see enclosed "Summary of Rating Definitions"). We understand NSF will respond to comments on both the DEIS and SDEIS at the FEIS stage.</p> <p><u>Summary of EPA Ratings Definitions:</u> "LO" (<i>Lack of Objections</i>): The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.</p>
<p><b>Response:</b> Thank you for your comments, which are noted. NSF fully intends to integrate several of the proposals for mitigation presented by the consulting parties. A draft Programmatic Agreement (PA) has been prepared and is currently under review by the consulting parties.</p>

<b>Need for the Project</b>
<b>Received from:</b> Harriet Witt, 06-22-09
<b>Comment:</b> How will we benefit from the ATST when only science-as-usual mechanisms are available for translating its data into social policies? If ATST is so beneficial to life, then why does it not include any plan for bringing about such benefits? What good is more scientific data if it doesn't improve our ability to survive this fragile planet?
<b>Response:</b> The importance of the Sun for determining the near-Earth space environment is unquestionably important to most western civilizations. The economic impact of our past failures to estimate solar storm radiation is several billion dollars. There is also no question that the Sun has affected global climate change -- that is, it is not a question of "if" the sun will change our climate, but "when".  Listed below are a few examples to demonstrate the vulnerability of our technology-dependent society (see Astrobiology Magazine, 07-06-03, <a href="http://www.astrobio.net/news">http://www.astrobio.net/news</a> ): 1. In 1989, a solar storm tripped a protective switch at the Canadian Hydro-Québec power company. For nine hours, the entire province of Québec was without power. The problem nearly spread to the United States through an interconnected grid, officials said at the time. 2. In a 1997 solar storm, an AT&T Telestar 401 satellite used to broadcast television shows from networks to local affiliates was blacked out. 3. A more serious breakdown of communications occurred in May 1998, when a space storm disabled PanAmSat's Galaxy IV. Among the Galaxy IV casualties: automated teller machines, gas station credit card handling services, 80 percent of all pagers in the United States, news wire service feeds, CNN's airport network; and some airline weather tracking services.  Early southwestern civilizations like the Mogollon, Anasazi, and Hohokam vanished during a likely solar-induced warm period, which allowed historic Norse peoples to cultivate the western coast of Greenland. The failure of the Nordic culture can then be traced to the beginnings of the cool period that we now call the Maunder Minimum or "Little Ice Age" in Europe. All of these climate events are related to dramatic changes in the solar activity which we are still unable to predict. Past civilizations have come and gone with the rhythm of the Sun. While we cannot change the Sun, or by analogy a hurricane storm, we surely need to know when a storm or solar change comes. As we appreciate the technology of satellites that warn of impending storms, a mountaintop facility such as the proposed ATST Project that teaches us how to predict solar activity is necessary.
<b>Atmospheric "Seeing"</b>
<b>Received from:</b> Elle Cochran, 06-15-09
<b>Comment:</b> Can you see through this vog we have had for weeks? Thick clouds hamper the viewing? Does the lens fog or steam up? Tax payers paying for this down time?
<b>Response:</b> The Haleakalā summit is a superb astronomical site because it is usually above the tropical atmospheric inversion layer. This means that convection normally does not penetrate from below to disturb the seeing or to bring low-level aerosols into the summit line-of-sight to the Sun. On-going summit measurements of the Sun thus far have not been disturbed by the relatively gentle Kilauea sulfur dioxide (SO <sub>2</sub> ) emission. A major eruption has the potential for introducing aerosols higher into the atmosphere, but the ATST system is designed to study the long-term solar cycle changes and these goals would not be affected by episodic eruptions, even lasting a few years. Note also that if the proposed ATST Project is approved, the ATST would potentially begin looking at the Sun in 2017 at the earliest. See Section 2.3.5-Summary of Site Selection Process for more information.

<b>Education and Public Outreach</b>		
<b>Received from:</b>		
1. Harriet Witt, 06-22-09	2. Jeff Bagshaw, 06-21-09	3. Roger Dennis Hawley, 06-22-09
<b>Comment:</b>		
<p>1. How do we know the education and public outreach to be provided by the NSF won't just train students to collect more data that fills up more and advances more individuals' careers?</p> <p>2. Is there an education/visitor center that can attract visitors and help them understand the science of astronomy? The small office in Pukalani with two conference rooms, lined with physics texts, hosting monthly talks to 20 or so locals doesn't seem like the type of facility/venue that would attract many visitors.</p> <p>3a. ...and the daily data from the completed working solar telescope is available to all Hawai'i state schools through the Internet.</p> <p>3b. Finally, just remember that on August 7, 1972, one of the largest solar flares ever recorded at 250,000 miles in length, out from the Sun, caused world-wide power blackouts and telecommunications failures. With the proposed solar telescope atop Haleakalā, it would give advance warning around the world of a coming crisis.</p>		
<b>Response:</b>		
<p>1, 2, 3a. See Section 1.4.3-ATST Education and Public Outreach describes Education and Outreach (E&amp;O).</p> <p>2. Currently, there is no general public access to HO and "AUTHORIZED ENTRY ONLY" is posted on a located at the entrance to the facilities. Native Hawaiians, however, are welcome at any time to enter HO for cultural and traditional practices, as the sign also indicates. (See Section 3.1.2-Existing Activities). The "small office in Pukalani" is the office for the University of Hawai'i Institute for Astronomy, who conduct their own venues in astronomy for the interested public.</p> <p>3b. Thank you for your comments, which are noted.</p>		
<b>Land Use</b>		
<b>Received from:</b>		
1. Hilary Parker, 06-10-09	2. Jeff Bagshaw, 06-21-09	3. Dick Mayer, 06-22-09
4. Clare Apana, 06-30-09		
<b>Comment:</b>		
<p>1. There are questions about whether the UH has the right to use the land.</p> <p>2. The very top of the volcano is in public trust and always accessible, as Haleakalā National Park. Unfortunately, neighboring land is not and the neighbors seem to forget that they are responsible for a public trust that has no boundaries.</p> <p>3. The lands at the summit of Haleakalā are ceded lands.</p> <p>4. This is insulting. An answer was given by the head of the UH astronomy center to the acquisition of land title. He answered "when the government of Hawaii gets organized and is reinstated, then the land will go back to the Hawaiians." I paraphrase from memory because I did not find it in the record of the meeting moderated by Annelle Amaral at the UH Astronomy building. Did it disappear from the transcript?</p>		
<b>Response:</b>		
<p>1, 2, 3, 4. (See Section 1.2-Land Ownership) In 1961, an Executive Order (EO) by State of Hawai'i Governor Quinn set aside 18.166 acres of land on the summit of Haleakalā in a place known as Kolekole to be under the control and management of the IfA for scientific purposes. The site is known as HO and it is the only such property on Haleakalā specifically designated for such purposes. UH is the recorded fee owner of the parcel identified as Tax Map Key (TMK) (2) 2-2-07-008.</p>		

4. The transcripts referenced in the comment can be found in Vol. III, Appendix C(6) for the formal Section 106 meeting that was held at University of Hawai‘i Institute for Astronomy, Maikalani Facility, August 27, 2008, Evening session, on page 16, block 58 of the condensed transcripts. In the transcripts Mr. Mike Maberry of the IfA responds to comments made by Ms. Joyclynn Costa about a Supreme Court decision on ceded lands as: MR. MIKE MABERRY: “When a Native Hawaiian government is formed and takes over all ceded lands, then they will have control of this 18-acre area as well.”

**Site Selection**

**Received from:**

- |                            |                            |                                  |
|----------------------------|----------------------------|----------------------------------|
| 1. Hilary Parker, 06-10-09 | 3. Michael Lucas, 06-22-09 | 5. Roger Dennis Hawley, 06-22-09 |
| 2. Sylvia Cabral, 06-13-09 | 4. D. Mayer, 06-22-09      | 6. Clare Apana, 06-30-09         |

**Comment:**

1. Why is Haleakalā the only place being considered?
2. Send the telescope to California.
3. Please explain to the public why the ATST telescope must be located on the top of Haleakalā. A location on the south-facing slope (the “back” slope) of Haleakalā would avoid the sacred summit, would avoid creating a visual eyesore for residents and visitors, and would still allow full functioning of the telescope as a solar observatory. But this issue cannot be ignored. The telescope does not have to be built on the summit of Haleakalā. Moving it to the south slope would provide avoidance of the summit location, which the Hawaiian spokespeople have said repeatedly, passionately and loudly is the only solution to the cultural issues surrounding this project. Moving it to the south slope would provide the benefits of the Haleakalā location without the desecration of the summit area.
- 4a. The SDEIS has limited its evaluation only to the 18 acre site operated by the UH IfA. The SDEIS then attempts to make a careful analysis between two almost similar sites, both in the 18 acre HO location. Consequently, a potentially superior site, perhaps in the saddle to the southwest of the 18 acre site, was only mentioned and certainly was not seriously evaluated. This alternative site could potentially avoid many of the visual problems of being located so close to the Haleakalā National Park. The site also may avoid some of the problems with Hawaiian cultural sites. It was prematurely dismissed.
- 4b. Being located in the 18 acre site requires a CDUA permit, just as a site in the “saddle” would require a CDUA permit.
5. A far, far better location is available on land adjacent to Science City owned by the State of Hawai‘i. ...”just below the FAA Repeater Station...
6. “The solar telescope at Bear Lake California although just completed last year is inadequate. We even agree that it has great viewing of the Sun and so many sunny days to do our study according the information. We posted on our newsletter and web site. Haleakala is the only site possible. We need to do Haleakala because no one else in the world is planning a solar telescope of this scale and magnitude.”

**Response to all comments:**

Some background information might be helpful: two proposals related to the proposed ATST Project were submitted by the NSO (an astronomy center operated by (AURA) to NSF for funding. The first of these two proposals was for research and design (R&D Proposal), which did not trigger NEPA compliance. The second proposal, submitted to NSF in January 2004, was to seek funding for construction of the proposed ATST Project; that proposal did trigger NEPA compliance. With that understanding in mind, an explanation of the requested information follows.

The effort to identify scientifically-viable sites began prior to the submittal of the R&D Proposal and continued after that proposal was considered and approved.

The process for identifying scientifically-viable sites was extensive and began in 1998. In partnership with other entities in the scientific community, NSO was responsible for identifying sites that would meet the scientific criteria. That process began with an initial evaluation of 72 potential sites; those sites were evaluated based on a broad set of scientific and logistical criteria developed by the solar research community. See Vol. I, Section 2.2.1- Site Selection Chronology, Vol. II-Appendices J(1)-Sites Evaluated for Scientific Criteria, pp. 1 to 4 and J(2)- Supplemental Discussion of the Constraints of Solar Science Development, pp. 1 to 5.

Seventy-two candidate alternative sites for the proposed ATST Project were considered, as detailed in Section 2.2-Site Selection, 2.2.1-Site Selection Chronology, 2.3.1-Site Selection in Detail, and Vol. II, Appendix O-ATST SSWG Final Report.

See Section 2.3.2-Response to Public Comment Regarding Alternative Siting on Haleakalā.

4b. As the approving agency for the proposed ATST Project, IfA will comply with the permitting process required by the Dept. of Land and Natural Resources (DLNR) for land uses within the Conservation District. A Conservation District Use Application (CDUA) will be submitted with the FEIS for the DLNR. (See Sections 1.1-Project Location, 1.3.2-Identification of Accepting Authority, and 1.6.4-Approvals and Permits, Table 1-5.)

**Space-based Telescope**

**Received from:**

- 1. Hilary Parker, 06-10-09
- 2. Jeff Bagshaw, 06-21-09
- 3. Dick Mayer, 06-22-09

**Comment:**

- 1. I understand a space-based telescope would work better.
- 2. This telescope would be duplicative technology already available and could not achieve what a satellite in orbit can.
- 3. A space-based solar telescope should be included in the Final EIS as an alternative site.

**Response:** (See Section 2.3.2- Response to Public Comment Regarding Alternative Siting on Haleakalā) The ATST is designed to measure and understand the influence of the outer solar atmosphere on the interplanetary space between the Earth and the Sun. Virtually all of the Sun’s dynamic effects on the Earth can be traced back to solar magnetic fields and the ATST would measure these outer fields for the first time.

The technology does not exist anywhere for doing this measurement from space. While the Japanese/American/British SOLAR-B/Hinode mission looks on the disk of the Sun for solar flares, its mission is complementary to the goals of the ATST. We are many decades away from having the technical capability to launch a solar telescope with the necessary 4-meter mirror, like the proposed ATST, into space to measure these coronal magnetic fields. Meanwhile our global communications and the impact of solar changes on terrestrial climate remain a risk for human civilization while we wait to understand solar cycle variability. For these reasons, this alternative was not considered.

<b>Military-Related Component and Security Implications</b>	
<b>Received from:</b>	
1. Hilary Parker, 06-10-09	3. Harriett Witt, 06-12-09
2. Sylvia Cabral, 06-13-09	4. Dick Mayer, 06-22-09
<b>Comment:</b>	
<ol style="list-style-type: none"> <li>1. To what extent is or will the military be involved?</li> <li>2. See three Maui News Articles June 17, 2009, June 3, 2009, April 4, 2009 about Korea targeting the islands including evacuation of Hawaii beaches.</li> <li>3. Is it possible that the ATST is a military project that's throwing crumbs to the astronomers to keep them employed and therefore quiet?</li> <li>4. There are indications that there may be military connections to this project, e.g., communications link via a fiber optic cable, the telescope will occasionally be serviced by the Air Force's Mirror Coating Facility, and scientific results from the ATST observation and analysis would be of great use the U.S. emerging "militarization of space". Is the ATST actually part of the Federal government's military program? Close ties to the military will result in potential security concerns.</li> </ol> <p>Is the connectivity referring to the military's computer located in Kihei (South Maui)? To the Waiakoa Astronomy facility in Kula? To the new astronomy building constructed in Kula Malu in Pukalani? All of these locations? Or none of them? Until the cumulative impacts of this project and its use of other sites, the EIS will be incomplete. For example, is the design and construction of the "military financed" Kihei-Upcountry Highway connecting the ATST telescope to the Kihei computer actually a portion of this project?</p>	
<b>Response:</b>	
<ol style="list-style-type: none"> <li>1, 2, 3. There is no military component in the purpose and mission of the proposed ATST Project.</li> <li>4. The references made to these connections pertain to data transmission connectivity currently provided at HO. The existing facilities at HO are currently served by a microwave link for data transmission. The U. S. Air Force facility is served by a fiber link. Telephone service for all facilities is provided by Hawaiian Telcom, which has spare fiber lines already in place to the summit. The Proposed Action would require connection to those existing data/communications service lines (see Section 2.4.4 Telescope Operation Activities (<i>Utilities, Communications</i>)).</li> </ol> <p>No agreements are in place with the U.S. Air Force facility to utilize the Mirror Coating Facility.</p>	

<b>Comments Regarding Haleakalā National Park (HALE)</b>		
<b>Received from:</b>		
1. Harriett Witt, 06-12-09	2. Judith Mancini, 06-14-09	3. Elaine Wender, 06-22-09
<b>Comment:</b>		
<p>1. Why was pressure applied to HALE to accept ATST when the Park does not regard it as acceptable?</p> <p>2. The ATST project does impact the mission and goal of the Park service. The Park Service has a duty, and a moral responsibility to protect Haleakalā for all of our children. The assertion that they must grant a special use permit to another adjacent user who can meet the criteria for not impacting bridges and roads is ludicrous ...</p> <p>3. The Haleakalā National Park road is a historic resource which is eligible for listing in the National Register of Historic Places. The proposed monstrosity would seriously impact the cultural landscape which the Park has worked so hard to preserve.</p>		
<b>Response:</b>		
<p>1, 2, 3. The only access to HO is on the road through HALE. The Code of Federal Regulations (CFR) 36 § 5.6 Commercial vehicles. (c) states: “The Superintendent shall issue permits for commercial vehicles used on park area roads when such use is necessary for access to private lands situated within or adjacent to the park area, to which access is otherwise not available.”</p> <p>As Federal agencies, the NSF and HALE are working collaboratively to address and mitigate the affected environment associated with the proposed ATST Project, if approved for construction, which also includes portions of HALE, specifically, a 50-foot corridor along the Park road. The only access to HO is through HALE, and according to the applicable regulation, the Park must issue a Special Use Permit for access, if the proposed ATST Project is approved.</p> <p>(See Section 1.0-Introduction) The EIS was also prepared to evaluate the potential environmental effects associated with issuing a National Park Service (NPS) Special Use Permit (SUP), pursuant to 36 Code of Federal Regulations (CFR) § 5.6 to operate commercial vehicles on the Haleakalā National Park Road during the construction and operation of the proposed ATST Project.</p> <p>(See Section 3.0-Description of the Effected Environment) The affected environment of the Proposed ATST Project also includes portions of HALE. The primary area affected by the proposed ATST Project includes the Park road corridor, specifically, a 50-foot corridor along the Park road measured from the mid-point of the road extending out 25 feet on each side. The Park road corridor is included because a Special Use Permit (SUP) is required by HALE to operate commercial vehicles within the Park.</p> <p>(See Section 4.18-SUP Mitigation) The ATST Project is working collaboratively with HALE in establishing mitigation measures for use of the Park road during the project construction, if approved. These mitigation measures include load limits, limits on the number of wide loads, temporary alteration of the entrance station, underground utilities, pre- and post-project documentation, and traffic controls.</p>		

**Meetings**

**Received from:** D. Mayer, 06-22-09

**Comment:** At the Scoping Meetings, the public was not well informed about the actual height of the telescope facility and the attached service building.

**Response:**

This comment was raised and addressed at the Kula Community Center DEIS Public Meeting by Dr. Charlie Fein. (See Vol. III, Appendix D3-Transcripts Sep. 29, 2006 DEIS Public Comment Meeting, pg. 24) The following is excerpted from the transcription of that meeting:

“Mr. Mayer: ...I made, for example, the comment that at the scoping meetings you were saying that the height of the telescope would be 92 feet, and you repeatedly on several occasions during the meeting left that impression. You also left that impression with Maui News and did not correct it in due time with the Maui News. And finally, we find out it's not 92 feet, which would have been lower than the present facility up there, but it's 143 feet high. And I think that has misled the public and maybe has lulled the public into thinking it's a smaller facility than it actually is....”

“Mr. Fein: ...I'm going to briefly respond to two items. The first was the incorrect reporting by the Maui News in our very first scoping meeting of the height of the telescope at 92 feet. That was an error. The figures that we brought, the graphics that we brought correctly showed the 143-foot structure. And it was unfortunate that it was misreported. There was a correction. Unfortunately, those kinds of things do get stuck in the public eye.”

Additional information about the proposed ATST Project facility description, see Vol. II, Appendix J(4)-Proposed Action and Alternatives: Supplemental Description of ATST Equipment and Infrastructure). Figure 17 of Appendix J(4) is a cross-section drawing of the Telescope Enclosure and Support & Operations Building.

**Meeting Transcripts**

**Received from:** D. Mayer, 06-22-09

**Comment:**

The final EIS should contain the complete, unedited, transcripts from each of the scoping meetings held in 2005. During those meetings much valuable testimony was given by the public; a recorder was present and took down all the comments verbatim.

**Response:** Public comments and requests were made that transcripts from all formal public meetings be included in the EIS. To accommodate these requests, transcripts were sent to requesters and verbatim transcripts for the Public Scoping Meetings, the DEIS Public Comment Meetings, and formal Section 106 meetings are provided in Vol. III, Appendices B through D-Meeting Transcripts (2005, 2006, 2008) and in Vol. IV, Appendix C for the SDEIS Public Hearings (June 2009). The proceedings of each meeting were taken by machine shorthand and thereafter reduced to print by means of computer-assisted transcription. The transcriptions represent, to the best of each stenographer's ability, a true and correct transcript of the proceedings.

**Received from:** Mikahala Helm, 06-22-09

**Comment:**

1. The NSF has failed to develop a Section 106 plan for public involvement, notification, and consultation. Steps were not properly taken and disclosed regarding the meetings to ensure that more Hawaiian practitioners and consultants were consistently involved. Meetings were held at times and days that conflicted with major community activities on our island and/or at times when many were at work and unable to attend. Assumptions were made and some individuals requesting to be Section 106 consultants were no longer notified of upcoming meetings.
2. There was no connectivity from the start of the Section 106 process. The context was not clear; those Hawaiian consultants who were participating to talk about historic preservation and avoidance were tracked into meetings that were focused on community benefits and mitigation. As a matter of fact, a few years ago, I was told that the Section 106 meeting was for those with mitigation proposals. Those of us supporting “avoidance” were asked to attend the community public meetings.
3. There has been overwhelming confirmation on the sacredness of Haleakalā and its vital role in perpetuating our Hawaiian culture, traditions, and beliefs. Hawaiian practitioners and keepers of the culture have repeatedly come forward, clearly voicing that the spirituality and sacredness of Haleakalā could not be mitigated. There was no way to mitigate the shadow of this monolithic man made structure on our sacred land. This process was supposed to be data gathering; however, it came predisposed with money to plan, design, and now, to construct the ATST. The NSF was supposed to put forth efforts and did not come across objective. Meetings were not held to empower the people with future decision-making or to recognize our unique status as decision-makers to shape the future. We are true stakeholders and need the NSF to recognize this.
4. In closing, are we going to have additional Section 106 meetings that will focus on our cultural and religious heritage issues relative to the use of the summit of Haleakalā?

**Response:**

1. Please be assured that Section 106 consultation (and NEPA) meetings were not deliberately scheduled to conflict with times and days of community activities and/or times when many were at work or unable to attend. Scheduling logistics with individuals coming from various parts of the country is challenging and requires coordinating times when everyone can travel to Maui. Also, some of the meetings were held during a mandatory 30- or 45-day public comment period, in which the public had a specific time period in which to comment.

Your question concerning conflict with community events was also asked by Bill Medeiros at a DEIS Public Comment Meeting held on September 27, 2006, in which the meeting coincided with the Maui County Fair (see Vol. III-Appendix D1), Transcripts September 2006). During that meeting Dr. Charlie Fein responded to that concern: “These meetings were planned in conjunction with publication of the DEIS, the draft environmental impact statement, if you are familiar with the state process, which I’m sure you are, goes through the Office of Environmental Quality Control. It’s accepted on a certain date, published on a certain date, that begins the clock, and public comment period then begins for 45 days. These meetings need to be held within that period of time. Because we have individuals who come from Washington D.C., Tucson, and so on, we had a very narrow window of choice. And these three days are actually the only time that these gentlemen are available. As of Friday, they are in different parts of the world. Unfortunately, the timing is such that the fair is this week, but that’s another reason for having three meetings. There’s no requirement in the law to have three meetings, but if an individual or a group cannot make one meeting, then we had two others to provide an opportunity for them.”

NSF has made efforts to have more than one meeting to try and accommodate the interested community since 2005. NSF has held meetings during both the daytime and evening with the intent to try to accommodate the various schedules of consulting parties. NSF has also sought input from the Advisory Council on Historic Preservation, the Hawai’i State Historic Preservation Office, and the HALE staff regarding appropriate times and days to schedule meetings with the goal of increasing the opportunities for consulting parties to be in attendance. Section 5.0-Notification, Public Involvement, and Consulted Parties provides details about the ATST Project’s efforts to notify and consult with Federal and State agencies, Native Hawaiian Organizations (NHO) and individuals, other

community organizations and members of the public during the course of both the NEPA and NHPA Section 106 processes for the proposed ATST Project.

Consulting party lists were generated either by individuals or community groups requesting to be a Section 106 consulting party or, through other sources, the ATST Project was provided with lists or names of individuals or groups who potentially might be interested in becoming a consulting party. Numerous attempts to inform people about the proposed ATST Project were made since 2005.

2. NSF has received many comments, both in writing and during meetings, expressing a position that the proposed ATST Project should not go forward. With regard to the availability of people to express this position during meetings, NSF did explain during the June 2008 meetings the reasons why the adverse effects to the summit as a traditional cultural property could not be avoided. NSF did not preclude any consulting parties during those meetings, the August 2008 meetings, or the June 2009 meetings from expressing their views regarding whether adverse effects could be avoided. Please see Section 5.0 for a more detailed discussion on the Section 106 process, as well as the transcripts and notes of the meetings set forth in Volumes 3 and 4.

3. NSF acknowledges the spiritual and cultural significance of Haleakalā as a traditional cultural property (TCP) and has determined that the proposed ATST Project would have a major and adverse effect on this TCP. While many individuals spoke about the sacred and cultural significance of Haleakalā, and expressed their belief that spirituality cannot be mitigated and that construction of the proposed ATST project should be avoided, many others have, to the contrary, expressed their support for the proposed ATST Project and their belief that culture and science can co-exist. Still others have expressed their view that they are opposed to the construction of the proposed ATST Project, but believe that mitigation through an educational program focused on the intersection between traditional culture and science would help to reduce the adverse effects. All views have been received and will be considered before a final decision is made.

4. Since 2005, there have been over 30 formal and informal Section 106 consultation meetings, and the list of consulting parties has grown to over 120. NSF has received many comments from the consulting parties and is now in the process of soliciting comments on a draft Programmatic Agreement designed to address adverse effects. No additional formal Section 106 meetings are anticipated, but additional consultation is ongoing.

**Received from:** Daniel Kanahele, 06-29-09

**Comment:**

1. I feel that the consultation process under Section 106 is not or should not be over. There are still a lot of questions that need to be asked and answered by many who have signed up to be consulted and that more time should and needs to be allowed for dialogue and the asking and answering of questions. In the June 10, 2009 meeting I attended at Maui Community College, we ran out of time before that happened. There were too many comments and too many participants and just not enough time allotted at that meeting to finish the discussion, which, in my opinion, was just beginning when the meeting was adjourned. The dialogue between the stakeholders needs to continue.
2. Who has the final authority to sign off on the 106 consultation process for this proposed project?
3. I would like to know if I am considered a consulting party under the 106 consultation process by the officials of the NSF and by the NHPA?
4. I would like to know if the 106 consultation process will continue and when and where will the next meetings be scheduled? If not, what are your reasons for ending it?

**Response:**

1. See Section 5.2-The Section 106 Consultation Process Pursuant to the National Historic Preservation Act. In compliance with Section 106, NSF invited participation in this process to organizations and individuals who may attach religious and cultural significance to a historic property that may be affected by a proposed undertaking. Table 5-7 briefly lists numerous the Historic/Cultural Resource Preservation Consultation Events that have occurred since 2005. Formal and informal consultation meetings resulted in individuals, community groups, or Federal, State and County agencies requesting to become a Section 106 consulting party; and the consulting party list has continually developed as ongoing requests to become a consulting party were received by the ATST Project. The Office of Hawaiian Affairs provided the ATST Project with a list of potentially interested parties who were also added to the consulting party list. All consulting parties were sent informational mailings and all participants were encouraged throughout the process to submit mitigation proposals to the ATST Project. The first Section 106 meeting you attended was on August 27, 2008 (see Vol. III, Appendix C(6)-Transcripts), where you were also included as a consulting party. At that meeting it was clarified that the Section 106 process was a discussion about the adverse effects and, primarily, looking at ways to resolve them through avoidance, minimization and/or mitigation.

During the June 10, 2009, meeting, it was explained that additional comments would be accepted through June 22, 2009. Moreover, attached to a May 29, 2009, letter from NSF to Ms. Laura Theilen, the Hawai'i SHPO, on which all consulting parties were copied, NSF provided its determination on effects resulting from the proposed ATST Project; consulting parties were invited to provide comments on that determination through June 29, 2009. Since 2005, there have been over 30 formal and informal Section 106 consultation meetings, and the list of consulting parties has grown to over 120. NSF has received many comments from the consulting parties and is now in the process of soliciting comments on a draft Programmatic Agreement designed to address adverse effects. No additional formal Section 106 meetings are anticipated, but additional consultation is ongoing.

2. The Section 106 process is dictated by Federal regulations found at 36 CFR. Part 800; these regulations were promulgated by the Advisory Council on Historic Preservation, which is the Federal agency charged under the National Historic Preservation Act with providing guidance to Federal agencies in carrying out the Section 106 process. Pursuant to the regulations, NSF has engaged in consultations with the consulting parties, including the SHPO, the Advisory Council on Historic Preservation, Native Hawaiian Organizations and individuals, the National Park Service, and other individuals and groups regarding how to address adverse effects to historic properties, including the summit as a traditional cultural property. Those consultation efforts have resulted in the preparation of a draft Programmatic Agreement, which is now under review by the consulting parties. If a final Programmatic Agreement can

be agreed upon and executed by the Advisory Council on Historic Preservation, the Hawai'i SHPO, AURA/NSO, NSF, and any other consulting party that has a responsibility under the Programmatic Agreement, the Section 106 process will be completed. If a Programmatic Agreement cannot be reached, then consultation may be terminated by NSF, the Advisory Council on Historic Preservation, or the Hawai'i SHPO, and the regulations set forth at 36 CFR §800.7 must be followed. If the Advisory Council on Historic Preservation provides advisory comments on the proposed ATST Project, NSF must consider and address any such comments in its final decision regarding whether to go forward with the proposed ATST Project.

3. You have been included on the consulting party list since August 2008, when you first attended a Section 106 meeting.
4. As explained above, since 2005, there have been over 30 formal and informal Section 106 consultation meetings, and the list of consulting parties has grown to over 120. NSF has received many comments from the consulting parties and is now in the process of soliciting comments on a draft Programmatic Agreement designed to address adverse effects. No additional formal Section 106 meetings are anticipated, but additional consultation is ongoing.

<b>Cultural, Historic, and Archeological Resources</b>	
<b>Received from:</b>	
1. Ken Wrobel, 05-26-09	7. Dept. of Defense, Office of the Director of Civil Defense, 06-18-09
2. International Brotherhood of Electrical workers Local 1186, Brian Lee, Research & Communications Director, 05-28-09	8. Nancy Shearman, 06-21-09
3. Princess Lehuanani Aquino, 06-06-09	9. Maui Economic Development Board, 06-22-09
4. Hawai'i Carpenters Union, Ivan Lay, 06-10-09	10. Harriet Witt, 06-22-09
5. Hawai'i Carpenters Union, 06-10-09 (see list of individuals with copy of comment letter)	11. Thomas R. Cannon, 06-22-09
Laborers' International Union of North America, Local 368, 06-09-09 (see list of individuals with copy of comment letter)	12. Alan Cohen, 06-22-09
6. Richard Lucas, 06-19-09	13. "Enough is Enough" Petitioners (see list of individuals with copy of Petition)
16. Penny Davies, 05-30-09	14. Elaine Wender, 06-22-09
	15. Clare Apana, 06-30-09
<b>Comment:</b>	
1. I am writing you to express my support for the ATST proposed for Haleakalā, Maui. As a Maui resident of 25 years, I have found the projects located in "Science City" to be places of interest to both residents and visitors. Rather than an eyesore, I see them as objects that demonstrate our cultures need to learn and explore.	
2. Our organization, the International Brotherhood of Electrical workers Local 1186 in Hawai'i believes that the potential cultural impact of the solar telescope project being proposed for the Haleakalā High Altitude Observatory Site, which is managed by the University of Hawaii, may be mitigated and we would like to be a "Consulting Party" in the NHPA Section 106 process.	
3. ...this is a sacred land that deserves the respect and honor from outsiders like yourselves. I pray and ask all of you again to stop your nonsense of greed. and to begin the healing of this sacred place and seek peace with her people and her sacred land. It is because of our respect of our ancestors and land that we come with aggression and voice this concern of another greed by business scientific men like yourselves. This is not like the mainland that has no respect for their people and land like what you have brought to our land of Aloha.	
4. This project will benefit all cultures. It will have a positive effect worldwide. I support and ask that you move it forward as fast as possible.	
5. I care about what happens to Haleakalā, but I support the ATST because I believe that we can have a balance between Hawaiian culture and science. Ancient Hawaiians studies the stars and the Hokulea has proven that it was this understanding of the stars that allowed ancient Hawaiians to voyage across the Pacific. The study of the sun, what better place than The House of the Sun.	
6. But in the same moment, we ask you to understand and respect a culture that was exploring the far reaches of the Pacific Ocean at a time when most of our European ancestors still believed that the world was flat.	
7. We are concerned about the major impact on cultural, historical, and archeological resource, but defer to the DLNR on the viability of proposed mitigation measures.	
8. Please do not attempt to place the telescope on Haleakalā. Show respect for the Native Hawaiians.	
9. The cultural and environmental needs can and should be addressed through ongoing dialogue and consensus building with key stakeholders in the	

community—pre- and post- its construction and throughout its operation. This is the only way to ensure responsiveness on a continuing basis to cultural and environmental needs which may not have been identified in prior stages.

10. Why is it acceptable to place 14 stories of scientific instruments atop Haleakalā when it would be unacceptable to place 14 stories of research instruments atop the National Cathedral – or atop any man-made house of worship?” What justifies using a globally sacred site as a trophy?
11. Not only is the planned 14-story telescope offensive to the native Hawaiian culture, but it would have a major detrimental effect on the sense-of-place of Haleakalā Crater and especially its summit for all hikers and other users of Haleakalā National Park.
12. Even more significantly, the proposed telescope will desecrate an ancient Hawaiian burial ground.
13. The disturbance, attention and removal of sacred national resources and possible cultural artifacts would be a desecration of Haleakalā. The proposed development would have an adverse and devastating visual effect caused by the addition a 14 storied intrusive and culturally inappropriate structure.
14. The desecration of the sacred summit area, violates respect for the 'aina and common sense.
15. Similar comments regarding cultural concerns.
16. In my opinion there is too much desecration already to Mauna Haleakala. The only structures that should remain is the old observatory building and the lumi ho'opau pilikia (bathroom).

**Response:**

1, 2, 4, 5, 7, 16. Your comments are respectfully noted. NSF has listened to the voices and testimony of Native Hawaiians and others who have taken the time to come to meetings or provide written testimony to share their mana'ō about Haleakalā, both as a spiritual, sacred place and also as a place where culture and science can co-exist. Section 5.0-Notification, Public Involvement, and Consulted Parties addresses the numerous consultation meetings, both informal and formal that have taken place since 2005.

See Section 4.18-Mitigation, which describes aspects to the strategy proposed by NSF and cooperating Native Hawaiian individuals to minimize or mitigate effects to what is acknowledged to be a Traditional Cultural Property (TCP).

Preservation Plans are in place at HO. See Vol. II-Surveys and Assessments, Appendix B (2) Archaeological Recovery Plans: a. State of Hawai'i, Department of Land and Natural Resources (DLNR) approval letter sent to Erik Fredericksen, Xamanek Researches, regarding Preservation Plan for Eleven Sites at Science City, from Peter Young, Chair, State Historic Preservation Officer, dated July 10, 2006, acknowledging that the Preservation Plan is acceptable.; and, b. Archaeological Preservation Plan for an 18-1-acre parcel known as “Science City”, Haleakalā Crater, Papa'anui Ahupua'a, Makawao District, Maui Island (TMK: 2-2-07: por. of 8).

The 2003 cultural resource evaluation conducted for the LRDP, offered a series of recommended rules to ensure preservation of cultural resources at HO. The IFA adopted the preservation recommendations in 2003, and maintains a program that includes “Sense of Place” training for everyone working at HO, coordination with and oversight by a cultural specialist for all construction projects, and set-aside areas for exclusive use by Kanaka Maoli to practice cultural and spiritual ceremonies. (CRE, 2003, p. 16).

A Cultural Specialist would be engaged at the earliest stages of the planning process, monitor the construction process, and consult with and advise the on-site Project Manager with regard to any cultural or spiritual correction. That includes disposition of rock and soil, rehabilitation of disturbed areas, and the

appropriate prayers at the beginning and end of work. Because NSF has found that the proposed ATST Project would affect cultural resources on this portion of the summit area, the Cultural Specialist must be a Kanaka Maoli, preferably a kupuna (elder) and if possible a kahu (clergyman) as well, and one who has personal knowledge of the spiritual and cultural significance and protocol of Haleakalā.

Another mitigation strategy is directed under guidance of Section 106 of the NHPA, which requires Federal agencies to take into account the effects of their undertakings on historic properties. The NSF has been consulting with HALE, the Advisory Council on Historic Preservation (ACHP), the State Historic Preservation Division (SHPD), Native Hawaiian organizations and individuals, and other members of the public to find ways to resolve adverse effects from the proposed ATST Project.

Another mitigation strategy is the removal of the proposed ATST facility after its operational lifetime, which would constitute a significant mitigation of its potential long-term impact. Such decommissioning is taken into consideration as part of life-cycle project planning, and, in the case of facilities constructed with NSF's financial assistance, it is determined on a case-by-case basis. With regard to the proposed ATST Project, if funding for construction is approved, NSF anticipates that the estimated lifetime of the telescope would be at least 45 years (spanning two, 22-year solar cycles) after it becomes operational. As a mitigation measure under Section 106 of the NHPA, and relating to other categories of impact as well, NSF is seriously considering decommissioning, deconstruction, or divestment of the proposed ATST Project at the end of its productive lifetime.

3.6. Thank you for your comments, which are noted.

10. The proposed ATST Project is not a 14 story building. A single story is not 10 feet; however, building stories are variable from project to project, and from state to state. Some examples clearly demonstrate this. Single stories of the 110 story Sears Tower in Chicago average 13.2 feet, but they averaged 12.3 feet at the destroyed 110 story World Trade Center #1. On Maui, a story averages about 11.55 feet at the County's 9-story Kalana O Maui building. If one story for ATST is considered to be the same as that for Kalana O Maui, the completed ATST Project would be a little more than 12 stories tall. If the average story height of the Sears Tower is the benchmark, it would be less than 11 stories tall.

The number of floors in the proposed ATST facility is six, as shown in the building section (Figure 2-12-Proposed ATST Facility Section Drawing Showing Depth of Foundations in Relation to Building and Natural Rock); however, NSF does not mean to imply that the ATST structure would be a "6-story building". Nevertheless, it would not be accurate to describe it as reaching 14 stories, since 10 feet per story is very low for a typical tall building. Considering a normal 8- to 9-foot ceiling height plus at least 1 foot for structure and 3 feet for ductwork and other utilities, the minimum floor-to-floor height for the majority of tall buildings is roughly 12 feet. Many research-use buildings, which typically have higher ceilings and more intensive structures and utilities, are 16 feet or more floor-to-floor. Even taking the more modest, reasonable assumption of 12 feet per story, the proposed ATST structure could accurately be characterized as *approximately equivalent to a typical 12-story building*. NSF does acknowledge, however, that even if the proposed ATST Project can be characterized as having 12 rather than 14 stories, it will have a major, adverse impact on the summit as a Traditional Cultural Property. See Section 4.2 for more detail.

11. Adverse impacts on the visitor experience for hikers and other users of HALE are also acknowledged by NSF to result. These impacts are analyzed in Section 4.6-Visitor Use and Experience.

12. (See Vol. II-Surveys and Assessments, Appendix A-Archaeological Field Inspection) Xamanek Researches carried out an archaeological inventory survey of the Science City parcel in the fall of 2002. This 18.1-acre project area, inventory survey report was approved by the State Historic Preservation Division (SHPD) in a 10 July 2003 review letter (SHPD DOC NO:0307MK03). The study area contains several existing observatories and other structures that have been constructed at different times over the years. The bulk (80% +) of the features in newly identified Sites (5438-5442) consist of temporary habitation



<b>Noise</b>	
<b>Received from:</b>	
1. Elaine Wender, 06-22-09	2. “Enough is Enough” Petitioners (see list of individuals with copy of Petition), 06-22-09
3. Dick Mayer, 06-22-09	4. Clare Apana, 06-30-09
<b>Comment:</b>	
1. The noise involved in construction and operation would impact the essence of the crater, which is silence. I have been hiking in Haleakalā crater for 37 years, and I shudder to think of encountering such an inappropriate edifice.	
2. The impact of .... high noise levels...	
3. ..the Red Hill overlook is located within the 55 db noise contour emanating from the 7 years of the ATST construction. Although this is noise level revealed, it is in “exceedance of the state standard for maximum permissible daytime sound levels in class A zones”. The SDEIS describes this as being only disturbance. It is not!	
4. There is no cumulative level of noise. The noise up there is probably from the air force.	
<b>Response:</b>	
Text has been revised in Section 4.10.2-Evaluation of Potential Effects at the Preferred Mees Site to better clarify this point and to convey that effects of noise from the construction of the proposed ATST Project at either the Mees site or the Reber Circle site are anticipated to be a major, adverse, short-term, direct impact.	

<b>Construction: General</b>	
<b>Received from:</b>	
S. Paapanen, 05-12-09	
<b>Comment:</b>	
Could you bury the telescope under the ground? The long lens part, so it doesn’t have to stick up so high into the skyline?	
<b>Response:</b>	
The telescope needs to be well above the ground in order to avoid turbulence in the air near the ground. The sunlight heats the ground and the ground then heats the air which drives turbulence. This causes the images to blur. It is like looking over a campfire, though that example is extreme. In fact, the telescope is designed to be as short as possible and still function to its specifications. (See Section 2.4.1-Features of Infrastructural Design)	

<b>Construction: Building Code</b>	
<b>Received from:</b>	
1. County of Maui, Dept. of Public Works, 06-04-09	3. Hilary Parker, 06-10-09
2. Syla Cabral, 06-13-09	4. Dick Mayer, 06-22-09
	5. Elaine Wender, 06-22-09
<b>Comment:</b>	
1. The County Building Code does not apply to lands that are designated State Land Use conservation District.	
2. This will set precedents to allow building heights over six floors on Maui.	
3. Upcountry has a 35 foot height limitation.	
4. The proposed telescope would violate the 35 foot height limit in the Upcountry Community Plan. The height and the scale of the proposed 143 feet ATST facility and the approximately 70 feet adjoining service building violate an important design guideline contained within the (Upcountry) Makawao-Pukalani-Kula Community Plan. Since the Community Plan is a Maui County ordinance and because a CDUA permit requires that every application must conform to	

<p>ALL State and County ordinances, the ATST would be ineligible to receive a CDUA permit from DLNR.</p> <p>5. The proposal violates many existing laws, including height limitations.</p>
<p><b>Response:</b></p> <p>1. It is acknowledged that the County Building Codes do not apply. The existing State Land Use District for the proposed ATST Project has been identified as Conservation District, General Subzone, where a Conservation District Use Permit (CDUP) will be required by the Dept. of Land and Natural Resources (DLNR) prior to construction. (See Section 1.7.2-State Land Use Law, Chapter 205, Hawai‘i Revised Statutes and Section 1.6.4-Permits and Approvals)</p> <p>2, 3, 4, 5. See Comment 1, above, from the County of Maui, Dept. of Public Works, 06-04-09.</p> <p>Chapter 2.80A, Maui County Code, pertaining to the General Plan and the community plans, requires that “For community plan areas on the island of Maui, urban and rural growth boundaries and a map delineating urban and rural growth areas, consistent with the general plan;” The Makawao-Pukalani-Kula Community Plan as adopted by Ordinance No. 2510 and became effective on July 23, 1996, page 29, describes the Goal, Objectives, and Policies for Urban Design. Objective No. 8 recommends: “Enforce a two-story or 35-foot height limitation throughout the region...” <u>Urban Region Design</u>. However, HO is in a Conservation District, as noted in the plan and, therefore, the community plan does not apply. Moreover, the Maui County Code, Chapter 16.26 Building Code 16.26.101.3, Subsection 101.3 amended, reads as follows: 101.3 Scope. The provisions of this code shall apply to the construction, alteration, moving, demolition, repair, and use of any building or structure within the county, except those lands within the county that are designated by the state land use commission to be within the conservation district boundaries or designated as Hawaiian Home Lands. Accordingly, there are no height restrictions imposed on structures within the conservation district boundaries.</p> <p>4. A CDUP decision will be made by the BLNR, for which the Proposed ATST Project would require a Board permit.</p>

<b>Construction: Roadways and Traffic</b>		
<b>Received from:</b>		
1. Historic Hawai‘i Foundation, 06-08-09	3. “Enough is Enough” Petitioners, 06-22-09	4. Roger Dennis Hawley, 06-22-09
2. Elaine Wender, 06-22-09	(See list of individuals with copy of Petition)	
<b>Comment:</b>		
<p>1. The vehicle load limits should relate not just to the bridge but also to the culverts. As the majority of contributing features are culverts, there should be some mitigative measures preventing the culverts from being overloaded.</p> <p>Will there be some kind of plan as to what to do if damage inadvertently occurs to the roadway and related features during the course of the project? HHF feels that should any damage occur, replacements and/or patching should be made using in kind materials following the Secretary of the Interior's Standards for Rehabilitation.</p> <p>Historic American Engineering Record (HAER) report was completed in 1999 we would like to suggest that as part of the mitigation that this report be used for some kind of educational purpose within the park. Possible ideas include putting the report on the Park website, or perhaps doing a piece on it for the Park newsletter.</p> <p>2. The traffic alone involved in hauling construction materials would seriously impact residents and visitors alike, as well as park operations.</p> <p>3. The impact of traffic on our roads for the 7 year construction period...</p>		

<p>4a. ...erect a temporary concrete batch plant and take up individual smaller truck loads of cement clay, hard rock, and aggregate sand and water to a site of an abandoned radio or television tower near the proposed solar telescope construction site.</p> <p>4b. I object to the very really dangerous aspect of hundreds of local construction workers racing up and down Haleakalā mountain every day to and from work...” “Why not use part of Dowling’s Pukalani Shopping Center parking lot as a staging area for future construction worker’s private cars and truck?”</p>
<p><b>Response:</b></p> <p>1, 2, 3, 4a, 4b. See Section 4.17.12-Infrastructure and Utilities for more detailed information. See Section 4.18-Mitigation. The ATST Project is working collaboratively with HALE , as part of the Special Use Permit process, to establish mitigation measures for use of the Park road during the project construction, if approved. Mitigation measures for roadways and traffic include load limits, wide loads, temporary alteration to the entrance station, protection or possible relocation of underground utilities, pre- and post-project documentation, and traffic controls.</p> <p>1. It is noted that your comments were cc’d to HALE, and while the NSF cannot implement mitigation proposals within the National Park or post to their website, the HAER Report was posted to the ATST website: <a href="http://atst.nso.edu/library/NHPA">http://atst.nso.edu/library/NHPA</a>, see Item 3-Cultural and Historic Resources Surveys.</p> <p>1, 2, 3, 4a, 4b. The majority of the anticipated trips to the proposed ATST site are by small pick-up trucks, vans and passenger vehicles, as required for the commuting of workers, small equipment or material deliveries, and passenger car traffic for inspection and supervision. During all phases of the proposed ATST Project, carpooling by workers to the summit would be mandated, to the maximum extent practicable, in order to minimize traffic effects and to address parking space limitations on the site. See Section 2.4.3-Construction Activities, under the subheading Construction Traffic.</p>

<b>Construction In General</b>
<p><b>Received from:</b> Hilary Parker, 06-10-09</p>
<p><b>Comment:</b> The short-term construction phase will have an impact on noise pollution, air pollution, traffic tie ups, road degeneration from Kahului to the top of the mountain, decrease in tourists and locals using the crater for education, cultural, spiritual and recreational endeavors.</p>
<p><b>Response:</b> The noise analysis has been enhanced in response to comments on the SDEIS. NSF acknowledges that the proposed ATST Project will have a major adverse impact on the summit as a Traditional Cultural Property. See Section 4.2 for more detail. Adverse impacts on the visitor experience for hikers and other users of HALE are also acknowledged by NSF to result. These impacts are analyzed in Section 4.6.</p>
<p><b>Received from:</b> State of Hawai‘i, Dept. of Health, Environmental Planning Office, Kevin Sunada, Manager, 06-15-09</p>
<p><b>Comment:</b> Please specify the construction demolition waste disposal destination.</p>
<p><b>Response:</b> Construction demolition as described in the SDEIS (Section 2.4.3-Construction Activities (Mees site) and 2.5.3- Construction Activities (Reber Circle site) would result in a variety of waste materials. Removed equipment, such as the test tower, weather station, and test equipment, would be returned to the owners for storage or reuse elsewhere. Rubble from concrete foundations, building walls and other building materials would be transported to an appropriate land fill and disposed of as permitted by local regulations. Native rock from site walls and other structures would be placed within the HO area as specified by an on-site Cultural Monitor. Removal of the existing cesspool, as stated in the SDEIS (page 2-21) “...would require testing of the surrounding soil and possible remediation measures. Proper disposal of the cesspool, treatment of the soil, and all other aspects of this work would comply with applicable regulations of the EPA and the State Health Department.” This compliance would include the ultimate destination of any materials related to the cesspool removal.</p>

<b>Infrastructure and Utilities: Excavation</b>
<b>Received from:</b> Dick Mayer, 06-22-09
<b>Comment:</b> What will happen with the excavated soil, i.e. a site for soil placement vs. a construction staging area?
<b>Response:</b> See Section 2.4.3-Construction Activities for detailed discussion on excavation, soil placement, and staging.
<b>Infrastructure and Utilities: Roadways and Traffic</b>
<b>Received from:</b> Hawai'i Dept. of Transportation (DOT), B. Morioka, 05-22-09
<b>Comment:</b>
<ol style="list-style-type: none"> <li>1. No Traffic-Impact Analysis Report (TIAR) was provided. However, given the limited number of staff at the site, it is unlikely that the completed project would generate significant traffic impacts.</li> <li>2. Available analysis limited to determining impact on the pavement of Haleakalā Crater Road rather than the operational traffic impact of heavy construction equipment.</li> <li>3. Coordinate with the DOT Highways Division Maui District Engineer to ensure coordination of vehicle movements and compliance with necessary procedures, including discussions for Oversize and Overweight Vehicle Permits for transport of large equipment on State highway facilities leading to the site. Coordinate contingency plans with District Engineer if there is damage to State highway facilities. The contractor is responsible for remediation of damage occurring from construction vehicle movement.</li> </ol>
<b>Response:</b>
<ol style="list-style-type: none"> <li>1. Your comments are respectfully noted.</li> <li>2. The analysis and report completed by the Federal Highways Administration (Vol. II, Appendix P-FHWA HALE Road Report) focused primarily, as the comment notes, on the impact of the Proposed Action on the road pavement. However, additional analysis was undertaken in preparation of the SDEIS that addressed the impact of construction traffic on the current use of the road by tourists and other road users. The extent of construction traffic required for the proposed ATST Project is summarized in Table 2-4-Anticipated Major use of the Road for Construction of the Proposed ATST Project. The extent of existing traffic on the roads that lead to the site was researched through the most recent available DOT traffic surveys for the Haleakalā Crater Road (State Route 278). Twenty-four-hour traffic counts from 2007 and 2003, as well current traffic volume data from the FHWA report, are described in Section 3.9.5-Roadways and Traffic. The impact of the construction traffic on the existing traffic, on both the State and Park roads leading to the site, is then discussed extensively in Section 4.9.2-Evaluation of Potential Effects at the Preferred Mees Site, subheading Construction-Related Effects on Roadways and Traffic. The potential impact of construction traffic is further elaborated in Section 4.18-Mitigation. Specific proposed mitigation measures are presented in Section 4.18 include: limitation of the number, size and timing of wide loads, preparation by the Project of a traffic plan to allow coordination with other traffic; and restriction of the hours for large construction vehicle to travel on the Haleakalā Crater Road through the Park.</li> <li>3. The “STATUS” column of Section 1.6.4-Approvals and Permits, Table 1-4-Anticipated Permits and Approvals Required for the Proposed Action, has been updated to include the provision for contingency planning.</li> </ol>
<b>Received from:</b> Anonymous, Submitted at the June 10, 2009 NEPA Public Hearing Held at Mayor Hannibal Tavares Community Center
<b>Comment:</b> Have you factored the weight of the newer and larger telescope that may have an impact to the wear and tear of the roads and bridges?
<b>Response:</b> Yes. See Section 2.4.3-Construction Activities and Table 2-4. Anticipated Major Use of the Road for Construction of the Proposed ATST Project and Vol. II, Appendix P-FHWA HALE Road Report.

<b>Infrastructure and Utilities: Communications</b>		
<b>Received from:</b>		
1. Hawaiian Telcom, 06-10-09	2. Hilary Parker, 06-10-09	3. Dick Mayer, 06-22-09
<b>Comment:</b>		
<p>1. Contact Hawaiian Telcom prior to excavation work, exploration or otherwise, to request for toning as excavation work will be in close proximity to existing Hawaiian Telcom underground facilities (copper and fiber). Please submit electrical designs and/or drawings to the Hawaiian Telcom engineering office for review and approval for a new service request.</p> <p>2. Another salient point is the lack of information forthcoming on off-site connections.</p> <p>3. Several references are made in the DEIS to connections to off-site facilities. The references are to some kind of “base” for communication to an off-site computer “server”, there is no description or evaluation of these off-site locations.</p>		
<b>Response:</b>		
<p>1. Thank you for providing information about Hawaiian Telcom’s requirements. Should the proposed ATST Project be approved for construction, Hawaiian Telcom would be contacted at the earliest possible date to collaborate on this project. (See Section 2.4.4-Telescope Operation Activities)</p> <p>2, 3. The references made to these connections pertain to data transmission connectivity currently provided at HO. See Section 2.4.4-Telescope Operation Activities (<i>Utilities, Communications</i>) for detailed discussion.</p>		
<b>Infrastructure and Utilities: ATST Apron and Paint Color</b>		
<b>Received from:</b>		
1. Dick Mayer, 06-22-09	2. Michael Lucas, 06-22-09	
<b>Comment:</b>		
<p>1a. Unfortunately, this white apron was not discussed in the DEIS. If it had been included in the building design, evaluated and discussed, it might be possible to reduce the height of the telescope, maybe also the proposed illegally tall service building, and perhaps the overall cost of the project. If the white apron were built, what would be the telescope height needed?</p> <p>1b. The SDEIS is silent on the type of paint to be used in coating the exterior of the telescope facility. However, it was made clear in previous meetings that a “super-bright” white paint was being utilized on the telescope’s exterior.</p> <p>I could find no discussion in the Sup-DEIS of the impact of that white paint on the visibility of the telescope. In discussions during the scoping, it was pointed out that the white paint would be “extremely reflective”, much more so than the highly visible, neighboring AEOS telescope. Consequently, the visual impact of the 143 feet high ATST will be amplified by its reflected radiance. The final EIS must report on this undesired effect.</p> <p>2. ...the NSF refused to consider alteration to the .... color of the observatory.</p>		
<b>Response:</b>		
<p>1a. See Vol. II, Appendix J(4)- Proposed Action and Alternatives: Supplemental Description of ATST Equipment and Infrastructure. In addition to direct sunlight, heat radiating up from the dark volcanic rock around the enclosure is shown by thermal modeling to be a significant contributor to the heat load on the enclosure surfaces. A simple passive approach is proposed to significantly reduce this heat source. A ground-level concrete apron extending 10 meters (32 feet 10 inches) out from the base of the enclosure would reduce the incident heat on the lower enclosure by approximately 40 percent. This ring of concrete would be painted with a white sealant and would incorporate a trench drain to allow it to serve as a back-up containment method for any potential coolant leakage from the carousel above.</p>		

- 1b. The paint specified for most of the enclosure was accurately rendered in the SDEIS. See Vol. II, Appendix J(4)-Supplemental Description of ATST Equipment and Infrastructure for a detailed discussion.
2. NSF explained, both in the SDEIS, this FEIS, and during the public hearings that the color must be white in order to meet the scientific objectives of the proposed ATST Project; if a different color were used, the purpose and need of the proposed ATST Project could not be met. See Section 2.4.1-Features of Infrastructural Design and Vol. II, Appendix J(4)-Supplemental Description of ATST Equipment and Infrastructure for further discussion on these features.

**Infrastructure and Utilities: Wastewater, Domestic Water, Stormwater**

**Received from:**

1. R. Miller, 06-04-09
2. State of Hawai'i, Dept. of Health, Environmental Planning Office, Kevin Sunada, Manager, 06-15-09
3. "Enough is Enough" Petitioners (See list of individuals with copy of Petition)

**Comment:**

1. Where will the sewage go?
- 2a. The project is located in the Critical Wastewater Disposal Area (CWDA) where no new cesspools will be allowed. We have no objections to the proposed development as long as the generated wastewater is treated through a wastewater system that conforms to our state rules. You could use individual wastewater system or a centralized treatment works. All wastewater plans must meet Department's Rules, HAR Chapter 11-62, "Wastewater Systems."
- 2b. We do reserve the right to review the detailed wastewater plans for conformance to applicable rules.
- 2c. Any project and its potential impacts to State waters must meet the following criteria:
  - a. Anti-degradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.
  - b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.
  - c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).
- 2d. You are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55).
- 2e. Please provide Best Management Practices (BMPs) for the cesspool removal and site remediation.
- 2f. Please provide BMPs for the disposal of concrete truck wash water. For your information, the DOH-CWB prohibits disposal of concrete truck wash water via percolation.
- 2g. All discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter II-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of \$25,000 per day per violation.

3. The impact of ...incomplete water and waste plan is unacceptable...

**Response:**

1, 2a, 3. See Section 2.4.4-Telescope Operation Activities (Utilities, Wastewater Management) for detailed discussion about installation of an individual treatment plant adequate to process the domestic wastewater from both the Proposed Action and the MSO facility, if approved for construction.

2b, 3. Table 1-5. Anticipated Permits and Approvals Required for the Proposed ATST Project has been updated to include the Dept. of Health's right to review plans for conformance.

2c. The proposed ATST Project has reviewed those statutes. None of the construction or operational activities of the Proposed Action are expected to be in violation. More extensive review and assurance of compliance with the required criteria will be undertaken in the future, full design and specification of the proposed ATST Project, if approved.

2d, 3. As stated in Section 1.6.4-Approvals and Permits, the proposed ATST Project will submit an NPDES application for permit, if construction is approved. The proposed ATST Project would be bound by the HO Stormwater Management Plan (Vol. II, Appendix L) to prevent erosion, excessive losses of soil, and reduce the potential for off-site sedimentation.

2e, 3. BMPs typical of construction and remediation would be implemented, such as development site plans, photo documentation before, during, and after remediation, impervious liners for excavated materials, and covers to minimize dust. BMPs used would be determined previous to construction by the construction site manager and contractors responsible for performing the work.

2f. Water used for washing out concrete trucks will be captured in containers and disposed of off-site at an authorized location in an authorized manner.

2g. The comment is duly noted. The ATST Project personnel and contractors will be made aware of those standards and the consequences for a violation of them.

<b>Infrastructure and Utilities: Electrical</b>	
<b>Received from:</b>	
1. Maury King, 06-12-09	3. Elaine Wender, 06-22-09
2. Dick Mayer, 06-22-09	4. “Enough is Enough” Petitioners (see list of individuals with copy of Petition)
<b>Comment:</b>	
<p>1. ...one of the smart things we can do is not adding a telescope to the grid that will have its own substation and apparently use as much electricity as a couple of thousand homes.</p> <p>2. An upgrade to MECO’s HO sub-station is mentioned. However, no mention is made as to who will pay for this upgrade. Will the burden fall on the general population of Maui who will see the capital cost of MECO rise, with a subsequent increase in resident’s electric power rates?</p> <p>3. The proposed building would require huge amounts of electricity which would put increased pressure on our power supply. Will the general population pay for the upgrades needed, and will this lead to increased electric rates?</p> <p>4. The impact of ... drain on our energy grid....</p>	
<b>Response to 1, 2, 3, 4:</b>	
<p>Members of the proposed ATST Project have contacted MECO on the anticipated electrical load and will continue to consult with MECO engineers should the Proposed Action be approved and plans become refined.</p> <p>See Section 2.4.4-Telescope Operation Activities (<i>Utilities, Electricity</i>) for a detailed discussion about electrical power for the Proposed Action that would be provided by connection to the MECO substation on HO.</p> <p>The potential upgrade of the electrical substation at HO is a project that MECO had been considering prior to the proposal for the ATST facility. Such an upgrade, if the ATST Project is approved, would take into account the additional power demand of the Project. It has not yet been determined whether the initial capital cost of a new or upgraded substation would be funded directly by the ATST Project or funded by MECO, the cost of which would then be recovered over the duration of the service.</p>	



**Response:**

1. Chapter 2.80A, Maui County Code, pertaining to the General Plan and the community plans, requires that “For community plan areas on the island of Maui, urban and rural growth boundaries and a map delineating urban and rural growth areas, consistent with the general plan;” The Makawao-Pukalani-Kula Community Plan as adopted by Ordinance No. 2510 and became effective on July 23, 1996, page 29, describes the Goal, Objectives, and Policies for Urban Design. Objective No. 8 recommends: “Enforce a two-story or 35-foot height limitation throughout the region...” Urban Region Design. However, HO is in a Conservation District, as noted in the plan and, therefore, the community plan does not apply. Moreover, the Maui County Code, Chapter 16.26 Building Code 16.26.101.3, Subsection 101.3 amended, reads as follows: 101.3 Scope. The provisions of this code shall apply to the construction, alteration, moving, demolition, repair, and use of any building or structure within the county, except those lands within the county that are designated by the state land use commission to be within the conservation district boundaries or designated as Hawaiian Home Lands. Accordingly, there are no height restrictions imposed on structures within the conservation district boundaries.

1, 2, 3. Quantitative methodology is based on a way of measuring objective physical criteria. The comment appears to advocate a more qualitative approach. Section 4.5 has been revised to include a more qualitative approach to the analysis. Section 4.5.1-Impact Assessment describes methods used to determine whether the proposed ATST Project would have a significant effect on visual resources. This section also describes additional methods that were employed to assess the potential effect of the proposed ATST Project to the viewshed with the Region of Influence.

Section 4.5.1-Methodology of Effect Assessment of the SDEIS, explained that the combination of all the above viewshed assessments methods provides a comprehensive prediction of the potential visual effect the proposed ATST Project would have within the ROI. While ATST would be clearly visible as the largest structure within HO from the Pu‘u Ula‘ula (Red Hill) Overlook and from elsewhere in HALE, it would be less prominent from other locations on Maui. Distance, atmospheric transparency, terrain blocking, and other facilities in the foreground would reduce the visibility of the proposed ATST Project such that in some locations it would be difficult to distinguish between ATST and the other existing facilities at HO, At some locations, such as Wailuku and Kahikunui, the proposed ATST Project at the Mees site would be seen more directly, without as much terrain blocking or other intervening facilities. From Kaupo, the proposed ATST Project facility would not be visible.

**Visitor Experience**

**Received from:**

- 1. Dick Mayer, 06-22-09
- 2. Elaine Wender, 06-22-09

**Comment:**

- 1a. As noted in the SDEIS (See 3-46), Haleakalā National Park (HALE) has “indicated that [the visitors survey you included in the SDEIS] is significantly flawed and likely biased and there are significant technical errors in the instrument and related reporting.” HALE further asserted that “the conclusions are based on an insufficiently designed and administered survey. This survey should not even be considered in the Final EIS. Where is the impact study on the effect these people touring the facility will have on the noise, on the land, on the Kanaka Maoli Practitioners trying to practice at the ahus, on the parking lot, on the traffic, etc?”
- 1b. The ATST SDEIS is woefully lacking in economic analysis. It does not even describe the major basic economic activity on Maui, the industry which brings in most of the income and provides most of the jobs, namely tourism. Is there even a reference to tourism, tourist employment, and tourism dependency? The summit of Haleakalā is probably the most visited spot on the island, and at the summit lookout the ATST will be a direct assault on that tourist experience. There will be consequences: a serious erosion of the visual experience. This is not just some mere “subjective” observation, as the Sup-DEIS attempts to portray the view plane.

- 1c. Not only is the planned 14-story telescope offensive to the native Hawaiian culture, but it would have a major detrimental effect on the sense-of-place of Haleakalā Crater and especially its summit for all hikers and other users of Haleakalā National Park.
2. The massive structure proposed for the summit of Haleakalā would also have enormous negative impacts on the experience of visiting the national park and well as the environment at the summit and elsewhere on the island.

**Response:**

- 1a, b. The visitors survey presented in the SDEIS provides some information obtained from a sample of visitors exiting HALE regarding whether they would have an interest in returning to the Park if the proposed ATST Project were built. NSF notes HALE’s objections to this survey; moreover, NSF does not imply that the survey has applicability beyond the questions asked. See Section 4.6.
- 1c. The proposed ATST Project is not a 14 story building. A single story is not 10 feet, however, building stories are variable from project to project, and from state to state. Some examples clearly demonstrate this. Single stories of the 110 story Sears Tower in Chicago average 13.2 feet, but they averaged 12.3 feet at the destroyed 110 story World Trade Center #1. On Maui, a story averages about 11.55 feet at the County’s 9-story Kalana O Maui building. If one story for ATST is considered to be the same as that for Kalana O Maui, the completed ATST Project would be a little more than 12 stories tall. If the average story height of the Sears Tower is the benchmark, it would be less than 11 stories tall.  
  
The number of floors in the proposed ATST facility is six, as shown in the building section (Figure 2-12-Proposed ATST Facility Section Drawing Showing Depth of Foundations in Relation to Building and Natural Rock), however, NSF does not mean to imply that the ATST structure would be a “6-story building”. Nevertheless, it would not be accurate to describe it as reaching 14 stories, since 10 feet per story is very low for a typical tall building. Considering a normal 8- to 9-foot ceiling height plus at least 1 foot for structure and 3 feet for ductwork and other utilities, the minimum floor-to-floor height for the majority of tall buildings is roughly 12 feet. Many research-use buildings, which typically have higher ceilings and more intensive structures and utilities, are 16 feet or more floor-to-floor. Even taking the more modest, reasonable assumption of 12 feet per story, the proposed ATST structure could accurately be characterized as *approximately equivalent to a typical 12-story building*.
- 1c, 2. NSF acknowledges that the proposed ATST Project will have a major adverse impact on the summit as a Traditional Cultural Property. See Section 4.2 for more detail. Adverse impacts on the visitor experience for hikers and other users of HALE are also acknowledged by NSF to result. These impacts are analyzed in Section 4.6.

<b>Upcountry Community Plan</b>	
<b>Received from:</b>	
1. Dick Mayer, 06-22-09	2. Thomas R. Cannon, 06-22-09
<b>Comment:</b>	
<p>1. There is a strong feeling among residents in the surrounding community that this whole area should NOT be impacted by urban, large or industrial-type facilities. These feelings have been expressed in the vision of the Kula Community Association (which includes the ATST site within its community). The KCA vision statement reads as follows: <i>“The vision of the Kula Community Association is to preserve open space, support agriculture, maintain a rural residential atmosphere, and to work together as a community.”</i></p> <p>The SDEIS has trivialized the impact of the ATST on the disruption to the view plane and the reduced quality of the tourist (and resident) experience. Unfortunately, the SDEIS grossly underestimates the impact of the “in-your-face” 143 feet high telescope and the adjacent service building. Maui County law in the form of the Upcountry Community Plan states as a Land Use Policy (P. 18), <i>“Recognize the value of open space, including agricultural lands and view planes to preserve the region’s rural character.”</i></p>	
<p>2. After conducting numerous studies and hearing public comments from people throughout the island over a three year period, the General Plan Advisory Committee (a twenty-five member citizen panel appointed by the either the Maui County Mayor or County Council to set out recommendations for the Maui County General Plan for the County of Maui for the next 20 years) adopted a county wide policy plan that includes language to “immediately provide and encourage laws to preserve and enhance the summit of Haleakalā with <b><i>no new buildings</i></b>.” [Emphasis added] (Policy No. 5031).</p>	
<b>Response:</b>	
<p>1. If approved for construction, the proposed ATST Project would not be located in the Kula community. It would be located within HO on State Conservation District land. Sections 1.7.2-State Land Use Law, Chapter 205, Hawai‘i Revised Statutes and 3.1-Land Use and Existing Activities state: “The existing State Land Use District for the proposed ATST Project is designated as Conservation District, General Subzone. The objective of the General Subzone is to designate open space where specific conservation uses may not be defined, but where urban use would be premature. During the past few years, the OCCL within the DLNR has administered CDUPs for numerous potential uses, among them astronomical facilities on Haleakalā. The proposed ATST Project would be located in the area of the Conservation District that has been set aside for astronomical research (HAR§13-5-25: Identified land uses in the General Subzone, which is applicable from R-3 Astronomy Facilities, (D-1) Astronomy facilities under an approved management plan); and many facilities conducting astronomy and advanced space surveillance already exist within HO.”</p>	
<p>2. Chapter 2.80A, Maui County Code, pertaining to the General Plan and the community plans, requires that “For community plan areas on the island of Maui, urban and rural growth boundaries and a map delineating urban and rural growth areas, consistent with the general plan;” The Makawao-Pukalani-Kula Community Plan as adopted by Ordinance No. 2510 and became effective on July 23, 1996, page 29, describes the Goal, Objectives, and Policies for Urban Design. Objective No. 8 recommends: “Enforce a two-story or 35-foot height limitation throughout the region...” <u>Urban Region Design</u>. However, HO is in a Conservation District, as noted in the plan and, therefore, the community plan does not apply. Moreover, the Maui County Code, Chapter 16.26 Building Code 16.26.101.3, Subsection 101.3 amended, reads as follows: 101.3 Scope. The provisions of this code shall apply to the construction, alteration, moving, demolition, repair, and use of any building or structure within the county, except those lands within the county that are designated by the state land use commission to be within the conservation district boundaries or designated as Hawaiian Home Lands. Accordingly, there are no height restrictions imposed on structures within the conservation district boundaries.</p>	
<p>The Draft Maui Island Plan, April 2008 in Chapter 3. Economic Development: High Technology, Opportunities, <i>Natural Environment Conducive to</i></p>	

*Development of Industry Niches* (p.88) states: “Several aspects of Maui’s natural environment are highly conducive to the development of specific technology industry niches. Due to Maui’s year-round growing season, biotechnology has the potential of becoming a leading force in the island’s high technology industry. Additionally, with Haleakalā’s elevation and high quality visibility, space surveillance is another industry niche with considerable growth potential. Growth of this industry niche also depends on continuing cooperation with the University of Hawai‘i Astronomy Program. Biotechnology and space surveillance are also industry niches that are prime candidates for the development of successful clusters.”

The GPAC and Director’s Recommendations of April 2009, on p.41, Economic Development, Emerging Industries, Policy Item 7 under GPCA Final Recommendations states: “Support a sustainable, culturally sensitive, astronomy industry.”

**Environmental Consequences and Cumulative Effects**

**Received from:** 1. Elizabeth Havelin, 06-22-09 2. Dick Mayer, 06-22-09

**Comment:**

1. When I looked at the Supplemental Draft Environmental Impact Statement there were many statements that struck me as doubletalk. There were way too many sentences including "minor, adverse, long-term effect". These words placed together create contradictory statements in and of themselves. Especially in light of it 'effecting' a cultural, natural sanctuary. On (SDEIS) page ES-36 it states “effects from land clearing, demolition, grading/leveling, excavation, soil retention and placement, construction, paving and other site improvement activities...” and that there would be “...no adverse or beneficial effects on topography under the No Action Alternative”. Many of us see non development greatly benefiting Haleakalā mountain in the protection of, and the respect for it.

On page 4-1 is a telling passage- “Effects include ecological...on natural resources...affected ecosystems...aesthetic, historical, cultural, economical, social, or health, whether direct or indirect, or cumulative. Effects may also include those resulting from actions that may have both beneficial and detrimental effects, even if on balance, the agency believes that the effect would be beneficial.” What I’m reading here is that while acknowledging there will likely be adverse effects you just want to do it - period. This means one group or interest can push their objectives though even if it means forever altering a communally revered special place.

2. There are other projects in addition to the ATST: Pan-STARRS; NASA Transportable Laser Ranging System; and the AEOS Mirror Coating Facility. Are there traffic concerns? Biological considerations? Cultural considerations? Disrupted view corridors? Etc.? Does each of them have a separate CDUA? If yes, how will the DLNR Board be able to consider cumulative impacts? Since these are all on the same University of Hawaii leased site, Hawaii HRS 343 requires a cumulative impact review/analysis.

**Response:**

1. We refer the commenter to NPS Director’s Order #12, Handbook, Chapter 4, G (5) for a discussion of the use of impact thresholds for evaluation of resources in compliance with NEPA and Department of Interior regulations. Those guidelines, which NSF used in preparing its NEPA analysis, dictate the use of the impact intensity thresholds major, moderate, and minor, along with the terms adverse and long-term, to describe the full extent and relative importance of impacts that could result from the proposed ATST Project.

NEPA regulations require federal agencies to identify and assess adverse effects, including those adverse environmental effects which cannot be avoided should a proposal be implemented. The Council on Environmental Quality (CEQ) regulations implementing NEPA, 40 CFR Parts 1500-1508, describes how agencies are to proceed with the environmental impact assessment process. Part 1502.16 discusses the identification and description of environmental consequences, and specifically does not preclude implementing a project solely because there are such consequences. Therefore, although the proposed

ATST Project has identified a number of major adverse effects that could result for specific resources, the comment that “a group or interest can push their objectives through” is an inaccurate depiction of the NEPA process for the proposed ATST Project. Moreover, NSF has not made a final decision regarding whether to go forward with the proposed ATST Project.

2. Section 4.17-Cumulative Effects to the Affected Environment addresses the impacts of the proposed ATST Project that were examined together with the impacts from past, present, and reasonably foreseeable activities within the ROI for each resource.

All new facilities within HO that involve conservation land use (excluding interior renovation and reuse of lands) since the rules were issued in 1994 have required CDUP. These permits involve a Conservation District Use Application (CDUA) that requires detailed effects analysis. In general, the permits are temporally limited (although often renewable), because the intent of the OCCL administering CDUPs is to return the land to its undeveloped conservation use when the permitted activity is completed. See Section 4.17.4-Land Use and Existing Activities.

**Employment**

**Received from:**

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. Ken Wrobel, 05-26-09</li> <li>2. International Brotherhood of Electrical Workers, Local 1186, Brian Lee 05-28-09, Ray Shimabuku 06-17-09</li> <li>3. Princess Lehuanani Aquino, 06-06-09</li> <li>4. Laborers’ International Union of North America, Local 368, 06-09-09</li> <li>5. Hawai’i Carpenters Union, Ivan Lay, 06-10-09 and 06-22-09</li> <li>6. International Brotherhood of Electrical Workers, Local 1186, Ray Shimabuku 06-17-09</li> </ol> | <ol style="list-style-type: none"> <li>7. Hilary Parker, 06-10-09</li> <li>8. Judith Mancini, 06-14-09</li> <li>9. Harriet Witt, 06-22-09</li> <li>10. Maui Economic Development Board, 06-22-09</li> <li>11. Jeff Bagshaw, 06-21-09</li> <li>12. “Enough is Enough” Petitioners<br/>(See list of individuals with copy of Petition)</li> </ol> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Comment:**

1. The creation of jobs is something that benefits all Mauians. The facility will not only provide jobs, but clean jobs that do not impact our fragile island environment. Technology is Maui’s best hope for the future, and I welcome your facility to my wonderful island home.
2. Our organization, the International Brotherhood of Electrical workers Local 1186 in Hawaii believes that the potential cultural impact of the solar telescope project being proposed for the Haleakalā High Altitude Observatory Site, which is managed by the University of Hawaii, may be mitigated and we would like to be a “Consulting Party” in the NHPA Section 106 process.  
  
Our NJATC apprenticeship program is a qualified program that is recognized by this law. It would be a tremendous experience for our apprentices to be able to be a part of building a one of a kind facility right here on Maui. Our Apprenticeship program is a five year program which includes schooling and on the job training. A project of this magnitude might not be available again in our lifetime, so why not take advantage of this and give our young men and women an opportunity to have an incredible experience.
3. The employees you will be hiring comes from the mainland, not a kanaka maoli...
4. We’re saying the mountain is sacred but what about our young Native Hawaiians that have no jobs and are struggling to make ends meet aren’t they more sacred then the land.” “The ATST Project is a welcome investment not only for the scientific and educational community but to the local economy as well. It is no secret that the entire state economy is depressed.”...”The ATST Project and other job creating opportunities are needed.

5. Our Apprentice Training Program is an accredited carpenter's apprentice program that is accepted under the Davis Bacon, Prevailing Wages regulations, which this project falls under. Our apprentices are all residents of this island, with a very high percentage of them native Hawaiian. Shouldn't the construction of this project include the training of our local apprentices? We have a young work force willing and able to take the challenges that will come with this project. Our apprentice program is a four year schooling program that covers all aspects of carpentry including framing, layout, and concrete form work and finishing. They are taught at schools and more importantly, hands on in the field. A state of the art faculty like this ATST project will further enhance their education and abilities in the carpentry field. Go that one that step further and help these young adults in securing a foot-hold on their island home. Support their apprentice program.

Employ a local workforce for the construction of this project.

Education is the key issue, be it the scientific or spiritual. But let's take it one step further and include education on the construction site. "Shouldn't the construction of this project include the training of our local apprentices? We have a young work force willing and able to take the challenges that will come with this project."

A state of the art faculty like this ATST project will further enhance their education and abilities in the carpentry field. Go that one that step further and help these young adults in securing a foot-hold on their island home. Support their apprentice program.

6. This scientific project proposed can be of many benefits to our Island home. It would be an asset in our economic status, creating new employment, and having the opportunity to explore in new technology. This project would fall under the laws regarding the Davis-Bacon Act, Prevailing Wages regulation. It would be a tremendous experience for our apprentices to be able to be a part of building a one of a kind facility right here on Maui. A project of this magnitude might not be available again in our lifetime, so why not take advantage of this and give our young men and women an opportunity to have an incredible experience.
7. I don't buy the sales pitch of the project creating employment.
8. There is mention of the need for jobs by the construction industry, the need for another tourist attraction and the need for educational opportunities in science for our students. We may need these things, but we also need a vision for our children's future.
9. How will the dollars brought to Maui by the construction and operation of this scope help Mauians to generate sustainable ways of living?
10. MEDB is prepared to assist in programs to mitigate the effects of ATST on cultural and natural resources. Toward that end, we would recommend that the National Science Foundation build on existing programs within the County of Maui and the State of Hawaii that are designed to integrate culture and science, such as the MEDB's nationally renowned Women in Technology programs for STEM education and workforce development. MEDB has established its role in supporting the expanded educational component with internships and grants for Hawaii students who may be drawn to studies STEM disciplines including astronomy and optical sciences. Similarly, the business development component of MEDB which works under the banner of High Tech Maui builds awareness in prospects about the cultural and environmental values of Maui County and promotes measures to address these values as businesses establish roots or expand in our community.

MEDB also recommends the NSF consider support for programs in Maui County that would enhance opportunities for apprenticeships for local residents in

construction, design and engineering related to the development of the observatory and the evolving ATST technology. This will capitalize on a unique, historic opportunity to build local capacity in these fields.

Additionally, there are numerous models of incorporating cultural and environmental values in the preparation of workforce in numerous fields. The ATST will offer increased professional and technical employment while it furthers growth of Science, Technology, Engineering and Math (STEM) education options through K-12 initiatives for example developed and offered by MEDB's Women in Technology program or through the University of Hawaii and its expanded affiliations in the fields of physics, mathematics, and astronomy. The skills fostered by projects like the ATST will contribute to the overall wellbeing of our residents as they seek to succeed in the 21st Century with cultural, environmental and economic needs intact.

ATST is a scientific program that promises to expand the base of knowledge about the source of energy and life on the Earth and that will provide increased professional and technical employment opportunities on Maui and in Hawaii. Its construction, operations and the continued need for support and maintenance of all the observatory facilities on Haleakalā will be a major source of new short-term and long-term jobs.

11. I would like to see how many people currently employed by all the astronomical institutions in Hawai'i were residents prior to the construction of those facilities. Shipping people over to Hawai'i does not create jobs for those who already live here.

12. ...there will be loss of revenue to local businesses associated with tourist to Haleakalā National Park.

**Response:**

1. Thank you for your comments, which are noted.

2 through 10, 12. If approved, the construction phase of the proposed ATST Project is anticipated to be approximately five years where all best efforts will be used to employ members of the local Maui workforce. When the construction phase has been completed, the proposed ATST Project estimates 50 to 55 new hires by the final year of commissioning. Of the approximately 55 personnel, 35 people would be working on Maui and therefore would slightly increase the local spending. Half of this number would be hired locally at the onset of the operational phase. After two or three years, the other half of staffing, originally hired or relocated from off-island sources, would be replaced by local hires, resulting in a long-term beneficial effect on local employment. (See Section 4.12.2-Evaluation of Potential Effects at the Preferred Mees Site.) With regard to the suggestion that NSF create an educational program to help mitigate the cultural and natural resource impacts, NSF has committed to fund an educational program at Maui Community College designed to cultivate and reinforce the intersection between Hawaiian culture and knowledge with science, technology, engineering, and math through courses, programs, certifications, and degrees. If the proposed ATST Project is approved, this educational program would be funded by NSF at the rate of \$2 million per year for ten years. See Section 4.2.

11. We do not have access to Human Resources data for astronomical institutions in Hawai'i. However, the largest employer at HO is currently Boeing LTS, who operates the Maui Space Surveillance Complex (MSSC). In the early 1960's, when the MSSC was first constructed, the local Maui workforce was utilized for construction; and, once it was completed, qualified individuals from the construction crews were hired to work within the facility. Many Maui residents have worked at and retired from this facility. In some cases, Maui- or Hawai'i-born individuals who resided on the mainland were able to relocate to Maui through employment opportunities at the facility. Some of these qualified individuals were either employed in fields suitable for open positions, students completing college, or men and women who had served in the military. Since the MSSC has been operating, there have been anywhere from around 30 to nearly 200 individuals employed at this facility, many of which are local residents who already live here (unpublished MSSC Human Resources data).

<b>Sunspot Cycle and Decommissioning</b>
<p><b>Received from:</b> R. Miller, 06-04-09</p>
<p><b>Comment:</b> I've heard the building will operate for 4 Sun cycles and therefore <math>4 \times 70 \text{ yrs} = 280 \text{ yrs}</math>. I've also heard the building will be torn down in 50 yrs. Which is true?</p>
<p><b>Response:</b> See Sections 1.4.1-Need for the Project, 2.4.3-Construction Activities, and 4.19-Mitigation. What you are referring to is known as the 11-year sunspot cycle. Since George Ellery Hale's 1908 discovery that sunspots coincide with strong magnetic fields, astronomers have become increasingly aware of the Sun's magnetic field as a complex and subtle system. The familiar 11-year sunspot cycle is just the most obvious of its many manifestations.</p> <p>Decommissioning of facilities constructed with NSF's financial assistance is determined on a case-by-case basis. Of course, decommissioning is taken into consideration as part of life-cycle project planning. With regard to the proposed ATST Project, NSF anticipates that the estimated lifetime of the telescope would be at least 45 years (spanning two 22-year solar cycles) after it becomes operational (if funding for construction is approved. If the proposed ATST Project is approved, NSF will decommission and deconstruct the proposed ATST Project fifty (50) years from the date operations commence, unless decided otherwise in consultation with the Native Hawaiian community; in that case, NSF will take steps to divest and relinquish itself of all responsibility associated with the ATST Project.</p>

<b>Mitigation Comments</b>
<p><b>Received from:</b></p> <ol style="list-style-type: none"> <li>1. Laborers' International Union of North America, Local 368, 06-04-09</li> <li>2. Hilary Parker, 06-10-09</li> <li>3. Harriet Witt, 06-22-09</li> </ol>
<p><b>Comment:</b></p> <ol style="list-style-type: none"> <li>1. The views of our Native Hawaiian brethren and persons concerned with the environment must be heard and appreciated for cultural and religious values and practices as well as the need to protect the environment. We believe the ATST Project can be built respecting these values with attention to mitigating actions. We believe the ATST project would comply with the requirements of the Conservation District that has been set aside for astronomical research.</li> <li>2. The "community benefits package" is merely a bribe.</li> <li>3. Why does it not include plans for a museum of Indigenous Polynesian astronomy and navigation on Maui? Why does the proposal not include plans for a science-and-sustainability center on Maui?</li> </ol>
<p><b>Response:</b></p> <ol style="list-style-type: none"> <li>1. Thank you for your comments, which are noted.</li> <li>2. A community benefits package was proposed by the Office of Hawaiian Affairs as a potential way of mitigating adverse effects to cultural resources. Other consulting parties through the Section 106 process have also suggested educational programs and workforce programs as suggested mitigation measures.</li> <li>3, 4. Ideas from the community for these types of plans were not submitted to NSF as potential mitigation proposals, but NSF notes your comments.</li> </ol>

<b>Mitigation Proposals Submitted</b>
<p><b>Received from:</b>                      Warren Shibuya, 03-27-06, 08-28-08, 06-22-09                      Maui Community College, Chancellor Clyde Sakamoto, 05-14-2007                      Laborers International Union of North America, Local 368, 06-01-09, 06-04-09                      Maui Hotel &amp; Lodging Association, Carol Reimann, Executive Director, 06-03-09                      Maui Native Hawaiian Chamber of Commerce, Howard Kihune, President, 06-04-09                      International Brotherhood of Electrical workers Local 1186, 06-17-09                      Aha Ali'i O Kapua'aiwa O Kamehameha V, Ali'i Sir and Grand Master Clifford Hashimoto, 06-18-09                      Hawai'i Carpenter's Union, Ivan Lay, 06-22-09                      Maui Economic Development Board, Jeanne Unemori Skog, President and CEO, 06-22-09                      Office of Hawaiian Affairs, Clyde Nāmu'o, Administrator, 06-22-09</p>
<p><b>Response:</b> Thank you for submitting a mitigation proposal. Mitigation Proposals can be found in Section 5.2.2-Addressing Adverse Effects.</p> <p>NSF acknowledges the spiritual and cultural significance of Haleakalā as a traditional cultural property (TCP) and has determined that the proposed ATST Project would have a major and adverse effect on this TCP. While many individuals spoke about the sacred and cultural significance of Haleakalā, and expressed their belief that spirituality cannot be mitigated and that construction of the proposed ATST project should be avoided, many others have, to the contrary, expressed their support for the proposed ATST Project and their belief that culture and science can co-exist. Still others have expressed their view that they are opposed to the construction of the proposed ATST Project, but believe that mitigation through an educational program focused on the intersection between traditional culture and science would help to reduce the adverse effects. All views have been received and will be considered before a final decision is made.</p> <p>Several mitigation proposals were received and for some of the proposals that were suggested, NSF does not have the authority to adopt them. A draft Programmatic Agreement (PA) was prepared that includes mitigation measures that NSF can implement. Elements of mitigation proposals are included into the draft Programmatic Agreement that is currently under review by the consulting parties as part of the Section 106 process.</p>
<b>University of Hawai'i</b>
<p><b>Received from:</b> University of Hawai'i Environmental Center, Water Resources Research Center, Environmental Center, P. Rappa, Environmental Review Coordinator, 06-22-09</p>
<p><b>Comment:</b> Comments to SDEIS on behalf of the UH Environmental Center.</p>
<p><b>Response:</b> Your comments were presented as being submitted in your capacity as a representative of the UH Environmental Center. On June 24, 2009, however, the Vice Chancellor wrote to NSF reporting that your comments do not represent the official views of the UH Environmental Center. Accordingly, NSF considers the views presented by the Vice Chancellor as superseding those submitted by you.</p>
<p><b>Received from:</b> Dr. Gary Ostrander, Ph.D., Vice Chancellor for Research and Graduate Education University of Hawai'i at Manoa, 06-24-09</p>
<p><b>Comment:</b> RE: Letter submitted by P. Rappa of UH Environmental Center. It should not be assumed that these views are those views of the UH Environmental Center, its employees, or affiliates The letter provides assurance that UH is excited about Haleakalā being chosen as the best site from which to study the Sun with the proposed ATST Project. UH appreciate that respect has been shown for the site and the community by undertaking both a State and Federal EIS.</p>
<p><b>Response:</b> Thank you for providing us with the official views of the University of Hawai'i at Manoa. They are respectfully noted.</p>

<b>Management Plan</b>	
<b>Received from:</b>	
1. Royal Order of Kamehameha I, G. Kaho‘ohanohano, 06-02-09	2. Laborers’ International Union of North America, Local 368, 06-04-09
3. Judith Mancini, 06-14-09	4. Leslie Ann Laing, 06-19-09
5. Dick Mayer, 06-22-09	
<b>Comment:</b>	
1. Concerns about more than one cultural plan for the mountain. Under what oversight was the cultural plan done? Where is the complete plan? It is a major problem when the mountain that is all ceded or crown lands looks like a blight with each organization having different (4 or 5) cultural plans for different parts of the mountain. This shows no consideration of the welfare of the mountain as a priority. The UH has not come forward in getting one plan to cover the whole mountain.	
2. The policy of the Makawao-Pukalani-Kula Community Plan is to: “Encourage Federal, State, and County cooperation in the preparation of a comprehensive Haleakalā summit plan to promote orderly and sensitive development which is compatible with the natural and Native Hawaiian cultural environment of Haleakalā National Park. We believe the ATST Project should comply with these requirements.	
3. ...when we the public must endure the impact of a fourteen story building in a wilderness area on a mountain that has no comprehensive plan and on land whose legal standing is yet challenged.	
4. A comprehensive or master management plan is essential to minimizing the harms from current activities on the whole summit.	
5. In the year 2001 the Maui County Council passed Resolution 01-45 entitled, “Urging the State of Hawaii to Fund Master Planning for Haleakalā”. Unfortunately, to-date the Master Plan is only for the 18 acre IfA site. There is an obvious need to plan not just the IfA 18 acres, but the whole summit region of Haleakalā. Only in this way will the interaction among the various activities be known and the problems mitigated. This Supplement to the original DEIS has yet to grasp the multiple impacts of the ATST on other activities at the summit.	
<b>Response to 1, 2, 3, 4, 5:</b>	
Haleakalā High Altitude Observatories (HO) site is located on 18.166 acres of State of Hawai‘i Conservation District land. The IfA will comply with Hawai‘i Administrative Rules (HAR) Chapter 13: Department of Land and Natural Resources (DLNR), Subtitle 1: Administration, Chapter 5: Conservation District. The Proposed Action conforms to the LRDP, which would serve as the IfA contribution to any summit master plan. There are more than 25 separate State, Federal and private entities with interests in the summit area of Haleakalā. IfA is the only one of these entities that has undertaken long-range planning for the property under its jurisdiction. The LRDP has specific protocols and measures that ensure orderly and sensitive development that is designed to be compatible with the intended land-use and purposes for the 18.166 acres of land under the stewardship of IfA.	
In accordance with HAR 13-5, Exhibit 3, the IfA is preparing a Management Plan (MP) for HO. The MP will consist of a general description of the land use, ownership, the resources on the property, constraints such as topography, geology, easements, etc., proposed land uses, environmental monitoring strategies, and reporting to the DLNR. The decommissioning and restoration of facilities within HO will also be included in the MP. The MP will be accompanied by a Programmatic Environmental Assessment (PEA). The LRDP and MP, along with the PEA, will comprehensively address planning, monitoring, and reporting for the 18.166 acres of HO and will comply fully with Exhibit 3 of HAR 13-5.	

<b>Additional Comments</b>
Dept. of Business, Economic Development, and Tourism, Abbey Seth Mayer, Director, 05-19-09.
<b>Comment:</b> No comments to offer.
<b>Response:</b> Thank you for your comments, which are noted.

<b>Comments Received in Support of Project</b>	
1. Aha Ali‘i O Kapu‘aiwa O Kamehameha V	2. Dan Holtman
3. Douglas A. Field and Family	4. German Platero
5. Harold Keyser	6. Hawai‘i Carpenters Union
7. International Brotherhood of Electrical workers Local 1186	8. Joe and Karen Grafe
9. Ken Wrobel	10. Laborers’ International Union of North America, Local 368
11. Mark Parsons	12. Maui Economic Development Board
13. Maui Hotel & Lodging Association	14. Maui Native Hawaiian Chamber of Commerce
15. Richard Mealey	16. Rob Ratkowski
17. Roger Dennis Hawley	18. Sean O’Leary
19. Sonia Danse	20. Stephen Roth
21. Steve and Ellie McGaughey	22. Warren Shibuya
<b>Comment</b> letters for these individuals and community groups can be found following this matrix.	
<b>Response:</b> Thank you for your comments, which are noted.	

<b>Received from:</b> Friends of Haleakalā National Park, Matt Wordeman, President, 6-18-09	
<p><b>Comment:</b></p> <ol style="list-style-type: none"> <li>1. A CDUP has not been issued. The size and proximity of the proposed ATST suggest that it is a reasonable possibility that the DLNR could impose specific constraints or mitigations on an ATST project that were not imposed on previous projects.</li> <li>2. The FHNP feels that visual impacts on the Park are negative, significant and long term. The rendering provided as figure 4-18, shows clearly that the proposed ATST would result in a significant additional obstruction of the horizon as viewed from Pu'u Ula'ula in the Park. It also represents a taller obstruction than any other when observed from this point. The view of the horizon is critical to anyone wishing to study traditional Hawaiian navigational techniques. The presence of the ATST would certainly diminish this capability from the popular viewpoint within the Park.</li> <li>3. The data in Fig. 4-29 and 4-30 of the visibility of the ATST at the Mees and Reber sites shows that while the ATST would not be visible from current maintained trails, it would be visible from current unmaintained trails. The Mees site would be visible from portions of the Lau'ula trail, and the Mees site from both Lau'ula and Mauna Hina unmaintained trails. The FHNP feels that the addition of an additional man-made structure visible on the horizon from <i>any</i> wilderness area within Haleakalā National Park diminishes the effectiveness of the Park and violates its charter.</li> <li>4. Studies presented in the SDEIS Vol. II Appendix N (visitor surveys) conclude that the presence of the ATST would not negatively impact the experience of visitors to HALE. This may indeed be true for the majority of visitors to the Park, specifically that group of visitors who could be classified as sight-seers. However, the FHNP believes that HALE must also be preserved for the use of those seeking a wilderness experience and for those who visit or use the Park for its unique native flora and fauna and natural environment.</li> </ol>	<p><b>Response:</b></p> <ol style="list-style-type: none"> <li>1. The commenter is correct, a CDUP has not yet been issued for the proposed ATST Project. Once a CDUA has been submitted to the DLNR, the decision will be made by the BLNR; and, as with other facilities in HO, the CDUP, if issued, would likely impose specific constraints or mitigations.</li> <li>2. In the SDEIS, Figure 4-18 is a photo of the Kolekole Survey Pin. The Pu'u Ula'ula rendering was Figure 4-14. The horizon is already obstructed by natural topography at the proposed Mees site for ATST. Without considering any of the man-made structures, the rim of Kolekole does not permit visual line-of-sight to the horizon (sea/sky interface) from Pu'u Ula'ula in a southwesterly direction. NSF notes, however, that in response to comments on the SDEIS, Section 4.5 Visual Resources and View Planes has been revised.</li> <li>3. The proposed ATST Project would only be visible on those unmaintained trails if it were to be built on the Reber Circle site, as shown in Figures. 4-29 and 4-30 of the SDEIS. The only man-made structures currently visible from accessible wilderness areas in the crater are the Park Visitor Center and the Pu'u Ula'ula Overlook, and this would still be the case if the proposed ATST Project were constructed.</li> <li>4. The proposed construction of ATST would eliminate the use of HALE for the use of those seeking a wilderness experience and for those who visit the Park for its unique flora and fauna and natural environment. From those areas where ATST would be visible, there are already man-made structures visible to the visitor, e.g., at Pu'u Ula'ula and other areas adjacent to HO. As shown in Viewshed Figs. 4-29 and 4-30 of the SDEIS, ATST would not be visible from the true wilderness areas of HALE, or "backcountry" crater and other areas accessible to the public within HALE. NSF notes that, in response to comments on the SDEIS, NSF has revised both Sections 4.5 (Visual Resources and View Planes) and 4.6 (Visitor Use and Experience).</li> </ol>

<p>5. The FHNP concludes that seeing a man-made object on the horizon from a wilderness area diminishes the wilderness experience. We also believe that the negative effect is cumulative. That is, an additional or larger or taller structure has a additional negative impact on the wilderness experience, even when the new structure represents an addition to an already imperfect view.</p> <p><b><u>IMPACT ON BIOLOGICAL RESOURCES OF THE PARK</u></b></p> <p>6. The SDEIS section 4.18.3 outlines techniques proposed to mitigate the impact of AIS by trying to prevent their introduction. However, few human endeavors are executed perfectly, and no provisions have been stated in the SDEIS to deal with AIS if they do, accidentally, become introduced. While the proposed monitoring and avoidance techniques are a partial mitigation, they are insufficient. Some provisions must be included to deal with the effects of an accidental introduction of non-native plants or animals. A threefold effort is required that includes; prevention, early detection and eradication. The FHNP believes that any project should provide a net conservation benefit when considering the impact on the natural resources of the Park.</p> <p>7. The DEIS describes, at length, the locations and possible impact that the construction of the ATST may have on the nearby habitat for the ‘u’au. The FHNP feels that before any construction occur, that a CDUP must be obtained and that such a permit clearly describe a plan whereby any actions and activities connected with each phase of the ATST, i.e. construction, operation and removal, each has a net conservation benefit to the ‘u’au population.</p>	<p>With respect to preservation of unique flora and fauna, the on-going practices to preserve native flora and fauna and to prevent Alien Invasive Species from entering and proliferating at HO would be expanded to include extensive monitoring during construction and operation of ATST, if approved for construction. The details of the mitigation measures to reduce potential impacts on flora and fauna are described in Section 4.18.3-Biological Resources.</p> <p>5. The cumulative effects of the proposed ATST Project is discussed in Section 4.17-Cumulative Effects to the Affected Environment. Again, as shown in Figs. 4-29 and 4-30 of the SDEIS, the proposed ATST Project would not be seen on the horizon from publicly accessible wilderness areas within HALE, which include the crater and other hiking trails. In those areas of HALE that do not meet the definition of wilderness area in accordance with the definition in Section 2 (C) of the Wilderness Act, and where the proposed ATST Project would be seen, the conclusion that an addition to an already imperfect view necessarily constitutes a larger negative effect is acknowledged throughout Section 4.17, where the cumulative effects for visual impact are major, adverse and long-term.</p> <p>6. To accompany the proposed monitoring and avoidance techniques for ATST, the IfA has implemented a non-native AIS plant eradication program. The program, which was begun in June 2009, consists of weed eradication throughout the 18.1 acres of HO by botanical specialists using hand tools. This process will be repeated semi-annually, so that prevention and elimination of any accidental introduction of AIS would be accomplished prior to and during ATST construction, should the proposed project be approved. Also, as part of the SUP, HALE will require provisions to be included that address AIS.</p> <p>7. Once a CDUA has been submitted to the DLNR, the decision to issue a CDUP will be made by the BLNR; and, as with other facilities in HO, the CDUP, if issued, would likely impose specific constraints or mitigation measures. A copy of the FEIS will be included with the submittal of the CDUA. The DLNR already has a copy on file of the LRDP, which mandates mitigation measures for activities at HO.</p>
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<p><b><u>ROAD</u></b></p> <p>8. In all cases it should be made clear that the best practices and mitigation efforts used to minimize the impact on the Park (in terms of noise, AIS, road damage, traffic, protection of the fauna and widening of the road near the entry station) and its users (in terms of traffic) be adhered to in all phases of the project including; construction, use and removal. Modifications to the road near the entryway should be removed immediately after the last wide load is delivered in the construction phase. If wide or heavy loads must be transported after the end of the construction phase of the project, then sufficient provisions must be made at that time to eliminate or repair damage done to the road and any modifications required to accommodate wide loads should be temporary. Any changes should provide a net benefit to those who use the road for access to the Park as well as a net conservation benefit to the Park in terms of its biological resources.</p> <p><b><u>CULTURAL IMPACT</u></b></p> <p>9. One of the missions of Haleakalā National Park is to preserve the cultural resources of the Park. Native Hawaiians depend on the preservation of natural resources in order to perpetuate their culture. The FHNP feels that the view from the summit and the summit area in general is a sensitive and sacred cultural resource that deserves protection for the sake of the Hawaiian culture. The SDEIS discloses that the area “is a very sacred place for the Kanaka Maoli (Native Hawaiian), past and present.” (p.3-7). By the nature of its close proximity to the summit, the ATST would necessarily have an impact on the cultural resources of the Haleakalā National Park. Furthermore, this impact disproportionately and adversely affects the Native Hawaiian population. The EIS must be revised to highlight this impact as well the environmental injustice of ATST.</p>	<p>Along with the mitigation measures described in Section 4.18, which includes mitigation from the LRDP and on-going ‘u‘au monitoring, the ESA Section 7 Informal Consultation document (Vol. II, Appendix M) prepared by USFWS in 2007 contains a number of specific requirements to avoid or minimize potential effects to ‘ua‘u.</p> <p>8. Section 4.18-Mitigation addresses measures to reduce adverse effects on resources at HALE. These include use of the Park road for the proposed ATST Project vehicles, biological resources, Visitor Use and Experience, and cost recovery. NSF and the ATST Project team are collaborating with HALE on these issues and the Park also recognizes that situations will likely occur that may warrant reasonable deviation from the mitigation measures in the SUP. Such situations will be worked out on a case-by-case basis under the authority of the Park.</p> <p>9. The ROI for analyzing impacts on cultural resources includes the summit area within HALE. See Section 4.2. See also Section 4.2.2, which expressly addresses impacts on traditional cultural practices that take place within HALE.</p>
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Received from: Kahea, 06-22-09	
<p><b>Comment:</b>  <u>NSF's ATST Proposal Would Degrade the Haleakalā Conservation District</u></p> <p>1. The summit of Haleakalā is protected by state law as a conservation district, where construction is specifically "discouraged" in order to protect the unique ecology, landscape, and cultural features of the area.</p> <p>2. Before construction in a conservation district can even be considered, the law requires a comprehensive management for the protection of these resources be adopted by the state Board of Land and Natural Resources. To ensure that proposed construction does not undermine or frustrate the ultimate purpose of the conservation district, the law also forbids any activity that might have "significant, substantial, or adverse" impacts on the resources of the district.</p>	<p><b>Response:</b></p> <p>1. Presented in the SDEIS in Sections 1.7.2-State Land Use Law, Chapter 205, Hawai'i Revised Statutes and 3.1-Land Use and Existing Activities state: "The existing State Land Use District for the proposed ATST Project is designated as Conservation District, General Subzone. The objective of the General Subzone is to designate open space where specific conservation uses may not be defined, but where urban use would be premature. During the past few years, the OCCL within the DLNR has administered CDUPs for numerous potential uses, among them astronomical facilities on Haleakalā. The proposed ATST Project would be located in the area of the Conservation District that has been set aside for astronomical research (HAR§13-5-25: Identified land uses in the General Subzone, which is applicable from R-3 Astronomy Facilities, (D-1) Astronomy facilities under an approved management plan); and many facilities conducting astronomy and advanced space surveillance already exist within HO."</p> <p>Mentioned in the SDEIS in Section 1.2-Land Ownership, it states: "In 1961, an Executive Order (EO) by State of Hawai'i Governor Quinn set aside 18.166 acres of land on the summit of Haleakalā in a place known as Kolekole to be under the control and management of the IfA for scientific purposes. The site is known as HO and it is the only such property on Haleakalā specifically designated for such purposes."</p> <p>2. The criteria in HAR 13-5-30 are derived from the DLNR. The CDUP decision will be made by the BLNR, for which the Proposed ATST Project would require a Board permit.</p> <p>The Proposed Action conforms to the LRDP, which would serve as the IfA contribution to any summit master plan. There are more than 25 separate State, Federal and private entities with interests in the summit area of Haleakalā. IfA is the only one of these entities that has undertaken long-range planning for the property under its jurisdiction. The LRDP has specific protocols and measures that ensure orderly and sensitive development that is designed to be compatible with the intended land-use and purposes for the 18.166 acres of land under the stewardship of IfA.</p>

<p>3. ...the SDEIS for the proposal concedes that construction will have a significant and adverse impact on the resources of the district. Haleakalā is home to many rare and at risk species, including the threatened ‘ahinahina and the extremely endangered ‘ua‘u.</p>	<p>In accordance with HAR 13-5, Exhibit 3, the IfA is preparing a Management Plan for HO. The MP will consist of a general description of the land use, ownership, the resources on the property, constraints such as topography, geology, easements, etc., proposed land uses, environmental monitoring strategies, and reporting to the DLNR. The decommissioning and restoration of facilities within HO will also be included in the MP. The MP will be accompanied by a Programmatic Environmental Assessment.</p> <p>3. (See Sections 3.3.3.1-Endangered, Threatened, Listed or Proposed Avifaunal and Vesper Bat Species and Section 4.18-Mitigation measures to address effects to biological resources related to construction of the proposed ATST Project would include more than one approach. First, coordination with the USFWS to fulfill monitoring, avoidance, and minimization requirements for endangered species set forth in the USFWS Section 7 Informal Consultation Document would continue throughout the construction process. Second, implementation of the BMPs described in the LRDP would be a rigorous mitigation measure. Third, programmatic monitoring of the status of biological resources would be accomplished throughout the construction as detailed below.</p> <p>The ESA Section 7 Informal Consultation document prepared by USFWS in 2007 contains a number of specific requirements to avoid or minimize potential effects to ‘ua‘u at the Mees site during ATST construction. These include predator control to keep rats from invading nests, invasive species interdiction and control to prevent unwanted hitchhiking predators from entering the site, restrictions on heavy construction during nesting season to avoid noise and vibration, and noise monitoring.</p> <p>Also, to help minimize potential consequences of construction and increase the scientific understanding of ‘ua‘u, the NSF has undertaken a monitoring program (Vol. II, Appendix I-Petrel Monitoring Plan) and scientific investigation comparing ‘ua‘u activity at burrows and fledgling success at active burrows located near the proposed ATST Project construction site, and is working with HALE to locate a control site located near and below the Haleakalā Visitors Center.</p>
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<p>4. Construction of the ATST would require widening the road to the telescope site, thus destroying significant 'ahinahina habitat.</p>	<p>4. The only access road to HO is via HALE. This road will not need to be widened for access to the project site. Section 4.18-Mitigation addresses, among other things, states: “The Level and Improve Shoulder option outlined in the “HALE Entrance Station Clearance for ATST Loads” report prepared by the ATST Project, April 2009, will be allowed to accommodate wide loads coming through the Park entrance station. This option must:</p> <ol style="list-style-type: none"> <li>1. Assure that the septic system is adequately protected. The Park suggests the use of large, heavy gauge metal plates or material of a similar nature.</li> <li>2. Assure that this option is feasible for very heavy loads.</li> <li>3. Install a gate or barricade system on the temporarily improved shoulder to deter Park visitors and staff from driving on it.</li> <li>4. This area contains native plants and is nēnē habitat. Native plants should be protected where possible - the Park staff will work with the ATST Project on this. The construction of the temporarily improved road shoulder would need to be completed between April and October to avoid impacts to nesting nēnē.</li> <li>5. When the temporarily improved road shoulder is no longer needed for the proposed ATST Project, it will need to be fully restored and rehabilitated to natural conditions. The Park staff will need to review and approve a restoration/rehabilitation plan to accomplish this requirement.”</li> </ol> <p>NSF is working closely with HALE on these and other mitigation measures to reduce adverse effects on individual resources.</p>
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<p>5. It would also result in serious disturbance to the ground - the structure will extend 40 feet into the ground - which jeopardizes one of the last two colonies of the ground-burrowing 'ua'u on earth.</p>	<p>5. The structure of the proposed ATST Project will not extend 40 feet into the ground. The excavation (pit) required for the ATST foundation would be as described in Section 2.4.3-Construction Activities and shown in the figures associated with that section: a circular excavation for a mat foundation 1-meter (3 ft 3 in) deep and 26.8 m (88 ft) in diameter, with cylindrical holes extending below that for approximately 21 caissons that are 1 m (3 ft 3 in) in diameter and maximum of 6 m (20 ft) deep. This foundation and required excavation is also depicted in Figure 2-12-M3 Engineering, Inc. Drawing of Proposed Foundation System for Telescope and Enclosure, with a graphic scale in feet included at the bottom right of the figure.</p> <p>(See Section 3.3.3.1-Endangered, Threatened, Listed or Proposed Avifaunal and Vesper Bat Species) The 'ua'u, or Hawaiian Petrel, a Federal- and State-listed endangered bird species, is present in the summit area. The largest known nesting colony of 'ua'u is located in and around HALE. About 30 known burrows are along the southeastern perimeter of HO and several burrows are northwest of HO (as shown in Figure 3-5 of this section) with a large number of burrows within two miles of HO.</p> <p>The 'ua'u at HALE is the only population of seabirds in Hawaii's national parks that is intensively monitored and managed. Monitoring for 'ua'u distribution and breeding success at HALE occurs annually as part of regular resource management activities, and has since 1980. 'Ua'u in HALE nest in burrows, most of which are located along the steep cliffs of the western rim of Haleakalā Crater. A recent report states that "There are currently more than 1,000 known 'ua'u burrows at HALE, of which about 60 percent are occupied by 'ua'u each year." 'Ua'u are present at Haleakalā from February through October and are absent from November through January. HALE staff search for new burrows and check existing burrows periodically while the 'ua'u are present (Natividad Bailey, 2009). These monitoring efforts include burrows located along the Park road corridor. Figure 3-7 illustrates the location of 'ua'u in and around HO. The closest burrow is approximately 50 feet to the east of the Mees site (Fig. 3-7, burrow #SC40).</p>
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<p><b><u>NSF's ATST Proposal Would Desecrate Religious and Cultural Practices on Haleakalā</u></b></p> <p>6. Traditional and customary Native Hawaiian practices and the sites associated with them are protected by State and Federal law. NSF proposes to disregard these legal protections by constructing the 14-story, 100-acre ATST immediately adjacent to significant and actively used Native Hawaiian cultural sites on Haleakalā.</p>	<p>6. The proposed ATST structure will not rest on 100-acres, nor will it be 14 stories high. (See Section 1.1-Project Location) The proposed ATST Project would be located within the 18.166-acre HO site at the summit of Haleakalā, County of Maui, Hawai‘i, on approximately 0.86 acres of undeveloped land. The 0.86 acres includes the leveling area, buildings, and paved pads (the actual building footprint would be 0.74 acres). Moreover, taking a modest, reasonable assumption that a story is equal to 12 feet high, the proposed ATST structure, at 143 feet, could accurately be characterized as <i>approximately equivalent to a typical 12-story building</i>.</p> <p>(See Section 3.1.2-Existing Activities) There is no general public access to HO and “AUTHORIZED ENTRY ONLY” is posted on the sign (Fig. 3-2) located at the entrance to the facilities. Native Hawaiians, however, are welcome at any time to enter HO for cultural and traditional practices, as the sign also indicates.</p> <p>IfA has provided places for Native Hawaiian cultural practices that had not previously been available in HO. (See Section 3.2.1-Cultural Resources) In 2005, in recognition of the cultural importance of Haleakalā and in the spirit of Ho‘oponopono (to “make right”), UH contracted Native Hawaiian stonemasons to erect a West-facing ahu (altar or shrine) within the set-aside “Area A” (Fig. 3-4 of Section 3.2.1) for Kanaka Maoli religious and cultural purposes under the LRDP. A Ho‘omahanahana (dedication or “warming” offering) was held, at which time the ahu was named Hinala‘anui. In 2006, in the spirit of makana aloha (gift of friendship) for the proposed project, UH contracted the same Native Hawaiian stonemasons to erect an East facing ahu near the Mees site, not within a set-aside. Upon its completion, a Ho‘omahanahana was held and the ahu was named Pā‘ele Kū Ai I Ka Moku. Figure 3-5 also shows the location of both ahu and Figure 3-5 is a photograph of each ahu. As stated in the LRDP, Native Hawaiians are welcome to utilize these sites for religious and cultural purposes, on a non-interference basis with site activities.</p>
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<p><b><u>Inadequate Alternatives Analysis</u></b></p> <p>7. NSF has other, arguably better, options for collecting data about the sun and weather in space. These include constructing a new telescope in space, constructing a new telescope at either Big Bear Lake or La Palma, or remodeling an existing telescope to meet the project objectives. None of these options are considered in the SDEIS. Instead, the SDEIS only evaluates two possible sites in the same location, both of which have nearly identical consequences if the ATST is built there. This is a textbook example of an inadequate alternatives analysis under the National Environmental Policy Act. There are several practical alternatives that have not been evaluated. Without a thorough analysis of alternatives, how can a decision-maker weigh all of the costs and benefits of a proposal and come to an informed conclusion about which alternative achieves the appropriate balance between need and consequence?</p>	<p>7. Detailed information is provided on site selection and alternatives and can be found in Sections 1.4.3-Primary Objectives for the Project, 2.2.1-Site Selection Chronology, 2.3.1-Site Selection in Detail, and Vol. II, Appendix O-ATST SSWG Final Report.</p> <p>While there are two potential sites located at HO - the Mees and Reber Circle Sites – numerous alternative sites for the proposed ATST Project were considered, as detailed in Section 2.2-Site Selection. Both the La Palma and Big Bear sites did not meet the scientific objectives for the proposed ATST Project.</p> <p>(See 2.4.2- Potential Use of the Mees Solar Observatory Facility) The existing MSO facility is a 45-year-old concrete block structure of approximately 5,440 square feet. The building currently houses a telescope and connecting instrument rooms as well as offices, labs, a shop, kitchen, and restrooms. A number of burrows of the endangered ‘ua‘u (Hawaiian petrel or <i>Pterodroma phaeopygia sandwichensis</i>) are located in very close proximity to the MSO facility and the proposed ATST Mees construction site. It was determined that removal of the existing MSO facility could have an adverse impact on the species; and, therefore, it was determined that there would be less potential for adverse impact by utilizing the existing MSO facility for the Proposed Action, which would reduce the need to construct new building space to support some of the construction and operational requirements.</p> <p>(See Section 2.3.2- Response to Public Comment Regarding Alternative Siting on Haleakalā) The ATST is designed to measure and understand the influence of the outer solar atmosphere on the interplanetary space between the Earth and the Sun. Virtually all of the Sun’s dynamic effects on the Earth can be traced back to solar magnetic fields and the ATST would measure these outer fields for the first time.</p>
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	<p>The technology simply does not exist anywhere for doing this measurement from space. While the Japanese/American/British SOLAR-B/Hinode mission looks on the disk of the Sun for solar flares, its mission is complementary to the goals of the ATST. We are many decades away from having the technical capability of launching a solar telescope with the necessary 4-meter mirror, like the proposed ATST, into space to measure these coronal magnetic fields. Meanwhile our global communications and the impact of solar changes on terrestrial climate remain a risk for human civilization while we wait to understand solar cycle variability. For these reasons, this alternative was not considered for further analysis.</p>
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<b>E-Mail Form Letters</b>	
<p><b>Received from:</b> A list of individuals who submitted an identical comment can be found with the copy of the e-mail form letter following this matrix.</p>	
<p><b><u>Five E-Mail Form Letters with the Subject titled as:</u></b>  <b>ATST On Haleakalā is Religious Desecration,                  In Opposition to Construction on Haleakalā,                  Please Review Alternative Locations for Telescope Before Building on Haleakalā                  Think Before Building on Haleakalā; and,                  Management Plan Required Before Building ATST on Haleakalā.</b></p> <p><b><u>Comments:</u></b></p> <ol style="list-style-type: none"> <li>1. Public money should not be used to destroy the temples of Native Hawaiians.</li> <li>2. Alternative sites for this telescope were not even being considered.</li> <li>3. Construction of the proposed ATST Project ...would likely result in major, adverse, and long-term impacts on the cultural resources of Haleakalā.</li> <li>4. The years of construction and operation so close to this immensely sacred religious site would make it impossible for Native Hawaiian to offer cultural and religious prayers.</li> <li>5. No construction should be allowed on Haleakalā until a comprehensive, scientifically based, and culturally appropriate management plan is developed for the conservation District.</li> <li>6. Just like with Mauna Kea, the University is proposing to construct a 14-story, 100-acre telescope on Haleakalā without a management plan.</li> <li>7. The current DEIS only looks at two sites in the same place.</li> <li>8. An EIS for La Palma and Big Bear should be completed.</li> <li>9. All data already collected on solar magnetic activity should be catalogued, studied, and assessed to determine whether the ATST is even necessary.</li> <li>10. A major colony of the endangered petrel could be harmed because of failure to adequately protect this Conservation District.</li> </ol>	
<p><b><u>Response:</u></b></p> <ol style="list-style-type: none"> <li>1. Whether public money should be used for proposed projects is not part of the analysis to be conducted under NEPA.</li> <li>2. Seventy-two candidate alternative sites for the proposed ATST Project were considered, as detailed in Section 2.2-Site Selection, 2.2.1-Site Selection Chronology, 2.3.1-Site Selection in Detail, and Vol. II, Appendix O-ATST SSWG Final Report.</li> </ol>	

APPENDIX B: COMMENTS AND REPONSES TO SDEIS (MAY 2009)

3. The construction of the proposed ATST Project would result in major, adverse, and long-term impacts on the cultural resources of the summit area of Haleakalā. The mitigation measures described in Section 4.18 and summarized in Table 4-13 Mitigation Summary would not reduce the intensity of impact. However, NSF is working closely with the ACHP, the Hawai'i SHPD, HALE, and the other consulting parties through the Section 106 consultation process to address these adverse effects. To that end, a draft Programmatic Agreement pursuant to Section 106 of the NHPA is now under review by the consulting parties. Efforts to address adverse effects to Native Hawaiian culture is the cornerstone of this draft document and it is NSF's intent to have, through such a Programmatic Agreement, mitigation measures developed and suggested by representatives of the Native Hawaiian Community and other consulting parties for consideration by NSF.
4. Currently, there is no general public access to HO and "AUTHORIZED ENTRY ONLY" is posted on a sign located at the entrance to the facilities. Native Hawaiians, however, are welcome at any time to enter HO for cultural and traditional practices, as the sign also indicates. (See Section 3.1.2-Existing Activities). In addition, IfA has provided places for Native Hawaiian cultural practices that had not previously been available in HO. (See Section 3.2.1-Cultural Resources) In 2005, in recognition of the cultural importance of Haleakalā and in the spirit of Ho'oponopono (to "make right"), UH contracted Native Hawaiian stonemasons to erect a West-facing ahu (altar or shrine) within the set-aside "Area A" (See Section 3.2.1) for Kanaka Maoli religious and cultural purposes under the LRDP. A Ho'omahanahana (dedication or "warming" offering) was held, at which time the ahu was named Hinala'anui. In 2006, in the spirit of makana aloha (gift of friendship) for the proposed project, UH contracted the same Native Hawaiian stonemasons to erect an East facing ahu near the Mees site, not within a set-aside. Upon its completion, a Ho'omahanahana was held and the ahu was named Pā'ele Kū Ai I Ka Moku. As stated in the LRDP, Native Hawaiians are welcome to utilize these sites for religious and cultural purposes, on a non-interference basis with site activities.
5. The Proposed Action conforms to the LRDP, which would serve as the IfA contribution to any summit master plan. There are more than 25 separate State, Federal and private entities with interests in the summit area of Haleakalā. IfA is the only one of these entities that has undertaken long-range planning for the property under its jurisdiction. The LRDP has specific protocols and measures that ensure orderly and sensitive development that is designed to be compatible with the intended land-use and purposes for the 18.166 acres of land under the stewardship of IfA. In accordance with HAR 13-5, Exhibit 3, the IfA is preparing a MP for HO. The Management Plan will consist of a general description of the land use, ownership, the resources on the property, constraints such as topography, geology, easements, etc., proposed land uses, environmental monitoring strategies, and reporting to the DLNR. The decommissioning and restoration of facilities within HO will also be included in the MP. The MP will be accompanied by a Programmatic Environmental Assessment (PEA). The LRDP and MP, along with the PEA, will comprehensively address planning, monitoring, and reporting for the 18.166 acres of HO and will comply fully with Exhibit 3 of HAR 13-5.
6. The telescope will not be a 100-acre telescope. Haleakalā High Altitude Observatories (HO) site is on 18.166 acres of State of Hawai'i Conservation District land. The IfA will comply with Hawai'i Administrative Rules (HAR) Chapter 13: Department of Land and Natural Resources (DLNR), Subtitle 1: Administration, Chapter 5: Conservation District. The proposed structure will not be a 100-acre ATST. In Section 1.1-Project Location it states: "The proposed ATST Project would be located within the 18.166-acre HO site at the summit of Haleakalā, County of Maui, Hawai'i, on approximately 0.86 acres of undeveloped land. The 0.86 acres includes the leveling area, buildings, and paved pads (the actual building footprint would be 0.74 acres)."
7. While there are two potential sites located at HO - the Mees and Reber Circle Sites – numerous alternative sites for the proposed ATST Project were considered, as detailed in Section 2.2-Site Selection.
8. Both the La Palma and Big Bear sites did not meet the scientific objectives for the proposed ATST Project and, thus, were not carried forward for further analysis under NEPA.

9. The type of data on solar magnetic activity that the proposed ATST Project would collect, using the technology proposed for the ATST, has not yet been collected by other solar observing telescopes around the world. Moreover, the need for the proposed ATST Project was identified and articulated by the scientific community.
10. See Section 3.3.3.1-Endangered, Threatened, Listed or Proposed Avifaunal and Vesper Bat Species. Along with the mitigation measures described in Section 4.18-Mitigation, which includes mitigation from the LRDP and on-going 'u'au monitoring, the ESA Section 7 Informal Consultation document (Vol. II, Appendix M) prepared by USFWS in 2007 contains a number of specific requirements to avoid or minimize potential effects to 'ua'u.

Received from: National Parks Conservation Association, 06-22-09	
<p><b>Comment:</b>  <b>Failure to Comply with National Environmental Policy Act</b></p> <p>1. Site selection discussion does not explain the analysis of how the Haleakalā site became the final and only location for ATST. The existing analysis does not provide a full analysis of the final three sites nor does it provide a clear justification and comparative analysis of “trade-offs”.</p>	<p>1. Detailed information is provided on site selection and alternatives and can be found in Sections 1.4.3-Primary Objectives for the Project, 2.2.1-Site Selection Chronology, 2.3.1-Site Selection in Detail, and Vol. II, Appendix O-ATST SSWG Final Report.</p> <p>While there are two potential sites located at HO - the Mees and Reber Circle Sites – numerous alternative sites for the proposed ATST Project were considered, as detailed in Section 2.2-Site Selection. Both the La Palma and Big Bear sites did not meet the scientific objectives for the proposed ATST Project.</p> <p>(See 2.4.2- Potential Use of the Mees Solar Observatory Facility)                      The existing MSO facility is a 45-year-old concrete block structure of approximately 5,440 square feet. The building currently houses a telescope and connecting instrument rooms as well as offices, labs, a shop, kitchen, and restrooms. A number of burrows of the endangered ‘ua‘u (Hawaiian petrel or <i>Pterodroma phaeopygia sandwichensis</i>) are located in very close proximity to the MSO facility and the proposed ATST Mees construction site. It was determined that removal of the existing MSO facility could have an adverse impact on the species; and, therefore, it was determined that there would be less potential for adverse impact by utilizing the existing MSO facility for the Proposed Action, which would reduce the need to construct new building space to support some of the construction and operational requirements.</p> <p>(See Section 2.3.2- Response to Public Comment Regarding Alternative Siting on Haleakalā) The ATST is designed to measure and understand the influence of the outer solar atmosphere on the interplanetary space between the Earth and the Sun. Virtually all of the Sun’s dynamic effects on the Earth can be traced back to solar magnetic fields and the ATST would measure these outer fields for the first time.</p>

<p><b>Failure to Comply with the Endangered Species Act</b></p> <p>2. The SDEIS fails to comply in several ways in addressing the evaluation and impacts of this project on threatened and endangered species in Haleakalā.” The Section 7 consultation with the U.S. Fish &amp; Wildlife Service (USFWS) needs to be re-opened.</p> <p>The SDEIS does not clearly state, as required in the informal Section 7 consultation, that if a petrel or nēnē is “harmed or killed as a result of ATST construction activities, the Service would be contacted immediately and that work action would cease until we have formally addressed the cause for the take.</p> <p>3. A current survey is needed to determine if new burrows are found near the proposed construction site. The last map shown is dated 2005.</p>	<p>The technology simply does not exist anywhere for doing this measurement from space. While the Japanese/American/British SOLAR-B/Hinode mission looks on the disk of the Sun for solar flares, its mission is complementary to the goals of the ATST. We are many decades away from having the technical capability of launching a solar telescope with the necessary 4-meter mirror, like the proposed ATST, into space to measure these coronal magnetic fields. Meanwhile our global communications and the impact of solar changes on terrestrial climate remain a risk for human civilization while we wait to understand solar cycle variability. For these reasons, this alternative was not carried forward for further analysis.</p> <p>2. Sections 3.3.3.1-Endangered, Threatened, Listed or Proposed Avifaunal and Vesper Bat Species, 4.3-Biological Resources, and 4.17.6-Biological Resources, provides detailed information addressing effects of endangered, threatened, proposed, and candidate species at HO and along the Park road corridor.</p> <p>(See Section 4.17.6-Biological Resources) During Informal Consultation with the USFWS, it was determined that construction of the proposed ATST Project is not likely to adversely affect ‘ua‘u or nēnē with the implementation of the mitigation measures identified in Section 4.18-Mitigation. Formal consultation would take place in the event that Incidental Take was to occur in the future, which would include killing, injury, capture, or relocation that are incidental to the construction activities. The findings of the Informal Consultation that specify how the efforts agreed to for the proposed ATST Project have reduced potentially adverse effects for the ‘ua‘u and nēnē to a level of discountable effects for these species. In combination with past, present and reasonably foreseeable future actions within the summit area, this would be considered a minor, adverse, and long-term effect.</p> <p>3. Figure 3-6-Petrel Burrows Near Summit of Haleakalā and Figure 3-7-Petrel Burrows In and Around HO Property are current.</p>
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<p>4. Nighttime construction activities during the nesting season especially from passing large tucks may cause nest abandonment and/or mortality of chicks due to abandonment.</p> <p>5. The entrance station shoulder construction occurs in endangered nēnē habitat. Potential loss and impact from this activity need to be addressed. A Section 7 consultation with USFWS for the entrance station road shoulder construction should be conducted.</p> <p>6. The summary of effects needs to include information on nēnē and bats.</p> <p><b>Failure to Adequately Address Visitor Experience and Visual Resources</b></p> <p>7. We disagree with the conclusion that the effects on visitor use and experience is moderate.” “The direct and indirect impact this project will have on visual resources needs to be addressed. More information is needed about the basis of the qualitative evaluation. An independent social science study is necessary to properly evaluate the qualitative range of acceptable, minimally acceptable, and unacceptable visual conditions for the summit of Haleakalā.</p>	<p>4. Section 4.18-Mitigation addresses mitigation measures to address effects to biological resources related to construction of the proposed ATST Project and would include more than one approach. First, coordination with the USFWS to fulfill monitoring, avoidance, and minimization requirements for endangered species set forth in the USFWS Section 7 Informal Consultation Document would continue throughout the construction process. Second, implementation of the BMPs described in the LRDP would be a rigorous mitigation measure. Third, programmatic monitoring of the status of biological resources would be accomplished throughout construction as detailed in Section 4.18.</p> <p>5. NSF is working collaboratively with HALE on the mitigation measures addressed in Section 4.18. Specifically in this section, under the heading: Entrance Station, Item 4 states: “This area contains native plants and is nēnē habitat. Native plants should be protected where possible - the Park staff will work with the ATST Project on this. The construction of the temporarily improved road shoulder would need to be completed between April and October to avoid impacts to nesting nēnē.”</p> <p>6. Sections 3.3.3.1-Endangered, Threatened, Listed or Proposed Avifaunal and Vesper Bat Species, 4.3-Biological Resources, and 4.17.6-Biological Resources, details information on nēnē and bats and addresses effects of reasonably foreseeable future actions on biological resources, including endangered, threatened, proposed, and candidate species.</p> <p>7. The direct and indirect impact of the proposed ATST Project on visual resources (Section 4.5-Visual Resources and View Planes) has been revised to provide more information about the basis for the qualitative evaluation of these impacts, as determined by industry standard methods. The terms acceptable, minimally acceptable, and unacceptable visual conditions, are do not compromise a standard evaluative range by which to assess visual conditions for the summit of Haleakalā.</p>
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<p>8. The ROI analyzed in Chapter 4 does not match the ROI for this topic in Chapter 3 (pp. 3-45 to 3-47). ROI in Chapter 4 should be confined to Haleakalā NP and the Skyline Drive Trail outside of Haleakalā NP which are the primary visitor use and experience areas at the summit of Haleakalā. This section does not analyze the impacts during construction and operations phase of the proposed project on the visitor experience.</p> <p>9. There are no quantitative or qualitative differences between the Mees site and Reber Circle site when you compare Figure 4-29 with 4-30 and Figure 4-14 and 4-34.</p>	<p>8. Section 3.6-Visitor Use and Experience (SDEIS pp. 3-45 to 3-37) addresses the affected environment of visitors at HALE. Section 4.6- Visitor Use and Experience focuses primarily on the affected visitors at HALE and briefly discusses what the experience may be from HO or greater Maui. Section 4.6- Visitor Use and Experience offers a broader focus by describing portions of landmass of Maui, and other areas within HALE (including the Park road corridor) from which structures at HO are visible. The Visitor Use and Experience section further relates these experiences and impacts to visual resources, soundscape, and traffic that may have an effect on visitor use or experience within this ROI. This Section has been revised to further describe the impacts on the visitor experience, including those resulting from the construction and operation phases of the proposed ATST Project. Specifically, in response to comments on the SDEIS, both the noise and view plane impacts on the visitor experience are described more fully within Section 4.6 (Visitor Use and Experience).</p> <p>9. The SDEIS distinguishes between the visual effects of ATST at the two locations because there are both qualitative and quantitative differences between the Mees Site and Reber Circle site with respect to visual effects from any viewing location outside of HO. Quantitatively, as described in Section 4.5.4 of the SDEIS, the Reber Circle site would result in the “greatest possible exposure” to both the construction process and operations of the proposed ATST Project. This is due to three factors: 1) Reber Circle is in a central and higher topographic location within HO than the Mees site, 2) ATST would be some 200 feet closer to HALE viewing locations than at the Mees site, and, 3) unlike the Mees Site, there would be a lack of any terrain shielding between the viewer and the proposed ATST Project from more locations within HALE and the general Maui community. In particular, from Reber Circle the ATST “would appear closer and larger” from areas within HALE such as the Pu‘u Ula‘ula (Red Hill) Overlook and other areas shown in Figure 4-30 of the SDEIS from which it would be seen. As stated in the SDEIS, for those who prefer not to see man-made structures in the summit area, neither alternative would pose less than a major adverse impact. For others, the Mees site offers less substantial consequences on visual resources. Section 4.5 has been revised in the FEIS to provide more clarification.</p>
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<p>10. The 2007 visitor survey is an inaccurate assessment. It fails to address key issues such as why people visit Haleakalā NP, viewsheds, wilderness and damage to cultural sites and values. Remove the 2007 visitor survey due to irrelevant and inaccurate data.</p> <p>11. The conclusion that the proposed project would have a negligible, long-term effect on traffic subsection is not supported.” “The analysis of traffic on visitor use and experience should include not only impacts from the increase in vehicular traffic but the type of vehicles on the road.</p> <p>12. There needs to be a complete and qualitative evaluation on the impacts to the visual resources, soundscapes and impacts from added construction traffic, including slow moving, wide-loads to the visitor experience.</p>	<p>10. The purpose of the 2007 Visitor Survey was not to address why people visit HALE, viewsheds, wilderness, and damage to cultural sites and values. The specific objectives of the survey were to: 1) To measure current reaction to the Park among a cross-section of visitors, 2) To measure visitor reaction to the addition of a large solar observatory in the adjacent Haleakalā High Altitude Observatory site; and, 3) To provide other information that may be useful in evaluating visitor reaction to the proposed ATST. As such, the survey results indicated that the visitor’s experience includes the Haleakalā High Altitude Observatory site and those who mentioned the Observatories in their comments were no less likely to have valued their time at the Park. Visitors surveyed were shown a rendering of the proposed facility that became SDEIS Figure 4-14, and most people surveyed expressed an indifference regarding whether the new observatory is built. This survey is not intended to imply more about the visitor experience than what was presented in the survey.</p> <p>11. As stated in Section 4.9.2-Evaluation of Potential Effects at the Preferred Mees Site, the Park road corridor would continue to be utilized for access to the proposed ATST Project during its full operational lifetime. Any necessary mitigation measures related to this use, such as continued carpooling by ATST staff, advance notification and approval of occasional large or heavy loads, compliance with established procedures for transportation of HAZMAT, etc. would be arranged with HALE pursuant to an SUP. Given these measures, and the fact that additional ATST-related traffic would be minimal in comparison with normal Park traffic as documented in the FHWA Road Report and as calculated above (maximum of 1.4 percent increase on State Route 378 and continuing into the Park), there would be negligible, adverse, and long-term effects on the Park road from operation of the proposed ATST Project.</p> <p>12. The qualitative evaluations of impacts to visual resources and noise have been revised to better explain the rationale behind the assignment of impact intensity to those resources at various locations. The impacts to visitor experience from added construction traffic are explained in detail in Sections 4.6.2- and 4.9.2-Evaluation of Potential Effects at the Preferred Mees Site.</p>
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	<p>proposed ATST Project is approved. This proposed educational program was suggested by Native Hawaiian Organizations and individuals who believe that it addresses the harm to cultural resources resulting from the proposed ATST Project. See Section 5.0-Notification, Public Involvement, and Consulted Parties. Likewise, mitigation measures, such as those required by HALE as part of the SUP are intended to protect the historic Park road, bridge, and culverts, and are included in the draft Programmatic Agreement. Further mitigation is also included in the draft Programmatic Agreement currently under review by the consulting parties. All mitigation measures included in that document were presented by the consulting parties as measures that will mitigate impacts to cultural and historic resources.</p>
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<b>E-Mail Form Letters</b>	
<b>Received from:</b> <b>E-Mail Form Letters with the Subject titled as: Haleakalā ATST SDEIS</b>	
A list of individuals who submitted an identical comment can be found following this matrix with the copy of the e-mail form letter.	
<b>Comments:</b>	
1. This SDEIS does not adequately address the adverse effects this site might have on Haleakalā National Park, which was created to protect the natural wonders of Hawaii and the rich cultural Heritage of the American people.	
2. I feel the analysis in the Visual Resources and View Plane of the SDEIS needs to be improved so that it more carefully considers impacts on changing the vistas of the park. More information is needed about the basis of the qualitative evaluation.” An independent social science study is necessary for qualitative evaluation.	
3. The construction phase would vastly change the visitor experience by changing the natural sounds and safe access to the park.	
4. Concerned with the conclusion that the project would have a minor, beneficial, long-term effect on visitor experience if a tour of the facility is offered.	
<b>Response:</b>	
1. The comment is overly broad and vague and, thus, NSF is unable to provide a specific response. NSF points out, however, that impacts on the resources of HALE that fall within the ROI for each resource, including the visitor experience, were addressed and analyzed throughout the document. These analyses can be found under each resource subsection.	
2. Your comment is noted and Section 4.5 (Visual Resources and View Planes) has been revised accordingly.	
3. Your comment is noted and Section 4.6 (Visitor Use and Experience) has been revised accordingly.	
4. The question in the 2007 Visitors Survey regarding whether a visitor would be interested in a tour of the proposed ATST Project was posed to gauge how strongly those surveyed feel about returning to HALE if a tour of the facility were to be available. There are no plans to offer tours to the proposed ATST Project at this juncture, and, thus, the FEIS has been revised accordingly.	

<b>E-Mail Form Letters With Added Personal Text of Concerns About Biological Resources</b>	
<b>Received from: E-Mail Form Letters with the Subject titled as: Haleakalā ATST SDEIS</b>	
Ann Dannhauer	"I wonder if the impact on the nene bird, unique to Hawaii, has been addressed?" "I think it's more important to protect the planet we have than to keep searching for new ones. "
Bonnie MacRaith	"Please don't chose an environmentally sensitive area for building such a monstrosity!"
Chere Negaard	"A telescope is important too, but the environment should not be sacrificed to install one."
Connie Crusha	"I saw a small group of Hawaiian nenes on the road up to Haleakala. This is a special place and it deserves special protection."
Keoki Kanaokai	"Do you know how many nesting sites exist for the Hawaiian Petrel? There is far too little known about this endangered creature to put it at any additional risk. The increased lighting during construction alone would cause unacceptable harm to these birds. Projects like these will ensure that Hawaii remains the extinction capitol of the US, and sets very poor example for the rest of the world."
Laura Manning	"I am not against the project, but I do believe a full environmental impact review must be done prior to approval. The habitat at Haleakala is just too sensitive."
Linda Geist	"I visited the wonder of Haleakala in 1971 and was in awe of the vastness crater and its untouched natural and magical surroundings with the unique silversword plants on its rim and steeped in traditions. Therefore I add my voice to this plea."
Lisa Perrine	"...for the enjoyment of future generations (National Park Organic Act). I have visited this site and it is, indeed, an amazing place. It's ecology, however, is extremely fragile; many of the plants and animals native there are already imperiled."
Lynn Barker	"Science is great and having been to the top of this beautiful mountain I realize how clear and great it is for observation of the universe.. but.. please don't destroy some of the most rare plants and creatures right here on earth to do this!!!"
Mike Vandeman	"Wildlife MUST be given top priority, because they can't protect themselves from us."
Patricia Madsen	"Careful consideration needs to be given to protecting plants and native habitats of this special place for our children and grandchildren to enjoy." ("plants and native habitats" is additional wording above
Peter Shaw	"I've been up that mountain (and down on a bike ride, separate trip), and it is gorgeous. We don't need an observatory messing with that unique and fragile ecosystem."

**Response:** See Sections 3.3, 4.3, 4.17.6, and 4.18 for detailed discussion on the biological resources in the affected area and the anticipated impacts to them as a result of the proposed ATST Project.

<b>E-Mail Form Letters With Added Personal Text of Concerns About Construction</b>	
<b>Received from: E-Mail Form Letters with the Subject titled as: Haleakalā ATST SDEIS</b>	
Dale Deneweth	"A guarantee that no more light pollution will occur via the construction of houses, motels, the overpopulation of Maui and surrounding islands, etc. should be made prior to construction of the ATST. If that guarantee cannot be made or if the ATST is not effected by ambient light produced by human activity then it can be built anywhere other than the sacred Haleakala mountain top."
Susan Kirchoff	"I have great confidence that you can find smart people to design this site in a way that fits in with the mountain. Be smart. "

**Response:** See Section 2.3 (Alternatives Considered But Removed from Further Examination) for a detailed discussion of the appropriateness of Haleakalā as a site that meets the scientific needs of the proposed ATST Project. Please also see Section 2.4.3 (Construction Activities) for specific information regarding how the proposed ATST Project would be constructed.

<b>E-Mail Form Letters With Added Personal Text of Concerns About Cultural, Historical, and Archeological Resources</b>	
<b>Received from: E-Mail Form Letters with the Subject titled as: Haleakalā ATST SDEIS</b>	
Cheyne Cumming	"I have been here and do not want this sacred place ruined by a telescope!!!!!"
Craig Woempner	"...created to protect the natural wonders of Hawaii and the rich cultural heritage of the Hawaiian/American people. "It seems to me that the scientific community, with all it's intellect, could surely find another worthy site for a telescope."
Dorinda Kelley	"This land belongs to the people, not to you. how dare you come in and take away the sacred place. Tell us how you are going to handle this situation."
Graeme Kinsey	"As one who has visited Haleakala and hiked within its beautiful inner areas I appreciate its spiritual impact on a person whether native Hawaiian or not."
miriam paisner	"We amerioans have helped to destroy the native Hawaiians with OUR WAY, since 1821 when the first New England missionaries arrived. Since then, it's been our goal to make them our own. The kanaka maoli culture and people are a beautiful race and culture; It's time for the them speakup to stop this constant RAPE of their island home (or for others to speakup for them. I have seen the SILVER SWORDS blooming and there is nothing like it. Please do not develop anything on Maui!!! ka pumehana o ke aloha aka pumehana 3250 Oneal cir h-24 boulder colorado 80301 "
Sunny Holmes	"I would also add, certainly not the least concern, that this site is very sacred to the Hawaiian people who are the true caretakers of this land. It would be another major affront to the rights of indigeneous people to build this facility. These islands were taken over against their will. Let us not insult them further. Many of us do enjoy their culture, their dance, music, etc. Let's show them respect by respecting their sacred sites."
William Schmonsees	"I own property on Maui and do not want this beautiful island to be further desecrated."

**Response:** See Sections 3.2, 4.2, 4.17.5, and 4.18 for detailed discussion on the cultural resources located within the area and the impacts to them that are anticipated as a result of the proposed ATST Project. Please also see Sections 3.3 (Biological Resources) and 4.3 (Biological Resources) for a detailed discussion on existing biological resources in the area and the anticipated impacts to them as a result of the proposed ATST Project.

**E-Mail Form Letters With Added Personal Text of Concerns About Haleakalā National Park**  
**Received from: E-Mail Form Letters with the Subject titled as: Haleakalā ATST SDEIS**

Ellen Thro	"The Supplemental Draft Environmental Impact Statement (SDEIS) for the Advanced Technology Solar Telescope (ATST) Haleakala High Altitude Observatory Site doesn't adequately address the adverse effects this site might have on Haleakala National Park. These include habitats of endangered plant and animal species. Examples are the viewscapes, from the Pu'u Ula'ula..." "Is a minor benefit worth this large of an impairment to the visitor experience? I don't think so, especially since the telescopes within the observatory site are not even open to the public."..."Finally, it is our moral obligation to protect this special place as a legacy to our planet's history and our species' connection to it. Thank you."
Jennifer Hisrich	"I do think telescopes are important and I know they are hard to site. But please consider the primary purpose of this park to be a wild area rather than just government land."
Louise Clark	"I enjoyed hiking across the crater and down the side of Haleakala about twenty years ago with my family. I hope other families will have the opportunity in the future to experience my same joy of discovery."
Marsha Kidd	"We must be very careful with anything that effects our National Parks. Please look at this issue closely."
Richard Nichols	"Leave this park alone. I've hiked it and it deserves full and complete protection."
Richard Saretsky	"I am writing to oppose the Advanced Technology Solar Telescope Haleakala High Altitude Observatory Site. This SDEIS does not adequately address the adverse effects this site will have on Haleakala National Park, which was created to protect the natural wonders of Hawaii and heritage for the benefit of the American people. Is no place in Hawaii sacred? Must every high elevation site be topped with some sort of building related to astronomy? If there is no other place that can be found suitable for a telescope, then perhaps the project should be abandoned. Sacrificing national park quality is not the answer. A 14-story high telescope complex does not belong adjacent to a national park. Its presence would destroy the national park ambiance while becoming nothing more than a visual eyesore. The park's scenic resources would be severely impaired. Noise, dust and construction activity would contribute to a negative visitor experience. The DEIS does not do an adequate analysis necessary to evaluate the impacts on the park environment by construction activity, future visual conditions as well on overall visitors experience. Surely the presence of such a large structure will have more than a minor impact on the park
Thomas Danfield	"I would expect an organization steeped in science to understand the need to explain how they plan to prevent impairment of Haleakala's resources with their proposal for a high altitude observatory. I would also expect to hear why those observatory facilities on the Big Island are not adaptable to the future needs of the foundation."
Toni Leonetti	"Haleakala National Park is one of the most beautiful treasures in America."
Victoria Hartman	"Consequently I oppose the placement of the Advanced Technology Solar Telescope (ATST) on Haleakala. There is no way that the placement of such a modern, 14 story building can add to the wonder of the Haleakala. This SDEIS does not adequately address the adverse effects this site might have on Haleakala National Park, which was created to protect the natural wonders of Hawaii and the rich cultural heritage of the Hawai'i people. Careful consideration needs to be given to protecting this special place for our children and grandchildren to enjoy."
William Crane	"I have been backpacking and hiking in Haleakala crater since 1975."

**Response:** The impacts on the resources of HALE that fall within the ROI for each resource, including the visitor experience, were addressed and analyzed throughout the document. These analyses can be found under each resource subsection. Please also note that, in response to comments on the SDEIS, Section 4.5 (Visual Resources and View Planes) and Section 4.6 (Visitor Use and Experience) have been revised accordingly.

*Final Environmental Impact Statement — Advanced Technology Solar Telescope*

**E-Mail Form Letters With Added Personal Text of Concerns About Site Selection**  
**Received from: E-Mail Form Letters with the Subject titled as: Haleakalā ATST SDEIS**

Brian Levin	"Were there other locations considered? If not, why not? If so, what were the factors against them?"
Charles Baird	"Hey, what's wrong with the country of Chile? This would help their economy too. "
Claudia Freeman	"I KNOW I DO NOT WANT TO SEE A 14-STORY ANYTHING PROFILED HERE. FIND ANOTHER PLACE FOR IT. HAWAII MUST BE PROTECTED AT ALL COSTS."
Diana B. Miller	"I live on the island of Hawai'i and I am appalled that anyone would consider putting a structure of this size on the summit of Haleakala."
Ellen Yurek	"I am a scientist and a lover of nature, and understand the value of information which can be obtained from the proposed Advanced Technology Solar Telescope (ATST) Haleakala High Altitude Observatory. But the decision to place it on this amazingly diverse and unique mountain needs to be made balanced with knowledge of its impact which should be gained from a thorough Environmental Impact Statement."
Francis Hagan	"Instead of screwing up a National Park, why can't you join the rest of the astronomers atop Mauna Kea? The peak of Mauna Kea is well above most of the atmosphere. Super viewing, super radio wave detection, a true super site."
Gary pollock	"Why not put 10 of the 14 stories under ground and create an awesome area surrounding the platform for visitors?"
Jeffrey Paul LaGasse M.D.	"As a physician and scientist I understand the importance of this telescope. However I am asking you to reconsider your location. I have visited Haleakala numerous times. I have been awestruck by sunrise in the frigid air and the dew on the unearthly silverswords. Please address these concerns below, or relocate this project. Thank You"
Jerry Broadbent	"Why there. There are two other mountains taller than Haleakala and not so popular. This mountain is sacred as it should be."
Judy Ginn	Ah, come on. Don't wreck the rim of the crater. Put the buildings down lower on the side. What possible difference could 500 feet down the side make?
KAY GILLILAND	"No organization has had more positive effect on causes I care about, notably math education, than NSF, so I am positively disposed to NSF proposals. However, I truly question why this facility should be built on Maui when Mauna Kea is already a site devoted to scientific experimentation. Why not put this new construction on Mauna Kea on the island of Hawai'i?"
Marian Isaac	"Put this 14 story thing in your own yard. Don't destroy the Haleakala site. Such a proposal is blatantly irresponsible."
Peter Munoz-Cowan	"Seriously, sir, build this telescope somewhere else!"
Philips Salomone	"build it somewhere else. Say, the desert. Idiot cretins. "
Rita Moore	"This does not seem to be an appropriate place for an observatory. The adverse environmental impact are too great."
Shira Nahari	I am writing to express serious concerns I have regarding the Supplemental Draft Environmental Impact Statement (SDEIS) for the Advanced Technology Solar Telescope (ATST) Haleakala High Altitude Observatory Site. This SDEIS does not adequately address the adverse effects this site "There simply must be another place for the propose project!"
Twila Souers	"This is not an appropriate site for this project. The Haleakala National Park preserves the natural beauty of the landscape and the rich cultural heritage of the Hawaiian people for all time. A project of this magnitude would have a very damaging effect on the park. There isn't any way to mitigate the effects of major construction on this site. Careful consideration needs to be given to protecting this special place for all the world to enjoy."
UWE FREYER	"WHY DONT THEY BUILT IT NEXT TO THE KECK TELESCOPE ON MAUNA KEA? THEN THEY CAN LEAVE MAUI ALONE? AND ALL THE SCIENTIST CAN EXCHANGE THEIR FINDINGS OVER LUNCH AT THE CAFETERIA. "

**Response:** See Section 2.0- Proposed ATST Project and Alternatives for detailed discussions about site selection. .Please also note that, in response to comments on the SDEIS, Section 4.5 (Visual Resources and View Planes) and Section 4.6 (Visitor Use and Experience) have been revised accordingly.

APPENDIX B: COMMENTS AND REPONSES TO SDEIS (MAY 2009)

<b>E-Mail Form Letters With Added Personal Text of Concerns About the Purpose of the Proposed ATST Project</b>	
<b>Received from: E-Mail Form Letters with the Subject titled as: Haleakalā ATST SDEIS</b>	
E James Archer	"I would be especially interested in learning what new data is expected from the Haleakala ATST that is not available from the Kitt Peak facility in Arizona. Or might be obtained from that facility following an upgrading."
Paul Marcus	"I am generally in favor of construction of scientific projects such as telescopes, but feel that construction on unique and fragile sites requires the utmost care and planning and perhaps some compromises in the scientific mission."

**Response:** See Section 1.4-Project Summary for detailed discussions about the purpose and need for the Proposed ATST Project.

<b>E-Mail Form Letters With Added Personal Text of Support for Project</b>	
<b>Received from: E-Mail Form Letters with the Subject titled as: Haleakalā ATST SDEIS</b>	
Gary Sanchez	I am writing to express my support for the Supplemental Draft Environmental Impact Statement (SDEIS) for the Advanced Technology Solar Telescope (ATST) Haleakala High Altitude Observatory Site. Thank you for considering my comments.
Jack Romanski	"Hello, good people. This is not your typical polemic form letter. I love Hawaii and Maui and also Haleakala, which I have admired up close and in person. I think there is room for both the National Park and the Advanced Technology Solar Telescope up there on that broad summit. Recent changes in solar activity may well trump human attempts to control the temperature of the planet, as has happened uncountable times in our planet's past. It's happening again, now, and it might very well behoove our species to keep a big advanced technology eye on our local star, now. While we all focus on global warming and carbon dioxide control, we may actually be facing an ice age. It would be good to know, and this instrument would shed light on that very question. I look forward to seeing the first pictures in Sky and Telescope magazine. Thank you for considering my views in this matter." (deleted ENTIRE form letter)
Marsha Penner	"I am a big believer in the importance of science and the support that should be given to scientific research. But I am also a big supporter of the environment and of the importance of preserving our natural resources. Fortunately, these two issues do not need to be in conflict, and we can find ways to promote both for the betterment of our country and our citizens."
roy adsit	"I support a new and powerful scope, but please be careful."
Stephen Roth	"I am an amateur astronomer and I am all FOR building a new telescope in Hawaii. Thank you for considering my comments."

**Response:** Thank you for your comments, which are noted.

*Final Environmental Impact Statement — Advanced Technology Solar Telescope*

<b>E-Mail Form Letters With Added Personal Text of Concern for Visual Resources and Visitor Use</b>	
<b>Received from: E-Mail Form Letters with the Subject titled as: Haleakalā ATST SDEIS</b>	
Alex Fraser	"I SPENT SOME HAPPY WEEKS WITH MY SON JASON AND HIS LADY, SOME YEARS AGO, ON THEIR HOME ON THE RING OF THIS VOLCANO. PLEASE CONSIDER CAREFULLY THE CHANGES YOU ARE CONTEMPLATING."
Barbara Ganschow	"Please keep this a visually stunning site in its desolate beauty. We are limited to so few sacred open volcanoes." (continue with form letter)
Benjamin Ward	"I have been to Maui, but not to the crater yet. I, like many people who hope to visit the national gem, would like to be assured (by research and facts) that it will remain unmarred for our eventual visit. Ben form letter follows: -----"
Bruce Foster	"Additional development at the summit of Haleakala violates the stated purpose of a national park. Another facility will degrade the experience of park visitors, especially during the construction, but also long term by interfering with the views of and from the park."
Carla Cicchi	"The park should be protected and kept as it is now for the natural inhabitants -- the animal life and for Maui's residents, and visitors. The EPA is supposed to protect areas, not help destroy them."
Carole Ehrhardt	"I visit Maui every year and Haleakala is a favorite destination for me and for many others. I think you need to rethink your plans for building a 14 story telescope there, as it is not part of the natural beauty of the park. People visit the park for nature and not for viewing through a telescope. At present the public does not have access to the telescope and I do not think this a major issue for those visiting the park. They visit to see nature, the sunset or sunrise. Others bike down the mountain. But this a National Park and it is there for future generations as a park. "
Christopher Lish	"National parks and reserves are an integral aspect of intelligent use of natural resources. It is the course of wisdom to set aside an ample portion of our natural resources as national parks and reserves, thus ensuring that future generations may know the majesty of the earth as we know it today.' -- John F. Kennedy" "In permitting the sacrifice of anything that would be of the slightest value to future visitors to the convenience, bad taste, playfulness, carelessness, or wanton destructiveness of present visitors, we probably yield in each case the interest of uncounted millions to the selfishness of a few individuals.? -- Frederick Law Olmstead Another concern I have addresses Visitor Use and Experience." "If future generations are to remember us with gratitude rather than contempt, we must leave them with more than the miracles of technology. We must leave them with a glimpse of the world as it was in the beginning, not just after we got through with it.' -- Lyndon B. Johnson"
Connie Rogers	"This telescope needs to be located away from the rim of the crater to preserve visual aspects."
CONOR SORAGHAN	"PLEASE PROTECT HALEAKALA - NO TELESCOPES TO HARM/IMPAIR THIS TREASURED PARK. THANK YOU."
Dorothy Neal	"I visited this park for the first time back in 2002 and was awestruck by the beauty of the high mt. park in Maui. I sincerely hope that you put much more research into this big project, always keeping in mind the flora & fauna of this beautiful place and keep to destroy it."
Elizabeth Morse	"I am concerned about the potential for major, long-term adverse impact on the viewscapes of Haleakala National Park, particularly from the Pu'u Ula'ula Overlook, the natural areas of Haleakala National Park adjacent to Haleakala Observatory, and the Upper Park Road Corridor. Analysis in the Visual Resources and View Plane of the SDEIS needs to be improved to better address potential impacts on changing the vistas of the park. More information is needed about the basis of the qualitative evaluation. An independent social science study is recommended to properly evaluate the qualitative range of acceptable, minimally acceptable, and unacceptable visual conditions for the summit area of Haleakala. We need to ensure we have protected Haleakala National Park. Areas like this can't be recreated. Thank you for considering my comments."
Eric Mandel	"It is hard to imagine any acceptable mitigation of visual impacts to this proposal at the very place that many visitors come specifically to view the natural vistas and famed sunrises, as I have done."
F Hammer	"As someone who has stood on the top of Haleakala w/ the sun behind my back and experienced the special phenomena of The Spector of Van Broken, having our shadows cast the length of 20 miles into the crater, w/ a full circle of rainbow colors surrounding us, I am very concerned that this construction project could destroy this natural opportunity for other people."

**APPENDIX B: COMMENTS AND REPONSES TO SDEIS (MAY 2009)**

*Final Environmental Impact Statement — Advanced Technology Solar Telescope*

<b>E-Mail Form Letters With Added Personal Text of Concern for Visual Resources and Visitor Use (cont.)</b>	
<b>Received from: E-Mail Form Letters with the Subject titled as: Haleakalā ATST SDEIS</b>	
Greg Fite	"Haleakala, home of the rising sun: sacred mountain top of Maui; guardian of the island. This sacred place must be treated with the utmost care and respect: My wife saw the sunrise with us on December 26, 2007. Now she is gone, but the memory lingers with my family. I cannot stress how important it is to allow future generations to experience the same awe and wonder that we did that morning." (continue with form letter)
Jeannine Koshear	"As a former NPS park ranger and a conservation biologist with personal experience at Haleakala NP, I am writing to express serious concerns..."
Jo Falcon, MLIS	"As a member of the International Dark Sky Association, a science librarian, and an avid amateur astronomer, I love the idea of an Advanced Technology Solar Telescope -- on the island of Hawaii, where the infrastructure already exists on Mauna Kea. NOT on Haleakala, whose relatively untouched ecology and difficulty of access make it one of the most challenging and rewarding parks in the entire National Park System. And certainly not without a complete and rigorous Environmental Impact Assessment." "Silversword grows in only this one place in the world. Please, keep the unique character of Haleakala untouched."
Julie Larson	"I have visited this wonderful place and it would be a shame to take away any of the natural beauty or to harm the silversword in any way. Please consider that we need to be stewards of the land for future generations. There are other more appropriate places where a new science center could be located that would not have these issues."
Kristin Leuschner	"I have visited Haleakala twice and greatly appreciate the experience of seeing the beautiful views in the park. That is the most important thing about the experience of the park!"
Lis and David Fleming	"Please do an independent social science study."
Luke Asbury	"Particularly since the present structures and more hidden and not prominent they way SEDIS would be." "I am also concerned with the DEIS's conclusion that the proposed project would have a 'minor, beneficial, long-term effect on visitor experience if a tour of the proposed telescope is offered.' Woopie! Is a minor benefit worth this large of an impairment to the visitor experience? I don't think so."
Marisa Di Giovanni	"I LIVED IN MAUI FOR THE BEST YEARS OF MY LIFE!! DONT RUIN HAWAII ANYMORE...OAHU ALREADY LOOKS JUST LIKE LOS ANGELES LET GOD TAKE CARE OF THE ISSUE. THERE IS ALREADY THE TECHNOLOGY SECRETLY IN OAHU."
Mark Bartleman	" And the current proposal threatens Haleakala National Park's scenery. I am also concerned this SDEIS doesn't adequately address park visitor use and experience -- specifically I take exception with the DEIS's conclusion that the proposed project would have a 'minor, beneficial, long-term effect on visitor experience if a tour of the proposed telescope is offered.' " "... enjoyment of future generations' (National Park Organic Act). You must honor this."
Mary Brown	"IS THIS PROPOSAL REALLY NECESSARY TO BUILD? IT WILL NOT HELP THE ENVIRONMENT OR HAVE MORE VISITORS TO TO PARK."
Melodee Seccombe	"I have yet to have the privilege of visiting Maui and Haleakala has been on my list ever since I heard about it as a child. I want all visits to be as perfect as possible, not only for myself and but for others. "
Michael Terry	Deleted from "The current proposal threatens..." thru "...Upper Park Road Corridor", then added "A concern I have about this SDEIS has to do with Visitor Use and Experience." Continues through the rest of the form letter, though deleted "I am also concerned with the DEIS's conclusion..." through "... privately owned property."

*APPENDIX B: COMMENTS AND REPOSSES TO SDEIS (MAY 2009)*

<b>E-Mail Form Letters With Added Personal Text of Concern for Visual Resources and Visitor Use (cont.)</b>	
<b>Received from: E-Mail Form Letters with the Subject titled as: Haleakalā ATST SDEIS</b>	
Nancy Hoffman	"I have never been to Hawaii, but hope to get there some day. I would love to visit Maui and especially Haleakala Park in its pristine state."
Nancy Piotrowski	"As proposed, this project does not appear to be consistent with the mission of the park."
Pamela Yates	"Be assured I'm all for space exploration in all its forms and love the idea of the solar telescope. We could learn a great deal from it and I want the telescope -- but I want the natural areas considered and protected every step of the way. These are the precious Earth gems we need to save."
Pat Marriott	"Having been to Haleakala several times, I'm very concerned about the huge observatory the NSF wants to put there. What about the negative effects this could have on the park -- which is rare and unique in all the world? The current proposal threatens Haleakala's moonscape scenery that makes the park so special. People come from all over the world to watch the sunrise and experience the unique volcanic landscape. Construction of this project would be a huge mess with noise and potential dangers. The Visual Resources and View Plane of the SDEIS must consider the park's stark and beautiful landscape. An independent study must be done to evaluate the qualitative range of acceptable, minimally acceptable, and unacceptable visual conditions for the summit. Without an independent study, I'm really worried that both proposed sites will have a major negative impact on the park. I absolutely disagree with the DEIS conclusion that the project would have a 'minor, beneficial, long-term effect on visitor experience if a tour of the proposed telescope is offered.' People don't go to Haleakala to see a telescope! They go to see the volcano. A huge telescope doesn't belong in this beautiful barren landscape." "This makes it pretty clear that it's our duty to protect Haleakala as it is."
Rebecca Buell-Silsbee	"I have been to the peak of Haleakala twice to watch the sun rise. It was both times a magical experience. Many people are only able to experience this once. No one should be deprived of this opportunity."
Reed Jarvis	"As a former National Park Service superintendent, I am writing to express serious concerns..." "This proposal's effect will be the same as on the one at Gettysburg where a steel viewing tower impinged upon the tranquility of the park. I hope you will consider my comments."
Renee Holmes	"Also, simple respect for paradise requires us to come up to the stature of fully responsible human beings by lessening our impact on these most perfect of places in this world. Please consider: The current proposal threatens Haleakala National Park's famous scenery..." "We are slowly losing the most precious places; don't make this another one. Thank you for listening--to the future of the American people and the world."

<b>E-Mail Form Letters With Added Personal Text of Concern for Visual Resources and Visitor Use (cont.)</b>	
<b>Received from: E-Mail Form Letters with the Subject titled as: Haleakalā ATST SDEIS</b>	
Robert Cerello	"No one is more supportive of or knowledgeable about astrop[hysics as an amateur than I am; I have loved, read about and thought about the stars for 60 years. But careful consideration needs to be given..." "I assert that in terms of an impact report, in a world teeming with mountaintops, much more research needs to be included in a study relating to how the construction of this telescope will change the experience of visiting Haleakala from what it is now to something far different."..."Thank you for considering my lifetime of experience with astronomy and National Parks and the contents of my comments."
Sarah Ryan	"I have visited Haleakala several times and plan to go back in the future. During several visits, the only clear views available were from the observation center, which is clearly going to be blocked by the proposed tower."
Sharon McAuliffe	"As a long-time visitor to Maui and a resident of the island of Oahu, I support further investigation into the impact of the ATST site referenced below. I understand the scientific need to use advanced technology to gain further understanding of our environment. Too often, though, these projects take the fastest means to gain their ends, when with just a little more thought and less hurry, solutions can be found that are mutually acceptable. If I understand the summary below, what is being asked is a better explanation of the impact of this project on the viewscape, and the temporary impact of the construction of the site on the visitor experience. Please help us better understand what will occur during construction, and model the views as they will appear once construction is complete. Here are the concerns as outlined by the NPCA regarding the Supplemental Draft Environmental Impact Statement (SDEIS)..."
Sienna M Potts	"I was lucky enough to hike in Haleakala National Park as a child. It is a memory that is still very strong for me. I understood something about our planet by seeing that amazing landscape. Please leave it be so I can show it to my own children!"
Susan Trivisonno	"I have wonderful memories from my visit years ago, and careful consideration needs to be given to protecting this special place for our children and grandchildren to enjoy."
Suzanne Coonradt	"I am a frequent visitor of the Haleakala National Park and never tire of the beauty and majesty of the scenery. Consequently I am very concerned about the proposed construction of a gigantic observatory. I am in favor of science and surely the summit is an ideal place for astronomical studies. However, I believe that we need a detailed, scientific, independent study of the impact of this building on the environment and scenery before committing to any building plan. The Park is a precious resource that should be preserved for generations to come. I hope we can continue to be good stewards of this magnificent national treasure."

**Response:** See Section 2.0- Proposed ATST Project and Alternatives for detailed discussions about site selection. Please also note that, in response to comments on the SDEIS, Section 4.5 (Visual Resources and View Planes) and Section 4.6 (Visitor Use and Experience) have been revised accordingly.

**Received from:** Native Hawaiian Legal Corporation on behalf of Kilakila ‘O Haleakalā,  
David Kimo Frankel, Camille K. Kalama, Staff Attorneys, 06-05-09

**Comment:**

**CULTURAL IMPACT**

**Environmental Justice**

1. The adverse impact on Native Hawaiian traditional and customary practices is the defining environmental Justice issue for this project.

Their quote from EPA is found in Sec 2.2.2 Cumulative and Indirect Effects, pg 23 of Final Guidance EPA doc. This is not a “loss of a sacred site” where “that religious use of the site abruptly ceases...”

**Magnitude of Impact**

2. The SDEIS identifies four levels of effects (major, moderate, minor and negligible), but fails to clearly explain the severity of the impact of the project on cultural resources. It breaks up different elements of the project, sometimes defining the impact, sometimes avoiding a description (or relying upon qualifying phrases), and sometimes referring to mitigation to some (but not all) the elements.
3. On the one hand, the SDEIS states on pages ES-33 and 4-10 that “the overwhelming evidence from a cultural and traditional standpoint points toward a major, adverse and long-term effect on some Native Hawaiian traditional cultural practices and beliefs.” See also, page 4-14. Similarly,

**Response:**

**CULTURAL IMPACT**

**Environmental Justice**

1. Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,” provides that “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” The comment seems to raise concerns about impacts to cultural resources and, in particular, to Haleakalā as a Traditional Cultural Property. These concerns have already been analyzed under Section 4.2 (Cultural, Historic, and Archeological Resources). A typical environmental justice review under NEPA looks at whether the proposed project will have a disproportionate impact on an adjacent community of minorities or residents below the poverty line, as compared to other affected populations. It is noted that there is no minority population that resides adjacent to the project site. Section 4.12 (Socioeconomics and Environmental Justice) has been revised in response to this comment.

**Magnitude of Impact**

2. Section 4.2 describes the severity of the effects on cultural resources. The effects are major, adverse, and long-term. The Mitigation Table (4-13) summarizes mitigation measures for cultural effects, where they are possible. None of the mitigation measures proposed would reduce the effects to less than major, adverse and long-term for construction of the proposed ATST Project. In response to comments on the SDEIS, Section 4.2 has been revised to correct and clarify the intensity level of the impacts.
3. The Executive Summary has been corrected to indicate major, adverse effects on cultural resources.

<p>on page 4-131, the SDEIS states, "the cumulative effects on cultural and historic resources of the proposed ATST Project combined with past, present and reasonably foreseeable future actions is considered major, adverse, and long-term. On the other hand, it also states that "the cumulative effects on cultural and historic resources of the proposed ATST Project combined with past, present and reasonably foreseeable future actions is considered moderate, adverse and long-term" (page ES-47); see also page 4-179. Clearly page ES-47 is in error. Cumulative impacts include the direct impacts and so could not possibly be less than "major." Similarly, the impact on cultural practices is called "minor" on page ES-33.</p> <p>4. The FEIS should fully and clearly disclose whether the following elements of the project would have a "major" or "moderate" adverse impact on cultural resources and activities:</p> <ol style="list-style-type: none"> <li>1) the construction activities associated with building the ATST (including excavation, noise and visual);</li> <li>2) the existence of a 143-foot structure at Kolekole (visual);</li> <li>3) the noise generated from the operation of the ATST and associated activities; and,</li> <li>4) the operation of the ATST, including maintenance, repairs and personnel turnover.</li> </ol> <p>5. The SDEIS clearly states that the repairs and turnover in operations "would have a major, adverse, and long-term effect on cultural resources" (p. 4-9). It fails, however, to clearly state that the construction activities, the existence of the massive structure, and the noise generated by the operations would have a major adverse and long term adverse effect on cultural resources. This analysis is critical because, while the applicant alleges that "implementation of mitigation measures would reduce the effect intensity to a moderate adverse, long-term level for these types of adverse impacts to cultural resources," these mitigation measures have absolutely nothing to do with the impact caused by, for example, the ATST's massive presence.</p>	<p>4. Table 4-13 has been added to the FEIS to summarize all of the impacts for each resource, along with associated mitigation measures. The Table also reflects the intensity level that remains for each impact following application of mitigation. An analysis for each of the resources and activities mentioned in the comment is included in Section 4 as well.</p> <p>5. The viewshed has been analyzed, for both the construction and operation phases, and noise has been addressed for those as well. There is no mitigation for visual impact, but the analysis of how those visual impacts on various resources were determined for the proposed ATST Project is discussed in detail in Section 4.5. The resulting impact intensity on cultural resources is based on well-accepted NEPA criteria for changes in visual quality and character.</p>
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<p>6. The SDEIS on the one hand states that “the amount of noise and construction-related activities associated with the proposed ATST Project would have a major, adverse and short-term effect,” but then concludes, without any real discussion, that certain restrictions reduce the impacts to “minor” (p. 4-10). What analysis allows the applicant to reach this conclusion? Curiously, on page 4-10, the SDEIS suggests that noise-generating activities such as construction would be restricted from 30 minutes prior to sunset and 30 minutes after sunrise. On page 4-78, however, the SDEIS reveals that only those construction activities exceeding 83 dBA noise levels would be restricted. Thus, Native Hawaiians engaged in traditional and customary activities near the ATST would be subjected to noise levels of up to 82 dBA at sunrise and sunset. How does that change a major effect into a minor one?</p> <p><b>Mitigation</b></p> <p>7. How does providing “Sense of Place” mitigate the pain and loss suffered by Native Hawaiian traditional and customary practitioners?</p>	<p>6. As stated in the SDEIS on page 4-78 (first paragraph), the construction noise would be limited. The text in the FEIS has been revised for clarification. See Section 4-10 in the FEIS.</p> <p>7. The “Sense of Place” training was suggested in the Cultural Resources Evaluation (CRE) prepared by Kahu Charles K. Maxwell in 2003 as part of the IfA’s Long Range Development Plan (LRDP). This suggestion was described in the CRE in Part IV, Long Term Method for Preservation of Cultural Resources (p. 7) under the heading “Rules for Long Term Method for Preservation of Cultural Resources for all Facilities Past, Present, and Future on Kolekole, Haleakalā” (p. 8). Item 3 of the rules states: “All permanent employees working at Kolekole, both present and future, should attend “Sense of Place Classes” prior to working at the facilities. It could be in the form of a 1-hour video and reading prepared brochures which explain how culturally and spiritually important the summit is to the Hawaiian people.”</p> <p>As a result of the CRE, the IfA has incorporated “Sense of Place” training into its LRDP and it is required training for all contractors and employees working at HO. It was also described in the SDEIS in Section 4.2.2- Evaluation of Potential Direct and Indirect Effects at the Mees Site, <i>Construction- and Operation-Related Effects at the Mees Site, Cultural Resources</i>. It is also described in the SDEIS in both Appendix F(1)- Cultural and Historical Compilation of Resources Evaluation and Traditional Practices Assessments, January 2006 and Appendix F(2)- Supplemental Cultural Impact Assessment, May 2007, in Section 8: Summary and Recommendations.</p>
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<p>8. How does such training mitigate the visual impact and noise; and how is the cultural specialist going to make the project quieter or make the buildings more invisible?</p> <p>9. The FEIS must include a clear explanation as to how providing “Sense of Place” training could possibly mitigate damage to a sacred site.</p> <p>10. This refers to the Park Road Corridor and the statement is incorrect .</p>	<p>8. Both the “Sense of Place” training and the cultural specialist do not mitigate visual or noise impacts.</p> <p>9. “Sense of Place” training is an on-going IfA requirement at the HO site. See the response for Item 7, above.</p> <p>10. The SDEIS states in Sections 4.2.2 and in 4.2.5 (p. 4-14) that the proposed ATST Project would result in major, adverse, long-term effects on cultural resources within the ROI. The intent is to describe that while for some, there would be no mitigation possible for those effects, for others the mitigation measures described in these sections and in Section 4.18- Mitigation would reduce the impact of the proposed ATST Project on cultural resources to minor adverse long-term <i>during certain timeframes and certain times of the year</i> (italics used for emphasis). Recognizing that the effects of cranes and other visual evidence of construction, along with noise and traffic would constitute a major, adverse effect on cultural practices within parts of the ROI, there are also periods when no construction would be taking place or would be restricted by mitigation measures to certain months and hours of the day. The absence or reduction of construction noise, the absence of cranes, the absence of traffic, etc., are measures that were recommended not by NSF, but by other consulting parties in the community, to reduce the effects on cultural and other resources. Therefore, after these measures were accepted by NSF, the effects on cultural resources during those intervals when the mitigations are in effect are considered to be minor, adverse ones.</p>
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<p>11. “Educational benefits” do not qualify as mitigation.</p> <p><b>Who Should Compromise?</b></p> <p>12. There are <u>no</u> elements in the actual ATST project that the NSF is willing to compromise on, including size, color, location, etc.</p>	<p>11. Providing educational benefits as a means of mitigation was proposed to NSF as a mitigation measure by several consulting parties through the Section 106 consultation process. These consulting parties expressed a concern that science and traditional cultural practices were disconnected. This proposed mitigation is designed to help bridge that gap, thereby minimizing the impacts of the implementation of the proposed ATST Project on cultural resources..</p> <p>12. Following the selection of the Haleakalā site and the consideration of the typical variation of turbulence with height above the ground, the proposed height of the telescope — defined as the distance from ground level to the rotational center of the telescope — was established to be 28 meters (92 feet). This was determined to be the <u>minimum</u> height at which the image resolution required to meet the specified science goals could be achieved. This would dictate an observatory structure that is 43.5 meters (142.7 feet) in height and 25.6 meters (84.0 feet) in diameter. With respect to color, in order to meet the science objectives of the project, only white paint with a high reflectance would be acceptable for adequate temperature control for a daytime telescope in order to reduce heat absorption, which would adversely affect telescope operations by heating the adjacent air and thereby introducing turbulence that would degrade the seeing. A technical discussion of thermal heat loading and paint color is found in Vol. II, Appendix J(4)-Supplemental Description of ATST Equipment and Infrastructure for further discussion on these features. With respect to site selection, the FEIS devotes many pages in Section 2 to the years-long process by which Haleakalā and the specific sites at HO have been selected. Again, the science objectives of the proposed ATST Project can only be achieved at either of the two alternatives that have been selected for consideration in the FEIS. The objectives of the science community for the proposed ATST Project - and not the NSF - have driven decisions concerning the height, color, location, and other features of ATST development. If the proposed ATST Project is to be built, the scientific objectives cannot be compromised.</p>
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<b><u>NOISE</u></b>	
13. How does the NSF define arrogance?	13. It is unclear how this question applies to the NEPA process and, thus, NSF is unable to provide a further response.
14. All new noise sources will adversely affect the natural soundscape and are inappropriate.	14. The comment is noted and NSF has revised Section 4.10 (Noise) to further address and clarify noise impacts.
15. There must be some basis for using 20 dBA as a criterion (p. 4-99) – although it appears the applicant has arbitrarily decided that 20 is a magic number.	15. The thresholds have been revised in Section 4.10.1-Methodology for Effects Assessment and are based on Federal Transit Administration guidance.
16. The noise analysis ignores frequency, unnaturalness, intensity and duration of noise generation.	16. Text has been revised in Section 4.10-Noise to better clarify that effects of noise from the construction of the proposed ATST Project at either the Mees site or the Reber Circle site are anticipated to be a major, adverse, short term, direct impact.
17. To say sound attenuation of industrial noises at 35 dBA is “equivalent of leaves rustling or wind blowing through the grass” (p 4-100) is insulting.	17. The comparison of artificial sounds to common natural ambient sounds, such as the rustling of leaves or wind, is frequently utilized as a means to convey the sense or impact of a given sound volume to those unfamiliar with dBA sound-power levels. In this case, comparing the distance attenuated level of sound resulting from low-noise construction activities to wind and rustling leaves is not intended to be insulting or qualitative. It is intended to describe the quantitative sound level in an easily understood manner.
18. How much noise will the buildings, the fans, the air conditioners, rotational tracking, generator, etc. generate?	18. This was discussed in the SDEIS in Section 4-10.2-Evaluation of Potential Effects at the Mees Site, <i>Operations-Related Effects at the Mees Site</i> , where it states:  “Standard operational processes for the proposed ATST Project would not emit significant nuisance noises or vibrations to the surrounding research environment. Mirror stripping and cleaning and restorative recoating of the reflective surface, which would occur approximately once every two years, would not generate appreciable noise levels outside the enclosed buildings. Exhaust fans and equipment used for cooling the telescope and enclosure would have sufficient sound attenuation to reduce their noise levels to well below the established outdoor levels for Class A zoning districts. The aperture and ventilation gates would be periodically opened and

<p>19. Noise should be anticipated during construction <u>and</u> decommissioning/deconstruction.</p> <p>20. ...how far away would a person have to be from the ATST facility to be sure that the person did not hear any (a) construction noise; and, (b) operational noise.</p>	<p>closed primarily during daylight and occasionally at night for maintenance. Rotational tracking of both the dome and entrance aperture tube atop the enclosure would produce a low frequency spectrum of mechanical noise, audible throughout the HO area. However, the noises would be intermittent and are considered unlikely to elicit adverse responses from neighboring research facilities because operations of these types of observatories are considered normal and standard practice. In addition, the dome would be positioned before nightfall each day, so typically there would be no nighttime rotational noise and the speed of rotation required around sunrise would be reduced.</p> <p>Section 4.10-Noise has been revised to provide further clarification. Furthermore, the change to ambient noise conditions at HO resulting from vehicle traffic would be negligible because the relative increase in daytime commuters accessing the proposed ATST Project facility would not noticeably add to the current level and pattern of vehicle use associated with existing HO operations.”</p> <p>19. The potential to evaluate for future decommissioning technology does not exist to be able to make an informed response to the comment.</p> <p>20. Audibility will vary depending on the level of background noise, an individual’s hearing threshold, and the nature of the activities occurring on-site.</p>
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<b><u>VISUAL IMPACTS</u></b>	
<p>21. The quantitative methodology is ridiculous. Unless one is very, very close to a structure, according to this methodology, the structure will only impact a small percentage of a view plane. To claim that a major scenic impact can only be from a structure that affects more than 20% of a view plane renders all construction impacts from any real distance non-major.</p> <p>22. The applicant should instead employ the methodology articulated by the DLNR’s decision re: <i>HECO’s CUA to Construct a 138 kV Transmission Line at Wa’ahila Ridge</i>, DLNR file No. OA-2801.</p>	<p>21. Quantitative methodology is based on a way of measuring objective physical criteria. The comment appears to advocate a more qualitative approach. Section 4.5 has been revised to include a more qualitative approach to the analysis. Section 4.5.1-Methodology of Effect Assessment describes methods used to determine whether the proposed ATST Project would have a significant effect on visual resources. This section also describes two additional methods that were employed to assess the potential effect of the proposed ATST Project to the viewshed within the Region of Influence.</p> <p>See Section 4.5.1-Methodology of Effect Assessment of the SDEIS, where it is explained that the combination of all the above viewshed assessment methods provides a comprehensive prediction of the potential visual effect the proposed ATST Project would have within the ROI. For example, while the ATST would be clearly visible as the largest structure within HO from the Pu’u Ula’ula (Red Hill) Overlook and from elsewhere in HALE, it would be less prominent from other locations on Maui. Distance, atmospheric transparency, terrain blocking, and other facilities in the foreground would reduce the visibility of the proposed ATST Project such that in some locations it would be difficult to distinguish between ATST and the other existing facilities at HO. At some locations, such as Wailuku and Kahikunui, the proposed ATST Project at the Mees site would be seen more directly, without as much terrain blocking or other intervening facilities. From Kaupo, the proposed ATST Project facility would not be visible.</p> <p>22. Wa’ahila Ridge is a pristine natural landscape. Towers on the pristine Wa’ahila Ridge would make a difference in view plane and the methodology referenced by the commenter is another way to measure that view plane. The summit of Haleakalā is not a pristine natural landscape. It had already been disturbed beginning with the 1935 completion of the road and by mid-1936 with the first structures: a checking station, a comfort station, and the summit observation station (Ref. HALE HAER). NSF used a methodology that attempted to capture the view plane in a variety of ways. Again, Section 4.5 has been revised to include a more qualitative approach to the analysis.</p>

<p>23. The visual simulations do not fairly depict the visual blight that the structure will be on Haleakalā.” Figures 4-5 to 4-16 do not capture what and will be seen.</p> <p>24. Even the LRDP does a better job of acknowledging the impact.</p> <p>25. The ATST would impede the view plane from mountain to ocean, ruin the character of the natural surrounding and ruin essential vistas.</p> <p>26. Tall cranes would be required during construction <u>and</u> decommissioning/deconstruction.</p>	<p>23. Please see the responses above to comments 22 and 23.</p> <p>24. The statement as described in the LRDP is consistent with Section 4.5.1-Methodology of Effect Assessment of the FEIS, in that the combination of all the above viewshed assessments methods provides a comprehensive prediction of the potential visual effect the proposed ATST Project would have within the ROI. While ATST would be clearly visible as the largest structure within HO from the Pu‘u Ula‘ula (Red Hill) Overlook and from elsewhere in HALE, it would be less prominent from other locations on Maui. Distance, atmospheric transparency, terrain blocking, and other facilities in the foreground would reduce the visibility of the proposed ATST Project such that in some locations it would be difficult to distinguish between ATST and the other existing facilities at HO at Pukalani and at Keonekai). At some locations, such as Wailuku and Kahikunui, the proposed ATST Project at the Mees site would be seen more directly, without as much terrain blocking or other intervening facilities. From Kaupo, the proposed ATST Project facility would not be visible.</p> <p>25. Although the comment does not identify specific view planes, it should be noted that NSF did determine that in some cases, the proposed ATST Project would result in major, adverse impacts to the view plane. As mentioned earlier, Section 4.5 has been revised to include a more qualitative approach to the analysis, which now provides further clarification of the impacts.</p> <p>26. The potential to evaluate impacts for future decommissioning/deconstruction technology and/or equipment, such as cranes, does not exist to be able to make an informed response to the comment.</p>
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<p>27. When the SDEIS states that the ATST “would not be fully visible” (p. 4-62) does that mean the entire structure is not visible, or that it is not visible along the entire roadway?</p> <p><b><u>SECTION 4.1 ON “LAND USE” MAKES NO SENSE</u></b></p> <p>28. Section 4.1 appears to analyze the impact on “land use”. Grammatically and logically it is hard to understand how a project impacts “land use.” “...is the ATST compatible with existing land use designations, and will it affect existing land uses and existing activities?”</p>	<p>27. Yes, the entire structure “would not be fully visible”. The correct page number in the SDEIS where this is mentioned is page 4-58 under the heading <i>Park Road Corridor</i>, where it states:</p> <p>“To an observer, the ATST facility would appear to the left of the current facilities at HO, but due to terrain and/or building obscuration, it <b>would not be fully visible from any location along the Park road corridor.</b>”</p> <p>It is also stated in the SDEIS on page 4-63 under the heading <i>The Upper Road Corridor, Including the Haleakalā Visitor Center</i> that :“[b]ecause it <b>would not be fully visible along the upper roadway</b>, it would likely not evoke the same level of adverse feeling from those who would feel it is out of character for the natural surroundings.”</p> <p>28. Section 4.1-Land Use and Existing Activities is a recognized term from the DLNR. HO is designated as Conservation District. See Section 3.1-Land Use and Existing Activities, where it states:</p> <p>“In accordance with Title 13 Chapter 5, HAR, the proposed ATST Project would be consistent with Conservation District land use requirements requiring a Conservation District Use Application (CDUA). All land uses pursuant to HAR 13-5-30 must be an identified land use and require that a CDUA be filed with the DLNR and approved by the BLNR prior to its initiation.</p> <p>The proposed ATST Project is consistent with the intention that conveyed the HO area to the UH by Governor’s Executive Order (EO) 1987. This area of the Conservation District has been set aside for “...Haleakalā High Altitude Observatory site purposes only.” Many facilities conducting astronomical research and advanced space surveillance already exist within HO.”</p>
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<p>29. The applicant ignores the BLNR's criteria (except for a select two) for evaluating a CDUP found in HAR § 13-5-30. There is no doubt the proposal fails to satisfy these criteria and it will not be able to obtain a CDUP.</p> <p><b><u>ALTERNATIVES</u></b></p> <p>30. The discussion in the two paragraphs above Section 2.3.3 (p. 2-7) is clearly inaccurate.</p>	<p>29. The SDEIS is not a Conservation District Use Application (CDUA). The criteria in HAR 13-5-30 are derived from the DLNR, not the BLNR. The CDUA/CDUP process is a separate process from the SDEIS. That decision will be made by the BLNR, for which the Proposed ATST Project would require a Board permit.</p> <p>30. The importance of the Sun for determining the near-Earth space environment is unquestionably important to most western civilizations. The economic impact of our past failures to estimate solar storm radiation is several billion dollars. There is also no question that the Sun has affected global climate change -- that is, it is not a question of "if" the sun will change our climate, but "when".</p> <p>Listed below are a few examples to demonstrate the vulnerability of our technology-dependent society (see Astrobiology Magazine, 07-06-03, <a href="http://www.astrobio.net/news">http://www.astrobio.net/news</a>):</p> <ol style="list-style-type: none"> <li>1. In 1989, a solar storm tripped a protective switch at the Canadian Hydro-Québec power company. For nine hours, the entire province of Québec was without power. The problem nearly spread to the United States through an interconnected grid, officials said at the time.</li> <li>2. In a 1997 solar storm, an AT&amp;T Telestar 401 satellite used to broadcast television shows from networks to local affiliates was blacked out.</li> <li>3. A more serious breakdown of communications occurred in May 1998, when a space storm disabled PanAmSat's Galaxy IV. Among the Galaxy IV casualties: automated teller machines, gas station credit card handling services, 80 percent of all pagers in the United States, news wire service feeds, CNN's airport network; and some airline weather tracking services.</li> </ol> <p>Early southwestern civilizations like the Mogollon, Anasazi, and Hohokam vanished during a likely solar-induced warm period, which allowed historic Norse peoples to cultivate the western coast of Greenland. The failure of the Nordic culture can then be traced to the beginnings of the cool period that we now call the Maunder Minimum or "Little Ice Age" in Europe. All of these climate events are related to dramatic changes in the</p>
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	<p>solar activity which we are still unable to predict. Past civilizations have come and gone with the rhythm of the Sun. While we cannot change the Sun, or by analogy a hurricane storm, we surely need to know when a storm or solar change comes. As we appreciate the technology of satellites, a mountaintop facility such as the proposed ATST Project would be an important tool for teaching us how to predict solar activity.</p> <p>An ATST in space must overcome several unsolved technical issues before it could ever be considered. There are at least three difficulties that make it unlikely that such a facility could be deployed in orbit during our generation:</p> <ol style="list-style-type: none"><li>1. deploying a 4-m coronagraphic telescope of this aperture and complexity to space has never been undertaken -- the JWST is considerably simpler technically than the ATST and its post-focus instrumentation,</li><li>2. it is unknown how the large solar power load at the secondary optics could be dissipated in space -- this has never been attempted; and,</li><li>3. the enormous ground-link data rate from the post-focus instrumentation has never been achieved from a scientific satellite like an ATST in space. Of course one can argue that "nothing is impossible" but an ATST in space must solve so many "firsts" that it simply is not reasonable, even by assuming that unrealistically large financial resources are available.</li></ol> <p>Since we do not have technical solutions to the problems of, for example, how to cool the secondary optics in space, it is very difficult to estimate the overall cost of a space-based ATST and how it might fall short of the current scientific objectives. A 15-year development effort and then deployment of the most complex telescope ever used in space might be estimated to be at least a \$100B effort.</p>
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<p>31. Is cost the reason that a space-based telescope was rejected, or are technological limits the reason it was not chosen?</p>	<p>31. (See Section 2.3.2- Response to Public Comment Regarding Alternative Siting on Haleakalā) The ATST is designed to measure and understand the influence of the outer solar atmosphere on the interplanetary space between the Earth and the Sun. Virtually all of the Sun’s dynamic effects on the Earth can be traced back to solar magnetic fields and the ATST would measure these outer fields for the first time.</p> <p>The technology simply does not exist anywhere for doing this measurement from space. While the Japanese/American/British SOLAR-B/Hinode mission looks on the disk of the Sun for solar flares, its mission is complementary to the goals of the ATST. We are many decades away from having the technical capability of launching a solar telescope with the necessary 4-meter mirror, like the proposed ATST, into space to measure these coronal magnetic fields. Meanwhile our global communications and the impact of solar changes on terrestrial climate remain a risk for human civilization while we wait to understand solar cycle variability. For these reasons, this alternative was not considered.</p>
<p>32. Could a space-based telescope achieve all the scientific objectives?</p>	<p>32. For the reasons in response #31, no single space-based telescope using current launch technology could achieve the science goals.</p>
<p>33. If so, how much more would it cost?</p>	<p>33. A space-based telescope is not being proposed for the ATST Project; therefore, this could only be estimated. Since we do not have technical solutions to the problems of, for example, how to cool the secondary optics in space, it is very difficult to estimate the overall cost of a space-based ATST and how it might fall short of the current scientific objectives. A 15-year development effort and then deployment of the most complex telescope ever used in space might be estimated to be at least a \$100B effort.</p>

<p>34. It is absurd for the applicant to proclaim that there is a bright-line below which any other site would utterly fail to meet the “scientific objectives” of the project. There is no objective reason why the telescope <u>must</u> have 480 annual hours of sky brightness or why the telescope <u>must</u> have 200 annual hours of excellent seeing.</p>	<p>34. The scientific objectives were established by the scientific community. These objectives were developed through consideration of the timescales over which solar phenomena evolve. Understanding the underlying physics requires observations that span the lifetime of the event under study – for example, the development and explosion of a solar flare. The requirements for the site, such as 200 annual hours of excellent seeing, were determined by detailed digital simulations of specific ‘use cases’ such as the solar flare example, above. These included the frequency of such events coupled with the probabilities of the event being observable, due to night, meteorological conditions, etc. These calculations establish the minimum number of hours of good seeing and dark skies, etc. to carry out the observation. Indeed, there are good reasons why the minimum site criteria were established. Note that these were established before the site survey data were analyzed and Haleakalā was the only site surveyed that met or exceeded the criteria.</p> <p>The proposed ATST Project began with scientific objectives: to measure (for the first time) the reach of the Sun’s coronal magnetic field into the Earth-Sun space environment and to understand the decay and evolution of sunspots - the building blocks of the solar activity cycle. From the beginning, the proponents of this project have maintained that the importance of these measurements would be limited not by the technology of the instrument, but by atmospheric performance of a site. The performance requirements of the site-telescope “system” follow from the scientific objectives that are crucial to our understanding of how the Sun affects the Earth’s tropospheric climate change as well as our satellite environment. As in all facility-level experiments, it begins by setting a level of performance that justifies the resource investment given the expected information return.</p> <p>An independent, international, group of about 40 scientists from more than 8 countries described what would be required to answer these questions. The scientists determined that a solution to these difficult problems requires a “system” involving both minimal atmospheric conditions and certain instrument capabilities. The science requirements document, which further addresses the requirements, and the site requirements were obtained long before there was a site study. The site evaluation process involved a complex scientific investigation, and an evaluation process looked at over 70 sites from the onset, not just “6 sites”. The scientific</p>
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<p>35. Due to emissions from Kilauea on Hawai‘i increasing, has the applicant re-examined its data to see if Haleakalā still meets all the criteria it needs for solar observations?</p>	<p>evaluation involved many parameters which are available for review in public documents. Since sky brightness, transparency, turbulence, and the timing and duration of these conditions were all folded into the evaluation, it simply was not possible to reduce this to a simple table. The scientific site selection data was presented in several refereed scientific papers for scrutiny by an unbiased scientific community. By following this scientific, peer reviewed procedure it was ensured that this study was not affected by any programmatic or political issues. After three years of data collection, there was only one site that satisfied these requirements... Haleakalā.</p> <p>As verified in the peer-reviewed literature, there is only one site that would allow the ATST-site “system” to gather the information required to answer these questions. The claim that “other sites could be just as good or were marginally the same” is incorrect, as the scientific studies have shown. The notion that one could simply “optimize the ATST design to match the site” is also not correct. Haleakalā as a site enables the science that the ATST must achieve. Without the Haleakalā site, it is unlikely that these measurements would be made in the foreseeable future.</p> <p>More detailed information can be found in Sections 1.4.3-Primary Objectives for the Project, 2.2.1-Site Selection Chronology, 2.3.1-Site Selection in Detail, and Vol. II, Appendix O-ATST SSWG Final Report.</p> <p>35. The Haleakalā summit is a superb astronomical site because it is usually above the tropical atmospheric inversion layer. This means that convection normally does not penetrate from below to disturb the seeing or to bring low-level aerosols into the summit line-of-sight to the Sun. On-going summit measurements of the Sun thus far have not been disturbed by the relatively gentle Kilauea SO<sub>2</sub> emission. A major eruption has the potential for introducing aerosols higher into the atmosphere, but the ATST system is designed to study the long-term solar cycle changes and these goals would not be affected by episodic eruptions, even lasting a few years. Note also that if the proposed ATST Project is approved, the ATST would potentially begin looking at the Sun in 2017 at the earliest.</p>
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<b><u>WASTEWATER AND HAZARDOUS WASTE</u></b>	
<p>36. What impacts, if any, does the current cesspool have on groundwater? What are the impacts of the current operation?</p> <p>37. If the aquifer is vulnerable to contamination from wastewater (page ES-23), then the threat posed by the existing cesspool operated by IFA should be fully described.</p> <p>38. If wastewater is a threat, disclose why the ATST does not propose an even higher level of treatment prior to disposal.</p> <p>39. Simply because a wastewater system meets HI Dept. of Health regulatory standards does not mean it will have no impact - especially when the aquifer is "highly vulnerable to contamination" (p. ES-23). The FEIS should discuss impacts of existing and increased wastewater discharge.</p>	<p>36. Sections 3.7.2 (Groundwater), 4.7.3 (Evaluation of Potential Impacts at the Reber Circle Site), and Section 4.7.4 (No-Action Alternative) have been updated to discuss current impacts from the existing cesspool.</p> <p>37. The Executive Summary does not state that the aquifer is vulnerable to contamination from wastewater. Rather, it reads that the groundwater resources below HO are characterized as part of the Kamaole and Makawao systems of the Central sector and the Lualailua and Nakula systems of the Kahikinui sector. The upper aquifer is classified as being replaceable and highly vulnerable to contamination, while the lower dike aquifers are classified as being irreplaceable and moderately vulnerable to contamination. There are no drinking water wells within 11 miles of the summit. This would include contamination from sources much closer than the many vertical thousands of feet between the existing cesspool and the nearest aquifer.</p> <p>38. Under the preferred alternative, a new treatment system would be installed to treat wastewater at ATST and existing MSO wastewater. The existing cesspool would be removed. This new treatment system and associated leach field will provide a greater level of treatment and reduce potential adverse impacts to perched groundwater, even though it is thousands of feet below HO. The effluent produced by the new treatment system will be of sufficient quality such that no adverse impacts would occur during normal operations, and only negligible, short-term adverse impacts would occur in the unlikely event of a treatment system failure. The text in Section 4. and analysis were revised to clarify the level of treatment.</p> <p>39. Sections 3.7.2 (Groundwater), 4.7.3 (Evaluation of Potential Effect Impacts at the Reber Circle Site), and Section 4.7.4 (No-Action Alternative) have been updated to discuss current impacts from the existing cesspool.</p>

<p>40. Discuss the potential impacts of hazardous waste being disposed through the wastewater system or on the ground, including all the chemicals described on page 2-36. Given the 9-11-99 spill incident (page ES-24), such accidents are entirely foreseeable. Disclose the likely impacts from another accident. The fact that a response to a spill may meet legal requirements does not explain the impacts to the aquifer or the larger ecosystem.</p>	<p>40. The only recorded hazardous material spill within HO occurring at MSSC on September 11, 1999 was a mixture of propylene glycol and water (see SDEIS Section ES-3.8.1-Hazardous Materials). The paragraph referring to this accidently spill also made note that the Food and Drug Administration (FDA) has determined propylene glycol to be “generally recognized as safe” for use in food, cosmetics, and medicines. This was also referenced in Section 4.17.11-Hazardous Materials and Solid Waste</p> <p>To assess the impact of a future spill is speculative. None of the hazardous materials listed in Table 2-5-Hazardous Materials would ever be intentionally disposed of in the wastewater system or on the ground. A Hazardous Materials Management Plan specific to the proposed ATST Project has been prepared and is included as Vol. II, Appendix D, which describes responsible Preparedness and Prevention of spills and also responsible Emergency Spill Procedures, should one occur.</p>
<p><b><u>EXCAVATION</u></b></p> <p>41. At La Palma, excavation of 9,000 cubic yards was deemed “considerable” (p. 2-10). Is the removal of 4,650 cubic yards of soil and rock on Haleakalā a considerable amount?</p> <p>42. How deep and wide would the pit be that would have to be created?</p>	<p>41. The term “considerable” with regard to the extent of required excavation is an inexact and relative description that was appropriate to the context of the ATST site feasibility reports from which the language regarding the La Palma site (SDEIS pg 2-10) was excerpted. In the context of the EIS, it is not appropriate to imply such inexact comparisons between sites. The language is revised to remove the word “considerable” and leave the simple comparison of the numbers for cubic yards of excavation. (See Section 2.3.3 La Palma, Canary Islands, Spain)</p> <p>42. The excavation (pit) required for the ATST foundation would be as described in Section 2.4.3-Construction Activities and shown in the figures associated with that section: a circular excavation for a mat foundation 1-meter (3 ft 3 in) deep and 26.8 m (88 ft) in diameter, with cylindrical holes extending below that for approximately 21 caissons that are 1 m (3 ft 3 in) in diameter and maximum of 6 m (20 ft) deep. This foundation and required excavation is also depicted in Figure 2-12-M3 Engineering, Inc. Drawing of Proposed Foundation System for Telescope and Enclosure, with a graphic scale in feet included at the bottom right of the figure.</p>

<p><b><u>ELECTRICITY</u></b></p> <p>43. Why are MECO's existing rate-payers paying to study ways to reduce the peak proposed ATST Project electrical load (economizing strategies) and not NSF (pages ES-13 &amp; ES-41)?</p> <p>44. Who will pay for the upgrading of the new 2500 kVA substation: MECO ratepayers or ATST (page ES-40)?</p> <p><b><u>THE CONSERVATION DISTRICT</u></b></p> <p>45. On pages ES-15, 1-29 and 3-2, the applicant puts two facts together to create a misleading impression. It may in fact be true that the parcel of land at issue was set aside for astronomical research. It is true that the Haleakalā High Altitude Observatories are in the conservation district. It is not accurate, however, to imply that (1) the purpose of the conservation district, or this part of the conservation district, is for astronomy or (2) this area has been designated for astronomical research pursuant to Act 187 or the conservation district rules. The executive order setting land aside has nothing to do with the regulatory restrictions on uses in the conservation district.</p>	<p>43. The MECO-funded study referred to in the SDEIS on pages ES-13 and ES-41 (Section ES-2.4.4-Telescope Operation Activities) was part of the Energy Solutions for Business program that is offered by MECO to any business that utilizes or proposes to utilize their power. The ATST Project applied to the program, as would any other business customer, and the “Energy Efficiency Design Assistance Study for ATST” was subsequently funded by and submitted to MECO. The purpose of the program as described by MECO is: “... to explore energy-efficient options in new construction and renovation projects.” The full text of the program description is available at: <a href="http://mauielectric.com/vcmcontent/StaticFiles/pdf/Energy_Studies.pdf">http://mauielectric.com/vcmcontent/StaticFiles/pdf/Energy_Studies.pdf</a>.</p> <p>44. The potential upgrade of the electrical substation at HO is a project that MECO had been considering prior to the proposal for the ATST facility. Such an upgrade, if the ATST Project is approved, would take into account the additional power demand of the Project. It has not yet been determined whether the initial capital cost of a new or upgraded substation would be funded directly by the ATST Project or funded by MECO, the cost of which would then be recovered over the duration of the service.</p> <p>45. The Executive Order setting land aside is unrelated to the regulatory restrictions on uses in the Conservation District. Land Use Commission, DLNR, and HAR§13-5-25 facts presented in the SDEIS in Sections 1.7.2-State Land Use Law, Chapter 205, Hawai‘i Revised Statutes and 3.1-Land Use and Existing Activities state:  “The existing State Land Use District for the proposed ATST Project is designated as Conservation District, General Subzone. The objective of the General Subzone is to designate open space where specific conservation uses may not be defined, but where urban use would be premature. During the past few years, the OCCL within the DLNR has administered CDUPs for numerous potential uses, among them astronomical facilities on Haleakalā. The proposed ATST Project would be located in the area of the Conservation District that has been set aside for astronomical research (HAR§13-5-25: Identified land uses in the General Subzone, which is applicable from R-3 Astronomy Facilities, (D-1) Astronomy facilities under an approved management plan); and many facilities conducting astronomy and advanced space surveillance already exist within HO.”</p>
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<p>46. Similarly, on page 3-1, the applicant states: “During the past few years, the DLNR’s Office of Conservation and Coastal Lands (OCCL) has administered Conservation District Use Applications (CDUAs) for: open ocean aquaculture projects, telescopes on top of Haleakalā and Mauna Kea, major power line projects on scenic ridges, telecommunication facility projects, single family residences, Parks; and Commercial Forest projects. The applicant uses the vague term “administered.” Yes, OCCL has received applications for various projects. But the Board of Land and Natural Resources, in fact, rejected the application (the only application) for a major power line project on a scenic ridge. It rejected the koa logging project proposed on Hawai’i Island. And the court overturned the BLNR’s approval of a CDUP for a telescope on Mauna Kea. The SDEIS, therefore, misleads by suggesting that in “administering” these applications, approval is routine.</p> <p>47. The applicant’s explanation for how this project satisfies the objectives of the general subzone (p. 3-2) makes absolutely no sense.</p> <p>48. Curiously, the applicant ignores the BLNR’s criteria (except for a select two) for evaluating a CDUP found in HAR § 13-5-30. There is no doubt that the applicant’s proposal fails to satisfy these criteria (let alone state constitutional mandates) and that it will not be able to obtain a CDUP.</p> <p><b><u>CUMULATIVE IMPACTS</u></b></p> <p>49. The applicant failed to discuss other EAs and EISes for projects in the area. These documents can demonstrate whether: (a) the applicant and other users of the area accurately predicted impacts; (b) the applicant and other users of the area followed through on prior promises; and (c) proposed mitigation was effective. This analysis is necessary to perform a credible analysis of the cumulative impacts of this project.</p>	<p>The reference to the Executive Order is first mentioned in the FEIS in Section 1.2-LAND OWNERSHIP, where it states: “In 1961, an Executive Order (EO) by State of Hawai’i Governor Quinn set aside 18.166 acres of land on the summit of Haleakalā in a place known as Kolekole to be under the control and management of the IfA for scientific purposes. The site is known as HO and it is the only such property on Haleakalā specifically designated for such purposes.”</p> <p>46. The term “administered:” comes directly from the DLNR/OCCL website: <a href="http://hawaii.gov/dlnr/occl/conservation">http://hawaii.gov/dlnr/occl/conservation</a>, where it states in the second paragraph under the picture:</p> <p>“The potential use(s) of Conservation District lands are numerous. During the past few years, the OCCL has <b>administered</b> CDUA’s for: open ocean aquaculture projects; telescopes on top of Mauna Kea and Haleakalā; major power line projects on scenic ridges; telecommunication facility projects; Single Family Residences (SFR); Parks; and Commercial Forestry projects to name a few.” (Emphasis added).</p> <p>A CDUP decision will be made by the BLNR, for which the Proposed ATST Project would require a Board permit.</p> <p>47. The comment is too vague to be able to make an informed response.</p> <p>48. The SDEIS is not a Conservation District Use Application (CDUA). The criteria in HAR 13-5-30 are derived from the DLNR, not the BLNR. The CDUA/CDUP process is a separate process from the SDEIS. A decision on the CDUA will be made by the BLNR, for which the Proposed ATST Project would require a Board permit.</p> <p>49. NEPA does not obligate Federal agencies to discuss EA’s or EIS’s prepared by other agencies for other projects in the past and evaluate whether they effectively met their commitments</p>
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<p>50. For example, in 1994, the IfA stated: The proposed facility, approximately 120 feet above grade, would be the largest structure on the upper portions of Haleakalā. However, it would be generally consistent with the existing structures, and it would not greatly alter the general appearance of the complex as seen from a distance. The proposed facilities would be clearly visible from the Pakaoao Visitor Center and Red Hill Overlook, where the height and mass of the proposed telescope dome enclosure would make it a strong visual element under certain conditions. The visual impact of the telescope dome would be mitigated by its reflective surface. This type of surface tends to take on the color of the sky, and does not stand out strongly. In addition, its proximity to the existing observatory structures that are readily recognizable as telescope housings would indicate the scientific purpose of the entire complex. Despite IfA's assurances, the Air Force's large AECOS facility (a) is not consistent with the existing structures; (b) greatly altered the appearance of the complex; (c) was not mitigated by its reflective surface; and (d) stands out strongly.</p> <p>51. There is no question that the cumulative visual impact of the ATST and past projects is major.</p> <p>52. The March 1994 Final EA for the AECOS telescope notes that "at some later date, the 8 meter telescope and dome enclosure will be installed to replace the 3.67-meter telescope." Has this been done? If not, has this cumulative impact been assessed?</p>	<p>50. The Air Force facility is known as the Advanced Electro-Optical System, or AEOS - not AECOS.</p> <p>As explained earlier, NEPA does not obligate Federal agencies to discuss EA's or EIS's prepared by other agencies for other projects in the past and evaluate whether they effectively met their commitments. Moreover, NSF did not prepare the NEPA document supporting the decision to build AEOS, and, therefore, is not in a position to offer any explanation as to why and on what basis certain representations were made. In Section 4.17.8-Visual Resources and View Planes, NSF does address the cumulative impacts of other facilities at HO, including AEOS. In that Section, the FEIS states that the proposed ATST Project would have a cumulative moderate, adverse, and long-term effect on the visual resources at the Pu'u 'Ula'ula Overlook (Red Hill Overlook), but at greater distances the effect of visual resources would be diminished.</p> <p>51. The statement that "there is no question that the cumulative visual impact of the ATST and past projects is major" is an opinion shared by some individuals, as acknowledged in the FEIS. The maximum cumulative intensity of impact on visual resources from the proposed ATST Project at various locations has been revised in Section 4.17.8 to reflect a more qualitative approach to the analysis and additional clarification of the impacts.</p> <p>52. The Air Force facility is known as the Advanced Electro-Optical System, or AEOS - not AECOS. Additional dome work at the AEOS facility is not in the reasonably foreseeable future.</p>
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<p>53. In March 1994, the IFA noted that the enormous AECOS facility would be built to address the Air Force's "requirements into the 21<sup>st</sup> century." An upgrade to a larger telescope is needed to retain MSSS's usefulness. The need for a better telescope is the same justification for this project a decade later. Given the IFA's constant refrain that it needs to keep up with the latest technology, when does it all end? When will what is built ever be enough to satisfy the IFA?</p>	<p>53. The mission of the “AEOS” facility and the proposed ATST Project are different. The Maui Space Surveillance Site (MSSS), where AEOS is located, is a facility combining operational satellite tracking facilities with a research and development facility (see Tables 1-2 and 1-3). The mission of the proposed ATST Project would be to study the Sun.</p> <p>The IfA was founded at the University of Hawai‘i in 1967 to manage Haleakalā and Mauna Kea Observatories, and to carry out its own program of fundamental research into the stars, planets and galaxies that make up our Universe. (See Section 1.3.2-Identification of Accepting Authority)</p>
<p>54. Why is there no discussion in the cumulative impacts section regarding the previous damage to cultural resources caused by development in the Haleakalā High Altitude Observatory Site? The Air Force development removed rocks from the summit and destroyed an area that was used for worship.</p>	<p>54. Section 4.17.5-Cultural, Historical, and Archeological Resources, the subheading devoted to Effects of Reasonably Foreseeable Future Actions clearly states that “...the effects on cultural resources resulting from past, present, and reasonably foreseeable future actions are already major, adverse, and long term, and the addition of the proposed ATST Project within the ROI for these resources at the Mees site would continue to, cumulatively, have major, adverse, and long term effects.” In a later paragraph it was stated that cumulative major, adverse, and long-term effects would also occur at the Reber Circle site.</p> <p>Near completion of the Air Force AEOS construction in 1996, material remaining from cut and fill activities was incorrectly removed from the summit area, and was later returned to HALE for use in the Park. Subsequently, cultural monitoring of all projects was implemented, along with Sense of Place training for all those employed at HO, including construction workers to prevent adverse impacts on cultural resources from any future development activities at the site. The cumulative impacts analysis in Section 4.17.5 has been revised to include this information in the analysis.</p>

<p>55. If the ATST project will adversely affect the FAA RCAG facilities, as suggested on page 45, and if addressing "any potential issue involving a degradation of signal" will require other construction, then the FEIS must fully disclose this construction and the impacts. Could resolution of the issue include building bigger unsightly towers? Failure to thoroughly discuss this issue is a failure to properly disclose the cumulative impact (i.e., reasonably foreseeable future actions). The applicant may not segment this disclosure through a separate NEPA compliance document as it suggests that it will do on page 4-6.</p>	<p>55. The cumulative effects on the FAA RCAG facility from all actions would be negligible, adverse, and long-term, considering that NSF and the FAA have worked together to address any potential issue involving a degradation of signal as a result of the proposed ATST Project. Given such a degradation of signal, a resolution of the issue has been developed. The FAA has determined the degradation of signal can be mitigated (MIT-2) by replacing the existing antennas with more powerful high-gain antennas and modifying/replacing the existing towers' platforms to accommodate the new antennas. The FAA has stated that further modification of the site and relocation of the antennas may be needed; however, the environmental impacts of the mitigation are not anticipated to be significant. Once the details of the mitigation are determined, NSF will re-evaluate its analysis to determine if there is additional NEPA compliance that needs to be done. At this juncture, however, the replacement of the existing antennas with high-gain antennas is not anticipated to alter the existing tower other than to possibly lower its height.</p>
<p><b><u>OPPORTUNITY COSTS</u></b></p> <p>56. How much money is this project slated to cost?</p> <p>57. What projects are the NSF not funding (and what scientific questions are not being answered) by funding this project? Identify the projects that NSF could potentially (or would) fund if it decided to forego this project.</p>	<p>56. The total project cost presented to the NSF conducted Final Design Review committee in May 2009 was \$274.6 million. This estimate assumes a fiscal year (FY) 2010 start and includes payroll, non-payroll, indirect cost, contingency and escalation to the period of performance of the construction and integration, test and commissioning phases.</p> <p>57. The funding for the ATST construction would come from the NSF's Major Research Equipment and Facilities Construction (MREFC) account. This funding line is for large projects, typically exceeding \$100 million or more. Projects funded from this account are not in competition with one another in the sense that NSF has to pick one out of two or more projects competing for the same funds. Projects that are candidates for such funding undergo a rigorous, multi-stage review process by both internal and external panels, the National Science Board and the NSF Director. They appear as individual projects in the President's Budget Request to Congress and are scrutinized by Congressional appropriations committees. Potential MREFC projects must have strong recommendations from the scientific community as witnessed by National Research Council and National Academy studies. If ATST were not funded, the funds would not go to another project; they would simply not be appropriated by Congress.</p>

<p>58. Clearly the money spent on this project would be an irreversible and irretrievable commitment of a resource that should be discussed in section 4.16.2.</p> <p><b><u>MITIGATION</u></b></p> <p>59. Is NSF committing to decommissioning/deconstruction - or just to considering it?</p> <p>60. What authority would the "cultural specialist" have? Will s/he merely be able to provide advice that does not have to be followed?</p>	<p>58. Whether public money should be used for proposed projects is not part of the analysis to be conducted under NEPA.</p> <p>59. Decommissioning of facilities constructed with NSF's financial assistance is determined on a case-by-case basis. Of course, decommissioning is taken into consideration as part of life-cycle project planning. With regard to the proposed ATST Project, NSF anticipates that the estimated lifetime of the telescope would be at least 45 years (spanning two 22-year solar cycles) after it becomes operational (if funding for construction is approved. If the proposed ATST Project is approved, NSF will decommission and deconstruct the proposed ATST Project fifty (50) years from the date operations commence, unless decided otherwise in consultation with the Native Hawaiian community; in that case, NSF will take steps to divest and relinquish itself of all responsibility associated with the ATST Project.</p> <p>60. The Cultural Specialist will be engaged at the earliest stages of the planning process, monitor the construction process, and consult with and advise the on-site Project Manager with regard to any cultural or spiritual issue. The Cultural Specialist has authority to cease construction activities until the project archaeologist arrives on site should any bones be found during excavation. The Cultural Specialist has authority to cease construction activities if the activity is harmful to cultural and archaeological sites and features identified in the HO Archaeological Inventory Survey. (See the IfA Long-Range Development Plan on the Internet at: <a href="http://www.ifa.hawaii.edu/haleakala/LRD/">http://www.ifa.hawaii.edu/haleakala/LRD/</a>.)</p>
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<p>61. If the 'ua'u are present from February through October, why does the mitigation not include all those months? Is there any mitigation from noise when the 'ua'u return to their nests in the evening (when apparently construction activities may continue) in February, March, August and September?</p> <p><b><u>OTHER</u></b></p> <p>62. The table summarizing the effects from the proposed ATST Project, which is promised on page ES-45, does not exist. Moreover, the four-sentence discussion in section 4.15 (Summary of Potential Effects of the Proposed ATST Project) of the SDEIS is incomplete and inadequate.</p> <p>63. A map that shows the Crater Historic District, listed both on the State Inventory of Historic Places (SHIP 50-50-11-12-1739) as well as the National Register of Historic Places should be included in the FEIS.</p> <p>64. How will the facility handle the energy from the Sun that is concentrated through the 4-m array?</p>	<p>61. The USFWS provided a detailed analysis of potential impacts on 'ua'u from construction of the proposed ATST in their Informal Consultation Document (Vol. II, Appendix M). The presence of 'ua'u in their burrows during the months from February to October does not require noise and vibration mitigation measures, except for the period between April and July, when incubation is taking place. Data from studies done by NSO and KCE (Vol. II, Appendix M and Appendix Q-Vibration Report) and from research by the USFWS indicate that anticipated noise levels during February to November would not exceed thresholds that would be likely to adversely affect those 'ua'u not incubating eggs in their burrows. However, during incubation periods, the birds sleeping on eggs would be more susceptible to disturbance, and therefore noise and vibration restrictions would be imposed during those times.</p> <p>Heavy construction activities during nighttime are not anticipated during the proposed ATST Project. Mitigation measure MIT-14 restricts all noise-emitting activities to strict day and time constraints, with work prohibited during sensitive nighttime periods.</p> <p>62. An impact summary table has been included in Sections ES-4.15 and Section 4.15.</p> <p>63. A map of the Crater Historic District has been added to FEIS as Figure 3-3.</p> <p>64. The total amount of energy that strikes the mirror is less than the total energy that strikes the building and dome structure. The power that must be removed from the focus of the mirror is less than 14 kW and it is dissipated by circulating water through a heat exchanger.</p>
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<p>65. How much bicycle traffic is there at the project site (BMP 7 on p. 2-33)?</p> <p>66. At various places, the DEIS mentions that BMPs will be implemented. (see, e.g., pages ES11, p. ES-54). The specific BMPs should be identified in detail in the mitigation section.</p> <p>67. The conclusions of the ATST Survey are obviously flawed. By only asking whether participants "cared" if there was another telescope without directly asking how it would affect their experience, the survey provides no meaningful data.</p> <p>68. The FEIS needs to address the impact that may be caused by the increasing number of tourists (as asserted by the applicant) who will want to tour the ATST facility on the tranquility of the area and on Native Hawaiian traditional and customary practices.</p>	<p>65. There is no bicycle traffic at the HO project site.</p> <p>66. Best Management Practices (BMPs) are mentioned throughout Section 4.0. Some BMPs are mandated by the IfA LRDP, others would be as required by specific governing agencies (e.g. State-administered National Pollutant Discharge Elimination System (NPDES) regulations to minimize the effects on surface and groundwater resources (see Section 4.17.10-Water Resources) or documents (e.g., the Stormwater Management Plan (SWMP), included in Vol. II, Appendix I). Where a reference to a BMP in Section 4.0 is not clear, it is updated to include the phrase "as mandated by the LRDP." The LRDP is first mentioned in Section 1.1-Project Location, along with the Internet address where it can be found. The LRDP details the mandated BMPs.</p> <p>67. Section 4.6.2-Evaluation of Potential Effects at the Mees Site referring to the visitor survey, acknowledges that "HALE did not commission this study nor have a role in its design. HALE notes flaws in this survey, citing the presence of a likely bias, technical errors in the instrument, and errors in the related reporting. HALE also indicated that the conclusions are based on an insufficiently designed and administered survey." However, "NSF contends that the survey does show that, when comparing the respondents' initial intention of returning to the Park with their intention of returning to the Park after evaluating the addition of the ATST, it was found that there would be a small but positive change in visitor behavior." The Survey is limited to the conclusions therein and is not intended to have application beyond its limitations. It should also be noted that Section 4.6 (Visitor Use and Experience) has been revised to provide further analysis of impacts on the visitor experience.</p> <p>68. Currently, there is no general public access to HO and "AUTHORIZED ENTRY ONLY" is posted on a sign located at the entrance to the facilities. Native Hawaiians, however, are welcome at any time to enter HO for cultural and traditional practices, as the sign also indicates. (See Section 3.1.2-Existing Activities). This will not change if the proposed ATST Project is constructed. There are no plans to offer tours to the proposed ATST Project.</p>
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<b>Received from:</b> Kathy McDuff Individually and for Maui Sierra Club, 06-14-09	
<p><b>Comment:</b></p> <p>1. Haleakalā is not the only viable site for this project but it is the only site with cultural and historic preservation concerns.</p> <p>Interestingly, at La Palma it was noted that the view plane of a specific peak called the Cumbrecita, which was a popular tourist attraction because of numerous hiking trails and scenic viewpoints - like Haleakalā -- was so significant to the people of the Canary Islands that it was determined during the testing process that this view plane must be protected.</p>	<p><b>Response:</b></p> <p>1. The process for identification of scientifically viable sites set forth above was not intended to select one specific site. When the process started, it was unknown whether the application of the scientific criteria developed by experts in the field would ultimately result in the identification of one site, no sites, or multiple scientifically-viable sites. Because it was unknown which, if any, sites would meet the science requirements necessary to fulfill the purpose and need of the proposed ATST Project, NSF did not begin its formal environmental reviews under NEPA and the National Historic Preservation Act (NHPA) until after it was determined whether there were any scientifically-viable sites. It should be noted, however, that during the two years that on-site testing occurred at the various sites, potential environmental effects for project planning purposes were indeed evaluated and considered. Examples of that initial evaluation are set forth in Section 2.3.3 for the La Palma site and Section 2.3.4 for the Big Bear Lake site. The extensive process for identifying scientifically-viable locations for the proposed ATST Project outlined above resulted in two sites located within HO. Again, the result could have been that there were no scientifically-viable sites or multiple ones, but in this case, it turned out that the only scientifically-viable locations were within HO, which formed the basis for the two action alternatives carried forward in NSF's NEPA process. See Section 2.3.5-Summary of Site Selection Process for more details.</p> <p>Viewshed maps that show the visibility of the proposed ATST telescope from areas within the Haleakalā crater (SDEIS Figures 4-29 and 4-30) clearly indicate that at either of its proposed sites the ATST telescope would only be visible for short stretches of the trail along the rim, and would not be visible from any maintained trail with the crater itself. This is in fact better protection of the viewshed within the Haleakalā crater than is achieved for the equivalent Caldera de Taburiente and adjacent observatory at the La Palma site.</p>

<p>2a. The effects of this project on the ahus and on Hawaiian spirituality would be devastating and would irreparably interfere with Native Hawaiian Practitioners' First Amendment rights.</p> <p>The SDEIS has failed to address the impact this huge structure will have upon the ahus themselves. You infer that this is minimized by the fact that there is an unobstructed view outward from the mountain, but this shows how little you know about Hawaiian spirituality and is a clear example of why the 106 process failed.</p> <p>If this project is approved and construction is started, Kanaka Maoli Practitioners will be prohibited from experiencing the full practice of their spirituality. I challenge the statement in the SDEIS on page 4-9 that although the project would have a major/adverse and long-term effect on cultural resources, it would have no effect upon the survival of Hawaiian cultural practices and beliefs.</p> <p>2b. The noise generated by the current projects is already very, very distracting.</p> <p>2c. It was further claimed that the proposed “mitigation” would lessen the major adverse effects on the Hawaiian culture to only “moderate.” On what evidence do you base this conclusion? Please provide us with documentation of the technical data you used to formulate this absurd deduction.</p>	<p>2a. IfA has provided places for Native Hawaiian cultural practices that had not previously been available in HO. (See Section 3.2.1-Cultural Resources) In 2005, in recognition of the cultural importance of Haleakalā and in the spirit of Ho‘oponopono (to “make right”), UH contracted Native Hawaiian stonemasons to erect a West-facing ahu (altar or shrine) within the set-aside “Area A” (SDEIS Fig. 3-3) for Kanaka Maoli religious and cultural purposes under the LRDP. A Ho‘omahanahana (dedication or “warming” offering) was held, at which time the ahu was named Hinala’anui. In 2006, in the spirit of makana aloha (gift of friendship) for the proposed project, UH contracted the same Native Hawaiian stonemasons to erect an East facing ahu near the Mees site. Upon its completion, a Ho‘omahanahana was held and the ahu was named Pā‘ele Kū Ai I Ka Moku. In the SDEIS, Figure 3-3 also shows the location of both ahu and Figure 3-4 is a photograph of each ahu. As stated in the LRDP, Native Hawaiians are welcome to utilize these sites for religious and cultural purposes, on a non-interference basis with site activities.</p> <p>2b. In response to comments to the SDEIS, NSF has revised Section 4.1-Noise to provide further analysis.</p> <p>2c. Section 4.2 explains that in some circumstances, impacts to cultural resources would be major, adverse, and long-term and that no mitigation would minimize the impact. This Section further explains circumstances in which major impacts can be lessened to moderate with the implementation of identified mitigation measures. The bases for these conclusions are set forth in Section 4.2.</p>
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<p>3c. There are endangered species that reside within Haleakalā National Park, ‘u‘au, nēnē, The huge trucks and numerous vehicles coming and going will clearly present a danger to these endangered beings.</p> <p>There are many silversword plants along the roadway going up to the summit and on the summit itself.</p> <p>4a. The operational noise and the construction noise would cause irreparable harm to Native Hawaiian Practitioners and could cause irreparable harm to federally-protected endangered species and the Maui visitor industry.</p> <p>4b. It is stated in the SDEIS that there are “no noise-sensitive human receptors at HO”, so presumably, there shouldn't be a noise problem on the site itself.</p>	<p>3c. Sections 3.3.3.1-Endangered, Threatened, Listed or Proposed Avifaunal and Vesper Bat Species, 4.3-Biological Resources, and 4.17.6-Biological Resources, provides detailed information addressing effects of endangered, threatened, proposed, and candidate species at HO and along the Park road corridor.</p> <p>(See Section 4.17.6-Biological Resources) During Informal Consultation with the USFWS, it was determined that construction of the proposed ATST Project is not likely to adversely affect ‘ua‘u or nēnē with the implementation of the mitigation measures identified in Section 4.18-Mitigation. Formal consultation would take place in the event that Incidental Take was to occur in the future, which would include killing, injury, capture, or relocation that are incidental to the construction activities. The findings of the Informal Consultation that specify how the efforts agreed to for the proposed ATST Project have reduced potentially adverse effects for the ‘ua‘u and nēnē to a level of discountable effects for these species. In combination with past, present and reasonably foreseeable future actions within the summit area, this would be considered a minor, adverse, and long-term effect.</p> <p>4a. In response to comments on the SDEIS, Section 4.10-Noise has been revised.</p> <p>4b. The quote is in Section 3.10-Noise, where it states: There are <b>no noise-sensitive human receptors at HO</b>, such as residences, schools, hospitals, or other similar land uses where people generally expect and need a quiet environment. In addition, HO is not open to the public, with the exception of Native Hawaiians participating in cultural and traditional practices. Although multiple observatories and research facilities are stationed at HO, the majority of personnel at these operations work indoors in structurally insulated facilities with negligible outdoor occupational tasks. The public areas closest to the proposed ATST Project area are the Pu‘u ‘Ula‘ula Overlook in HALE, which is approximately a quarter mile away, and the Pa Ka‘oao (White Hill) Visitor Center, which is approximately half a mile away. Potential noise-sensitive biological receptors, such as ‘ua‘u, are discussed in Section 3.3.3-Faunal Resources.</p>
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<p>4c. Even at the critical sunrise and sunset peak times you are considering only limiting the noises above 82 dBA - a number that you have arbitrarily determined to be the criteria. This number seems quite high to me, and I assume to you as well, since you also determined that noise level changes above 20 dBA are “major”.</p> <p>4d. Red Hill is 2,500 feet away from the construction site - what about the Native Hawaiian Practitioners who will be conducting spiritual practices next to the site. If the noise 2,500 feet away is considered to have a major effect upon the people visiting the overlook, this same noise immediately adjacent to where the Kanaka Maoli are trying to practice would be prohibitive.</p> <p>4e. It also appears that the effect of noise upon the endangered species of the area is being minimized.</p> <p>Vibrations and noise from the construction of the ATST could cause nesting burrows to collapse.</p>	<p>4c. In response to comments, Section 4.10-Noise has been revised to further describe and analyze noise impacts.</p> <p>4d. In response to comments, Section 4.10-Noise has been revised to further describe and analyze noise impacts.</p> <p>4e. See Section 4.3.2-Evaluation. This Section has been revised in response to comments on the SDEIS to provide further clarification.</p>
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<p>5. This project is not in compliance with state and county laws and community plans and permit applications should not be approved.</p>	<p>5. The County Building Code does not apply to lands that are designated State Land Use conservation District. The existing State Land Use District for the proposed ATST Project has been identified as Conservation District, General Subzone, where a Conservation District Use Permit (CDUP) will be required by the Dept. of Land and Natural Resources (DLNR) prior to construction. (See Section 1.7.2-State Land Use Law, Chapter 205, Hawai‘i Revised Statutes and Section 1.6.4-Permits and Approvals) A CDUP decision will be made by the BLNR, for which the Proposed ATST Project would require a Board permit.</p> <p>If approved for construction, the proposed ATST Project would not be located on State, County, or residential community land. It would be located within HO on State Conservation District land. Sections 1.7.2-State Land Use Law, Chapter 205, Hawai‘i Revised Statutes and 3.1-Land Use and Existing Activities state: “The existing State Land Use District for the proposed ATST Project is designated as Conservation District, General Subzone. The objective of the General Subzone is to designate open space where specific conservation uses may not be defined, but where urban use would be premature. During the past few years, the OCCL within the DLNR has administered CDUPs for numerous potential uses, among them astronomical facilities on Haleakalā. The proposed ATST Project would be located in the area of the Conservation District that has been set aside for astronomical research (HAR§13-5-25: Identified land uses in the General Subzone, which is applicable from R-3 Astronomy Facilities, (D-1) Astronomy facilities under an approved management plan); and many facilities conducting astronomy and advanced space surveillance already exist within HO.”</p>
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	<p>Chapter 2.80A, Maui County Code, pertaining to the General Plan and the community plans, requires that “For community plan areas on the island of Maui, urban and rural growth boundaries and a map delineating urban and rural growth areas, consistent with the general plan;” The Makawao-Pukalani-Kula Community Plan as adopted by Ordinance No. 2510 and became effective on July 23, 1996, page 29, describes the Goal, Objectives, and Policies for Urban Design. Objective No. 8 recommends: “Enforce a two-story or 35-foot height limitation throughout the region...” <u>Urban Region Design</u>. However, HO is in a Conservation District, as noted in the plan and, therefore, the community plan does not apply. Moreover, the Maui County Code, Chapter 16.26 Building Code 16.26.101.3, Subsection 101.3 amended, reads as follows: 101.3 Scope. The provisions of this code shall apply to the construction, alteration, moving, demolition, repair, and use of any building or structure within the county, except those lands within the county that are designated by the state land use commission to be within the conservation district boundaries or designated as Hawaiian Home Lands. Again, there are no height restrictions imposed on structures within the conservation district boundaries.</p> <p>The Draft Maui Island Plan, April 2008 in Chapter 3. Economic Development: High Technology, Opportunities, <i>Natural Environment Conducive to Development of Industry Niches</i> (p.88) states: “Several aspects of Maui’s natural environment are highly conducive to the development of specific technology industry niches. Due to Maui’s year-round growing season, biotechnology has the potential of becoming a leading force in the island’s high technology industry. Additionally, with Haleakalā’s elevation and high quality visibility, space surveillance is another industry niche with considerable growth potential. Growth of this industry niche also depends on continuing cooperation with the University of Hawai‘i Astronomy Program. Biotechnology and space surveillance are also industry niches that are prime candidates for the development of successful clusters.”</p> <p>The GPAC and Director’s Recommendations of April 2009, on p.41, Economic Development, Emerging Industries, Policy Item 7 under GPCA Final Recommendations states: “Support a sustainable, culturally sensitive, astronomy industry.”</p>
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<p>6. This is a volcano - it will erupt again in the future – why wasn't this important fact considered in the EIS process?</p> <p>7. Long term personnel will be brought in from the mainland and the few short term jobs that might be given to locals will not offset the major adverse long-term and/or permanent effects to Maui.</p>	<p>6. While volcanism is certainly a possibility for Maui in the future, the ages and pattern of volcanism for Haleakalā clearly indicate that the site of the proposed ATST Project is under no more threat of damage or destruction from volcanism than any other location in East Maui. The most recent radiometric age dates for the Kolekole cinder cone on which the proposed ATST Project would be located were measured to be about 128,000 years before the present (Sherrod D.R., Nishimitsu, Y., and Tagami, T., New K-Ar Ages and the Geologic Evidence Against Rejuvenated-stage Volcanism at Haleakalā, East Maui, A Postshield-stage Volcano of the Hawaiian Island Chain, <i>GSA Bulletin</i>; June 2003; v. 115; no. 6; p. 683-694). That places the last volcanic activity in the vicinity of the proposed ATST Project at a time very much earlier than the more recent eruptions along the Southwest Rift Zone of Haleakalā in the last thousand years that were mentioned in the comment. The most recent eruption occurred in historic times, but it was approximately 7.5 miles from HO.</p> <p>7. If approved, the construction phase of the proposed ATST Project is anticipated to be approximately five years where, wherever possible, the local Maui workforce would be employed. When the construction phase has been completed, the proposed ATST Project estimates 50 to 55 new hires by the final year of commissioning. Of the approximately 55 personnel, 35 people would be working on Maui and therefore would slightly increase the local spending. Half of this number would be hired locally at the onset of the operational phase. After two or three years, the other half of staffing, originally hired or relocated from off-island sources, would be replaced by local hires, resulting in a long-term beneficial effect on local employment. (See Section 4.12.2-Evaluation of Potential Effects at the Preferred Mees Site.)</p>
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<p>8. The visitor's survey is seriously flawed.</p>	<p>We do not have access to Human Resources data for astronomical institutions in Hawai'i. However, the largest employer at HO is currently Boeing LTS, who operates the Maui Space Surveillance Complex (MSSC). In the early 1960's, when the MSSC was first constructed, the local Maui workforce was utilized for construction, and qualified individuals from the construction phase were hired to work within the facility once it was completed. Many qualified Maui residents have worked at and retired from this facility. In some cases, Maui- or Hawai'i-born individuals who resided on the mainland were able to relocate to Maui through employment opportunities at the facility. Some of these qualified individuals were either employed in fields suitable for open positions, students completing college, or men and women who had served in the military. Over the many years that MSSC has been operating, there have been anywhere from around 30 to nearly 200 individuals employed at this facility (unpublished MSSC Human Resources data).</p> <p>8. The comment lacks specificity and, thus, it is difficult to provide a response. The NSF contends that despite any technical errors, bias, or related reporting, the survey does indicate that among randomly surveyed individuals who had just visited HALE and were then shown the same rendering of ATST at the Pu'u Ula'ula (Red Hill) Overlook as SDEIS Figure 4-14, a majority would visit HALE again, and a majority of those respondents would visit ATST if tours were available. Therefore, there does not appear to be an adverse effect on the aspect of visitor experience to HALE that involves diminished appeal to returning visitors due to the proposed ATST Project. The Survey is not intended to have application beyond its limitations.</p>
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<p>9c. The telescope will also obstruct the view plane of members of the community in many other places on the island.</p> <p>9d. As noted in the SDEIS, based upon the overwhelming testimony presented by the community, there is a necessity for people to have an unimpeded view plane from mountain to ocean, particularly in the context of ceremonial activities.</p> <p>How can we allow anything to interfere with the view plane of one of the most sacred mountains on Earth?</p> <p>10. You failed to properly and effectively comply with the 106 process which is Federally mandated for this project in order to protect historical and archeological properties.</p> <p>There are too many archeological sites and resources to list here (doesn't that tell you a story in and of itself), but please note that the burial sites, petroglyphs, platforms, trail segments, temporary shelters, cairns, and other features also qualify the summit for importance under Criteria "A", "D", and "E". How can you even consider desecrating such an historically sensitive property?</p> <p>Due to the VAST historic nature of the summit of Haleakalā, section 106 requirements for protecting historic properties apply. These requirements have not been met on this project.</p>	<p>9c. The portion of the view plane that would be cut off from sight for populated areas of the Maui community where ATST would be visible would amount to considerably less than 1 percent of the viewshed of the ridgeline of the mountain. See Sections 4.5-Visual Resources and View Plane and 4.17.8- Visual Resources and View Plane, for further information. These Sections have been revised to provide further clarification and analysis in response to comments on the SDEIS.</p> <p>9d. Quantitative methodology is based on a way of measuring objective physical criteria. The comment appears to advocate a more qualitative approach. Section 4.5 has been revised to include a more qualitative approach to the analysis. Section 4.5.1-Impact Assessment Methodology describes methods used to determine whether the proposed ATST Project would have a significant effect on visual resources. This section also describes two additional methods that were employed to assess the potential effect of the proposed ATST Project to the viewshed within the Region of Influence. Section 4.5.1-Methodology of Effect Assessment of the SDEIS explained that the combination of all the above viewshed assessment methods provides a comprehensive prediction of the potential visual effect the proposed ATST Project would have within the ROI.</p> <p>10. Section 5.2-The Section 106 Consultation Process Pursuant to the National Historic Preservation Act outlines the significant efforts NSF has made to carry out its responsibilities under Section 106. Over 30 formal and informal consultation meetings have been held and serious outreach efforts were made to include Native Hawaiian Organizations and individuals. Several surveys to identify cultural, historic, and archeological resources within the ROI under NEPA and the Area of Potential Effects under Section 106 were conducted. In addition, consultation meetings further identified resources and their importance to the consulting parties. Efforts, through numerous consultation meetings were made to identify whether adverse impacts to those resources could be avoided, minimized, and/or mitigated. The result of those efforts is attempted to be captured in a draft Programmatic Agreement, prepared pursuant to 36. C.F.R. 800.14(b), which is currently under review by the consulting parties. A further explanation of the resources present within the ROI and the anticipated impacts on them as a result of the proposed ATST Project can be found in Section 4.2-Cultural Historic, and Archeological Resources.</p>
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<p>11. The SDEIS and NSF failed to properly consider the Hawaiian ceded land issue and Native Hawaiian rights.</p>	<p>11. If approved, the proposed ATST Project would be located on Conservation District land. See Section 3.1-Land Use and Existing Activities, where it states: “In accordance with Title 13 Chapter 5, HAR, the proposed ATST Project on would be consistent with Conservation District land use requirements requiring a Conservation District Use Application (CDUA). All land uses pursuant to HAR 13-5-30 must be an identified land use and require that a CDUA be filed with the DLNR and approved by the BLNR prior to its initiation.</p> <p>The proposed ATST Project is consistent with the intention that conveyed the HO area to the UH by Governor’s Executive Order (EO) 1987. This area of the Conservation District has been set aside for Haleakalā High Altitude Observatory site purposes only. Many facilities conducting astronomical research and advanced space surveillance already exist within HO. UH is the recorded fee owner of the HO parcel identified as Tax Map Key (TMK) (2) 2-2-07-008.</p>
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Received from: Dept. of Land and Natural Resources, 06-30-09	
<p><b>Comment:</b></p> <p>1. The proposal is an identified land use in the Conservation District pursuant to Hawai'i Administrative Rules (HAR) §13-5-25 Identified Land Uses in the Resource Subzone, R-3 ASTRONOMY FACILITIES, (D1) Astronomy facilities under an approved management plan<sup>FOOTNOTE</sup>). This use requires a Conservation District Use Permit (CDUP) from the Board of Land and Natural Resources.</p> <p>The Board has the final authority to grant, modify, or deny the permit.</p> <p><b>Footnote:</b> Section 1.7.6 of the draft EIS states incorrectly that the permit will be for a non-conforming use. This should be changed.</p> <p>2. The applicant should submit a Conservation District Use Application (CDUA), a Comprehensive Management Plan, and the Final EIS to OCCL. OCCL will review the application in light of the criteria outlined in Hawai'i Administrative Rules (I-IAR) Chapter 13-5 Conservation District, Subchapter 4 PROCEDURES FOR PERMITS, SITE PLAN APPROVALS, AND MANAGEMENT PLANS.</p>	<p><b>Response:</b></p> <p>1. See Section 1.7.2-State Land Use Law, Chapter 205, Hawai'i Revised Statutes. Figure 1-12-State of Hawai'i Conservation District Subzones was taken directly from the DLNR website. The existing State Land Use District for the proposed ATST Project is designated as Conservation District, General Subzone. The proposed ATST Project would be located in the area of the Conservation District that has been set aside for astronomical research (HAR §13-5-25: Identified land uses in the General Subzone, which is applicable from R-3 Astronomy Facilities, (D-1) Astronomy facilities under an approved management plan); and many facilities conducting astronomy and advanced space surveillance already exist within HO.</p> <p>The ATST Project understands the Board has the final authority to grant, modify, or deny the permit. A CDUA will be submitted.</p> <p>Section 1.7.6-Department of Land and Natural Resources has been revised to reflect the footnote comment.</p> <p>2. A CDUA will be submitted. As indicated in Comment 1 above: HAR §13-5-25: Identified land uses in the General Subzone, which is applicable from R-3 Astronomy Facilities, (D-1) Astronomy facilities under an approved <u>management plan</u>. In accordance with HAR 13-5, Exhibit 3, the IfA is preparing a Management Plan (MP) for HO. The MP will consist of a general description of the land use, ownership, the resources on the property, constraints such as topography, geology, easements, etc., proposed land uses, environmental monitoring strategies, and reporting to the DLNR.</p>

<p>3. The Draft EIS acknowledges that Haleakalā is a <i>Traditional Cultural Property</i>, and that the proposed telescope will have a potentially significant impact on Native Hawaiian cultural and spiritual practices. The draft EIS discusses partnerships with academic and cultural groups, but remains vague on the extent and nature of the proposed mitigation measures. OCCL would like to see a more detailed assessment and review of the projects impact on Haleakalā as a Traditional Cultural Property, as well as a more developed proposal for on- and off-site mitigation.</p> <p>4. A fair amount of excavation will be required for the main facility and it's supporting structures. An archaeological monitoring plan will need to be reviewed and approved by the State Historic Preservation Division.</p> <p>5. The project area contains or is near habitat for the endangered 'ua'u and nene. OCCL would like the Management Plan for the proposal to contain clear and specific plans to mitigate potential impacts on these species. We note that DLNR's DOFAW is recommending that the applicant develop a Habitat Conservation Plan (or similar federal agreement) and to secure an Incidental Take License. OCCL recommends that the applicant meet with representatives from</p>	<p>3. Section 3.2.1-Cultural Resources discusses the Haleakalā summit as a Traditional Cultural Property in considerable detail. In 2007, a Supplemental Cultural Impact Assessment (SCIA) (Vol. II, Appendix F) was prepared for the primary purposes of widening community outreach and gathering information on “the Traditional Cultural Property of Haleakalā”. It provides an additional means to assess the potential effects of the proposed undertaking on Native Hawaiian traditional and cultural practices and/or beliefs. In preparation of the SCIA, effort was made to gather supplementary information, community input and knowledge of the summit area. The Programmatic Agreement (PA) for on and off-site mitigation of cultural/historic impacts to be approved by the consulting parties, is a detailed description of those mitigations.</p> <p>In addition to the material in the FEIS, NSF is in the process of developing a PA pursuant to 36 CFR. 800.14(b), to satisfy its responsibility under Section 106 of the National Historic Preservation Act. The development of a draft PA, currently under review by the consulting parties, followed four years of efforts to obtain input regarding cultural, historic, and archeological sites in the area of potential effects, and the potential effects anticipated from the proposed ATST Project. Over 30 formal and informal consultation meetings have taken place, and significant outreach efforts have been made to include Native Hawaiian Organizations and individuals. The on-and off-site mitigation proposals contained in the draft PA currently under review reflects input obtained over the past four years from the consulting parties. A description of the specific on- and off-site mitigation measures contained in the current draft PA is discussed in Section 5.2.</p> <p>4. The FEIS Sections 4.2.2 and 4.2.3 have been revised to indicate that an archeological monitoring plan would be submitted to the State Historic Preservation Division to further ensure that no archeological resources are disturbed during excavation.</p> <p>5. The Conservation District Use Application that will be prepared for the proposed ATST Project will reflect meetings and consultation with DOFAW representatives to ensure that a management plan for protecting endangered species would be developed.</p>
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<p>DOFAW to develop a more comprehensive management plan to protect these and any other vulnerable species in the project area.</p> <p>6. The Long Range Development Plan for HO proposes that the ATST replace the UH Mees Solar Observatory and the UH Atmospheric Airglow instrument platform (Figure 7-1: Table of Existing and Proposed Facilities at the Haleakalā High Altitude Observatory Site). We understand from the EIS that the applicant is proposing to utilize part of the 5440 square-foot Mees facility. We are unclear whether Mees will remain in operation, or how this project will impact that infrastructure and operations of the Mees facility.</p>	<p>6. Section 2.5.2-Potential Use of Existing MSO and Airglow Atmospheric Facilities provides specific details about these facilities, if the proposed ATST Project is approved for construction.</p>
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<p><b>Received from:</b> Dept. of Land and Natural Resources, Engineering Division, 05-20-09</p>	
<p><b>Comment:</b> Please take note that according to the maps that you provided, it appears that the project site, according to the Flood Insurance Rate Map (FIRM), is located in an area of Minimal Tsunami Inundation. The National Flood Insurance Program does not have any regulations for developments within the Minimal Tsunami Inundation area.</p>	<p><b>Response:</b> Thank you for your comment, which is noted.</p>

**Received from:** Dept. of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW), 06-10-09

**Comment:**

**1. Stop work upon take of protected species.**

NSF and USFWS have acknowledged that “if a Hawaiian petrel or Hawaiian goose was harmed or killed as a result of the ATST construction activities that the Service would be contacted immediately and that work action would cease until we have formally addressed the cause for take” (Appendix M). Take of any protected species is illegal under state law (HRS 1950), and cannot be authorized without an Incidental Take License, which requires an Habitat Conservation Plan (HCP) or document produced for federal permit which otherwise meets the requirements under this section. While we appreciate the agreement to stop work after take has occurred, such take would be illegal, and prosecutable under civil, criminal and administrative penalty under HRS 195-0. We highly recommend that NSF work with DLNR to develop an approved HCP (or similar document) and receive authorization for appropriate levels of take prior to initiating work on this project. Authorization for criminal take cannot be granted after take has occurred.

**Response:**

1. (See Section 4.17.6-Biological Resources) During Informal Consultation with the USFWS, it was determined that construction of the proposed ATST Project is not likely to adversely affect ‘ua‘u or nēnē with the implementation of the mitigation measures identified in Section 4.18-Mitigation. Formal consultation would take place in the event that Incidental Take was to occur in the future as a result of events incidental to the construction activities. The findings of the Informal Consultation specify the efforts agreed to for the proposed ATST Project which have reduced potentially adverse effects for the ‘ua‘u and nēnē to a level of discountable effects for these species.

**Comment:**

**2. Evidence of activities likely to result in take through partial or total collapse of burrows at any time, and through disturbance of adults, eggs, chicks or fledglings during periods of occupancy.**

At least four known nests are within 60 feet of the area to be included in the concrete apron and five more within or near 100 ft of the apron <sup>FOOTNOTE</sup>; therefore heavy machinery will be operated closer than this distance to the burrows. Work indicated for construction of the concrete apron includes drilling and excavation of lava and placing and compacting fill. In addition to trucks, “This work would be done using bulldozers, backhoe, trencher, a truck mounted augur for drilling down to bedrock, and a hydraulic hammer or jackhammers” (pg 221). In addition, “Excavation into this rock will be difficult to accomplish and will likely require heavy equipment or hoe ramming for removal” (Appendix K).

The proposed construction activities in the area indicated for the concrete apron are likely to result in negative impact to the burrows at any time of year, and to any adults, eggs, chicks or fledglings in the burrow during periods of occupancy. We recommend avoiding construction within 100 ft of petrel burrows, as these activities (particularly excavation, drilling, filling, and compacting) are likely to negatively impact the structural integrity of these burrows during any time of the year, resulting in displacement of nesting birds and loss of productivity for one or more seasons. In addition, such activities are likely to result in negative impact to adults, eggs, chicks and fledglings when such work is conducted during the period of occupancy (approximately February through November). Construction activities in the concrete apron area should be limited to the period of time when birds are absent from the site (December-February). In addition, activities will necessarily occur closer than 35 feet to the nearest known burrow, and perhaps in direct contact to one or more burrows; if this occurs, negative impact will be unavoidable.

**Footnote:** Nest RT100302-01 is within 35 ft of the area indicated for inclusion in the concrete apron (so that heavy equipment would be operated even more closely). Nests AB062405-01 is approximately 45 ft from the edge of the concrete apron. Nests CY042297-01 and MY042297-01 are within approximately 50 ft and 60 ft, respectively. Other known burrows within or near 100 ft of the edge of the concrete apron include 021, RT081397-01, BH100495-01, MY042297-02 and 017. From the map in Appendix I Figure 2; proximity confirmed by DLNR staff during site visit May 13, 2009.

**Response:**

1. (See Section 4.17.6-Biological Resources) During Informal Consultation with the USFWS, it was determined that construction of the proposed ATST Project is not likely to adversely affect 'ua'u or nēnē with the implementation of the mitigation measures identified in Section 4.18-Mitigation. Formal consultation would take place in the event that Incidental Take were to occur in the future as a result of events incidental to the construction activities. The findings of the Informal Consultation specify the efforts agreed to for the proposed ATST Project which have reduced potentially adverse effects for the 'ua'u and nēnē to a level of discountable effects for these species.

**Comment:**

**3. Evidence of increased likelihood of take through collision with tall structures.**

'Ua'u and other Hawaiian seabird species frequently follow known flight paths and approaches to and from burrows. They have been also been known to collide with tall structures and utility lines, which pose a particular risk to fledglings. Construction of a structure 143 feet high is likely to disrupt the flight path of 'ua'u and other protected species (e.g., nēnē and 'ope'ape'a) which frequent this area, and possibly to increase the number of collisions, particularly when the structure is new and for fledglings. The impact of constructing a structure of this height in an area frequented by numerous flying protected species, and currently without any structure even close to that height, should be considered and mitigated, and take of protected species from this source monitored.

**Response:**

3. See Vol. II, Appendix M-USFWS Section 7 Informal Consultation Document. Ornithological radar and visual data collected during 2004 and 2005 (Appendix M ref: Day and Cooper 2004a, Day and Cooper 2004b, and Day et al 2005) indicate that the ATST construction site does not lie within a heavily used Hawaiian petrel flight path. The ornithological radar data does indicate that birds tend to fly along the sides of the cliffs and through saddles on either side of the proposed construction site, rather than flying over the top of the peak, where the ATST is proposed for construction (see Fig. 9 in Appendix M)

Existing Haleakala Observatories telescopes, some in existence for several decades, have not documented any bird strike or petrel mortality associated with the buildings. In addition, there is no outdoor lighting associated with the ATST project which might confuse or attract the seabirds.

Research conducted by Swift (2004) and unpublished observations by Penniman and Duvall 2006 and Penniman (pers. comm.) indicate that Hawaiian petrels avoid collision when objects are visible. Because the ATST structures and construction crane will not be located within a heavily used Hawaiian petrel flight paths, and because the petrels have demonstrated that they are able to avoid collision with the large white existing telescope dome structures as well as structures marked with white polytape visibility flagging, we do not anticipate the fatality of petrels associated with collision with the construction equipment or telescope buildings associated with this proposed project.

<p><b>Comment:</b></p> <p>4. <b>Conflict between stated work schedule with state avoidance schedule.</b> 68 months of truck activity is included in Table 2-4. If these activities are limited to avoid the period between March and November per USFWS (Table 2-4 Footnote 6), and Volume II, Appendix M- USFWS Informal Consultation Document, the scheduled activities would require 23 years to complete. As that is clearly not the proposed construction period schedule, impacts from this vehicular traffic to ‘ua‘u will not be avoided, and should be addressed through appropriate mitigation measures. In addition, take of nēnē is likely through vehicular collision, due to the increase in traffic along areas frequented by this protected species. We highly recommend an approved Incidental Take License be acquired before initiation of these activities, in order that unauthorized take does not occur.</p>
<p><b>Response:</b></p> <p>4. The comment inaccurately characterizes the construction schedule by simply adding the durations of the various activities involving traffic through the Park road corridor end-to-end to arrive at a duration of 68 months. It assumes that the duration of any given activity must occur during some number of consecutive months, which is not the case. Secondly, it implies that all these activities will be limited to periods between November and March. Footnote #6 in Table 2-4 clearly addresses both these issues. Underlined words are for emphasis: Some of the activities described in the table have potential to generate noise or vibration between March and November. These activities would be curtailed or restricted during the ‘u‘au nesting and egg-incubation periods, as required by the mitigations defined in the USFWS Informal Consultation Document (Vol. II, Appendix M-USFWS Informal Consultation Document, 2007). The durations indicated are approximations for the purpose of assessing the duration and intensity of the vehicular traffic and do not correlate to any specific calendar schedule.</p>
<p><b>Comment:</b></p> <p>5. No consideration for affected plant species. State law provides protection for threatened and endangered plant species. There is no supporting evidence for a determination of no effect on noho‘anu (<i>Geranium multiflorum</i>), although it is known to occur in the site area. Based on a site visit conducted by DLNR staff on May 13, 2009, there are at least several occurrences of this species within and near the project area. We recommend considering the effects on this species; it could be included in any habitat conservation plan or similar document.</p>
<p><b>Response:</b></p> <p>5. See Section 4.3.2-Evaluation of Potential Effects at the Mees Site, Construction-Related Effects at the Mees Site, Effects on Endangered, Threatened, Proposed, and Candidate Plant Species, <i>Geranium multiflorum</i>: In addition the proposed ATST Project would have no effects on the Haleakalā ‘ahinahina or its critical habitat, and on <i>Geranium multiflorum</i> critical habitat. The USFWS does not have any information that would indicate that the Haleakalā ‘ahinahina plants and <i>Geranium multiflorum</i> critical habitat within the proposed ATST Project area would be affected. In providing for vehicle steam cleaning, invasive species inspections, and rapid response to on-site discoveries of introduced species, the proposed ATST Project is providing the best available level of protection against habitat-modifying invasive insects, plants, and other pests.</p> <p>See Section 4.3.2-Evaluation of Potential Effects at the Mees Site, Operations-Related Effects at the Mees Site, Effects on Endangered, Threatened, Proposed, and Candidate Plant Species, <i>Geranium multiflorum</i>: In addition, operations of the proposed ATST Project would have no effects on the Haleakalā on the <i>Geranium multiflorum</i> critical habitat. The USFWS has provided data on Species of Concern for the Proposed ATST Project site and the Park road corridor and it does not include this plant species.</p> <p>See Section 4.17.6-Biological Resources, Effects on Endangered, Threatened, Proposed, and Candidate Plant Species: The only other listed plant of concern is the <i>Geranium multiflorum</i>, part of the critical habitat which is within the Park road corridor. The USFWS does not have information that would indicate that the <i>Geranium multiflorum</i> critical habitat within the ROI would be affected by the proposed ATST Project (Vol. II, Appendix M-USFWS Informal Consultation), and therefore the effect on this biological resource could be said to be negligible, adverse, and long-term.</p>

**Comment:**

**6. Protected species monitoring, predator control, and control of invasive species.**

We agree that monitoring petrel activity before, during, and after construction is critical to the project. Monitoring is required in order to assess impact to the species, and compliance with other protected species requirements, such as avoidance and minimization, and mitigation standards. Compliance monitoring should also be conducted by the State for actions on State, County and private lands. Similarly, contributions to predator control may provide some benefit to 'ua'u. Avoidance of invasive species transport (both plant and animal) is critical to any project in this area. Sterilization procedures and other precautions against introduction of invasive species are not identified in sufficient detail. Details of these procedures must be submitted before their adequacy can be assessed.

**Response:**

6. It is anticipated that DOFAW will continue to monitor protected species at HO, in coordination with NPS and USFWS. A management plan for protecting endangered species would be prepared to include compliance monitoring. Predator control practices have been conducted by IfA at HO for many years, and will continue to be employed for vector control. Sterilization procedures are discussed in detail in the IfA Long Range Development Plan (LRDP) for HO, which has been in effect since January 2005. They would be imposed on the proposed ATST Project and include the following provisions:

- a) Any equipment, supplies, and containers with construction materials that originate from elsewhere, i.e., the other islands or the mainland, must be checked for infestation by unwanted species by a qualified biologist or agricultural inspector prior to being transported from Kahului. Specimens of non-native species found in these inspections are to be offered to the state for curation, and those not wanted are to be destroyed. All construction vehicles must be steam cleaned before they are transported through the NPS. The contractor shall provide certification attesting to compliance with this paragraph for inspection and steam cleaning. Contractors shall also notify IfA a week prior to their initial entry into Haleakalā National Park, so that arrangements can be made with the Park Service or other provider of inspection services. After the initial entry, coordination shall be directly between the inspectors and the contractor.
- b) Importation of fill material to the site is prohibited, unless such fill (e.g., sand) is sterilized to remove seeds, larvae, insects, and other biota that could survive at the site and propagate. All material obtained from excavation is to remain on Haleakalā. Surplus excavated cinders, soil, etc., are to be offered to other agencies located at the summit or the NPS.
- c) Contractors are required to participate in IfA pre-construction briefings to inform workers of the damage that can be done by unwanted introductions. Satisfactory fulfillment of this requirement would be evidenced by a signed declaration from each worker who drives a construction vehicle into the site.
- d) Parking of heavy equipment and storage of construction materials outside the immediate confines of HO property is prohibited.
- e) Contractors are required to remove construction trash frequently, particularly materials that could serve as a food source that would increase the population of mice and rats that prey on native species.

In addition, IfA has implemented an AIS eradication program to remove non-native plants and weeds. This will be continued as part of HO botanical monitoring.

<p><b>Comment:</b></p> <p>7. <b>Avoidance of light-attraction collisions.</b></p> <p>During both construction and post-construction activities, light attraction during the fledging period may result in take of protected seabirds. We recommend explicit requirements for shielding of all lights; that all external lights, or lights visible from the outside, be on timers; and that light use be minimized during the fledging season, including turning all non-security lights off one hour before sunset until after midnight (based on flight patterns reported in Appendix H). In addition, if vehicles are used at night, light attraction would be increased, and resulting take should be authorized and mitigated through an approved plan.</p>
<p><b>Response:</b></p> <p>7. As a nighttime astronomical site, HO has strict policies concerning the use of outdoor lighting. These may be found in the LRDP, Section 9.3.1. Lights of any kind are strongly discouraged, because even minimal lighting can reduce the effectiveness of sensitive instruments and skew data results. Where absolutely necessary, security lights are close to the ground, shielded so as not to shine anywhere but on the ground, and most importantly for petrel flights, lighting cannot approximate the color of starlight, and must be red, blue, orange, etc. Any hazard lighting for construction activities must be approved by IfA in advance. Vehicles do enter HO at night and they are required to turn off headlights and use only parking lights once inside the property. As has been the case for previous construction and for all operations at HO, these requirements would be imposed on the ATST Project during both construction and operations.</p>
<p><b>Comment:</b></p> <p>8. <b>Conservation District Use Permit and Native Hawaiian concerns.</b> In correspondence from the Office of Conservation and Coastal Lands (MA-07-54), a number of concerns were voiced, among them the need for a Conservation District Use Application and Management Plan, concerns about Native Hawaiian cultural and spiritual practices, Native Hawaiian consultation, and view plane, in addition to concerns about impacts to protected species. Similar issues were expressed by the Environmental Protection Agency (EPA 2006). These issues, which have direct and indirect relationships to protected species, have not been addressed in the current document, but should be included in Section 6.0 (“Unresolved Issues”) and adequately addressed before approval of the project.</p>
<p><b>Response:</b></p> <p>8. The NOTE TO REVIEWER page just after the cover of Vol. I of the Supplemental DEIS (SDEIS) addressed in detail that the basis for preparation of the SDEIS was, in large part, due to the type of concerns raised in comments like yours and those of EPA’s on the Draft Environmental Impact Statement (DEIS) published in September 2006. In the NOTE TO REVIEWER, it was explained that in several a number of respects, the SDEIS contained considerable revisions from the DEIS; comments received warranted additional surveys and studies, which were completed after the DEIS was published.</p> <p>The EPA comment to the SDEIS (06-18-09) states: “The Supplemental DEIS (SDEIS) contains substantially more information on impacts to Haleakalā National Park and other resources and is much improved. It identifies impacts to Native Hawaiian sacred sites and cultural resources as major, adverse, and long-term. While such impacts are acknowledged to be unmitigable, the supplemental cultural impact assessment identified several mitigation proposals from the community that could allow Native Hawaiians to derive a benefit as a result of any project approval. We encourage the NSF to consider integrating one or more of these proposals into the proposed project or commit to implementing one or more as mitigation for identified impacts to cultural resources in the Final EIS. The SDEIS adequately addresses our previous concerns and requests for additional information; therefore. We are rating the preferred alternative of the SDEIS as <i>Lack of Objections (LO)</i> (see enclosed "Summary of Rating Definitions"). We understand NSF will respond to comments on both the DEIS and SDEIS at the FEIS stage.” <u>Summary of EPA Ratings Definitions: “LO” (Lack of Objections):</u> The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.”</p> <p>We also note that since publication of the SDEIS, three additional consultation meetings pursuant to Section 106 of the National Historic Preservation Act were</p>

held. The result of those meetings, the submission of written comments by the consulting parties, and the result of over 30 other informal and formal consultation meetings held over the past four years as part of NSF's Section 106 efforts, led to the preparation of a draft Programmatic Agreement (PA) pursuant to 36 CFR. 800.14(b). That draft Programmatic Agreement is currently under review by the consulting parties (which now number over 130). Even if agreement cannot be reached on the PA, NSF will commit to the mitigation measures currently therein and described in Section 5.2 of the FEIS.

**Comment:**

**9. Need for detailed vibration assessment.**

The current assessment of vibration impacts on protected species is based on the general vibration values and approach from FTA (2006), but that level of assessment is both inappropriate and inadequate to assess the current project's activities, given the geologic setting, the sensitivity of resources, and the recommendations in the FTA (2006) document itself. For example, even within the General Assessment, the FTA recommends that due to efficient vibration propagation in rock layers, an additional 2-9 dB adjustment should be made to ground-borne propagation effects (10-8). The FTA (2006: Chapter 9) recommends a detailed analysis whenever work includes a steel-wheeled or steel-railed vehicle, is conducted near a sensitive structure or land use, or for any project with greater vibration than use of rubber-tired vehicles at the proposed project distance. As not one, but all, of these conditions are met, we strongly recommend that detailed vibration analysis be conducted in order to assess the project effects on endangered species and their habitat.

**Response:**

9. The NSF recognizes the need for detailed, site-specific, vibration assessment to definitively address the issues raised in this comment. As a first step in that regard, KCE Environmental Inc. and ATST engineers collaborated on a study of vibration induced by construction equipment and vehicles during a recently completed demolition project at Kolekole. The report from that study is included in Vol. II, Appendix Q-Vibration Study. The broadcast site demolition project that was the focus of that study is about 500 feet from the proposed preferred Mees site for ATST and is adjacent to the same petrel colony that is of concern for ATST construction. The results provide a preliminary indication that most of the construction activities for ATST would likely be of a low enough vibration level and/or far enough away from the burrows to not exceed the 0.12 in/sec peak particle velocity threshold set by the USFWS to minimize the potential for harming the petrels or their habitat. However, if the proposed ATST Project is approved, additional testing and monitoring of the propagation of vibration on the actual site with the actual equipment and vehicles that would be utilized for excavation and construction would take place. This is called for in the USFWS Informal Consultation Document (Vol. II, Appendix M) and reiterated in the preface to the vibration study (Appendix Q).

**Comment:**

**10. Inclusion of cumulative noise level monitoring and limitations.**

In the USFWS assessment (Appendix M), it is stated that no sound greater than 83 dBA (measured 5 feet from the source) will be generated at the construction site between April 20 through July 15, when any burrow is occupied within 80 m of the site. The proposed monitoring includes measurement of individual pieces of equipment; however, noise levels are cumulative. Therefore, it should be clarified that a *cumulative* noise level of 83 dBA (not individual pieces of equipment) should not be exceeded.

**Response:**

10. In response to comments on the SDEIS, the Sections addressing direct, indirect, and cumulative noise impacts have been revised. See Sections 4.10- and 4.17.13-Noise.

<p><b>Comment:</b></p> <p>11. <b>Inclusion of cumulative vibration level monitoring and limitations.</b> The current document does not include provisions for monitoring or implementation of vibration level restrictions, in order to limit and document effects on ‘ua‘u and petrels. These should be included before the project is approved.</p>
<p><b>Response:</b></p> <p>11. NSF assumes that the commenter intended to refer to effects of the vibrations on ua‘u and nene rather than ‘ua‘u and petrels. Assuming that is the case, if the proposed ATST Project is approved, additional testing and monitoring of the propagation of vibration on the actual site with the actual equipment and vehicles that would be utilized for excavation and construction would take place. This is called for in the USFWS Informal Consultation Document (Vol. II, Appendix M) and reiterated in the preface to the vibration study (Appendix Q).</p>
<p><b>Comment:</b></p> <p>12. <b>Period to be covered by noise and vibration level restrictions.</b> The current period for limiting noise is inadequate, based on the biology of the species, which has critical breeding, nesting, and fledgling periods between approximately February 1 and December 1 each year at the site. The fecundity and rate of reproduction of ‘ua‘u is so low, that negative impacts on a single nest has significant effects on the species. There have been no studies assessing the effects of sound on breeding, nesting, or fledgling ‘ua‘u, nor any close relative or behaviorally similar bird species, particularly during these periods critical to reproduction, and particularly birds with such low fecundity rates that loss of a single nest has significant impacts on population demography: Habituation of bird to stimuli that alters their behavior(s) requires the source to be consistent and regular in nature [hence, Conomy et al 1998 and Burger &amp; Gochfeld, as cited in SDEIS]. The subject project is not likely to be characterized by noise levels that are consistent and regular in nature. Furthermore, rather than assuming that habituation by mainland ducks and gulls applies to the behavior of endangered Hawaiian seabirds (Appendix M: 18), or to human sleepers, (Appendix M:22-23, 25), we assume that higher noise levels conducted near burrows has some potential disturbance level to these birds, particularly at the start of each season, when no habituation could have occurred, and which, if disturbed, may result in non nesting of pairs that would have otherwise nested, resulting potentially in the loss of an additional fledgling to the population. Such an event would also negatively impact the bond between the pair, and potentially their future reproductive behavior, in addition to the impacts listed in the current assessment.</p> <p>In addition, the proposed sound and vibration limitations for April 20-July 15 are based on the egg incubation period, with the justification that that it "is the only time of year when adult petrels are at the Haleakalā colonies during the day". However, limiting truck traffic during the day will increase the likelihood of nēnē - related accidents, as well as presenting incompatible use with park visitor functions. If truck traffic is permitted at night, then the impacts of trucks on petrels needs to be included for the period of time when adults and juveniles are present. The current assessment does not consider the effect of sound attenuation in rock (which may increase with distance, and is much more difficult to predict in mixed soil/rock profiles) on fledglings within the burrow. Effects of vibration on the fledglings is also not addressed in the current study. There are no studies that demonstrate no effect of sound or vibration on ‘ua‘u or similar ground-burrowing seabird fledglings; it is a reasonable assumption that this type of novel stimulus - particularly given the start-and-stop nature of the sound and vibration – would increase the stress level, resulting in decreased body weight and likelihood of success of the fledglings.</p> <p>We therefore recommend that the maximum 83 dB <i>cumulative</i> sound restriction and adequate monitoring and limitation of vibrations be extended to the entire breeding, nesting and fledgling period of Feb 1 through December 1.</p>
<p><b>Response:</b></p> <p>12. A detailed analysis of noise has been added to the FEIS to further explain the types, duration, and distribution of noise that is anticipated from the proposed ATST Project. The comment assumes that both higher and not consistent noise levels near burrows will occur that will prevent non-nesting of pairs. The actual anticipated noise profiles at the distances to burrows do not fit the category of “higher” than what USFWS has stated to be potential disturbance level during the</p>

day; and at attenuating distances to the burrows, they are already largely within the 83 dBA range for all activities. Secondly, prior to nesting, bird pairs are only present at the burrows at night. No noise inducing nighttime construction would take place.

The predictive mortality for nēnē has been re-calculated by the USFWS biologist, based on the latest estimates of total number of vehicular round-trips during construction. In comments to HALE resource staff on the SDEIS on June 5, 2009, the USFWS stated the following: “In our March 28, 2007, informal consultation, we assessed the potential for a nēnē to be killed by an ATST-related vehicle. Our calculations were based on November 21, 2006, data which indicated an average of 1.26 nēnē killed by the average of 282,813 vehicles accessing Haleakalā National Park each year (includes day and night access). In our March 2007, Section 7 Consultation, we calculated that there would be a total of 66,294 ATST-related vehicle round-trips taken during the 31-year project period. By combining the average Hawaiian goose fatality rates due to vehicles driving the Haleakalā National Park Road and the ATST vehicle use data, we calculated that there would be a collision with 0.3 Hawaiian goose during the 31-year life of the project. Based on updated vehicle use data presented in the May 2009, SDEIS for the ATST, my rough calculations indicate there will be a total of approximately 82,015 vehicle round-trips during the 31-year project period (an average of approximately 2,646 round-trips per year). Recalculation of the nēnē collision rate, using the updated vehicle use information and the November 21, 2006, and fatality rates documented for all Park users, I calculate that there would be a collision with 0.365 nēnē during the 31-year life of the project. We believe ATST drivers will be less likely to collide with a nēnē than the average driver visiting the Park.”

With respect to truck traffic, in comments to the HALE resource staff on the SDEIS on June 5, 2009, the USFWS sought to clarify the intentions of the Service by repeating the same statements concerning truck traffic as in the 2007 Informal Consultation Document: According to the SDEIS, NSF will restrict the movement of wide loads to night periods (8 p.m. through 4 a.m.) to minimize project impacts to Park visitors. Over the course of the project, no more than 25 wide loads would be accessing the project site. The SDEIS indicated that no wide loads would be moved to the site during the April 20 through July 15 Hawaiian petrel incubation period. NSF’s restriction of wide load traffic during the Hawaiian petrel incubation period will minimize impacts of this aspect of the project to incubating Hawaiian petrels. (Our March 28, 2007, informal consultation addressed round-trip access of up to two heavy trucks per day during the incubation period.) Adult Hawaiian petrels may be visiting burrows at night to feed nestlings during late April, May, and June nestling period. During our informal consultation, NSF agreed no truck traffic would drive through the Park and no construction activities would occur prior to 6 a.m. or later than 8 p.m. during the late April, May, and June periods to avoid potential impact of this type of activity to the adults.

The assessment of sound attenuation was guided by instructions from USFWS, which requested readings from the entrance of burrows. These were provided. A detailed vibration study was conducted in January and February 2009 during deconstruction of the broadcast facilities that is adjacent to HO and the same petrel colony at HO (Vol. II, Appendix Q-Vibration Study). Hundreds of measurements of vibration from heavy construction vehicles and activities were obtained, including measurements at the closest burrow during activities, from as close as 110 feet to the colony. The highest level of vibration from ground excavation and demolition measured on the ground at the nearest burrow was 0.0138 in/sec., an order of magnitude less than the threshold established by USFWS.

Finally, according to follow-up informal consultation with USFWS during 2009, the minor changes to the project involving traffic and a small Park road modification at the entrance station, still do not result in more than a “not likely to adversely affect” determination. However, the proposed ATST Project would provide a biological monitor for both petrels and nēnē to assist HALE with mapping of burrows to ensure that any new burrows closer to construction than the ones currently occupied would be identified and appropriate measures would be taken under a management plan approved by DOFAW.

**Comment:**

**13. Spatial limitations of noise and vibration.**

The USFWS assessment in Figure 15 also indicates that the sound restriction would not apply to the project area near the petrel burrows. It is imperative that sound and vibration limitation be applied to this area as well, as their proximity to the known locations of 'ua'u and their burrows requires.

**Response:**

13. The USFWS Informal Consultation Document (Vol. II, Appendix M) clearly states that between April 20<sup>th</sup> and July 15<sup>th</sup> the generation of noise will be restricted to the area bounded in orange in Appendix M, Figure 15. Restricting noise and vibration to the area within the orange boundary would ensure that noise and vibration do not occur closer than about 100 feet to the nearest burrow. This boundary, beyond which noise and vibration cannot take place, is considerably further from the nearest burrows than activities permitted during the rest of the year.

**Comment:**

**14. Effects of increased traffic and exhaust on 'ua'u in burrows, or nēnē.**

If the project's truck traffic occurs in the day, it will result in greatly increased likelihood of collision with nēnē, a currently unauthorized form of take. Increased fumes may also have negative impact on nēnē, and if truck traffic is allowed at night, increased fumes may affect 'ua'u. Vehicular use associated with the project may, therefore, result in unavoidable take of either nēnē or 'ua'u, depending on the timing of truck use. This take should be authorized and mitigated under an approved license and plan.

**Response:**

14. The traffic associated with the proposed ATST Project was again evaluated by USFWS (Vol. II, Appendix M) after receiving comments from the NPS on the SDEIS. Those comments read in part, "In our March 28, 2007, informal consultation, we assessed the potential for a nēnē to be killed by an ATST-related vehicle. Our calculations were based on November 21, 2006, data which indicated an average of 1.26 nēnē killed by the average of 282,813 vehicles accessing Haleakalā National Park each year (includes day and night access). In our March 2007, Section 7 consultation we calculated that there would be a total of 66,294 ATST-related vehicle round-trips taken during the 31-year project period. By combining the average Hawaiian goose fatality rates due to vehicles driving the Haleakalā National Park Road and the ATST vehicle use data, we calculated that there would be a collision with 0.3 Hawaiian goose during the 31-year life of the project. Based on updated vehicle use data presented in the May 2009, SDEIS for the ATST, my rough calculations indicate there will be a total of approximately 82,015 vehicle round-trips during the 31-year project period (an average of approximately 2,646 round-trips per year). Recalculation of the nēnē collision rate, using the updated vehicle use information and the November 21, 2006 fatality rates documented for all Park users, I calculate that there would be a collision with 0.365 nēnē during the 31-year life of the project. We believe ATST drivers will be less likely to collide with a nēnē than the average driver visiting the Park."

According to the findings set forth in the recent road report prepared by the Federal Highway Administration (FHWA), the relatively small increase in traffic due to construction and operation activities — 2.8 percent and 1.4 percent, respectively — would have little measureable effect on traffic. The anticipated increase in fumes from such traffic would be negligible. In consideration of the USFWS and FHWA findings, the day or night timing of truck use would not result in unavoidable take of either nēnē or 'ua'u.

**Comment:**

**15. Estimates of Vibration Limitations for Burrow Collapse.**

The current assessment is based on an unpublished paper by ATST project engineers (Barr, unpublished 2006, cited in Appendix M, p.12), which is unavailable to the reader. It is impossible to assess the accuracy, scope, sample size, sampling methodology, or other factors critical to determining the applicability of this study or its conclusions to the current project. As we understand it, this report was based on burrow entrance collapse. Partial or total collapse should be considered for the entire burrow length, including but not limited to the burrow chamber, and not be assessed solely on the basis of the entrance.

**Response:**

15. The estimates of vibration for limitations for burrow collapse were obtained by ATST project engineers in 2006, and accepted by the USFWS as a threshold for vibration damage. The value of peak particle velocity of 0.12 in/sec was extremely conservative, considering that the most vibration intensive activities (caisson drilling) for ATST would result in vibrations only 1/20 of the established threshold, and that the threshold for damage to the most fragile historic structures is higher. Considering that the 6.8 magnitude earthquake during the same year, with measured velocities of 3.4 in/sec at a seismograph near the site, failed to collapse or damage any burrows in the Kolekole colony either at the entrance or within the interiors the threshold for damage to burrows is more than conservative. In addition, to verify that the accepted thresholds would not be exceeded during construction, the proposed ATST project conducted extensive measurements of construction vibration during the January/February 2009 deconstruction of the broadcast facilities located adjacent to HO and within the same distance to the Kolekole petrel colony as the preferred Mees site. The results in Vol. II, Appendix Q-Vibration Study clearly indicate that almost any heavy construction activity associated with equipment to be used for ATST would result in vibration levels at the burrows that are generally within ranges of a fraction (an order of magnitude less) of the threshold magnitudes established by USFWS, or two orders of magnitude less than natural occurrences such as earthquakes.

**Comment:**

**16. Out-of-date and missing biological surveys.**

Burrow surveys are out of date (>5 years past). There is also no evidence or consideration of nēnē nesting locations within or near the project area, so no assessment of impacts to nesting nēnē is possible at the current time. We strongly recommend a current burrow and nēnē surveys be performed in order to assess current impacts.

**Response:**

16. When consultations were taking place with USFWS and HALE resource staff, the most current map of petrel burrow distribution was used with GPS coordinates to identify specific locations. According to HALE resource personnel, the petrel colony at Kolekole is growing, and therefore it is possible that new burrows would be occupied in subsequent nesting seasons. Among the mitigation measures established for the proposed ATST Project is an on-site biological monitor to work with HALE, USFWS, and DOFAW to assess both petrel and nēnē nesting areas that may change from year-to-year, to assess potential impacts from construction, and to ensure that both avian species are protected during construction activities.

**Comment:**

**17. Changes since USFWS Section 7 consultation.**

Consideration of impacts to protected species by actions that have been added or changed since the 2006 DEIS, e.g., staging (2-22, 226), widening of shoulder (2-31, 2-32), Reber Circle (4-40,4-45), and those of ambiguous location, such as changes in power line pathways (2-39), location of fuel storage tank (2-41), placement of excess soil and rock (2-22), and staging area (2-26) have not been considered in the Section 7 consultation. Consideration of impacts from these actions to protected species should be assessed, and evidence presented. Some negative impacts appear to be unavoidable, e.g., education in nēnē habitat from widening of the shoulder. Any impacts will need to be avoided, minimized, and/or mitigated. If incidental take is likely to occur, authorization should be obtained before a take occurs.

**Response:**  
 17. The informal consultation with USFWS was continued during the SDEIS process. Both NSF and NPS consulted with USFWS on the minor changes to the project since 2006. In reviewing the SDEIS, USFWS chose to direct its comments concerning these changes to NPS. The USFWS offered comments on the proposed changes to traffic volume, moving wide loads at night, and widening of the HALE entrance station area. No changes in restrictions or in the determination of “not likely to affect” endangered species was recommended. No comments from USFWS on these changes were directed at to NSF. The discussion of avoidance, minimization, and mitigation of potential impacts to endangered species has been revised in Section 4.18-Mitigation to reflect specific measures to be employed to prevent incidental take. However, although it is unlikely that incidental take would occur, if approved for construction, the ATST Project will seek authorization for incidental take through re-initiation of Formal Consultation before a take occurs.

<b>Dept. of the Interior, Office of the Secretary, Office of Environmental Policy and Compliance, Pacific Southwest Region</b>
<b>Received from:</b> Patricia Sanderson Port, Regional Environmental Officer, 06-22-09 and 06-30-09
<b>Comment:</b> Received 06-22-09: “The Department of the Interior has received and reviewed the subject document and has no comments to offer.” Received 06-30-09: “The Department of the Interior would like to rescind its letter, dated June 22, 2009, stating that we have no comments to offer on the subject document. Please refer to the comments dated June 25, 2009, sent directly from the National Park Service.”
<b>Response:</b> Your comments are respectfully noted.

<b>Received from: Haleakalā National Park, 06-22-09</b>	
<p><b>Comment:</b> (SDEIS page number/Section number)</p> <p><b>Introduction</b></p> <p>1. 1-27/1.5.2 The subsection “Planned Projects at HALE, Park Road Corridor” should include the park’s plan to slurry seal the upper two miles of the park road in 2011. The NPS also plans to rehabilitate the park road between MPs 11.2 -14.8 within the next five years. The effects of these projects should be analyzed as “reasonably foreseeable future actions” in the cumulative impacts analysis section in Chapter 4 of the SDEIS.</p> <p>2. 1-28/1.6.4 There is potential direct effect on endangered ‘ua’u. If large trucks (greater than class 5) are to pass through the park at night while endangered ‘ua’u are at their nesting burrows, the exhaust, noise and vibrations of the truck may cause nest abandonment (before, during and after incubation) and/or mortality of chicks resulting from nest abandonment. Please refer to the comments on Mitigation Measures for clarification.</p> <p><b>Proposed ATST Project and Alternatives</b></p> <p>3. 2-2/2.3.1 The NPS finds that the site selection discussion does not fully explain the analysis of how the Haleakalā site became the final and only location for ATST. The existing analysis does not provide a full analysis of the final three sites nor does it provide a clear justification and comparative analysis of “trade-offs” (i.e. impacts on adjacent resources) for this decision.</p>	<p><b>Response:</b></p> <p>1. The FEIS has been revised to account for the slurry sealing project and the rehabilitation of the Park road between MPs 11.2-14.8.</p> <p>2. NSF will continue working with NPS and AURA regarding mitigation measures for the SUP and will ensure any night time driving is consistent with what is required by the USFWS.</p> <p>3. See Sections 2.2-Site Selection in Detail and 2.3-Alternatives Eliminated From Further Consideration. Section 2.3 has been updated to provide additional clarification.</p> <p>The main scientific goals of the ATST require the measurement of the solar magnetic field over extremely small distances on the surface, and the measurement of the magnetic field in the very faint outer solar region known as the corona. To do this, the atmospheric conditions at the site must satisfy two main criteria: a very stable atmosphere with extremely low levels of turbulence, and a very clean atmosphere with extremely low levels of dust. By themselves, these conditions are hard to find, and a site where both conditions are met is extremely rare. The tested sites were</p>

<p>4. 2.23/2.4.4 Large vehicles should not travel through the park at night when ‘ua’u are in their burrows (February-October). Disturbance from travel during the day could occur, but may be minimal. Additional Section 7 consultation with USFWS is recommended if night time driving is to occur.</p> <p><b>Description of Affected Environment</b></p> <p>5. 3-37 Figure 3-6 The map of petrel locations is from 2005. A survey for new burrows is needed. If new burrows are found near the proposed construction site, additional Section 7 consultation with USFWS will be necessary.</p>	<p>found to consist of two groups: one was comprised of three locations (Sacramento Peak, San Pedro Martir, and Panguitch Lake) where the measurements demonstrated that the atmospheric conditions were never of sufficient quality for achievement of the ATST science goals; and the other group consisted of three locations (Haleakalā, La Palma, and Big Bear), where the measurements indicated that conditions might be of sufficient quality over various time periods. Based on the results of both the preliminary testing and the continued testing of the three remaining sites, Haleakalā met or exceeded the primary scientific evaluation criteria. Because two of the three remaining sites did not meet the required scientific objectives, a further analysis of “trade-offs” was not warranted.</p> <p>4. The SDEIS was provided to the USFWS and additional informal Section 7 consultation was obtained during the preparation of the FEIS. USFWS is aware of the nighttime driving requirement and did not find that it invalidated the USFWS 2007 Informal Consultation Document finding of “Not Likely to Adversely Affect” endangered species. This response was also delivered by USFWS to NPS in an e-mail on June 5, 2009.</p> <p>5. As the NPS comment on SDEIS 4-24 states, “The National Park Service, in cooperation with the State Department of Fish and Wildlife, will continue to monitor and to manage the ‘ua’u, as it has for over 25 years.” This monitoring has included annual surveys of the Kolekole colony for new burrows, and NPS maps of active burrow locations have been provided to IfA periodically for a number of years. Independently, a biological monitor provided by the proposed ATST Project would work with NPS resource staff to survey the colony routinely for new burrows. Should newly active burrows be found closer to ATST than those shown in Figure 3-6 (duplicated from Fig. 8 in Vol. II, Appendix M-USFWS Section 7 Informal Consultation Document) additional Section 7 consultation with USFWS would be necessary. This mitigation language was added to MIT-9.</p>
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<p>6. 3-40/3.3.3.3 Although effort was made to determine the invertebrate Species of Concern in the ROI for the ATST, this information is not accurate. See the attached memo from Raina Kaholoa‘a, NPS Biologist, for a detailed description of invertebrate resources.</p> <p>7. 3-46/3.6 The NPS notes that (Office of Management and Business) OMB approval was not given for the visitor survey. It was explained to the NPS that OMB issued a waiver for this survey. We believe that the waiver should be referenced and included in an appendix of the EIS.</p> <p>8. 3-47/3.6 The text incorrectly cites information from NPS visitor surveys and studies. The NPS visitor survey conducted in 2000 by the University of Idaho is not the same as the NPS study conducted between 2007 and 2008 (Lawson et al 2008) about backcountry visitor use. The EIS should include the information from the 2000 NPS visitor survey about the primary reasons visitors visit the summit area of the park: 1) sightsee/scenic driving and 2) watching sunrise. The 2000 NPS visitor survey also provides information that the most visited areas in the summit area of the park were the Pu‘u Ula‘ula Overlook and the Haleakalā Visitor Center.</p>	<p>6. The ATST Project team recognized the need to provide further information on invertebrate resources in the ROI. Therefore, an additional survey, designed in consultation with HALE, was conducted in June 2009 (Vol. II, Surveys and Assessments, Appendix C(3)-Arthropod Inventory and Assessment, HALE and HO, July 2009) which identified additional arthropod species, including SOC. Since the collecting of invertebrates is to some extent determined by seasonal abundance of species, collecting interval, methodology, and other factors, the proposed ATST Project would continue to conduct semi-annual surveys within the ROI to build a data-base of invertebrates in order to better evaluate potential effects of ATST construction on common species, threatened, endangered or species of concern.</p> <p>7. A “waiver” was not issued. Via e-mail correspondence with NSF, the OMB “determined that the survey that was conducted is outside the scope of the PRA [paperwork reduction act].” This e-mail has been referenced in Section 3.6-Visitor Use and Experience.</p> <p>8. Text has been added to this effect in Section 3.6. The reference to Lawson et al, 2008 was added to the 2007/2008 survey in the previous paragraph and omitted from the paragraph that discusses the 2000 survey.</p>
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<p>9. 3-56/3.9.4 The following information from the 2009 FHWA report should be added to the EIS (page 30) “The factors that will most significantly impact the [park] roadway and result in damage will be if the estimated ATST construction traffic is much higher than anticipated and the construction vehicle loading exceed legal load limits.” The data about culverts with the least amount of cover is incorrect. Table 8 of the 2009 FHWA report states two culverts (Site #26 and 68) have very little cover.</p> <p>10. 3-57/3.9.4 Delete the statement. “HALE is conducting traffic studies to develop a Draft Traffic Management Plan to address parking and visitor traffic volume congestion at the summit.” NPS is not doing this study.</p> <p>11. 3-59/3.10 2007 and 2008 vehicular and bus traffic data is incorrect. Table 9 of the 2009 FHWA report states total vehicular entering the park in 2007 = 200,320 and 2008 = 182,906. Out of those total vehicles in 2007, 9125 were buses and in 2008, 6570 were buses.</p>	<p>9. Section 3.9.5-Roadways and Traffic has been updated to reflect this comment. That statement from the FHWA report, along with additional citation to put it in context, has been added to the text. The statement about the culverts has been expanded to include reference to the other culvert identified by the FHWA.</p> <p>10. The sentence has been deleted from this section.</p> <p>11. Section 3.10-Noise has been updated to reflect this comment</p>
<p><b><u>Summary of Environmental Consequences, Cumulative Effects and Mitigations</u></b></p>	
<p><b>Land Use and Existing Activities</b></p> <p>12. 4-4/4.1.2 The statement – “The proposed ATST project would not hinder the Park’s purpose “to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as would leave them unimpaired for the enjoyment of future generations, or prevent the NPS from continuing its conservation work to meet its guiding mission of preservation.” should be deleted. Based on analysis the proposed action would not only hinder the NPS, but would prohibit our ability to conserve the scenery and other resources leaving them unimpaired for the enjoyment of future generations. This statement is in direct conflict with statement in 4.17.9 (pg 4-148) which reads, “However considering noise, visual losses and air quality effects, when combined with the past and present actions at HO, construction of the proposed ATST Project would result in major, adverse, and long-term effects on the experience of visitors to the Pu’u Ula’ula Overlook, Sliding sands Trailhead and HALE areas adjacent to HO.”</p>	<p>12. This statement has been deleted to avoid perceived conflict between land use and visitor use analyses. The statement is not critical to justify the land use impact conclusion.</p>

<b>Cultural, Historic and Archeological Resources</b>	
<p>13. 4-8/4.2.2 The statement “Although not nearly as prevalent, there was testimony in support of the proposed ATST Project, in most instances, supporters strongly rallied for education of Hawaii’s youth and the possible opportunities that such a facility might bring to Native Hawaiians.” should be deleted. This statement is argumentative and unsupported in the SDEIS. This statement is advocating for the project rather than analyzing the impacts.</p>	<p>13. The sentence has been deleted from this section.</p>
<p>14. 4-9/4.2.2 The Cultural Resources subsection for the Mees Site states “On-going operations of the proposed ATST Project would have a major, adverse, and long-term effect on cultural resources; however implementation of mitigation measures would reduce the effect intensity to a moderate adverse, long-term level.” This conclusion is unsupported and the SDEIS does not contain an analysis of how the proposed mitigation would lessen the impact.</p>	<p>14. The sentence has been deleted from this section. All discussion of mitigation has been moved to 4.18.2.</p>
<p>15. 4-10/4.2.2 The Cultural Resources subsection for the Mees Site states “the noise resulting from the construction and operations of the proposed ATST project will have, during certain times of the day and during certain months, major, adverse impacts on the ability to conduct such practices. Mitigation measures imposed by USFWS and HALE would reduce those noise levels to a negligible level during certain hours of the day and during certain months of the year due to restrictions on noise-generating activities.” Mitigation measures cited as imposed by USFWS were to reduce impacts the ‘ua‘u (Hawaiian petrel). Mitigation measures cited as imposed by HALE were to reduce impacts to visitor experiences at sunrise and sunset. These measures may not be relevant to what would mitigate traditional cultural practices impacts from noise. The analysis does not make a case for how proposed mitigation lowers traditional cultural practices impacts from noise from major to negligible.</p>	<p>15. The text has been revised based on comments. Discussion of impacts has been focused and clarified.</p>
<p>16. 4-10/4.2.2 The NPS disagrees that the impacts to traditional cultural practices from noise within the park road corridor during ATST-related construction traffic would be negligible, adverse, and long-term. The analysis in this section of SDEIS is incomplete, unsupported and speculative.</p>	<p>16. The text has been revised based on comments. Discussion of impacts has been further focused and clarified.</p>

<p>17. 4-12/4.2.2 The Historic Resources subsection for the Mees Site analyzes the impacts to the park road corridor solely on the amount of traffic-related to the proposed ATST project. The analysis is incomplete and does not taken into consideration the impacts from construction vehicles exceeding legal load limits and wide loads that could increase the probability of accidental damage to the bridge which were also mentioned in the 2009 FHWA report. The measures required by HALE for the issuance of the SUP, such as restrictions on load limits and wide loads, mitigates these impacts to minor, adverse, and short-term.</p> <p>18. 4-13/4.2.3 The Cultural Resources subsection for the Reber Circle Site states "the analysis set forth above for the Mees Site applies equally to the Reber Circle Site with regard to impacts on cultural resources, including impacts to traditional cultural practices. Accordingly, the construction and operation of the proposed ATST Project at the Reber Circle Site would result in major, adverse, and long-terms effects on cultural resources." This impact determination is different than what is presented for the Mees Site on pages 4-8 to 4-10 of the SDEIS.</p> <p>19. 4-14/4.2.5 The impact determinations in the Cultural Resources Summary are different than what is presented for the Mees Site on pages 4-8 to 4-10 and Reber Circle Site on page 4-13 to 4-14 of the SDEIS.</p> <p><b>Biological Resources - General</b></p> <p>20. Based on the description of the project and new project components added to the SDEIS (example, modifications to the existing road shoulder and utilities at the park entrance station) Section 7 consultation with US Fish and Wildlife Service under the Endangered Species Act needs to be re-opened. The current SDEIS seems to indicate that incidental take of endangered species is likely to happen and there have been enough changes to the project since inception that additional consultation is necessary. The SDEIS does not clearly state, as required in the informal Section 7 consultation, that if a Hawaiian petrel or nēnē is "harmed or killed as a result of the ATST construction activities that the Service would be contacted immediately and that work action would cease until we have formally addressed the cause for the take". It is our understanding that formal Section 7 consultation would be sought prior to the start of construction. This is not clear in the SDEIS.</p>	<p>17. The text has been revised based on comments.</p> <p>18. The text has been revised to be consistent.</p> <p>19. The text has been revised to be consistent.</p> <p>20. The SDEIS did not indicate that incidental take of endangered species is "likely to happen". In the interest of full disclosure of all impacts, even those that are remote, the SDEIS described potential adverse effects on the Hawaiian petrel from construction. There is no implication that they are likely to occur, and in keeping with the opinion of the USFWS, these are unlikely to occur and, therefore, adverse impacts were considered negligible. Prior to publication of the SDEIS, the USFWS was informed about the one small change of the project that could involve endangered species. This change is the temporary widening of the Park road entrance station and the USFWS response was that no further consultation was required. Finally, a statement was added to Section 4.3.2-Evaluation of Potential Effects at the Mees Site specifying that if a Hawaiian petrel or nēnē is harmed or killed as a result of the ATST construction activities the USFWS would be contacted immediately and any work action would cease until the cause for the take is formally addressed.</p>
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<p>21. The National Park Service continues to have concern about the ATST construction schedule and how it correlates with the mitigation measures outlined in the USFWS Section 7 consultation. The mitigation measures include very specific times when certain ATST construction and associated activities will not be allowed. The SDEIS does not clearly outline how this will be implemented and enforced.</p> <p>22. In addition, simply monitoring the ‘ua‘u throughout the project is not mitigation to lessen impacts. Affects to ‘ua‘u are not negligible because of the USFWS mitigations outlined in the informal Section 7 consultation. There is still opportunity for impacts to ‘ua‘u and other species.</p> <p>23. 4-17/4.3.2 (and 2-31) The entrance station road shoulder construction should be addressed in this section. This project occurs in endangered nēnē habitat. Although work will be scheduled outside nesting season, nēnē regularly use the area for feeding and flocking. This is an activity that was not a proposed action when the Section 7 consultation was conducted.</p>	<p>21. These activities would be either curtailed or restricted during the ‘u‘au nesting and egg-incubation periods, as required by the mitigations required in the USFWS Informal Consultation Document (Vol. II, Appendix M). The ATST Site Construction Supervisor, or designate, would have the full authority of the project and responsibility to implement and enforce mitigation measures, such as the very specific times when certain ATST construction and associated activities will not be allowed. The ATST construction schedule includes the dates when activities must be curtailed or restricted. The ATST Site Construction Supervisor, or designate, will have full authority and responsibility to enforce the construction schedule and its restrictions.</p> <p>22. The monitoring effort implemented by NSF is not designed to be a stand-alone mitigation measure. It is, however, an integral part of the mitigation process. The purpose of monitoring is to provide real-time and archival data to a biological monitor of the proposed ATST Project so that the effectiveness of mitigation measures such as vibration and noise restrictions can be assessed. The effects on ‘ua‘u would be negligible in the judgment of USFWS, which stated in their Informal Consultation Document (Appendix M) that the proposed ATST Project has “reduced potentially adverse effects for the Hawaiian petrel...to a level of discountable effects” and would therefore have “... negligible, adverse, long-term effects on that species”. This mitigation language was added to MIT-9.</p> <p>23. Prior to publication of the SDEIS, the USFWS was informed about the one small change of the project that could involve endangered species. This change is the temporary widening of the Park road entrance station and the USFWS response was that no further consultation was required. Finally, a statement was added to Section 4.3.2-Evaluation of Potential Effects at the Mees Site specifying that if a Hawaiian petrel or nēnē is harmed or killed as a result of the ATST construction activities the USFWS would be contacted immediately and any work action would cease until the cause for the take is formally addressed.</p>
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<p>24. 4-15 Under the description of effects on biological resources the document states “.. the extent or degree to which its implementation would do any of the following: 1. Substantially affect a rare, threatened, or endangered species or its habitat (HAR §11-200-12 and Endangered Species Act (ESA) 1973, Section 7 (a) 2, Interagency Cooperation). 2. Cause the “take” of a highly sensitive resource, such as a threatened, endangered, or special status species.</p> <p>However, on page 4-18 it also states that “Effects from construction could include the potential for disturbance of the habitat ... “ The description in this paragraph seems to describe a “take” of ‘ua‘u. The document further states, “Formal consultation would take place in the event that a “take” were to occur in the future ...”</p> <p>25. Additionally on page 4-24, the document states, “Potential major, adverse effects from construction could include the disturbance of the ‘ua‘u habitat at HO, where birds would not be willing to remain in their burrows during the nesting season. Construction noise, vibration, or human proximity could affect the nesting habits of the ‘ua‘u to the extent that they may not return to, remain in, or otherwise utilize the burrows that are inhabited each year. Construction activity has the potential of causing burrow collapse, directly related to excavation, vibration, or other human activities. Collapse of a burrow could result in ‘ua‘u mortality. Mitigations measures to these potential major, adverse effects are described in Section 4.18.3-Biological Resources.” NPS believes that as described this would constitute a “take” under ESA.</p> <p>26. 4-21 The current informal consultation does not cover “take”. Additionally, the SDEIS fails to emphasize that if “take” does occur, all construction activities would cease as outlined in the Section 7 consultation.</p>	<p>24. The description does describe what would constitute “take” of Hawaiian petrels if any of those effects from construction were to occur. However, those are potential consequences, not likely or expected consequences. The USFWS Informal Consultation Document clearly states that the proposed ATST Project has “reduced potentially adverse effects for the Hawaiian petrel...to a level of discountable effects” and would therefore have “... negligible, adverse, long-term effects on that species” (USFWS 2007). Should those measures fail to prevent “take”, formal consultation would be required.</p> <p>25. Again, the description does describe what NSF believes would constitute a “take” of Hawaiian petrels, based on the ESA, if any of those effects from construction were to occur. However, the description discusses the potential consequences of noise, vibration, human proximity, or collapse of burrows, but these are not the likely or expected consequences. After nearly a total of four years of consultations, literature research noise and vibration measurements at the site, video and human monitoring, the USFWS concluded in their Informal Consultation Document that the proposed ATST Project has “reduced potentially adverse effects for the Hawaiian petrel...to a level of discountable effects” and would therefore have “... negligible, adverse, long-term effects on that species” (USFWS 2007). Nevertheless, should those measures fail to prevent “take”, formal consultation would be required.</p> <p>26. The SDEIS clearly states on page 4-18 that “During informal consultation with the USFWS, however, it was determined that with the mitigation measures implemented by NSF (Section 4.18-Mitigation), the proposed ATST Project has “reduced potentially adverse effects for the Hawaiian petrel...to a level of discountable effects” and would therefore have “... negligible, adverse, long-term effects on that species” (USFWS 2007). Formal consultation would take place in the event that a “take” were to occur in the future and the causes would be investigated and addressed. An incidental “take” permit statement would be added to the findings of a re-initiated Section 7 consultation, if necessary.”</p>
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<p>27. 4.18.3 A detailed construction schedule is needed to determine if activities will adhere to mitigation measures. Also, monitoring is not mitigation. Information on potential monitoring of ‘ua‘u at Haleakalā NP as a control site has not been discussed. This needs to be addressed.</p> <p>28. 4-20 The construction at the entrance station road shoulder should be addressed in the discussion about nēnē.</p> <p>29. 4-23 Based on the analysis in the SDEIS, the effects on the ‘ua‘u are not negligible just because the USFWS mitigation measures are implemented.</p>	<p>27. A detailed construction schedule cannot be provided this far in advance of construction. If the proposed ATST Project is approved, AURA/NSO will procure the services of a construction contractor. The contractor would work with AURA/NSO to develop a detailed construction schedule, which would be in part dependent on the availability of equipment, supplies, shipping, personnel and other factors. When the detailed construction schedule is prepared, adherence to mitigation measures would not be dependent upon the schedule, but as has been stated a number of times in the FEIS, the schedule would be determined in part by the mitigation measures required by USFWS and NPS.</p> <p>While monitoring of burrows in itself is not mitigation, monitoring of ‘ua‘u is part of the mitigation strategy, in which information concerning the nesting frequency, choice of burrows, and behavior of ‘ua‘u before, during, and after construction are integral to determining how mitigation measures are succeeding. The funding for a control site to monitor ‘ua‘u at HALE has been approved and it would be implemented through a research proposal to HALE should the proposed ATST Project be approved for construction.</p> <p>28. Section 4.18-Mitigation has been revised to address mitigation measures at the entrance road shoulder to protect nēnē.</p> <p>29. During informal consultation with the USFWS, it was determined that with the mitigation measures implemented by NSF, the proposed ATST Project has “reduced potentially adverse effects for the Hawaiian petrel...to a level of discountable effects” and would therefore have “... negligible, adverse, long-term effects on that species”. In the interest of presenting all possibilities, whether likely or not to adversely affect, the analysis states that certain impacts would be possible from construction that would not be negligible. These are neither anticipated nor likely, in consideration of the restrictive mitigation measures that would be implemented.</p>
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<p>30. 4-24 The statement, “The No-Action Alternative would result in a negligible, adverse effect on the monitoring of the Kolekole ‘ua‘u colony and less information would be available on their behavior and population.” This statement is unsupported and incorrect. The National Park Service, in cooperation with the state Department of Fish and Wildlife, will continue to monitor and to manage the ‘ua‘u, as it has for over 25 years.</p> <p>31. 4-24 The summary does not include information on the nēnē or bats.</p> <p><b>Visual Resources and View Plane</b></p> <p>32. 4-30/4.5.1 The Visual Resources and View Plane section of the SDEIS does not provide a prediction of the potential visual affect the proposed ATST project would have within the Region of Influence (ROI), as stated. It is simply a description of where one would be able to see the telescope from various locations.</p> <p>33. It is unclear how the quantitative evaluation values in the EIS were determined and why they are used. No information is provided to show that the percentages are scientifically valid or accepted in the scientific community. Moreover, as selected, the percentages don't make sense. For example, a small percentage determined by this scale could actually result in a major impact.</p> <p>34. The quantitative measure is not used in each case/location assessment in this section. For example on page 4-60 there is no discussion of the quantitative measurement and no explanation of how the impact assessment was determined for the Pu‘u UIa‘ula Overlook. On page 4-61 the discussion regarding the Areas of HALE Adjacent to HO, but Not on Pu‘u Ula‘ula, Including Magnetic Peak does not offer a measurement to determine how the moderate adverse impact assessment was done. Even though the construction activities could be considered short-term they will still be a major impact to the viewshed.</p>	<p>30. Video monitoring of the Kolekole 'ua'u colony has already been used by USFWS and USGS to track petrels via satellite during nesting season as described in <a href="http://www.microwavetelemetry.com/newsletters/spring_2007Page4.pdf">http://www.microwavetelemetry.com/newsletters/spring_2007Page4.pdf</a> This behavioral study was made possible in part through video confirmation of departure and arrival of the seabirds during nighttime hours. Therefore, without such monitoring, less information would be available on their behavior and population.</p> <p>31. The text has been changed to include information on the nēnē and bats.</p> <p>32. Sections 4.5-Visual Resources and View Planes and 4.17.8-Cumulative Impacts – Visual Resources and View Planes have been revised to address this comment.</p> <p>33. Sections 4.5-Visual Resources and View Planes and 4.17.8-Cumulative Impacts – Visual Resources and View Planes have been revised to address this comment.</p> <p>34. Sections 4.5-Visual Resources and View Planes and 4.17.8-Cumulative Impacts – Visual Resources and View Planes have been revised to address this comment.</p>
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<p>35. The NPS believes that both during construction (short-term) and operation (long-term) the ATST will have a major adverse impact to the viewshed. Even though the construction phase will be short-term, there will still be a major impact to the viewshed.</p>	<p>35. Sections 4.5-Visual Resources and View Planes and 4.17.8-Cumulative Impacts – Visual Resources and View Planes have been revised to address this comment.</p>
<p>36. 4-30/4.5.1 More information is needed about the basis of the qualitative evaluation. A social science study is necessary to properly evaluate the qualitative range of acceptable, minimally acceptable, and unacceptable visual conditions for the summit area of Haleakalā. This would be achieved by surveying of a statistically valid sample of the people of Maui and the visiting public.</p>	<p>36. Sections 4.5-Visual Resources and View Planes and 4.17.8-Cumulative Impacts – Visual Resources and View Planes have been revised to address this comment.</p>
<p>37. 4-60 to 4-66/4.5.3 and 4-66 to 4-73/4.5.5 The NPS disagrees with the conclusion that the proposed ATST would at the Mees Site have a moderate adverse and long-term effect on the visual resources and view plane from the Pu‘u Ula‘ula Overlook, Areas of HALE Adjacent to HO, and Upper Park Road Corridor during the later stages of construction and operations phase versus the Reber Circle Site which would have a major, adverse and long-term effect. There are no quantitative differences between the two sites when you compare Figure 4-29 with Figure 4-30; nor noticeable qualitative differences between the two sites when you compare the photo renderings in Figure 4-14 with Figure 4-34. Both sites will have a major, adverse and long-term effect in the visual resources and view plane from the Pu‘u Ula‘ula Overlook, Areas of HALE Adjacent to HO, and Upper Park Road Corridor during the later stages of construction and operations phase of the proposed project.</p>	<p>37. Sections 4.5-Visual Resources and View Planes and 4.17.8-Cumulative Impacts – Visual Resources and View Planes have been revised to address this comment.</p>
<p>38. 4-62 vs. 4-65/4.5.3 The NPS disagrees with the conclusion that the proposed ATST would at the Mees Site have a moderate, adverse and long-term effect on the visual resources and view plane from Areas of HALE Adjacent to HO during the later stages of construction and a negligible, adverse and long-term effect on the same visual resources and view plane during the operations phase of the proposed project. The effect determinations during the later stages of construction and operations phase should be the same -- moderate, adverse and long-term effect.</p>	<p>38. Sections 4.5-Visual Resources and View Planes and 4.17.8-Cumulative Impacts – Visual Resources and View Planes have been revised to address this comment.</p>

<p>39. 4-64 and 4-75 The NPS disagrees that the ATST would not dominate the current vista from the Pu‘u Ula‘ula Overlook.</p> <p>40. 4-67/4.5.4 The 250 foot tall construction crane would dominate the topography, as stated in the EIS, the NPS believes that the impact would be major short-term.</p> <p>41. 4-67/4.5.4 The NPS suggests removing the statement “ ... however, it would be within the context of the facilities at HO”. These statements throughout this section and the document are not a good justification for adding another telescope to the HO. This statement does not lessen the impacts to the resources.</p> <p>42. 4-67/4.5.4 The EIS states “Qualitatively, those who find tall man-made structures to be out of character with the natural topography might have a negative reaction to the large, white structure clearly visible along the upper Park road corridor”. NPS believes that this statement is nonsensical and at best a mere truism.</p> <p>43. 4-68 vs. 4-71/4.5.4 The NPS disagrees with the conclusion that the proposed ATST would at the Reber Circle Site have a moderate, adverse and long-term effect on the visual resources and view plane from Areas of HALE Adjacent to HO during the later stages of construction and a negligible, adverse and long-term effect on the same visual resources and view plane during the operations phase of the proposed project. The effect determinations during the later stages of construction and operations phase should be the same -moderate, adverse and long-term effect.</p> <p>44. 4-75/4.5.6 The Visual Resources and View Plane summary impact determinations are different that what is presented for the Mees Site on pages 4-60 to 4-66 and Reber Circle Site on page 4-66 to 4-73 of the SDEIS.</p>	<p>39. Sections 4.5-Visual Resources and View Planes and 4.17.8-Cumulative Impacts – Visual Resources and View Planes have been revised to address this comment.</p> <p>40. Sections 4.5-Visual Resources and View Planes and 4.17.8-Cumulative Impacts – Visual Resources and View Planes have been revised to address this comment.</p> <p>41. The term “within the context of the facilities at HO” specifically refers to frequently used criteria such as change in Visual Character, Change in Visual Quality, or Change in Visual Experience. Additional discussion of these criteria has been added to the visual impacts discussion to further explain why this statement is valid.</p> <p>42. The statement has been revised in Section 4.5.3 to better reflect the evaluation.</p> <p>43. Sections 4.5-Visual Resources and View Planes and 4.17.8-Cumulative Impacts – Visual Resources and View Planes have been revised to address this comment.</p> <p>44. Sections 4.5-Visual Resources and View Planes and 4.17.8-Cumulative Impacts – Visual Resources and View Planes have been revised to address this comment.</p>
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<p><b>Visitor Use and Experience</b></p> <p>45. 4.75/4.6          Visitor Use and Experience analysis in this section of SDEIS is incomplete, unsupported and speculative. The ROI analyzed in Chapter 4 does not match the ROI for this topic in Chapter 3 (pages 3-45 to 3-47). The ROI analyzed in Chapter 4 should be confined to HALE and the Skyline Drive Trail outside of HALE which are the primary visitor use and experience areas at the summit of Haleakalā.</p> <p>46. 4-76/4.6.1          The statement “Effects on visitor use and experience could be considered adverse if they result in a decline in the quality or quantity of existing recreational facilities, or if they exceed adopted Federal, State or County recreation planning standards” is not an accurate way to measure impacts to visitor use within the park. Additionally, it is not clear what is meant by Federal, State and County recreation planning standards.</p> <p>47. 4-76/4.6.1          Your description of direct and indirect effects is confusing and nonsensical. An example of direct effects, “ ... change the amount of available land so that the quality of a visitor's experience would be reduced. An example of indirect effects” ... from an increase in the local human population that would result in overcrowding of facilities, or from a reduction in the local human population such that the Park reduced amenities or services available to visitors.</p> <p>The Intensity Description for Visitor Use and experience is incorrect. The intensity should be on visitor experience from the proposed project. The project is not proposed changes for visitor use, but rather the proposed change is the construction and operation of the ATST. Impacts are not on visitor ‘services’, but instead visitor use and experience. The intensity description of visitors being 'aware' or 'highly aware' of changes proposed to visitor use is not a measurement.</p>	<p>45 Section 4.6 has been revised to address HALE comments 45 through 55. The ROI includes HALE, Skyline Trail, and also the Park road corridor.</p> <p>46 Facility in this case is used as a broad technical term describing the entire Park as a single unit, as opposed to the narrower use of the word referring to specific structural buildings. The text was revised to clarify this distinction. The phrase referring to recreation planning standards was removed.</p> <p>47. The description of direct and indirect effects has been edited to better illustrate the difference between the two types of impacts.</p> <p>The impact intensity matrix has been revised to reflect impacts on the character of the Park, including visitor use and experience, and to be consistent with the other EIS resources.</p>
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<p>48. 4-77/4.6.2 The Visual resources subsection analysis for the Mees Site is not adequate. The impacts of the operations phase of the proposed project are not analyzed.</p>	<p>48. The text has been revised to provide a more thorough discussion on potential effects. Operational views have been more clearly stated and reference is made to Section 4.5, Visual Resources and View Planes. The Visual analysis of Section 4.6 has further been revised to discuss the visual experience as opposed to the visual resources, which is comprehensively analyzed in Section 4.5.</p>
<p>49. 4-77/4.6.2 Direct and indirect effects to the visual resources should include a discussion of the impacts to the sunset/sunrise experience and viewing of the crater. These are important visitor experience activities and resources.</p>	<p>49. The text has been revised to discuss potential effect on these important experiences.</p>
<p>50. 4-78/4.6.2 The NPS disagrees with the conclusion that mitigation measures would reduce the effects on visitor use and experience during construction to negligible, adverse and long-term. The mitigation measure – onsite construction noise limited to between 30 minutes after sunrise and 30 minutes prior to sunrise – may mitigate noise impacts to visitor use and experience at the park for sunrise/sunset viewing (i.e. peak park visitor use times), but it does not mitigate the noise impacts to visitor use and experience during 11 a.m. to 2 p.m. which is another peak park visitor use time.</p>	<p>50. Intensity level as a result of construction noise revised to moderate after mitigation.</p>
<p>51. 4-78/4.6.2 The entire discussion of the 2007 visitor survey should be deleted. The NPS does not support this survey and it cannot be used. The survey is flawed - the questions were leading, it did not discuss damage to cultural sites and values, it did not address viewsheds or wilderness, it did not ask people why they visited Haleakalā National Park, it was conducted outside park boundaries and it was not an accurate sample of park visitors.</p>	<p>51. The purpose of the 2007 Visitor Survey was not to address damage to cultural sites and values, viewsheds, wilderness, and damage to cultural sites and values. It was not designed to find out why people visit Haleakalā National Park. The specific objectives of the survey were to: 1) To measure current reaction to the Park among a cross-section of visitors, 2) To measure visitor reaction to the addition of a large solar observatory in the adjacent Haleakalā High Altitude Observatory site; and, 3) To provide other information that may be useful in evaluating visitor reaction to the proposed ATST. Visitors surveyed were shown a rendering of the proposed facility that became SDEIS Figure 4-14. The survey results indicated that the visitor’s experience includes the Haleakalā High Altitude Observatory site and those who mentioned the Observatories in their comments were no less likely to have valued their time at the Park, and most people surveyed were indifferent as to whether the new observatory is built. The Visitor Survey is limited to these issues and is not intended to apply beyond its limitations.</p>

<p>52. 4-78/4.6.2 The NPS disagrees with the conclusion that the proposed project would have a minor, beneficial, long-term effect on visitor experience subsection. Visitor experience subsection does not analyze the impacts during construction and operations phase of the proposed project on why visitors visit the summit area of the park (e.g., sightsee/scenic driving, watching sunrise, experiencing solitude and natural sounds/quiet, and lack of human presence and/or development. Touring telescopes is not why people come to visit the park; it's not part of the park's visitor use and experience. The telescopes are within the HO site which is not open to the public (i.e., visitors). The NPS believes that there will be a major impact to visitor experience.</p>	<p>52. Section 4.6.2 has been revised to better evaluate operational impacts on visitor experience and reference is made to Section 4.5, Visual Resources and View Planes. The Visual analysis of Section 4.6 has further been revised to discuss the visual experience as opposed to the visual resources, which is comprehensively analyzed in Section 4.5.</p>
<p>53. 4-78/4.6.2 The NPS disagrees with the conclusion that the proposed project would have a negligible, long-term effect on traffic subsection. The analysis of traffic on visitor use and experience should include not only impacts from the increase in vehicular traffic but the type of vehicles on the road. Large, heavy and wide construction vehicles (FHWA class 5 vehicles and above) move slowly and impact visitor use and experience traffic more than other types of vehicles. There will be an anticipated 947 such vehicles on the road associated with the proposed project.</p>	<p>53. The proposed mitigation measures pertaining to traffic have been moved to the relevant subsections in Section 4 for easier review. Per MIT-6, wide load vehicles would not travel through the park between 4:00 a.m. and 8:00 p.m. Per MIT-11, slow-moving vehicles would not travel through the Park between approximately 11:00 a.m. and 2:00 p.m.</p>
<p>54. 4-79/4.6.5 The Visitor Use and Experience summary impact determinations are different than what is presented on pages 4-77 to 4-79. The summary mentions air quality impacts which are not discussed or analyzed on these pages.</p>	<p>54. FEIS Section 4.6.2 has been revised to refer to Section 4.11, where there is an air quality analysis of the Park road corridor, locations from which visitors would experience changes in air quality.</p>
<p>55. 4-79/4.6.5 The NPS disagrees that the effects on visitor use and experience is moderate. Because of the impacts to visual resources and the soundscape and the impacts from added construction traffic, including slow moving wide-loads, the effect is major.</p>	<p>55. NSF believes that the intensity description for major adverse impact on visitor experience is not appropriate, as described in the intensity thresholds described in Section 4.6.1. Specifically, despite impacts to visual resources and soundscape, other areas in the Park would remain available for some of the most popular uses of the Park, such as hiking in the crater and experiencing the sunrise and sunset. Although NSF acknowledges impacts to visual resources and soundscapes, these impacts would not preclude future generations of some visitors from enjoying the most popular Park resources and experiences.</p>

<p><b>Infrastructure and Utilities</b>                      56. 4-96/4.9.2                      The analysis of the impacts of traffic on the park road during construction should include not only impacts from the increase in vehicular traffic but the type of vehicles on the road. Large, heavy and wide construction vehicles (FHWA class 5 vehicles and above) move slowly and impact other traffic traveling the road more than other types of vehicles. There will be an anticipated 947 such vehicles on the road associated with the proposed project.</p> <p><b>Noise</b>                      57. 4-100/4.10.2                      The NPS disagrees with the conclusion that mitigation measures would reduce the effects of noise during construction to negligible, adverse and long-term. The mitigation measure for on-site construction noise limited to between 30 minutes after sunrise and 30 minutes prior to sunrise - may mitigate noise impacts for sunrise and sunset periods of the day, but it does not mitigate the noise impacts during the remainder of the day.</p> <p>58. 4-105/4.10.5                      The Noise summary impact determinations are different than what is presented on pages 4-99 to 4-104. The summary mentions air quality impacts which are not discussed or analyzed on these pages.</p> <p><b>Public Services and Facilities</b>                      59. 4-116/4.13                      Recreational Facilities subsection analysis in this section of SDEIS is incomplete, unsupported and speculative. The analysis needs to distinguish the impacts during construction and operations phase of the proposed project on recreation facilities.</p>	<p>56. The impact of large, slow-moving construction vehicles on the mountain road traffic — including both the Park and State Roads, is described in Section 4.9. In particular, it is acknowledged that, due to the low speed limits required for large trucks to traverse the road, inevitable queuing of vehicles behind the trucks will result. This analysis is contained in the preceding paragraphs (sub-section entitled <i>Roadways Leading to HO</i>), which appears before the language referenced in the comment.</p> <p>57. The text has been revised to clarify that while mitigation measures will be applied that could help reduce noise emissions, these mitigation measures would not necessarily reduce the level of impact.</p> <p>58. The summary section for noise in Section 4.10.5-Summary of Effects on Noise has been revised based on updates to the overall noise analysis. Air impacts are discussed in the subsequent Section 4.11-Air Quality and are not included in the 4.10 summary.</p> <p>59. The issues raised in this comment are addressed in three resource analyses: Visual Resources, Visitor Use and Experience, and Recreational Facilities (as a component of Public Services and Facilities). Recreational facilities addresses whether facility access or quality would be compromised as a result of the proposed ATST Project. In the case of the ATST Project whether during construction or operation, this access would not be hindered. The analysis shows this. That is not to say that visitors accessing these facilities would not be affected by the visual and noise-related impacts, which can be separated during the construction and operational phases. These effects are analyzed in Sections 4.5 and 4.6.</p>
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<p>60. 4-117/4.13.5 The NPS disagrees with the summary conclusion that the proposed project would have a minor adverse, long-term effect on recreational facilities within the park. The statement “The proposed ATST Project would appear amongst the other HO observatories visible from that [overlook parking lot] and at various locations along the Park road and given the large visitor population and heavy traffic the adverse effect of an additional observatory would be minor and long-term for those who see it”. The current impacts to the viewshed are already major. Adding another telescope to HO will add another major impact.</p> <p><b>Cumulative Effects to the Affected Environment</b></p> <p>61. 4-125/4.17.1 SDEIS incorrectly states that the excavation at the eastern end of the Haleakalā Visitor Center parking area was 50 feet deep. The excavation was 25 feet deep according to park as built site plans and photos.</p> <p>62. 3-59/3.10 The 2007 and 2008 vehicular and bus traffic data for the HALE Park Road Corridor is incorrect. Table 9 of the 2009 FHWA report states total vehicular entering the park in 2007 = 200,320 and 2008 ~ 182,906. Out of those total vehicles in 2007, 9125 were buses and in 2008, 6570 were buses.</p> <p>63. 4-126/4/17.3 The document incorrectly states there are no planned actions within the reasonable foreseeable future along the HALE Park Road Corridor. The park plans to slurry seal the upper two miles of the park road in 2011. The park also plans to rehabilitate the park road between MP 11.2 -14.8 within the next 5 years. The cumulative impacts of these projects need to be analyzed in the SDEIS.</p> <p>64. 4-128 to 4-130/4.17.5 Pre-contact and post-contact effects on cultural, historic and archeological resources are not relevant to assessing the cumulative effects. The section should evaluate the effects of the past, present and future actions mentioned in subsections 4.17.1, 4.17.2 and 4.17.3 on cultural, historic and archeological resources.</p>	<p>60. The NPS Director’s Order #12 Guidebook, Section 8.5 Review Guidelines for EIS’s B 2 (h) distinguishes between impacts on NPS areas of jurisdiction. The intensity of adverse direct or indirect impacts on these resources is evaluated differently. The FEIS evaluates visitor experience, visual impacts, and recreational facilities independently. Applying this guidance, both the visitor experience and visual impacts have been analyzed separately. Major impacts on visual resources are indeed anticipated, however impacts on the visitor experience are considered to be moderate. Visitors will continue to be able to enjoy the most popular experiences at the Park such as hiking the crater and experiencing sunrise and sunset at the Park; thus, impacts on the visitor experience are considered to be moderate and not major.</p> <p>61. The depth of excavation has been revised in FEIS Section 4.17.1 to read that it was 25 feet instead of 50 feet deep.</p> <p>62. Section 3.10-Noise has been updated to reflect this comment.</p> <p>63. The FEIS has been revised to account for the cumulative impacts of the slurry sealing project and the rehabilitation of the Park road between MPs 11.2-14.8.</p> <p>64. The text in Section 4.17.5 on pre-contact and post-contact effects on cultural, historic and archeological resources has been deleted and the effects are focused on past, present and future actions based on comments.</p>
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<p>65. 4-131/4.17.5 The Cumulative effects on historic and archeological resources subsection for the Mees and Reber Circle Sites analyzes the impacts to the park road corridor solely on the amount of traffic-related to the proposed ATST project. The analysis is incomplete and does not take into consideration the impacts from construction vehicles exceeding legal load limits and wide loads that can proportionally increase the probability of accidental damage to the bridge which were also mentioned in the 2009 FHWA report. Measures required by HALE for the issuance of SUPs for past, present and future actions, such as restrictions on load limits and wide loads, mitigates these cumulative impacts to minor, adverse, and long-term.</p>	<p>65. The text in Section 4.17.5 text has been revised based on comments.</p>
<p>66 4-143/4.17.8 The NPS disagrees with the conclusion that past and present actions at HO have had a minor, adverse, and long-term cumulative effect on the visual resources and view plane from the Pu'u Ula'ula Overlook, Areas of HALE Adjacent to HO, and Upper Park Road Corridor. Figure 4-4 quantitatively shows the AEOS and MSSS similarly visible as the proposed project at the Mees and Reber Circle Sites at these areas. The current impacts to the visual resources are major. The addition of the ATST, a major impact, would result in major adverse long-term impacts.</p>	<p>66. Section 4.17.8 has been revised in response to this comment.</p>
<p>67. 4-144 to 4-146/4.17.8 Disagree with the conclusion that the proposed ATST would at the Mees Site have a moderate adverse and long-term cumulative effect on the visual resources and view plane from the Pu'u Ula'ula Overlook, Areas of HALE Adjacent to HO, and Upper Park Road Corridor versus the Reber Circle Site which would have a major, adverse and long-term effect. There are no quantitative differences between the two sites when you compare Figure 4-29 with Figure 4-30; nor noticeable qualitative differences between the two sites when you compare the photo renderings in Figure 4-14 with Figure 4-34. If the direct and indirect impacts of the proposed project are major, adverse and long-term to visual resources and view plane from these areas, the addition of the impacts of past, present and future actions would make the cumulative effects major, adverse and long-term.</p>	<p>67. Section 4.17.8 has been revised in response to this comment.</p>

<p>68. 4-147 to 4-148/4.17.9 The “Cumulative Effect on Visitor Use and Experience” section of SDEIS is incomplete, unsupported and speculative. What data was used to base the analysis and conclusions reached on with regard to impacts to park visitor use and experience?</p> <p>69. 4- 147/4.17.9 Simply stating that during the public review of the DEIS there were no negative comments received about the visual impacts of the existing facilities at HO does not result in a minor effect.</p> <p>70. Visitors do not “experience” the activities at HO. Because there are not a lot of places for visitors to park along the side of the park road and get out of their vehicles does not diminish what visitors see as they drive through the park.</p> <p>71. Additionally, you can see HO from trails within the crater. “Formal park services” have nothing to do with visitor experience in this case.</p> <p>72. 4-157/4.17.12 The “Cumulative Effect on Roadways and Traffic” subsection of SDEIS is incomplete, unsupported and speculative. This subsection talks about HO users and park traffic, but what about the amount and type of vehicles associated with past actions like the AEOS construction?</p>	<p>68. The cumulative analysis for Visitor Use and Experience (Section 4.17.9) has been revised to better define the visitor use and experience as it applies to cumulative activities within the ROI. The analyses were based on available information, studies, reports, etc., on visitor use and experience as referenced in Section 4.6 and 4.17.9 The impacts were more clearly defined based on impact intensity, as defined in Section 4.6. From the analysis, the cumulative impacts on visitor use and experience from past and present activities and from the addition of the proposed ATST Project would result in detectable changes to the character of the Park and would impact visitor use and enjoyment of Park resources. Changes in visitor use and experience would be readily apparent and likely long-term. As a defined level of intensity, these would be moderate, adverse, and long-term impacts.</p> <p>69. This statement was deleted.</p> <p>70. “Experience” in this case is referring to the effect or interaction the visitor may have in relation to HO. The intent of this section (as revised per comment 68 above) is to explain that the interaction from these activities at HO is analyzed based on visual, audible, and transit bases for the user. The impact has been acknowledged to be at a moderate adverse level with no adequate mitigation to reduce these effects.</p> <p>71. Reference to ‘formal park services’ is omitted and the general statement that HO cannot be seen from any crater trails is deleted.</p> <p>72. The AEOS construction traffic did include large vehicles that indeed caused some damage to the HALE road. Pursuant to an agreement between HALE and the Air Force, that damage was repaired. Accordingly, the current state of the HALE road, as reported by FHWA in its April 2009 Report, does not reflect the damage caused by the AEOS construction traffic. Thus, including the result of AEOS construction traffic would not assist the cumulative impacts analysis.</p>
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<p>73. The 2007 and 2008 vehicular and bus traffic data is different than what is presented on page 3-3 of the SDEIS. The 2007 and 2008 vehicular and bus traffic data is incorrect. Table 9 of the 2009 FHWA report states total vehicular entering the park in 2007 = 200,320 and 2008 = 182,906. Out of those total vehicles in 2007, 9125 were buses and in 2008, 6570 were buses.</p> <p>74. 4-161 to 4-162/ 4.17.12 The “Construction-Related Cumulative Effects on Roadways Leading to HO” subsection states the past, present and future actions at HO and adjacent neighbors would result in moderate, adverse and short-term on the State Highways and roadway through the park. Why then are the construction-related cumulative effects of the State Road and Park road states as being minor, adverse and short-term. The impacts should be the same (i.e., moderate, adverse and short-term).</p> <p><b>Mitigation</b></p> <p>75. 4-180 to 4-182/4.18.2 Measures (e.g., restrictions on load limits and wide loads) required by HALE for the issuance of the SUP that will mitigate impacts to the park road corridor, a historic resources, are missing and need to be included in this section. Measures to mitigate the impacts to Site 5443, a historic resource at the HO site, are missing and need to be included in this section.</p> <p>76. 4-187/4.18.9 Second bullet incorrectly states park mitigation measures as presented on pages 4-192 to 4-194. Certification of legal load limits (i.e., no loads heavier than historic bridge current load rating). No more than 35 wide loads. Wide load must not exceed the clearances along the park road. A minimum of 2 weeks advanced notice to NPS of wide loads is required.</p>	<p>73. Section 3.10-Noise has been updated to reflect this comment.</p> <p>74. The impacts were revised in Section 4.17.12 to reflect the same level of intensity.</p> <p>75. Text added to include measures required in the SUP and mitigation measures associated with Site 5443 (Reber Circle site).</p> <p>76. The mitigation measures set forth in Section 4.18 are mitigation measures recommended by the FHWA HALE Road report. These differ somewhat from the mitigation measures required by the Park for issuance of the SUP which are discussed on in Section 4.18-Mitigation.</p>
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<p><b>Land Use and Existing Activities</b>  77. 4-180/4.18.1 and 4-182/4.18.2  The SDEIS states, “As a mitigation measure under Section 106 of the NHPA, and relating to other categories of impact as well, NSF is seriously considering decommissioning, deconstruction or divestment of the proposed ATST Project at the end of its productive lifetime”. This is not a mitigation measure until it is agreed upon and committed to.</p> <p><b>Cultural, Historic and Archeological Resources</b>  78. 4-180/4.18.2  Mitigation measures outlined in the FHWA report and by the NPS for the Historic Park Road need to be added to this section.</p> <p><b>SUP Mitigation Measures</b>  79. Please note -- Earlier discussion between the NPS and NSF resulted in the inclusion of the SUP mitigations. Upon further review the NPS suggests not including this section in the EIS.</p> <p>Because the topics do not follow the same outline as the EIS, it is confusing to the reader. If this information remains in the EIS it should be clearly noted that there mitigation measures are proposed and may be changed when the SUP is applied for.</p> <p>80. 4-192/4.18.15  For clarification, not all impacts are covered under the SUP Mitigation Measures. For example, visual impacts are not covered. SUP Mitigation Measures will continue to be developed during the permitting process.</p> <p>81. 4-192/4.18.15  The NPS previously suggested that all wide loads traverse the park road at night between the hours of 8:00 p.m. and 4:00 a.m. to lessen the impacts to park visitors. Upon further discussion it was recognized that night time driving during much of the year could impact the Hawaiian petrels. The NPS will work with NSF to develop new mitigation measures for wide loads traversing the park road.</p>	<p>77. This mitigation has been formalized in the document as MIT-1.</p> <p>78. Text was added to this section, based on comments.</p> <p>79. Further discussions with HALE were held on this issue following receipt of this comment. NSF will revise the text to acknowledge that the terms and provisions of the SUP have not been decided upon and may be revised as the process moves forward.</p> <p>80. There is no mitigation for visual resources, some things cannot be mitigated.</p> <p>81. NSF will continue working with NPS and AURA regarding mitigation measures for the SUP and will ensure any night time driving is consistent with what is required by the USFWS.</p>
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<b>Received from:</b> Robert Rossman, 06-20-09
<b>General Document Format/NEPA Comment</b>
<p><b>Comment:</b></p> <p>1. CEQ regulations require an EIS to contain a cover sheet having explicit contents (see 40 CFR §1502.11). The cover sheet should be a single page showing the lead, responsible and cooperating agencies. The format requires a title conveying certain information. The page must clearly show the name, address and phone number of the person who can provide further information. On the page, an abstract of the document should appear, as well as unambiguous information to assist the public in providing timely comments. The document is deficient in meeting the provisions of §1502.11, and leaves the interested public to make assumptions about where, when, how, and to whom their comments should be submitted.</p>
<p><b>Response:</b></p> <p>1. The Cover Sheet has been included in the FEIS.</p>
<p><b>Comment:</b></p> <p>2. Regarding the summary on pages on ES-1 through 64: The regulations state that the required summary document normally not exceed 15 pages (40 CFR §1502.12). Not only is the ES excessively lengthy, but it appears not to meet the content requirements per regulation. Among these is the lack of an overt presentation of the issues raised by agencies and the public (i.e. areas of controversy). The short presentation at ES-6.0 (the end of the summary) – Unresolved Issues – does not suffice for that purpose.</p>
<p><b>Response:</b></p> <p>2. Although a condensed summary is recommended in 1502.12, the page number is a guideline and not a requirement. In the case of the ATST environmental analysis, the Executive Summary was prepared with the intent to provide a full overview of the EIS for the reader who will not read the full EIS. While certain components could be further condensed or information omitted, the Executive Summary includes an overview of all settings, findings, and conclusions included in the main body of the EIS. A discussion of the areas of controversy has been added to the Executive Summary. Included in this discussion is the 2007 Visitors Survey, which HALE, in its comments, took issue with and supported its removal from the document.</p>
<p><b>Comment:</b></p> <p>3. ...the content of a number of sections in the summary does not match the content of conclusions under identical headings in the body. It is as if the summary was prepared on the basis of an earlier draft and not changed when the body of the document was subsequently edited or altered.</p>
<p><b>Response:</b></p> <p>3. The Executive Summary has been revised to better reflect the conclusions of the document.</p>
<p><b>Comment:</b></p> <p>4. Page 1-1 in the SDEIS. In restating a portion of the CEQ regulations at part 1502.1, a great deal is left unsaid. This and other provisions in the regulation require the EIS preparer to act according to the spirit of NEPA, to ensure that information be appropriate, accurate, and of high quality. The regulations enjoin the preparer to concentrate on the significant issues rather than amassing needless detail, because, in short, the purpose of the EIS and the process is to foster good decisions.</p> <p>Chapter I is needlessly detailed, going far beyond the CEQ requirement to “briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives, including the proposed action.” Since the purpose and need section in effect is supposed to define the ‘decision space’ and set the scope of analysis, much of the material therein seems to be inapplicable. It reads more as a statement justifying why the range of alternatives is limited to Haleakala, and sells it by describing what the proposed action will do for Hawaii’s academic community.</p>

<p><b>Response:</b></p> <p>4. Because of the complexity of the project and the broad range of public interest, the ATST analysis is comprehensive to include both necessary environmental review as well as responses to concerns and issues that respond to raised concerns and questions. Section 1 is formatted to meet both NEPA and Hawai‘i State Environmental Review requirements. In response to comments on the SDEIS, however, the Purpose and Need sections have been revised (Sections 1.4.1 and 1.4.2) to focus on the purpose and need of the proposed project and omit any site-specific objectives that may skew the focus of the proposed project and alternative introduction.</p>
<p><b>Comment:</b></p> <p>5. Since you have not identified the significant issues associated with this project, that is, the issues “deserving of study” (40 CFR §1500.4, §1501.7, §1502.1, §1502.2, et al), one would assume that all the information provided in Section 3 is significant. As such, I would expect that it would all be relevant to the disclosure of impacts in Section 4 in terms of how it would be affected by the proposed action and alternatives to it.</p>
<p><b>Response:</b></p> <p>5. Recognizing the level of complexity and potential for significant impact associated with the proposed ATST Project, and in response to comments raised during the public scoping process, NSF attempted to be as thorough as possible in its discussion of potential impacts. This FEIS addresses the wide range of public comments received on both the DEIS and SDEIS and the length of discussion for each resource is indeed proportionate to the issues raised within that discussion. In sum, NSF determined that a comprehensive analysis of all resources was appropriate. While not all resources were found to experience adverse impacts, the environmental review process reflects an effort by NSF to address public concerns and to identify and objectively disclose any and all issues that may result from the proposed ATST Project.</p>
<p><b>Comment:</b></p> <p>6. The heading “Summary of Environmental Consequences....” at Section 4.0 is confusing. A summary of consequences should have been presented in the summary (ES) as well as in Section 2. Section 4 should present the environmental consequences comprehensively and completely. With this in mind, I was looking for where the summary in Section 4 ended and where the comprehensive analyses started. Not finding a break, I determined that the heading is misleading and recommend changing it to “Environmental Consequences” per the format given in CEQ regulations (40 CFR §1502.10).</p>
<p><b>Response:</b></p> <p>6. Section heading has been changed to delete “Summary of” The Executive Summary still provides a summary of this analysis.</p>
<p><b>Comment:</b></p> <p>7. It appears that there is a great deal of material in Section 3 that is not used or referred to as a basis for impact assessment in Section 4. Either Section 3 contains extraneous information, e.g. not deserving of study per regulation, or Section 4 has neglected to analyze impacts to the requisite degree. A NEPA document is to concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail (40 CFR §1500.1(b), §1500.2(b)). Verbose descriptions of the affected environment are themselves no measure of the adequacy of an EIS (40 DFR §1502.15). That said, there is much good information in Section 3 that could have been better used in developing solid and readable descriptions of consequences in Section 4.</p>
<p><b>Response:</b></p> <p>7. Discussions have been revised where inconsistencies were identified between Section 3.0 and 4.0 (e.g., the Alien Invasive Species discussion was developed further in this iteration of Section 3.0 of the analysis). With regard to the comment that there is a great deal of material in Section 3 that may be contain extraneous information, NSF found that, based upon the wide range of issues raised during the public comment periods, it would not be prudent to undermine the importance or interest in any specific resource. Further, it was decided that a comprehensive analysis of all resources was appropriate. While not all resources will be subject to adverse impacts, the environmental review process served to identify and objectively disclose issues that may result from the ATST Project.</p>

<p><b>Comment:</b>  <b>8. Section 4.15 Summary of the Potential Effects of the Proposed ATST Project:</b> The inclusion of this heading is mystifying. The underlying paragraph is even more so. The paragraph reads as if it is introducing the cumulative effects analysis, which begins later in Section 4.17.</p>
<p><b>Response:</b>  <b>8.</b> The section title has been revised to read “Section 4.15 Summary of Potential Effects Resulting from the Proposed ATST Project.” The section summary is replaced with a summary of impacts table.</p>
<p><b>Comment:</b>  <b>9.</b> CEQ regulations at 40 CFR §1502.16 prescribes a variety of required discussions that must be present to properly document environmental consequences. One such discussion that is usually set off by itself in the concluding portion of the consequences chapter has to do with ‘adverse environmental effects that cannot be avoided should the proposal be implemented.’ The topic heading is often phrased as ‘Summary of Unavoidable Adverse Impacts.’ Perhaps that was the intent with Section 4.15. Its content would be distilled from all the impact analyses pertaining to the action alternatives.</p>
<p><b>Response:</b>  <b>9.</b> A Summary of Unavoidable Adverse Impacts has been added to Section 4.16 – Other Required Analyses.</p>
<p><b>Comment:</b>  <b>10. Section 4.16 Other Required Analyses:</b> This topic heading is unnecessary. Besides the two subtopics presented here, there are in fact a number of other required analyses, including Cumulative Impacts and Environmental Justice. Both of these appear in separate sections with the same heading weight as ‘Other Required Analyses.’ In addition to these, it is suggested that there are other concluding analyses which have not been addressed in the current draft. These are: a) energy requirements and conservation potential of various alternatives, and mitigation measures; possible conflicts between the proposed action and the objectives of Federal, regional, State, and local land use plans, policies and controls for the area concerned; and, c) natural or depletable resource requirements and conservation potential of various alternatives, and mitigation. There may be other required analyses, depending upon NPS requirements (e.g. Impairment), or the NEPA implementation requirements of the proponent agency.</p>
<p><b>Response:</b>  <b>10.</b> The section has been revised to alleviate confusion with ‘Other Required Analyses’. Otherwise, 1) energy requirements are discussed in Section 2.4.4-Telescope Operation Activities, and evaluated in Section 4.9-Utilities and Infrastructure. 2) Possible conflicts between the proposed ATST Project and the objectives of Federal, regional, State, and local land use plans, policies and controls for the area concerned are discussed in Section 4.1-Land Use and Existing Activities. 3) Natural or depletable resource requirements were discussed in SDEIS Section 4.16.2-Irreversible and Irrecoverable Commitments of Resources (new Section 4.16.3 per comment suggestion).</p>
<p><b>Comment:</b>  <b>11.</b> No index is present in the SDEIS. By regulation, an index is required in an EIS unless there is some compelling reason not to have it (40 CFR §1502.10(j)).</p>
<p><b>Response:</b>  <b>11.</b> An index has been prepared for the FEIS.</p>

<p><b>Comment:</b>  <b>12.</b> Although a glossary is not required, it is standard practice to include one. Given the profundity and elevated scientific terminology in this document, as well as the glut of undefined terms and concepts, a glossary would be most helpful to any reader. I request that a comprehensive glossary be included in the FEIS.</p>
<p><b>Response:</b>  <b>12.</b> A glossary is not a standard feature of the EIS format, although can be helpful to the reader. Section 8.0 includes acronyms and a list of terminology to help the reader, but is not an all-inclusive list of terms for the purpose of a full glossary. The inclusion of a glossary is not essential to understanding the Final EIS or to the decision-making process.</p>
<p><b>Comment:</b>  <b>13.</b> Section 9.0 tabulates the document preparers. I am interested in the extent to which Tetra Tech, Inc, as shown in the table actually participated in the writing of this draft document. Please respond by providing this information in the FEIS. 40 CFR §1502.17 states that the EIS shall list the names, together with their qualifications, of the persons who were primarily responsible for preparing the document. While the table lists the names and their responsibilities, there is no indication of the qualifications that each individual brings to their area of responsibility. Please list in the FEIS the expertise, experience, academic specialty, and professional discipline(s) for each preparer, in addition to the portion of the analysis he or she was responsible for.</p>
<p><b>Response:</b>  <b>13.</b> Section 9.0-List of Preparers was developed to include the names, background, and roles of the people who prepared the document, which satisfies the requirement under the regulation. It is not standard to include extensive descriptions of the backgrounds of document preparers; however, the specialty of each member of the project team is provided.</p>
<p><b>Comment:</b>  <b>14.</b> I want to impress on the National Science Foundation and the University of Hawaii that the essential purpose of a NEPA document is to make a reasoned choice from a transparent and open process. This requires the development of reasonable alternatives to the proposed action so that there is a basis of comparison for making a choice. Inherent in this is that alternatives are developed in order to address significant public issues (regarding the proposed action), and to display the relative costs and benefits (including externalities, opportunity costs, and environmental impacts) associated with the proposed action. The purpose of a NEPA document is <u>not</u> to evaluate the impacts of an action that one has already decided to do, having <i>a priori</i> eliminated all other potential choices in order to justify it.</p>
<p><b>Response:</b>  <b>14.</b> NSF has prepared the document in good faith to meet both the spirit and requirements of NEPA. The FEIS provides full disclosure of anticipated environmental impacts resulting from this proposed Project. NSF's efforts to be transparent, meet the requirements of NEPA, and involve the public is demonstrated by its preparation of the SDEIS. Finally, NSF stresses that no decision has been made as to whether or not to fund the proposed ATST Project for construction.</p>

**Cost-benefit Analysis**

**Comment:** Due to the application of unstated cost criteria in the dismissal of potential alternatives or mitigation measures<sup>[FOOTNOTE]</sup> it is highly recommended that some form of cost-benefit analysis be applied. It would be of great interest to evaluate other alternative features by this mechanism. 40 CFR §1502.23 (Cost-benefit analysis) provides direction for such an analysis that, while not required, would clarify where and to what degree the final site selection and design is dependent upon cost considerations. Evaluating the costs could further shed light on actions that might mitigate other impacts at marginal cost.

FOOTNOTE: A notable example is the dismissal of paints that could mitigate the potential impact of the ATST on visual quality. The use of a highly reflective paint on the telescope dome was deemed necessary to hold down the cost of temperature control. Through the application of unstated cost criteria, I assume that being ‘least cost,’ mitigation of the visual impact was summarily dismissed without further analysis.

**Response:** While the concept of this request has merit, a cost benefit analysis is not considered necessary to:

- (a) help the reader or decision maker understand the parameters and environmental impacts of the proposed ATST Project or
- (b) be compliant with NEPA. The possibility of utilizing coatings of a color other than white, in order to mitigate the visual impact, was extensively considered and analyzed.

Specifically, use of a brown color that would blend with the surrounding mountain rock was analyzed. The results of that study, as described in Appendix J-4 of the FEIS, was a determination that roughly four times as much cooling energy would be required for a brown, rather than white, enclosure. Other colors were also considered including blue, which would potentially blend with the sky and clouds. BASF, the manufacturer of specially formulated *Ultra-Cool, Heat-Reflective* coatings lists the reflectivity of their slate-blue coating (the closest to sky color that they offer) as 34.4%. This is in comparison to a reflectivity of approximately 83% for the range of white coatings that the project is considering. The solar reflectivity values for the blue and brown coatings of other manufacturers are similarly in the 20 to 40% range. These reflectivity values correlate closely to the induced thermal load, indicating that the cooling load imposed by any color other than white would more the double the thermal load on the cooling systems for ATST. That cooling is to be provided primarily by chillers which are a major factor in the electrical power demand for the operation of the proposed ATST Project.

As described in Sections 2.4.4 and 3.9.3 the proposed ATST Project intends to utilize the Maui Electric Co. service to HO for power. Doubling the cooling load would increase the electrical power demand to the point that it would exceed the available capacity of the main service lines to HO. Running new power lines to the mountain would be cost prohibitive and require extensive environmental assessment in its own regard. Also, the financial and environmental cost of that much additional power over the 50-year operational life of ATST is a significant factor. The following statement from page 7 of Appendix J(4) summarizes the position of the Project on this issue: “Further thermal modeling will be done for other available low-emissivity/low absorptivity coatings to optimize the coating selection for the upper and lower sections of the enclosure. However, from the modeling to date, it is evident that to affordably achieve the temperature control requirements, the surface of the enclosure essentially needs to be white.”

**Purpose and Need for the Project**

**Comment:** As it stands, the purpose and need section seems to be a statement of justification for selecting Haleakala (unsupported by data displayed in the analysis). It expresses as decision criteria inflexible rules that point inevitably to the construction of the project on that site, in only the prescribed fashion. The discussion mentions the current development of the ATST (page 1-12), accompanied by a significant amount of design work (for the Haleakala site) that may be found throughout the document and its appendices. An extraordinary amount of money has clearly been spent to date on this one alternative. This flies, flapping, into the face of CEQ regulations, and NEPA, that calls for fair consideration and disclosure prior to making a decision. It seems from the existing documentation, and the skewing of the discussion, that the decision has already been made. The CEQ regulations prohibit the commitment of resources that prejudice the selection of an alternative before making a final decision (40 CFR §1502.2(f)).

A thoughtful and well-crafted purpose and need section is critical because it defines the scope of analysis and the range of alternatives. It is not merely an introduction to the EIS. I note that there is much irrelevant and, frankly, biased material in the current draft of purpose and need. This serves to disguise the insufficiency of the statement as an appropriate structure for the analysis.

See 40 CFR §1501.7, in its entirety, as a guide to issue disclosure that should be presented in the purpose and need section.

**Response:** Sections 1.4.1 and 1.4.2 has been revised to focus on the specific purpose and need of the proposed ATST Project and omit any site-specific objectives that may skew the focus of the proposed ATST Project and alternative introduction.

**Public Meetings/Public Involvement**

**Comment:** I managed to obtain explicit instructions that should have been included in the SDEIS from another involved party. These instructions appear to require that multiple copies of the comments need to be submitted to an additional three parties. I find this to be an inappropriate request, as an undue burden on the public. From the information I received, I am in doubt whether my timely comments addressed to Dr. Foltz will be considered if I do not provide copies to the several other parties. So, I feel constrained to comply with this burdensome request, and I object. For all actions I have seen or been a party to, the responsible agency provides a single point of contact for public comment, and then shares the comments among other parties as they see fit.

**Response:** NSF apologizes if the request to submit copies of comments to additional parties was burdensome. Please be assured that your comments have been fully considered; NSF decided to accept and consider comments on the SDEIS that were received after the closing date of the public comment period.

**Noise**

**Comment:**

**1.** Section 4.10 effects on sound (noise)

I preface my comments here to note that I have specific expertise in this area. In the more than three years before retirement, I held a position as chief planner in the national park service natural sounds (or soundscape) program. As such, I was involved in multiagency planning efforts (including those underway jointly between the FAA and the NPS). I was responsible, along with staff acousticians, for developing planning and impact assessment methodologies and standards for units of the national park service. PS policy identifies the soundscape as a national park resource to be protected for its intrinsic value under the park service organic act. Several years ago, I gave a presentation to a national grouping of engineers in Washington D.C. about the NPS natural sounds program. I recall an NSF presence there. At that time and place, there was a strong consensus concern about how sound impacts are measured and considered across the range of agencies present. This concern and, especially, available technologies to deal with it have not found their way into this analysis.

My assessment of this section is that it is technically insufficient and wholly inadequate for effective analysis of noise impacts on the park, on park visitors, or otherwise on those within earshot. To come to this conclusion, I need only to have seen that there is no evidence of relevant data being collected, or of sound models being run. Ample models exist in the public arena with which to assess the impacts of sound using a variety of metrics. There is a great deal more to sound impact than decibel increases.

The impact assessment criteria on page 4-99 deals exclusively in dBA, described as change to “noise condition.” Please define “noise condition.” At the same time, the vague and imprecise terminology given in previous impact definitions also is included. The value-laden term, impact of “little consequence” is also present. This is completely unacceptable, in any appropriate and effective analysis.

To recapitulate: the current assessment is based solely on an undefined dBA metric with a generalized attenuation matrix that likely does not apply to the special topography and vegetation at the crater rim. Other sound metrics, such as audibility and peak event temporal sequencing, should be applied for an adequate assessment of noise impacts on visitors or others who use the area for cultural and religious purposes.

**Response:**

**1.** The noise analysis has been revised in Sections 3.10 and 4.10 to better define the noise baseline as it relates to existing noise sources and conditions, thresholds of impact intensity, and impact of the proposed ATST Project. The effects of noise from the construction of the proposed ATST Project at either the Mees or the Reber Circle sites are still identified as a major, adverse, short term, direct impact however these impacts are more clearly identified.

<p><b>Comment:</b></p> <p>2. Regarding the change in decibel level analysis: apart from the fact that this assessment is loaded with undefined terms so as to be utterly opaque to the average reader, the dBA analysis makes no technical sense. We do not know if the analysis (for comparison to the impact intensity criteria – or “noise condition”) is based on average dBA, or a variety of other dBA metrics that can be cobbled up. It is not made clear whether the assessment in general is based on peak sound events or otherwise. If so, there is no presentation of the time sequencing of peak or near peak sound events generated by the proposed action. The table on page 4-102 (attenuation) is generalized information from an unnamed source which serves only to complicate the discussion. It does not substitute for effective analysis of conditions at the Haleakala rim. Figure 4-40 is entirely misleading, not to say grossly in error, since sound is both attenuated and propagated by features on the earth surface, as well as extant climatic conditions. Sound mapping, or the zone of impact, follows topographic contours and is influenced by the character of the ground surface (absence or presence of vegetation, water, rock). For example, the sound of a bulldozer will readily travel for a long distance down a rocky canyon. To suggest, as in the figure, that any dBA contour is represented by a perfect circle is patently incorrect. A further criticism of this figure would be that the so-called “non-impulse noise” and the “impulse noise” are treated as separate and unrelated events. In fact, they would be additive to a degree that remains unexplained in the analysis.</p>
<p><b>Response:</b></p> <p>2. The noise analysis has been revised in Sections 3.10 and 4.10 to better define the noise baseline as it relates to existing noise sources and conditions, dBA and other relevant noise measurements and applications, thresholds of impact intensity, and impact of the project. The effects of noise from the construction of the proposed ATST Project at either the Mees site or the Reber Circle site are still identified as a major, adverse, short term, direct impact however these impacts are more clearly identified.</p>
<p><b>Comment:</b></p> <p>3. This brings me to a point at which I can submit that decibel level (average, peak, or whatever) does not suffice as the sole determinant of sound impacts. The generation of sound, and its impact on sound receptors, is dependent upon a variety of other metrics that can be (and have been) both measured and modeled. Along with a well-defined metric using A-weighted decibels as a unit of measure, it is also important to consider the acoustic frequency (measured in Hertz) of the sound, and the periodicity with which the sound occurs over time. Lower frequency sounds travel much further over the landscape, while higher frequency sounds (though attenuated more readily) are more often identified by listeners as being annoying. Sounds that occur frequently raise the average decibel level more than infrequent peak sounds. For impacts on national parks, the metrics of concern revolve around peak noise events and how often they occur. A summary metric that has value is that of ‘audibility’ which combines the overall impact in terms of both the acoustic frequency (in Hertz) and dBA. Evaluating the audibility of a sound impact over time, in consideration of an identified sound receptor at distance, is a valuable tool in noise impact assessment. Critical to the analysis is the identification of the natural ambient sound condition, to which the created sound of the activity is compared. Such an analysis is highly recommended, especially as it relates to impacts on the national park. It answers the questions of what activity-related sound could be heard by a human ear, when it is heard, how often it is heard, and how audible it would be.</p>
<p><b>Response:</b></p> <p>3. The noise analysis has been revised in Sections 3.10 and 4.10 to better define the fundamentals of noise as they apply to both a quantitative analysis (decibel level comparison) and their effects on sound receptors. Audibility varies depending on the level of background noise, an individual’s hearing threshold and the nature of the activities occurring on-site. The effects of noise from the construction of the proposed ATST Project at either the Mees site or the Reber Circle site are still identified as a major, adverse, short term, direct impact however these impacts are more clearly identified.</p>

<p><b>Comment:</b></p> <p>4. It should be evident that a suitable assessment of impacts on the sound environment is important to the related assessment of impacts on cultural and religious values, as well as park visitor experience. The soundscape of Haleakala National Park, particularly within the crater, is one of the most “quiet” sound environments measured. In such a ‘quiet’ ambient sound environment, created sound is all the more audible – hence a greater impact. The soundscape is most certainly a factor in the cultural and religious significance of the area. A meaningful description of sound impacts, as suggested here, can and should be considered as significant input to other areas of analysis in the document. To the extent that noise has been considered in other analyses (as stated in the summary of noise effects on page 4-105), those analyses are inadequate for all the reasons stated here.</p>
<p><b>Response:</b></p> <p>4. Section 4.10 has been revised to acknowledge that the construction-related sound levels could affect Native Hawaiian cultural practitioners and those engaged in recreational activities, even when such levels comply with regulatory requirements. Additional analyses of noise impacts on traditional cultural practitioners is located in Section 4.2, Cultural Resources, and noise effects on visitors are discussed in Section 4.6, Visitor Use and Experience.</p>
<p><b>Comment:</b></p> <p>5. Regarding the impacts of ‘noise’ on a variety on non-human species, as presented in the document (pages 4-16, et al): any use of dBA levels to arrive at impacts in this section is misguided without full explanation and display of relevant data. The A-weighted decibel measure (dBA) is a measure that is purposely adjusted to average human hearing. This is to make the measure suitable for detecting impacts on humans, and the acoustic community has in past years focused on dBA for this reason. It has been shown that other species hear a range of sounds significantly differently than humans owing to the frequency distribution they are biologically attuned to. It is patently <u>not correct</u> to apply a dBA metric to how sound might affect other species across the board. A fair analysis would use an unadjusted decibel metric, or it would collect sufficient data to adjust the decibel scale to the range of frequencies that a specific species hears and responds to.</p>
<p><b>Response:</b></p> <p>5. Please refer to Appendix M for USFWS determination of the applicability of the A-weighted metric which states that “This species is not known to use particularly high or low frequency hearing to search for prey or for other life history functions. Because Hawaiian petrels vocalize to each within the human hearing frequencies, the A-weighted dBA scale was appropriate for application to the petrel. Therefore the dBA sound estimates presented in the DEIS (NSF 2006) were considered adequate for our analysis of the effect of construction noise on the Hawaiian petrel.” (Page 17 - Appendix M)</p>

Site Selection/Alternatives
<p><b>Comment:</b></p> <p>1. Regarding the range of alternatives, the section boldly asserts that Haleakala is the only place in the world meeting the necessary criteria (as stated). This assertion narrows the scope of analysis to this: accept the proposed action, or do nothing. I maintain that the scope of analysis is therefore too narrow and precludes the consideration of other reasonable alternatives. The SDEIS purports to justify this view by citing the site selection process found in Appendix J. Upon reviewing that appendix, I find no compelling or persuasive evidence that Haleakala is the only site that will meet the criteria. Page J-4 winnows the list of 72 possible sites down to 6. It then expresses further goals/criteria by which the 6 were apparently judged. Then, as far as I can tell, the document falls silent in any comparison of the six relative to the goals/criteria, and how the extra years of data came out. The only comparison shows a graphic representation of Haleakalā vs. La Palma for the single criterion of ‘dust.’ The proponent leaps from this point to an assertion in the purpose and need that Haleakalā is the only place that will suffice.</p> <p>As a minimum, I would expect to see a comprehensive, tabular comparison of data from the six sites relative to the criteria. In addition, I would object to the criteria or goals being presented as rigid, inflexible absolutes in the purpose and need. I would instead expect them to be elements of the purpose and need to which alternatives might be addressed, by applying different priorities and emphases to meet overall goals with varying levels of success. As in most federal actions, where very little other than law and authority is absolute, the development of alternatives should be an optimization process that is open and transparent</p>

for the public to see. Further, the scope of analysis should be broadened to include a transparent evaluation of 3 to 6 potential sites, and variations on the site criteria to allow an effective display of the tradeoffs, including cost, between alternatives.

**Response:**

1. Based on the results of the tests at the six candidate sites, it became clear that the six candidate sites could be divided into two groups based on the observing conditions (SSWG Final Report, p.1). The main scientific goals of the ATST require the measurement of the solar magnetic field over extremely small distances on the surface, and the measurement of the magnetic field in the very faint outer solar region known as the corona. To do this, the atmospheric conditions at the site must satisfy two main criteria: a very stable atmosphere with extremely low levels of turbulence, and a very clean atmosphere with extremely low levels of dust. By themselves, these conditions are hard to find, and a site where both conditions are met is extremely rare. The tested sites were found to consist of two groups: one was comprised of three locations (Sacramento Peak, San Pedro Martir and Panguitch Lake) where the measurements demonstrated that the atmospheric conditions were never of sufficient quality for achievement of the ATST science goals; and the other group consisted of three locations (Haleakalā, La Palma and Big Bear), where the measurements indicated that conditions might be of sufficient quality over various time periods.

Tables of the detailed results of the conditions of turbulence and dust levels are contained in Appendix O (pp. 8 and 9). Summary Table 1 in Appendix O shows the number of hours per year during which the turbulence at the sites was at specific levels of strength and at selected heights above the ground. The numbers in these tables were compared to the site selection criteria (Appendix J(2) of 200 annual hours of extremely low turbulence. Summary Table 2 in Appendix O shows the measurements of the dust levels at the sites, and the number of hours during which the site dust level requirement was satisfied. These were compared to the 480 hours requirement of Appendix J(2). The results of these comparisons are given in Table 2-3 of Volume I.

**Comment:**

2. The selection of Haleakalā as the only site possible should be the outcome of the decision making process in an EIS, not a constraint from the beginning. The beginning of Section 2, Sections 2.2 – 2.3, provides some comparative information among potential sites for the development. The proponent has the basis for an appropriate and compliant EIS in these sections. If alternatives were formulated on the basis of the several best potential locations, wherein the design criteria are held fairly static, the analysis of costs, benefits, environmental impacts, social and economic considerations, etc, would practically write itself. It appears that much of this analysis has already been done, but in a way that has avoided public involvement in, and scrutiny of, the process. Instead, interested and affected parties in Hawaii potentially have to live with a “decision” that has been made elsewhere and out of the public’s view. Again, this subverts the spirit of the law provided in NEPA.

**Response:**

2. The site selection process was done scientifically and technically by the scientific community. In order for the scientific goals of the ATST to be met, science requirements (i.e., scientific questions) were first formulated, then technical requirements for the site characteristics were derived from the science requirements. These technical requirements are described in Section 2.0. The site survey measured the observing conditions at each location, analyzed the data, and compared the results to the site requirements. Only one site, Haleakalā, fulfilled the requirements. The other sites were not found to meet the purpose and need of the ATST. Specifically, the other sites did not possess sufficient high-quality conditions to enable ATST to achieve the scientific goals. The result could have been that many sites met the science requirements or that none did. The site identification process, developed and conducted by the scientific community was not result-oriented; rather, it was designed to determine which, if any, sites would meet the necessary scientific criteria.

Since other sites were not found to meet the purpose and need to feasibly support the proposed ATST Project, those sites were not carried forward for further analysis under NEPA. To include them in the NEPA analysis knowing that they did not meet the science requirements would not have resulted in a meaningful NEPA analysis.

**Comment:**

3. Alternatively, so to speak, alternatives could have been developed by finding discretionary latitude in the design criteria and proposing different configurations. It is very difficult to believe that the criteria are so cut and dried that 5 feet, 10 feet or even twenty feet in height would have a make or break difference all the time. Or, that different color coating similarly would have a single make or break threshold. As to the latter, it appears that the proponent has applied selective financial criteria ruling out a more benign (to the viewer) color because it would be more expensive to maintain the proper temperature environment. It is precisely these alternative features, having different costs and benefits (including environmental impacts) and addressing different issues that should be evaluated in an EIS.

Having not done so, the proponents can be vulnerable to a charge of pre-decisional behavior and arbitrariness. Despite the scientific rhetoric that passes for description in the document, the alternatives, and the analyses thereof, are clearly set up to arrive at one, obvious decision. I call this the pursuit of the perfect alternative, which is self-defeating in a NEPA analysis. I am not persuaded by the document that the proposal is self-evident and that it is the only thing that can reasonably be done to meet the purpose and need for action – which, bottom line, is to study the sun.

If I dismissed other reasonable alternatives out of hand by saying they were too expensive, or just wouldn't work for our purposes, I would justifiably be accused of pre-decisional behavior. I would also be arbitrary and capricious. By not providing effective comparative analysis in an EIS, I would be asking you to take it on faith that: 1) my objectives are reasonable, 2) my science is sound, 3) my motives are true, and 4) that I've heard, considered and addressed all your concerns. I would also be out of compliance with NEPA.

The range of alternatives, set up by an arbitrarily narrow purpose and need, is insufficient to present (in an EIS) a reasonable range of choices to the public and the decision-maker. If that was the intent, the proponent has engaged in an action prohibited under the CEQ regulations. If not, the oversight can be corrected by developing some reasonable alternatives along the lines suggested above.

**Response:**

3. The proposed ATST Project is designed to obtain observations of the Sun that are unprecedented in their spatial resolution. It is an extremely challenging project to undertake and every design element of the telescope has been carefully selected and developed to maximize the chances of success. The criterion of height is one such choice. The boundary layer of atmospheric turbulence at ground level is on the order of 75 feet in thickness, and lowering the ATST into that boundary layer would destroy its ability to make high-resolution solar images. The selected height is a compromise, as making the structure even taller would have better optimized the scientific goals. Similarly, the color of the enclosure is a critical detail. Every color other than white absorbs significantly more heat from sunlight (e.g., placing one's hand on the roofs of cars of various colors in a parking lot on sunny days.) The resulting turbulence from a non-white enclosure would destroy the ability of the proposed ATST Project to obtain the high spatial resolution observations that are critical for the scientific purposes of the telescope. Overall, the selection of Haleakalā was arrived at through a series of scientific and technical requirements, measurements, analyses and discussions where the conclusion was that only Haleakalā can provide the conditions required by the scientific goals.

<p><b>Comment:</b></p> <p>4. Description of the alternatives: the Mees Site Alternative is described in 22 pages of detailed text, tables, maps, and section drawings. The Reber Circle Site alternative is described in 5 pages, with numerous references to similarities with the Mees Site. The No action alternative is one short paragraph. Apart from its brevity, this paragraph is notable for two things: 1) the alternative foregoes any future development at the two sites; <sup>[FOOTNOTE]</sup> and 2) the remainder of the “description” is more a statement of opinion regarding the negative impact of this alternative in terms that make it appear to be highly undesirable. This is entirely inappropriate inasmuch as it is not a description at all. Worse, it shows a bias against selection of the No Action Alternative, which only affirms the notion of pre-decisional behavior by the proponent. In fact, it is a discussion I would expect to see in the record of decision rather than in the EIS. If the shoe were on the other foot, one might just describe the Mees Site in terms of how it would impact the crater rim, the national park, and the cultural and religious significance of the area. Clearly this would represent bias in the other direction. Hopefully, the point has been made and neutral terms for no action can be used to replace any impact discussion, or subjective comment on its worth, within the alternative description.</p> <p><b>[FOOTNOTE]</b> If the two sites would forever be undeveloped within the Conservation District under ‘No Action,’ one wonders why the sites are available at all for construction of the ATST. Why would this be the case? Is it a discretionary item incorporated into the no action alternative to make it less palatable? Please explain.</p>
<p><b>Response:</b></p> <p>4. The purpose of Section 2.0 is to define the proposed action and alternatives to set up the analysis to follow. In discussing the project alternative, development at the Reber Circle site, referencing common design and project components is intended to focus the discussion toward distinctions between alternatives and to omit unnecessary reiteration. In discussing the No-Action Alternative, the purpose is to discuss the existing and known conditions that will be addressed in the analysis. While both of these sites may in the future be developed with another astronomy-related facility or used in various other ways, it would be speculative and unfounded to make such a judgment. The remainder of this section discussing the resulting ‘limit on solar astronomy’ is not a statement of opinion but rather a statement that if this project is not approved, that the potential output of the ATST solar observatory would be undiscovered and therefore place a limitation on this industry as there is no similar instrumentation or facility currently available in the world.</p>
<p><b>Comment:</b></p> <p>5. CEQ regulations at 40 CFR §1502.14 require a number of things that seem to be inadequate or absent from the current draft. I recommend the author review this section and comply with it. I have summarized the inadequacies in this paragraph. Not all alternatives are rigorously explored and objectively evaluated, nor has substantial treatment been given to all alternatives. Other reasonable alternatives have not been considered (see entire discussion above). Since there purportedly are no real alternatives to the proposal, and since no significant issues associated with the proposal are acknowledged or displayed, it is clear why no additional mitigation is presented in this section. Although it is highly evident, the document does not state clearly which alternative is preferred. Most notably, Section 2 should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among the alternatives. This comparative and comprehensive treatment appears to be missing from the document. In fairness, I must note, this is probably due to the fact that there are only two alternatives, in effect, and one is to do nothing.</p>
<p><b>Response:</b></p> <p>5. The alternatives are discussed in Section 4 in comparative form. The FEIS does include the Mees Alternative as the “Preferred Alternative.”</p>

Mitigation Comments
<p><b>Comment:</b> The descriptions of alternatives, at least in regard to the Mees Site, include best management practices and other activities scattered throughout that might be considered as mitigation. It is not stated, but we would presume that these features are actually part of the alternative actions were they to be implemented. In the alternative description I find no reference to the mitigation found in Section 4.18, which clearly is unconnected to both the alternatives and the analysis of impacts. Therefore, it is unclear how the proponent views this mitigation, and how, why, where, when, or even if, the mitigation would be invoked. If it is intended that this mitigation is part and parcel of the alternative, then it should clearly be stated as such in Section 2 where the alternative is described.</p> <p>One criticism of this document is that there are no tabular comparisons of the features of each alternative, nor a summary of the impacts associated with them. Such comparisons are required components of an EIS, particularly in chapter or section 2. It is therefore time consuming and tedious for a reader/reviewer to make comparisons by wading through verbiage and flipping pages back and forth. Despite this, it is readily apparent that the two action alternatives are nearly identical, so much so that they do not present a clear basis of choice for the decision-maker. Inspection of the impact discussions and the text describing the Rebus Circle site reveals many references of similarity, nearly the same, identical or slightly modified from the Mees Site.</p> <p><b>Response:</b> Section 4.0 of the document has been revised to more clearly state the impact level and associated mitigations, as appropriate. This has further been summarized on both impact and mitigation summary tables. This allows for simplified comparison between alternatives.</p>

**Comments Regarding Haleakalā National Park (HALE)**

**Comment:**

1. It is incumbent on the proponent to acknowledge that, as a matter of law - by congressional action – the United States recognizes the unique, rare and vital resources of this national park. When the document author talks to the “unique and unprecedented suitability” of the site for a telescope, it is in part because the area is a protected, undeveloped, and unique national treasure. The analysis relating to impacts on the park should be set up clearly and comprehensively in Section 3 by discussing all of the park resources and values that could potentially be impacted by the proposed action. As it is, many of the park’s resources have not been identified as such or that they have been so dispersed through every section of the analysis as to be unrecognizable. This is important because impacts on park resources and values should be judged in light of NPS policies and standards, which may be different from those of other jurisdictional authorities.

It should be acknowledged that the proposal diminishes the value of that national treasure, or at least how people use and enjoy it. Therefore, any discussion of the national park, its visitors, its facilities, its resources, its wilderness, etc. in Section 3 should be presented seriously and with due respect. In its current form, this document appears to take the uniqueness of Haleakala National Park lightly, placing the (arguably) unique opportunity for a telescope above it. This smacks of arrogance and self-importance, which clearly is not an actionable offense, but it also is not an endearing quality in the document.

I refer to page 3-46 for an example. The use of quotation marks around the words ‘wilderness area’ here and elsewhere conveys a sense that the author is skeptical of, or undervalues the wilderness concept and its importance to the American people. I’m sure this was not intended, but it is likely to be perceived that way by many readers. As a wilderness and park user, that is the sense I get. The wilderness is an important component of the national park that manages it, and when they are impacted, it is by definition a significant impact. See 40 CFR §1508.27(b)(3), which includes wilderness as a specially designated area, and park lands.

**Response:**

1. The HALE resources that may be impacted by the proposed ATST Project are described in considerable detail in Section 3 of the FEIS. The potential impacts on those resources is addressed in great detail in Section 4, which has been revised to more clearly define the intensities and character of the those impacts.

With respect to the use of quotation marks around the words “wilderness area”, the description was taken directly from U.S. Public Law 88-577, Wilderness Act, which provides the following definition: “Sec. 2. (a) In order to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States and its possessions, leaving no lands designated for preservation and protection in their natural condition, it is hereby declared to be the policy of the Congress to secure for the American people of present and future generations the benefits of an enduring resource of wilderness. For this purpose there is hereby established a National Wilderness Preservation System to be composed of federally owned areas designated by Congress as “wilderness areas”, and these shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness; and no Federal lands shall be designated as “wilderness areas” except as provided for in this Act or by a subsequent Act. It was not our intention to undervalue or give the sense that wilderness areas are not important, but only to place emphasis on the phrase, as was done by the U.S. Congress.” Nevertheless, the quotation marks have been removed.

**Comment:**

2. If the National Park Service is a cooperating agency, or a formal partner in analysis, and must make a determination on the permit required for access, it must find the analysis in this document to be adequate for the purpose or else they must prepare their own EIS. It is recommended that NPS be allowed to assist in the analysis, or that deference be given to their judgment on impacts that affect national park resource values.

**Response:**

2. The National Park Service has not agreed to be a formal cooperating agency. NSF has however coordinated closely with NPS to ensure that the EIS meets its needs in preparation of the Special Use Permit. NPS has had numerous opportunities through review of the Draft EIS and several pre-publications of the Supplemental DEIS to comment on both internal and public iterations of the document. NSF has taken the NPS's comments very seriously and has made a good faith effort to respond to them.

**Comment:**

3. I note from the Volume I frontispiece letter by Dr. Foltz in the SDEIS that the document was prepared in part to comply with the NPS Director's Order 12. Accordingly, I am reviewing this EIS in the light of park service policy as well as that provided in CEQ regulations. Meeting DO 12 direction requires a number of things: the assessment of required impact topics (listed in the order); the development of objective (where possible) impact thresholds for each topic; application of the best available, commonly-accepted impact assessment methodologies by qualified authorities; appropriate citations to and summaries of the methodologies in the document; comprehensive and objective discussions of impacts; concluding statements about impacts relative to impact thresholds; mitigation of impacts; and findings of cumulative impact and impairment for each alternative and each resource impact topic.

For the most part, I leave criticism of substantive portions of the analyses to subject matter experts from various other agencies and the knowledgeable public. There will be exceptions to this. Regarding the requirements of NPS' DO 12, as well as commonly accepted norms of environmental analysis, I find the document insufficient – in general - for the following reasons so far as the proposed action may affect the national park.

- Required impact topics have not been treated per NPS DO 12.
- For most, if not all, of the impact topics the methodologies are generalized, incomplete, subjective, and devoid of supporting documentation. I would previously have bet my pension that NSF and its academic partners would be scrupulous at applying technologies for analysis in areas such as air quality (including visibility), noise (or sound), economics, water quality, wildlife habitat effectiveness, et al. Lacking the suitable collection and analysis of pertinent data in for such topics, proponents could find a myriad of valid, acceptable models whereby such impacts can be estimated. There is little documentation that effective and objective analyses have been employed to arrive at potential impacts. Authorities, experts, literature and other measures have not been cited, for the most part, to support the conclusions of impact.
- Like the methodology sections, impact thresholds are similarly vague, broad, subjective and unsupported by appropriate documentation. Who developed them? What are their credentials in that subject matter area? What literature or other basis was the source for the threshold set? What features of the impact assessment methodology provide data to which the threshold criteria are applied? Where is the data? Lacking support, the impact assessment criteria or thresholds appear to be arbitrary at best. They are full of undefined, subjective terms, and articulated in such a way as to allow the mere opinion of the author to dictate the impact conclusion.
- Impact discussions should be objective and to the point. They should express how and to what degree (magnitude, intensity and duration) the action would potentially affect the resource in question. They should present information about this in terms or metrics that are produced by the analysis method and are directly comparable to the impact criteria. Concluding statements, under individual headings, for each impact topic and each alternative should tie the impact disclosure in the discussion to the impact criteria. They should state the resultant level of impact and briefly summarize why it would occur.
- Where potential impacts are disclosed, there is no discussion of ways to avoid or mitigate the impact under separate heading. Scanning many of the analyses, it appears that mitigation is not consistently addressed, if it is addressed at all. See 40 CFR §15002.16(h).

<ul style="list-style-type: none"> <li>• So far as impacts that could occur to the national park, there is no evidence of a finding that the proposed actions would or would not impair park resources and values. Since Section 3 has not elucidated on all the resources and values that are, in fact, associated with the park it is clear why the discussion is absent from Section 4 as well.</li> </ul>
<p><b>Response:</b></p> <p>3. The SDEIS and this most recent FEIS have been prepared in close coordination with NPS to ensure that the FEIS meets the requirements of NPS for the purpose of issuing the Special Use Permit. NPS has reviewed several iterations of the working draft EIS and the SDEIS. NSF has revised the document to meet the NPS’s specific needs. NSF has coordinated closely and regularly with NPS to address specific concerns, SUP, and NEPA requirements, including a determination of what type of additional studies were needed to adequately address impacts on various resources.</p>
<p><b>Comment:</b></p> <p>4. <u>Section 4.5 Effects on Visual Resources</u></p> <p>The authors are commended for applying viewshed models to the analysis, and for including numerous photos and graphics to supplement the text. Even so, it appears that the visual impact is understated. All illustrations (pages 4-29 through 4-75) show the proposed facility as a white structure. However, because the structure is to be coated in a highly reflective material in order to maintain temperature control, it will be visible to a greater degree in sunny conditions than as indicated in the mock-ups. It will reflect the sunlight to the viewer’s eye and it will bring attention to itself by an unmistakable glow on the skyline. It does not appear that this phenomenon has been accounted for in the analysis.</p>
<p><b>Response:</b></p> <p>4. The visual impact is not understated; the paint specified for most of the enclosure is accurately rendered in the images provided in the FEIS. The paint that would be used is an ordinary Energy Star-rated product out of the Cool Roofs program. Also, even it is highly reflective, it is not particularly specular (shiny), meaning it would not be visible to a greater degree in sunny conditions than as indicted. A detailed description of the material that would be used is found in “<u>Evaluation of thermal control coatings exposed to ambient weather conditions at Haleakala High Altitude Observatory</u>”, Phelps, in <i>Ground-based and Airborne Telescopes II</i>. Edited by Stepp, Larry M.; Gilmozzi, Roberto. <i>Proc SPIE</i> 7012, 701230 (2008).</p>
<p><b>Comment:</b></p> <p>5. The NPS believes that both during construction (short-term) and operation (long- term) the ATST will have a major adverse impact to the viewshed. Even though the construction phase will be short- term, there will still be a major impact to the viewshed.</p>
<p><b>Response:</b></p> <p>5. The Visual Resources analysis has been revised to focus on a more industry accepted qualitative evaluation. The area that is visually occupied is discussed, but the analysis does not use the previous approach of viewshed percentage occupied by ATST. The level of intensity is directly related to the amount of visual change between the existing visual viewscape and the rendered proposed viewscape. These comparative simulations are provided in the analysis to justify the conclusions. In other words, the visual effect of the ATST Project at the Mees site from various locations remains as a moderate adverse impact because there is no view from where the ATST would be seen where the current HO facilities are not already seen. Major intensity is reserved for those views where ATST would create a new visual interruption on an otherwise uninterrupted horizon. The Reber Circle site, on the other hand, does result in several new visual interruptions creating a major adverse effect. These results have been documented in the revised Section 4.5–Visual Resources.</p>

**Visitor Experience**

**Comment:** On page 3-46, a 2007 survey of exiting HALE visitors is cited. There may be other surveys of park visitors that should also be reviewed and cited in a similar light; the most recent national visitor survey could be enlightening. The discussion of the 2000 survey on page 3-47 is notably deficient in regard to how people might react to the proposed action. Different and not so supportive conclusions might be arrived at from this survey, as I'm sure the NPS will point out. But, specifically relating to conclusions from the 2007 survey: please note that you are confusing HALE visitors with ATST visitors. They are not necessarily the same statistical group. The sampled visitors may have also been confused by the survey, and not understood that the ATST is not part of the park. I would also note that the criticism of the survey by NPS would, if true, invalidate its use and any conclusions derived from it. Your response in this paragraph is highly disingenuous because you have not disputed the HALE criticisms yet you continue to use the results of the survey as if they were valid. Any analysis representing itself as having scientific or statistical integrity would immediately strike a biased survey and the conclusions drawn from it.

Having reviewed the survey in question (Appendix N), I concur with the criticism of bias leveled by NPS. The survey poses whether the respondent would care if there was a new telescope 20 feet higher than the existing one. The question is also leading, with "information" about what the telescope would do, and that it would be open to the public (whereas the existing facility is not). The proposed new telescope would appear to be considerably higher than the existing one; it would be highly reflective (it will glow in the sunlight) and visible, and all of 142 feet in height. It would also be an additive, cumulative impact along with the existing facility, rather than a replacement thereof. Misrepresenting the relative height of the impact and glossing over other possible factors, while pumping the perceived benefits, would seem to be sufficient reason to invalidate the survey "results." By not doing so, the author seems not to care about statistical or scientific integrity and would rather report those things which support the decision that has, in effect, been made. I recommend that, since the agency proponent desires to prove that the visiting public would not object to the action, it should be clear and straightforward about the survey, address critical comments point-by-point, and (if it is truly important to this demonstration) provide suitable design data regarding the relative height of the structures in the EIS analysis.

Also, is the height difference calculated from a common datum – say from sea level – or is it height above ground? What is the true difference in height? Is it the same difference in both the Mees and Reber Circle sites?

**Response:**

The visitor survey provides information obtained from a sample of visitors exiting HALE regarding whether they would have an interest in returning to the Park if the proposed ATST Project were built. NSF notes HALE's objections to this survey; moreover, NSF does not imply that the survey has applicability beyond the questions asked. See Section 4.6.

Section 4.5 Visual Resources has been revised to address the differences in relative visibility between the Mees site and the Reber Circle site.

<b>Environmental Consequences and Cumulative Effects</b>
<p><b>Comment:</b></p> <p><b>1. Section 4.3 Effects on Biological Resources</b></p> <p>Page 4-16, thresholds of change: subjective terms are used in “defining” thresholds. <u>Minor</u> impacts... please define what ‘small’ effects are. If there is easy mitigation for ‘small’ effects, where is the mitigation presented? <u>Moderate</u> impacts... what amount of impact is ‘readily apparent?’ To whom are the impacts ‘readily apparent?’ What does ‘change’ mean? What does ‘relatively wide’ mean? Where is the mitigation that would ‘offset’ readily apparent impacts, and what does ‘offset’ mean? Does it mean replacement in kind? Does it mean that mitigation acres would equal acres impacted? <u>Major</u> impacts.... are also defined as ‘readily apparent’ but would be ‘substantial’ instead of ‘change.’ What would ‘substantial’ be? Where are the mitigation measures, successful or unsuccessful, that would ‘offset’ major impacts?</p> <p>Thresholds of change, page 4-30. As in the biological effects section, a number of subjective terms are used to allow the author some “flexibility” in the determination of impact level. <u>Minor</u> effects... where is visual quality defined? What does it really mean that an impact is ‘localized, detectable and small?’ By what standard does one judge if an impact is of ‘little consequence to the observer?’ What is ‘little consequence,’ who is ‘the observer,’ and how is this to be measured? These are value-laden terms that have no place in a set of objective criteria. <u>Major</u> effects... what is ‘obvious?’ What are ‘substantial consequences?’ Why is visitor use and experience only applicable in the definition of major impacts? What mitigation measures are being proposed to alleviate any of the visual concerns, regardless of impact level?</p>
<p><b>Response:</b></p> <p><b>1.</b> The levels of intensity in the SDEIS were revised by NSF from those levels set forth in the DEIS. This was done in response to comments, both on the DEIS and on pre-publication version of the SDEIS by the NPS. Although terminology can be interpreted as subjective, the analysis further clarifies the terminology in question and adequately justifies the conclusions. This terminology fosters readability to the layman reader to better understand the level of effect the action may have.</p>
<p><b>Comment:</b></p> <p><b>2.</b> Below the table of impact intensity descriptions, a paragraph appears suddenly to apply some objectivity to levels of impact. Ignoring for the moment that the definitions in part (and rightly or wrongly) hinge upon who the observer is, and whether or not the impact is of consequence to her/him, this step attempts to put numbers on the indefinite quantifiers. First, why did the author not put the numbers directly in the definitions and avoid unnecessary verbiage? Secondly, It is not adequate simply to infer that ‘for the purposes of this EIS,’ these numbers are real (&lt;1% for negligible, &lt;10% for minor, &lt;20% for moderate, &gt;20% for major). In fact, absent any source or authority that supports these levels, they must be considered arbitrary. There is nothing to tie the numbers to, nor is it evident that someone with expertise in visual resource analysis has provided them. Further, the scope of analysis for visual quality appears to be the entire area (“viewplane” or “viewshed”) that can be seen by an observer. It is laughable on its face that a minor effect could consist of impacting up to 10 percent of the entire area visible to an observer. This is purported to be something of little consequence? I believe that few would agree, since the nature of the impact would have as much to do with whether it is “consequential” or not as its size.</p> <p>Worse, a moderate effect is something that could affect up to 20% of everything one can see from a certain viewpoint. Again, depending upon the nature of the intrusion relative to the values and experiences of an observer (which you have inserted into the definitions), I submit that a visual impact of less than 1% in the viewzone (viewplane, viewshed) could be regarded by the observer as a major and unacceptable impact. This is a key criticism of incorporating value-laden concepts into what should be an objective definition of impact level.</p>

**Response:**

2. The Visual Resources analysis has been revised to focus on a more industry accepted qualitative evaluation. The area that is visually occupied is discussed, but the analysis does not use the previous approach of viewshed percentage occupied by ATST. The level of intensity is directly related to the amount of visual change between the existing visual viewscape and the rendered proposed viewscape, which are provided in the analysis to justify the conclusions.

**Comment:**

3. Section 4.17 Cumulative Effects to the Affected Environment

In the third paragraph on page 4-121, a citation for CEQ (1997) is given. Finding this citation in the reference section, I see that it cites the federal register entry on environmental justice. I do not believe that this source is of much assistance in the development of a cumulative impact assessment. What may have been intended, but has escaped inclusion in the reference section, was a CEQ reference on Cumulative Impact Analysis. In the unlikely event that the authors are not aware of it, reference should be made to: CEQ, Considering Cumulative Effects Under the National Environmental Policy Act, 1997. A more recent memo might also be of assistance: CEQ, Guidance on the Consideration of Past Actions in Cumulative Effects Analysis, 2005. Use of these references would inform and improve the analysis presented in the SDEIS. As it is, much effort has clearly been expended on this analysis and it is limited only by the deficiencies that may exist in the determination of direct and indirect effect, by resource, for the proposed action. If the proposed action impacts are suspect, then consideration of their combined effect with other past, present and reasonably foreseeable impacts would also be suspect.

**Response:**

3. This reference has been changed.

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Copies of All Public Comments  
to the  
Supplemental Draft Environmental Impact Statement  
(May 2009)

## List of Agencies

	AGENCY	REPRESENTATIVE
1	Environmental Protection Agency	Kathleen Goforth, Manager
2	County of Maui, Dept. of Public Works	Milton Arakawa, Director
3	Hawaiian Telecom, Network Engineering and Planning	Lynette Yoshida, Sr. Manager
4	State of Hawai'i, Dept. of Business, Economic Development, and Tourism	Abbey Smith Mayer, Director
5	State of Hawai'i, Dept. of Defense, Office of the Director of Civil Defense	Edward T. Teixeira, Vice Director of Civil Defense
6	State of Hawai'i, Dept. of Health, Environmental Planning Office	Kevin Sunada, Manager
7	State of Hawai'i, Dept. of Land and Natural Resources	Laura Thielen, Chair
8	State of Hawai'i, Dept. of Land and Natural Resources, Division of Forestry and Wildlife	Paul Conry, Administrator
9	State of Hawai'i, Dept. of Land and Natural Resources, Engineering Division	Eric Hinano, Chief Engineer
10	State of Hawai'i, Office of Hawaiian Affairs	Lisa Asato, Public Information Specialist
11	State of Hawai'i, Office of Hawaiian Affairs	Jason Jeremiah, Policy Advocate, Preservation, Native Rights, Land, and Culture
12	State of Hawai'i, Dept. of Transportation	Brennon Morioka, Director
13	University of Hawai'i, Environmental Center	Peter Rappa, Environmental Review Coordinator
14	University of Hawai'i, Office of the Vice Chancellor For Research and Graduate Education	Gary K. Ostrander
15	U.S. Dept. of the Interior, National Park Service, Haleakalā, National Park	Jonathan B. Jarvis, Regional Director, Pacific West Region
16	U.S. Dept. of the Interior, Office of the Secretary, Office of Environmental Policy and Compliance, Pacific Southwest Region	Patricia Sanderson Port, Regional Environmental Officer

# Environmental Protection Agency



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

June 18, 2009

Dr. Craig Foltz  
ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Subject: Supplemental Draft Environmental Impact Statement (SDEIS) for the Advanced Technology Solar Telescope (ATST), Haleakala, Maui, Hawaii (CEQ# 20090147)

Dear Dr. Foltz:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act. The NSF supplemented the 2006 Draft Environmental Impact Statement (DEIS) to include an analysis of effects to the road in Haleakala National Park, and the results of additional studies were prepared in response to comments received on the DEIS.

EPA reviewed the Draft Environmental Impact Statement (DEIS) and provided comments to the National Science Foundation (NSF) on October 30, 2006. We rated the DEIS as Environmental Concerns - Insufficient Information (EC-2) due to the apparent underestimation of direct impacts on cultural and natural resources, insufficient detail regarding mitigation, cumulative impacts from construction and traffic, and impacts on endangered species. We requested additional information regarding impacts to Haleakala National Park, and the progress of the National Historic Preservation Act Section 106 consultation.

The Supplemental DEIS (SDEIS) contains substantially more information on impacts to Haleakala National Park and other resources and is much improved. It identifies impacts to Native Hawaiian sacred sites and cultural resources as major, adverse, and long-term. While such impacts are acknowledged to be unmitigable, the supplemental cultural impact assessment identified several mitigation proposals from the community that could allow Native Hawaiians to derive a benefit as a result of any project approval. We encourage the NSF to consider integrating one or more of these proposals into the proposed project or commit to implementing one or more as mitigation for identified impacts to cultural resources in the Final EIS.

The SDEIS adequately addresses our previous concerns and requests for additional information; therefore, we are rating the preferred alternative of the SDEIS as Lack of Objections (LO) (see enclosed "Summary of Rating Definitions"). We understand NSF will respond to comments on both the DEIS and SDEIS at the FEIS stage.

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## Environmental Protection Agency (cont.)

We appreciate the opportunity to review this SDEIS. When the Final SEIS is released for public review, please send one copy to the address above (mail code: CED-2). If you have any questions, please contact me at (415) 972-3521, or contact Karen Vitulano, the lead reviewer for this document, at 415-947-4178 or [vitulano.karen@epa.gov](mailto:vitulano.karen@epa.gov).

Sincerely,

*For*  
  
Kathleen M. Goforth, Manager  
Environmental Review Office (CED-2)

Enclosure: Summary of EPA Rating Definitions

## Environmental Protection Agency (cont.)

### SUMMARY OF EPA RATING DEFINITIONS

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

#### ENVIRONMENTAL IMPACT OF THE ACTION

##### *"LO" (Lack of Objections)*

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

##### *"EC" (Environmental Concerns)*

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

##### *"EO" (Environmental Objections)*

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

##### *"EU" (Environmentally Unsatisfactory)*

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

#### ADEQUACY OF THE IMPACT STATEMENT

##### *Category 1" (Adequate)*

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

##### *"Category 2" (Insufficient Information)*

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

##### *"Category 3" (Inadequate)*

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

\*From EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

# County of Maui, Dept. of Public Works

CHARMAINE TAVARES  
Mayor

MILTON M. ARAKAWA, A.I.C.P.  
Director

MICHAEL M. MIYAMOTO  
Deputy Director

Telephone: (808) 270-7845  
Fax: (808) 270-7955



RALPH NAGAMINE, L.S., P.E.  
Development Services Administration

CARY YAMASHITA, P.E.  
Engineering Division

BRIAN HASHIRO, P.E.  
Highways Division

COUNTY OF MAUI  
**DEPARTMENT OF PUBLIC WORKS**  
200 SOUTH HIGH STREET, ROOM NO. 434  
WAILUKU, MAUI, HAWAII 96793

June 4, 2009

Craig Foltz, Ph.D., ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, Virginia 22230

Dear Dr. Foltz:

**SUBJECT: SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT  
STATEMENT FOR THE PROPOSED ADVANCED  
TECHNOLOGY SOLAR TELESCOPE AT THE HALEAKALA  
HIGH ALTITUDE OBSERVATORY SITE  
TMK: (2) 2-2-007:008**

We reviewed the subject application and our only comment is:

1. The County Building Code does not apply to lands that are designated State Land Use Conservation District.

Please call Michael Miyamoto at (808) 270-7845 if you have any questions regarding this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "Milton M. Arakawa".

MILTON M. ARAKAWA, A.I.C.P.  
Director of Public Works

MMA:MMM:ls

xc: Highways Division  
Engineering Division  
Department of Health, Office of Environmental Quality Control, Ref: ATST  
Mike Mayberry, Associate Director, University of Hawaii Institute for Astronomy  
Charlie Fein, Ph.D., KC Environmental, Inc.

S:\LUCA\ZMP\Prop\_Adv\_Tech\_Solar\_Telescope\_at\_Haleakala\_supplemental\_deis\_22007008\_ls.wpd

# Federal Aviation Administration



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

Technical Operations Services  
800 Independence Ave. SW  
Washington, DC 20591

JUL 9 2009

Mr. Craig Foltz, Ph.D.  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard  
Arlington, VA 22230

Dear Dr. Foltz:

The Federal Aviation Administration has reviewed the Supplemental Draft Environmental Impact Statement (SDEIS) for the proposed Advanced Technology Solar Telescope (ATST) project. This is advance notice that the FAA has identified and addressed two areas of primary concern signal interference with the FAA's Remote Communications Air to Ground (RCAG) facility near the Haleakala summit, as well as impacts to FAA property from proposed construction activities.

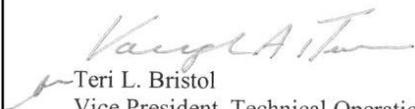
The signal interference can be mitigated by replacing the existing antennas with high gain antennas and modifying/replacing the existing antenna towers to provide increased tower platform size to accommodate the new antennas. Further modifications to the site and relocation of antennas may be needed to restore signal propagation to pre-construction values.

Use of the RCAG site for primary staging and storage of construction materials is not approved and cannot be allowed. Access to the site must be protected and a portion of the open area is programmed for use by the United States Coast Guard to establish an improved maritime distress signal system named Rescue 21. FAA recommends that the alternate ATST site at Reber Circle be used for ATST construction staging and storage activities.

The National Science Foundation (NSF) must engineer another solution for disposing of excavated material. FAA cannot allow this site to be used to dispose/relocate the estimated 2500 cubic yards of excess soil and rock. The entire summit area is subject to heavy rains and resulting landslides. As recently as 2005, a landslide from compacted material generated by the Faulkes facility covered our access road, preventing the FAA from performing maintenance of systems critical to the National Airspace System.

The FAA will continue to work with NSF to address and resolve joint issues in developing the ATST project. A more detailed letter will be forthcoming that will contain appropriate FAA points of contact to work with NSF as the ATST project unfolds.

Sincerely,

  
Teri L. Bristol  
Vice President, Technical Operations Services

## Federal Aviation Administration (cont.)



Federal Aviation Administration  
Air Traffic Airspace Branch, ASW-520  
2601 Meacham Blvd.  
Fort Worth, TX 76137-0520

Aeronautical Study No.  
2007-AWP-5068-OE  
Prior Study No.  
2007-AWP-5076-OE

Issued Date: 07/15/2009

Dr. Craig Foltz  
National Science Foundation  
4201 Wilson Blvd., Rm 1045  
Arlington, VI 22230

### **\*\* DETERMINATION OF NO HAZARD TO AIR NAVIGATION \*\***

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building Advanced Technology Solar Telescope
Location:	Kula, HI
Latitude:	20-42-24.00N NAD 83
Longitude:	156-15-22.00W
Heights:	143 feet above ground level (AGL) 10124 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be completed and returned to this office any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part I)  
 Within 5 days after the construction reaches its greatest height (7460-2, Part II)

#### **See attachment for additional condition(s) or information.**

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking and/or lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

Any height exceeding 143 feet above ground level (10124 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 01/15/2011 unless:

- (a) extended, revised or terminated by the issuing office.
- (b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

## Federal Aviation Administration (cont.)

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE POSTMARKED OR DELIVERED TO THIS OFFICE AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission if the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (310) 725-6557. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2007-AWP-5068-OE.

**Signature Control No: 533782-116399515**

( DNE )

Karen McDonald  
Specialist

Attachment(s)  
Additional Information  
Case Description  
Map(s)

## Federal Aviation Administration (cont.)

### Additional information for ASN 2007-AWP-5068-OE

This Determination of No Hazard to Air Navigation is issued contingent upon the sponsor, National Science Foundation (NSF), Dr. Craig Foltz, accepting and agreeing to the following mitigation measures developed between the NSF, the Federal Aviation Administration (FAA) Technical Operations (Airway Facilities) Division, and the FAA Spectrum Management (Frequency Management) Branch. These mitigation measures were developed to protect the FAA RCAG air navigational aid site at Haleakala, Hawaii.

\*\*\*\*\*

Proposed Plan of Action - Haleakala ATST Mitigation FAA, July 6, 2009 Issue: Mitigation of ATST Effects on Maui Communications Facility Background: The National Science Foundation proposes to build an Advanced Technology Space Telescope (ATST) near the FAA's Maui Remote-Center Air-Ground (RCAG) communications facility on Mt. Haleakala. This document deals solely with the technical communications aspects of the proposal and its mitigation. Discussion: a. The ATST structure will reduce single-site aircraft communications coverage from the Maui RCAG to aircraft east-southeast (ESE) of Maui at some altitudes. b. The ATST structure subtends an azimuthal angle of approximately 7 degrees as viewed from the Maui RCAG. In the shadow area ESE of the ATST, the signal strength from the Maui RCAG will be depressed somewhat from normal levels. c. The signal depression will be most noticeable in the first few miles east of the ATST, with signal levels slowly recovering due to diffraction and refraction from the ATST to within approximately 2-4 dB of normal levels without the ATST. d. The reduction in single-site signal strength from the Maui RCAG due to the ATST can be mitigated by the installation of higher-gain antennas at the RCAG (solely for the frequencies used to the ESE of Maui. e. Since the higher gain antennas each consume one mounting location on the RCAG towers, while the existing antennas comprise stacked dual antennas, some modification to the mounting structure (e.g., larger platform, additional tower) will be required to accommodate the 4 higher-gain antennas. (Four are required, for VHF and UHF frequencies, main and standby transmitters.) Proposal: a. The NSF will fund the procurement of the higher-gain antennas, and their installation (including tower modifications as required). b. The FAA recently conducted a flight measurements campaign ESE of the Maui RCAG, at two reference altitudes, in the area expected to be affected by the ATST. The received signal levels will be used as a baseline for any subsequent repeat measurements after the higher-gain antennas are installed and the ATST is erected. c. If the operational performance of the air sector's communications is found to have been reduced after the ATST has been constructed, the FAA will again repeat the flight measurements at the two reference altitudes. d. Comparison of the before-and-after measurements will determine the extent by which the higher-gain antennas have maintained the existing signal strength in the shadow area ESE of the ATST. e. If the measurements and operational checks confirm that the communications sector signal levels are substantially (i.e., more than 2 dB) lower than existing levels, one of several alternate antenna installations may be considered. For example, a secondary antenna and/or transmitter on the east side of the ATST structure or site, to fill in the shadow area, could be installed. f. If any alternate mitigation method (such as in (e)) is needed to provide existing sector communications coverage, the NSF and FAA will negotiate the terms of allowing FAA to install a minimal amount of equipment at the ATST site, with NSF covering the installation costs. --- end ---

Page 3 of 6

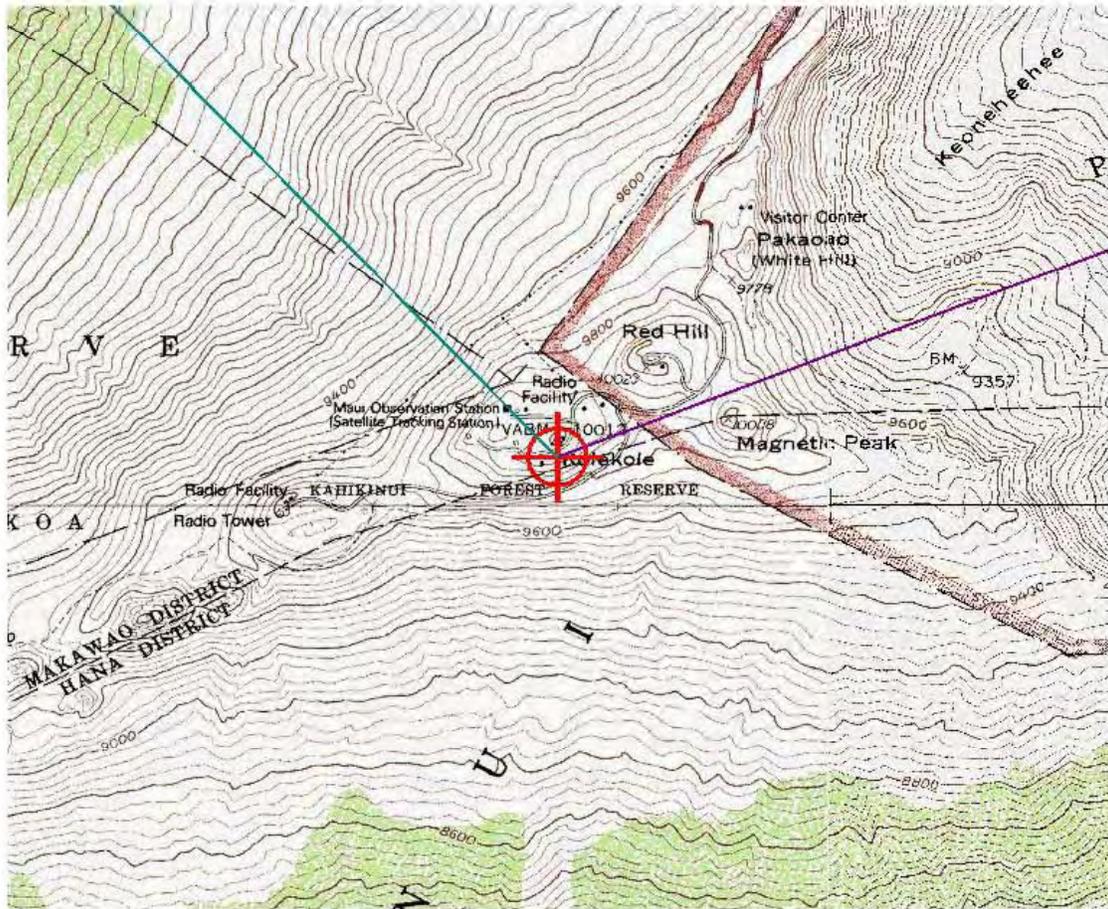
### Case Description for ASN 2007-AWP-5068-OE

Proposed telescope is in enclosed structure, roughly circular with a 93 ft max dia (at perimeter catwalk) and 143 ft max height, served by attached support bldg (a rectilinear structure 78 ft x 62 ft in plan with a max height of 80 ft to the top of an enclosed platform lift).

Page 4 of 6

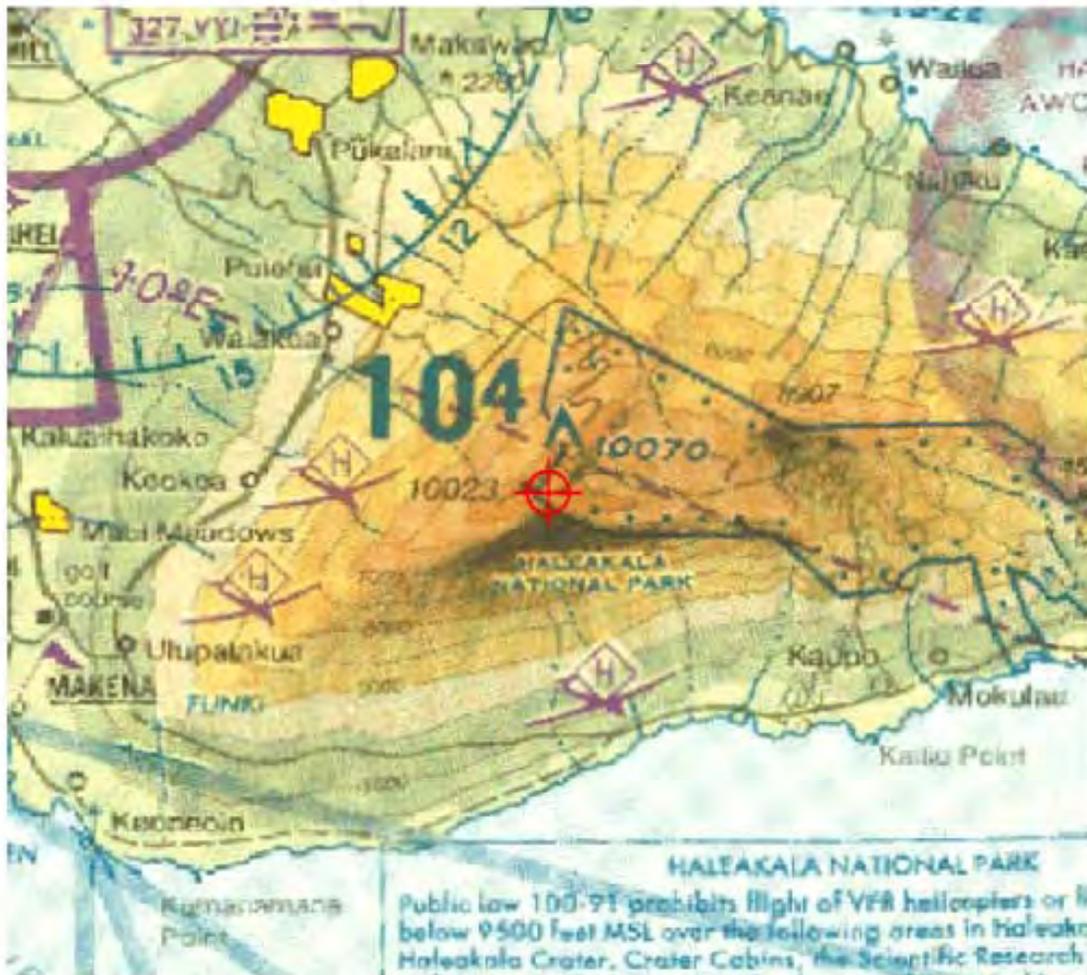
# Federal Aviation Administration (cont.)

Verified Map for ASN 2007-AWP-5068-OE



## Federal Aviation Administration (cont.)

Sectional Map for ASN 2007-AWP-5068-OE



# Hawaiian Telcom



June 10, 2009

National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230  
Tel: 703-292-4909  
Fax: 703-292-9034  
E-mail: cfoltz@nsf.gov

ATTN: Craig Foltz, Ph.D., ATST Program Manager

SUBJECT: ADVANCED TECHNOLOGY SOLAR TELESCOPE (ATST)  
HALEAKALA, ISLAND OF MAUI, HAWAII  
SUPPLEMENTAL DRAFT ENVIRONMENTAL IMPACT STATEMENT  
TMK: (2) 2-2-007:008  
Craig Foltz, Ph.D., ATST Program Manager (applicant)

Dear Dr. Foltz:

Thank you for providing Hawaiian Telcom Incorporated, the opportunity to comment on the Supplemental Draft Environmental Impact Statement for the proposed Advanced Technology Solar Telescope (ATST) atop Haleakala on the Island of Maui.

Hawaiian Telcom Inc. requests that prior to any excavation work, exploration or otherwise, please contact the Hawaii One Call Center (HOCC) at 1-866-423-7287 to request for toning as excavation work will be in close proximity to our existing underground facilities (copper and fiber).

Also, if this new structure will request service from our company, please submit any electrical designs and/or drawings to our engineering office at 60 South Church Street, Wailuku, HI 96793 for review and approval. Early submittal of proposed construction schedules and project coordination and/or general contractor information will also assist in timely service provisioning.

If there are any questions, please call Sheri Tihada at (808) 242-5258.

Sincerely,

Lynette Yoshida  
Senior Manager  
Network Engineering & Planning

C: File (3010 0905-041)  
S. Tihada

PO Box 2200 • Honolulu • HI 96

**State of Hawai‘i,  
Dept. of Business, Economic Development, and Tourism**



**DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM**

LINDA LINGLE  
GOVERNOR  
THEODORE E. LIU  
DIRECTOR  
MARK K. ANDERSON  
DEPUTY DIRECTOR  
ABBEY SETH MAYER  
DIRECTOR  
OFFICE OF PLANNING

**OFFICE OF PLANNING**

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813  
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2848  
Fax: (808) 587-2824

Ref. No. P-12564

May 13, 2009

Dr. Craig Foltz, Ph.D.  
ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, Virginia 22230

Dear Dr. Foltz:

Subject: Supplemental Draft Environmental Impact Statement (SDEIS) for  
Proposed Advanced Technology Solar Telescope (ATST) at the Haleakala  
High Altitude Observatory site on the Island of Maui, Hawaii

Thank you for the opportunity to review and comment upon the Supplemental Draft Environmental Impact Statement for the proposed Advanced Technology Solar Telescope. The Office of Planning has no comments at this time. In so stating, the Office offers no judgment of either the adequacy of the document itself or the merits of the proposed project.

If you have any questions, please contact the Land Use Division at 587-2842.

Sincerely,

Abbey Seth Mayer  
Director

c: Katherine Kealoha, OEQC  
Mike Maberry, UH Institute of Astronomy  
Charlie Fein, KC Environmental, Inc.  
Theodore Liu, DBEDT

**State of Hawai'i, Dept. of Defense,  
Office of the Director of Civil Defense**

LINDA LINGLE  
GOVERNOR

MAJOR GENERAL ROBERT G. F. LEE  
DIRECTOR OF CIVIL DEFENSE

EDWARD T. TEIXEIRA  
VICE DIRECTOR OF CIVIL DEFENSE



PHONE (808) 733-4300  
FAX (808) 733-4287

**STATE OF HAWAII**  
DEPARTMENT OF DEFENSE  
OFFICE OF THE DIRECTOR OF CIVIL DEFENSE  
3949 DIAMOND HEAD ROAD  
HONOLULU, HAWAII 96816-4495

June 18, 2009

Mr. Craig Foltz, Ph.D.  
ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, Virginia 22230

Dear Mr. Foltz:

Supplemental Draft Environmental Impact Statement  
Advanced Technology Solar Telescope, Haleakala, Maui, Hawai'i

Thank you for the opportunity to comment on this development. We are concerned about the major impact on cultural, historical, and archeological resources but defer to the Department of Land and Natural Resources on the viability of the proposed mitigation measures.

If you have any questions please call Mr. Richard Stercho, Hazard Mitigation Planner, at (808) 733-4300, ext. 583.

Sincerely,

EDWARD T. TEIXEIRA  
Vice Director of Civil Defense

- c: Office of Environmental Quality Control, Department of Health
- Mike Maberry, University of Hawai'i Institute for Astronomy
- ✓ Charlie Fein, Ph.D., KC Environmental, Inc.
- Maui Civil Defense Agency

**State of Hawai‘i, Dept. of Health  
Environmental Planning Office**

LINDA LINGLE  
GOVERNOR OF HAWAII



CHIYOME L. FUKINO, M.D.  
DIRECTOR OF HEALTH

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P.O. Box 3378  
HONOLULU, HAWAII 96801-3378

In reply, please refer to:  
EPO-09-075

June 15, 2009

Dr. Craig Foltz  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, Virginia 22230

Dear Dr. Foltz:

SUBJECT: Supplemental Draft Environmental Impact Statement for Advance Technology  
Solar Telescope (ATST) at Haleakala, Maui, Hawaii  
TMK: (2) 2-2-007: 008

Thank you for allowing us to review and comment on the subject application. The application was routed to the various branches of the Environmental Health Administration. We have the following Wastewater Branch, Clean Water Branch and General comments.

Wastewater Branch

The document states that the proposed ATST project would be located on State of Hawaii land within the Conservation District on Puu Kolekole, near the summit of Haleakala.

The project is located in the Critical Wastewater Disposal Area (CWDA) where no new cesspools will be allowed.

Wastewater treatment and disposal are our primary concern. We have no objections to the proposed development as long as the generated wastewater is treated through a wastewater system that conforms to our state rules. You could use individual wastewater system or a centralized treatment works.

All wastewater plans must meet Department's Rules, HAR Chapter 11-62, "Wastewater Systems." We do reserve the right to review the detailed wastewater plans for conformance to applicable rules. If you have any questions, please contact the Planning & Design Section of the Wastewater Branch at 586-4294.

**State of Hawai‘i, Dept. of Health  
Environmental Planning Office (cont.)**

Dr. Foltz  
June 15, 2009  
Page 2

Clean Water Branch

The Department of Health (DOH), Clean Water Branch (CWB), has reviewed the subject document and offers these comments on your project. Please note that our review is based solely on the information provided in the subject document and its compliance with Hawaii Administrative Rules (HAR), Chapters 11-54 and 11-55. You may be responsible for fulfilling additional requirements related to our program. We recommend that you also read our standard comments on our website at <http://www.hawaii.gov/health/environmental/env-planning/landuse/CWB-standardcomment.pdf>.

1. Any project and its potential impacts to State waters must meet the following criteria:
  - a. Antidegradation policy (HAR, Section 11-54-1.1), which requires that the existing uses and the level of water quality necessary to protect the existing uses of the receiving State water be maintained and protected.
  - b. Designated uses (HAR, Section 11-54-3), as determined by the classification of the receiving State waters.
  - c. Water quality criteria (HAR, Sections 11-54-4 through 11-54-8).
2. You are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for discharges of wastewater, including storm water runoff, into State surface waters (HAR, Chapter 11-55). For the following types of discharges into Class A or Class 2 State waters, you may apply for NPDES general permit coverage by submitting a Notice of Intent (NOI) form:
  - a. Storm water associated with construction activities (i.e. excavation, grading, clearing, demolition, uprooting of vegetation, equipment staging, storage areas, stockpiles, etc.) that result in the disturbance of one (1) acre or more of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. An NPDES permit is required before the start of the construction activities.
  - b. Hydrotesting waters or waters used to test the integrity of a tank or pipeline.

You must submit a separate NOI form for each type of discharge at least 30 calendar days prior to the start of the discharge activity, except when applying for coverage for discharges of storm water associated with construction activity. For this type of discharge, the NOI must be submitted 30 calendar days before the start of construction activities. The NOI forms may be

**State of Hawai‘i, Dept. of Health  
Environmental Planning Office (cont.)**

Dr. Foltz  
June 15, 2009  
Page 3

picked up at our office or downloaded from our website at  
<http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html>.

3. For types of wastewater not listed in Item 2 above or wastewater discharging into Class 1 or Class AA waters, you may need an NPDES individual permit. Class 1 waters include, but is not limited to, all State waters in natural reserves, preserves, sanctuaries, and refuges established by the Department of Land and Natural Resources under chapter 195, Hawaii Revised Statutes (HRS), or similar reserves for the protection of aquatic life established under chapter 195, HRS. An application for an NPDES individual permit must be submitted at least 180 calendar days before the commencement of the discharge. The NPDES application forms may be picked up at our office or downloaded from our website at <http://www.hawaii.gov/health/environmental/water/cleanwater/forms/indiv-index.html>.
4. You must also submit a copy of the NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the CWB that SHPD has or is in the process of evaluating your project. Please submit a copy of your request for review by SHPD or SHPD’s determination letter for the project along with your NOI or NPDES permit application, as applicable.
5. Please specify the construction demolition waste disposal destination.
6. Please specify the disposal destination for the effluent from the mirror stripping process completion wash holding tanks.
7. Clarify if the dome and structure cooling system will result in discharges of Propylene Glycol.
8. The DEIS indicates that the project involves removing an existing underground cesspool and conducting site remediation to ensure there is no groundwater contamination from untreated wastewater. Please provide Best Management Practices (BMPs) for the cesspool removal and site remediation.
9. Page 1-28 of the DEIS indicates that a NPDES permit and a “Water Quality Consultation” is an anticipated requirement of the DOH-CWB.
  - a. Please revise “Water Quality Consultation” to “Section 401 Water Quality Certification.”
  - b. HAR, Section 11-54-9.1 defines a Section 401 Water Quality Certification (WQC) as: “A statement which asserts that a proposed discharge resulting from an activity will not violate applicable water quality standards. A water quality certification is required by Section 401 of the Act from any applicant for a federal license or permit to conduct any activity, including the construction or operation of facilities **which may result in any discharge into navigable waters.**”

**State of Hawai‘i, Dept. of Health  
Environmental Planning Office (cont.)**

Dr. Foltz  
June 15, 2009  
Page 4

Page 1-29 of the DEIS states: “A follow-up letter was sent by Mr. George Young, Chief, Regulatory Branch, in which he stated that after reviewing the DEIS and based on the information provided and other information available to their office, they have ‘...determined that these areas consist entirely of uplands and that the project would not involve any discharge of fill material into waters of the United States; therefore, Dept. of the Army (DA) permits will not be required.’ (ACE, 2009).”

Since this project does not involve a federal license or permit to conduct activities that may result in any discharge into navigable waters and a Department of the Army permit is not required, the DOH-CWB has tentatively decided that a Section 401 WQC will not be required for this project.

10. Please provide BMPs for the disposal of concrete truck wash water. For your information, the DOH-CWB prohibits disposal of concrete truck wash water via percolation.
11. Please note that all discharges related to the project construction or operation activities, whether or not NPDES permit coverage and/or Section 401 WQC are required, must comply with the Water Quality Standards. Noncompliance with water quality requirements contained in HAR, Chapter 11-54, and/or permitting requirements, specified in HAR, Chapter 11-55, may be subject to penalties of \$25,000 per day per violation

If you have any questions, please visit our website at <http://www.hawaii.gov/health/environmental/water/cleanwater/index.html>, or contact the Engineering Section, CWB, at 586-4309.

General

We strongly recommend that you review all of the Standard Comments on our website: [www.hawaii.gov/health/environmental/env-planning/landuse/landuse.html](http://www.hawaii.gov/health/environmental/env-planning/landuse/landuse.html). Any comments specifically applicable to this project should be adhered to.

If there are any questions about these comments please contact Jiakai Liu with the Environmental Planning Office at 586-4346.

Sincerely,



KELVIN H. SUNADA, MANAGER  
Environmental Planning Office

c: EPO  
WWB  
CWB

# State of Hawai'i, Dept. of Land and Natural Resources

LINDA LINGLE  
GOVERNOR OF HAWAII



## STATE OF HAWAII DEPARTMENT OF LAND AND NATURAL RESOURCES OFFICE OF CONSERVATION AND COASTAL LANDS

POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

LAURA H. THIELEN  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
(COMMISSION ON WATER RESOURCE MANAGEMENT)

RUSSELL Y. TSUJI  
FIRST DEPUTY

KEN C. KAWAHARA  
DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
CONSERVATION AND RESOURCE ENFORCEMENT  
ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORY PRESERVATION  
KAIKOLAWE ISLAND RESERVE COMMISSION  
LAND  
RECREATION

Ref: OCCL:MC

Correspondence MA-09-232

Craig Foltz, Ph.D.  
ATST Program Director  
National Science Foundation  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

JUN 30 2009

**SUBJECT: COMMENTS**  
Supplemental Draft Environmental Impact Statement  
Advanced Technology Solar Telescope  
Haleakalā High Altitude Observatories, Pu'u Kolekole, Waiakoa District, Maui  
TMK (2) 2-2-07:08

Dear Dr. Foltz,

The Department of Land and Natural Resources (DLNR), Office of Conservation and Coastal Lands (OCCL) has reviewed the Supplemental Draft Environmental Impact Statement for the proposed Advanced Technology Solar Telescope (ATST) at the Haleakalā High Altitude Observatories (HO) site on Haleakalā. The proposed project area lies in the Resource Subzone of the State Land Use Conservation District.

The proposal is an identified land use in the Conservation District pursuant to Hawai'i Administrative Rules (HAR) §13-5-25 Identified Land Uses in the Resource Subzone, R-3 ASTRONOMY FACILITIES, (D-1) *Astronomy facilities under an approved management plan*<sup>1</sup>. This use requires a Conservation District Use Permit (CDUP) from the Board of Land and Natural Resources. The Board has the final authority to grant, modify, or deny the permit.

The applicant should submit a **Conservation District Use Application (CDUA)**, a **Comprehensive Management Plan**, and the **Final EIS** to OCCL. OCCL will review the application in light of the criteria outlined in Hawai'i Administrative Rules (HAR) Chapter 13-5 *Conservation District*, Subchapter 4 PROCEDURES FOR PERMITS, SITE PLAN APPROVALS, AND MANAGEMENT PLANS.

OCCL would like to see the following issues addressed prior to the submittal of a CDUA:

- The Draft EIS acknowledges that Haleakalā is a *Traditional Cultural Property*, and that the proposed telescope will have a potentially significant impact on Native Hawaiian cultural and spiritual practices. The draft EIS discusses partnerships with academic and cultural groups, but remains vague on the extent and nature of the proposed mitigation measures. OCCL would like to see a more detailed assessment and review of the projects impact on Haleakalā as a Traditional Cultural Property, as well as a more developed proposal for on- and off-site mitigation.

<sup>1</sup> Section 1.7.6 of the draft EIS states incorrectly that the permit will be for a *non-conforming use*. This should be changed.

## State of Hawai‘i, Dept. of Land and Natural Resources (cont.)

ATST  
page 2

MA-09-232

- A fair amount of excavation will be required for the main facility and it's supporting structures. An archaeological monitoring plan will need to be reviewed and approved by the State Historic Preservation Division.
- The project area contains or is near habitat for the endangered 'ua'u, or Hawaiian dark-rumped petrel (*Pterodroma phaeopygia sandwichensis*) and nēnē (*Branta sandwichensis*). OCCL would like the Management Plan for the proposal to contain clear and specific plans to mitigate potential impacts on these species. We note that DLNR's Division of Forestry and Wildlife (DOFAW) is recommending that the applicant develop a Habitat Conservation Plan (or similar federal agreement) and to secure an Incidental Take License.

OCCL recommends that the applicant meet with representatives from DOFAW to develop a more comprehensive management plan to protect these and any other vulnerable species in the project area.

- The **Long Range Development Plan** for HO proposes that the ATST replace the UH Mees Solar Observatory and the UH Atmospheric Airglow instrument platform (Figure 7.1: *Table of Existing and Proposed Facilities at the Haleakalā High Altitude Observatory Site*). We understand from the EIS that the applicant is proposing to utilize part of the 5440 square-foot Mees facility. We are unclear whether Mees will remain in operation, or how this project will impact that infrastructure and operations of the Mees facility.

We have attached additional comments from DOFAW and Engineering. Should you have any questions, please contact OCCL staff planner Michael Cain at 587-0048.

Sincerely,



Laura H. Thielen, Chair  
Department of Land and Natural Resources

cc: *Historic Preservation Division*  
*Division of Forestry and Wildlife*

State of Hawai'i, Dept. of Land and Natural Resources  
Division of Forestry and Wildlife

**Division of Forestry & Wildlife**

1151 Punchbowl Street, Rm. 325 □ Honolulu, HI 96813 □ (808) 587-0166 □ Fax: (808) 587-0160

June 10, 2009

**MEMORANDUM**

TO: Sam Lemmo, Administrator  
Office of Conservation and Coastal Land

FROM: Paul J. Conry, Administrator   
Division of Forestry and Wildlife

SUBJECT: CDUA MA-09-232. Supplemental Draft EIS for Advanced  
Technology Solar Telescope, Pu'u Kolekole, Haleakala, Waiakoa  
District, Maui Hawaii. TMK: 2-2-07: 08.

We appreciate the opportunity to comment on this project. The attached memo is our detailed review of this important project. Thank you for the opportunity to comment on this supplemental draft EIS.

C: Scott Fretz, DOFAW Administration  
Paula Hartzell, DOFAW Administration  
John Cumming, DOFAW Maui  
Fern Duvall, DOFAW Maui  
John Medeiros, DOFAW Maui

Attachment

State of Hawai'i, Dept. of Land and Natural Resources  
Division of Forestry and Wildlife (cont.)

LINDA LINGLE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF FORESTRY AND WILDLIFE  
1151 PUNCHBOWL STREET, ROOM 325  
HONOLULU, HAWAII 96813  
TEL (808) 587-0166 FAX (808) 587-0160

LAURA H. THIELEN  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT

RUSSELL Y. TSUJI  
FIRST DEPUTY

KEN C. KAWAHARA  
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES  
BOATING AND OCEAN RECREATION  
BUREAU OF CONVEYANCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
CONSERVATION AND COASTAL LANDS  
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ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

June 5, 2009

**MEMORANDUM**

To: Nelson Ayers  
Forester (EIS Coordinator)

From: Scott Fretz  
Wildlife Program Manager

Paula Hartzell  
Conservation Initiatives Coordinator

Subject: Protected Species Concerns on the Supplemental Draft Environmental Impact Statement, Advanced Technology Solar Telescope (May 2009)

We have reviewed the Supplemental Draft Environmental Impact Statement, Advanced Technology Solar Telescope (May 2009). We are providing a summary, as well as specific comments, covering protected species concerns related to this project. We have limited our comments here to larger issues, and have not included all details or comments on all specifics within the document.

**Summary:** To date, the National Science Foundation (NSF) has not consulted with the Department on issues related to potential take of endangered species pursuant to §195D, Hawaii Revised Statutes (HRS 195D). Consultation to address these issues should have been initiated prior to publication of the Draft Environmental Impact Statement (DEIS) in 2006 and the Draft Supplemental Environmental Impact Statement (SDEIS). We recommend that NSF consult with the Department on these issues immediately.

Based on review of the DEIS and DSEIS, we conclude that take of 'ua'u (Hawaiian petrel, *Pterodroma sandwichensis*) and nēnē (Hawaiian goose, *Branta sandwichensis*) is likely to result from the construction and operation of the facilities<sup>1</sup>. We expect take of 'ua'u through partial or

<sup>1</sup> "Take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect endangered or threatened species of aquatic life or wildlife, or to cut, collect, uproot, destroy, injure, or possess endangered or threatened species of aquatic life or land plants, or to attempt to engage in any such conduct. Habitat modification, disturbance

**State of Hawai‘i, Dept. of Land and Natural Resources  
Division of Forestry and Wildlife (cont.)**

Mr. Nelson Ayers  
June 4, 2009  
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total collapse of burrows, decreased nesting or fledgling rates, changes in adult breeding behavior, and/or adult or juvenile robustness, based primarily on the proximity of hydraulic hammering, drilling, use of heavy excavation equipment, grading, filling and compacting less than 35 feet from the closest burrow, and within 100 feet of the nine closest burrows. Unless light avoidance measures are implemented, additional take is expected due to light attraction induced collision. We expect increased likelihood of take of nēnē through collisions with vehicles and construction equipment due to greatly increased vehicle traffic in areas used by this species, if truck use occurs during the day. If truck use occurs at night between February 1 to December 1, we expect take of ‘ua‘u through impact of fumes, noise and vibration, and because of increased light attraction during the fledging periods.

We strongly recommend that the NSF obtain authorization for incidental take of ‘ua‘u (Hawaiian petrel, *Pterodroma sandwichensis*) and nēnē (Hawaiian goose, *Branta sandwicensis*) under HRS 195D before construction begins. An Incidental Take License (ITL) for protected species may be approved by the State pursuant to HRS 195D, either accompanying an Habitat Conservation Plan (HCP) or a federal agreement, plan or license (such as developed through the federal Section 7 process under the Endangered Species Act), if all of the criteria of HRS 195D are otherwise met by the agreement, plan or license. Given that NSF has initiated consultation with the US Fish and Wildlife Service (USFWS) through the section 7 process (Appendix M) it would be most expeditious to incorporate compliance with HRS 195D into that process.

We recommend monitoring and implementation of noise and vibration throughout the ‘ua‘u breeding, nesting and fledgling season to maximize avoidance of impact to protected species, as required by State law. We also support light minimization, predator trapping, and avoidance of introducing additional invasives.

**Specific comments:**

1. **Stop work upon take of protected species.** NSF and USFWS have acknowledged that “if a Hawaiian petrel or Hawaiian goose was harmed or killed as a result of the ATST construction activities that the Service would be contacted immediately and that work action would cease until we have formally addressed the cause for take” (Appendix M). Take of any protected species is illegal under state law (HRS 195D), and cannot be authorized without an Incidental Take License, which requires an Habitat Conservation Plan (HCP) or document produced for federal permit which otherwise meets the requirements under this section.

While we appreciate the agreement to stop work after take has occurred, such take would be illegal, and prosecutable under civil, criminal and administrative penalty under HRS 195-D. We highly recommend that NSF work with DLNR to develop an approved HCP (or similar

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of behavior patterns, as well as reduction in reproduction or survival rates are forms of take. Destruction of nests of indigenous species is prohibited under §13-124-3.

**State of Hawai‘i, Dept. of Land and Natural Resources  
Division of Forestry and Wildlife (cont.)**

Mr. Nelson Ayers  
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document) and receive authorization for appropriate levels of take prior to initiating work on this project. Authorization for criminal take cannot be granted after take has occurred.

**2. Evidence of activities likely to result in take through partial or total collapse of burrows at any time, and through disturbance of adults, eggs, chicks or fledglings during periods of occupancy.** At least four known nests are within 60 feet of the area to be included in the concrete apron<sup>2</sup> and five more within or near 100' of the apron; therefore heavy machinery will be operated closer than this distance to the burrows. Work indicated for construction of the concrete apron includes drilling and excavation of lava and placing and compacting fill. In addition to trucks, "This work would be done using bulldozers, backhoe, trencher, a truck-mounted augur for drilling down to bedrock, and a hydraulic hammer or jackhammers" (pg 2-21). In addition, "Excavation into this rock will be difficult to accomplish and will likely require heavy equipment or hoerammung for removal" (Appendix K).

The proposed construction activities in the area indicated for the concrete apron are likely to result in negative impact to the burrows at any time of year, and to any adults, eggs, chicks or fledglings in the burrow during periods of occupancy. We recommend avoiding construction within 100' of petrel burrows, as these activities (particularly excavation, drilling, filling, and compacting) are likely to negatively impact the structural integrity of these burrows during any time of the year, resulting in displacement of nesting birds and loss of productivity for one or more seasons. In addition, such activities are likely to result in negative impact to adults, eggs, chicks and fledglings when such work is conducted during the period of occupancy (approximately February through November). Construction activities in the concrete apron area should be limited to the period of time when birds are absent from the site (December-February).

In addition, activities will necessarily occur closer than 35 feet to the nearest known burrow, and perhaps in direct contact to one more burrows; if this occurs, negative impact will be unavoidable.

**3. Evidence of increased likelihood of take through collision with tall structures.** 'Ua'u and other Hawaiian seabird species frequently follow known flight paths and approaches to and from burrows. They have been also been known to collide with tall structures and utility lines, which pose a particular risk to fledglings. Construction of a structure 143 feet high is likely to

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<sup>2</sup> Nest RT100302-01 is within 35' of the area indicated for inclusion in the concrete apron (so that heavy equipment would be operated even more closely). Nests AB062405-01 is approximately 45' from the edge of the concrete apron. Nests CY042297-01 and MY042297-01 are within approximately 50' and 60', respectively. Other known burrows within or near 100' of the edge of the concrete apron include 021, RT081397-01, BH100495-01, MY042297-02 and 017. From the map in Appendix I Figure 2; proximity confirmed by DLNR staff during site visit May 13, 2009.

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disrupt the flight path of ‘ua‘u and other protected species (e.g., nēnē and ‘ōpe‘ape‘a) which frequent this area, and possibly to increase the number of collisions, particularly when the structure is new and for fledglings. The impact of constructing a structure of this height in an area frequented by numerous flying protected species, and currently without any structure even close to that height, should be considered and mitigated, and take of protected species from this source monitored.

4. **Conflict between stated work schedule with state avoidance schedule.** 68 months of truck activity are included in Table 2-4. If these activities are limited to avoid the period between March and November per USFWS (Table 2-4 Footnote 6), and Volume II Appendix M, the scheduled activities would require 23 years to complete. As that is clearly not the proposed construction period schedule, impacts from this vehicular traffic to ‘ua‘u will not be avoided, and should be addressed through appropriate mitigation measures. In addition, take of nēnē is likely through vehicular collision, due to the increase in traffic along areas frequented by this protected species. We highly recommend an approved Incidental Take License be acquired before initiation of these activities, in order that unauthorized take does not occur.

5. **No consideration for affected plant species.** State law provides protection for threatened and endangered plant species. There is no supporting evidence for a determination of no effect on noho‘anu (*Geranium multiflorum*), although it is known to occur in the site area. Based on a site visit conducted by DLNR staff on May 13, 2009, there are at least several occurrences of this species within and near the project area. We recommend considering the effects on this species; it could be included in any habitat conservation plan or similar document.

6. **Protected species monitoring, predator control, and control of invasive species.** We agree that monitoring petrel activity before, during, and after construction is critical to the project. Monitoring is required in order to assess impact to the species, and compliance with other protected species requirements, such as avoidance and minimization, and mitigation standards. Compliance monitoring should also be conducted by the State for actions on State, County and private lands. Similarly, contributions to predator control may provide some benefit to ‘ua‘u. Avoidance of invasive species transport (both plant and animal) is critical to any project in this area. Sterilization procedures and other precautions against introduction of invasive species are not identified in sufficient detail. Details of these procedures must be submitted before their adequacy can be assessed.

7. **Avoidance of light-attraction collisions.** During both construction and post-construction activities, light attraction during the fledging period may result in take of protected seabirds. We recommend explicit requirements for shielding of all lights; that all external lights,

**State of Hawai‘i, Dept. of Land and Natural Resources  
Division of Forestry and Wildlife (cont.)**

Mr. Nelson Ayers  
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or lights visible from the outside, be on timers; and that light use be minimized during the fledging season, including turning all non-security lights off one hour before sunset until after midnight (based on flight patterns reported in Appendix H). In addition, if vehicles are used at night, light attraction would be increased, and resulting take should be authorized and mitigated through an approved plan.

8. **Conservation District Use Permit and Native Hawaiian concerns.** In correspondence from the Office of Conservation and Coastal Lands (MA-07-54), a number of concerns were voiced, among them the need for a Conservation District Use Application and Management Plan, concerns about Native Hawaiian cultural and spiritual practices, Native Hawaiian consultation, and view plane, in addition to concerns about impacts to protected species. Similar issues were expressed by the Environmental Protection Agency (EPA 2006). These issues, which have direct and indirect relationships to protected species, have not been addressed in the current document, but should be included in Section 6.0 (“Unresolved Issues”) and adequately addressed before approval of the project.

9. **Need for detailed vibration assessment.** The current assessment of vibration impacts on protected species is based on the general vibration values and approach from FTA (2006), but that level of assessment is both inappropriate and inadequate to assess the current project’s activities, given the geologic setting, the sensitivity of resources, and the recommendations in the FTA (2006) document itself. For example, even within the General Assessment, the FTA recommends that due to efficient vibration propagation in rock layers, an additional 2-9 dB adjustment should be made to ground-borne propagation effects (10-8). The FTA (2006: Chapter 9) recommends a detailed analysis whenever work includes a steel-wheeled or steel-railed vehicle, is conducted near a sensitive structure or land use, or for any project with greater vibration than use of rubber-tired vehicles at the proposed project distance. As not one, but all, of these conditions are met, we strongly recommend that detailed vibration analysis be conducted in order to assess the project effects on endangered species and their habitat.

10. **Inclusion of cumulative noise level monitoring and limitations.** In the USFWS assessment (Appendix M), it is stated that no sound greater than 83 dBA (measured 5 feet from the source) will be generated at the construction site between April 20 through July 15, when any burrow is occupied within 80 m of the site. The proposed monitoring includes measurement of individual pieces of equipment; however, noise levels are cumulative. Therefore, it should be clarified that a *cumulative* noise level of 83 dBA (not individual pieces of equipment) should not be exceeded.

**State of Hawai‘i, Dept. of Land and Natural Resources  
Division of Forestry and Wildlife (cont.)**

Mr. Nelson Ayers  
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11. **Inclusion of cumulative vibration level monitoring and limitations.** The current document does not include provisions for monitoring or implementation of vibration level restrictions, in order to limit and document effects on ‘ua‘u and petrels. These should be included before the project is approved.

12. **Period to be covered by noise and vibration level restrictions.** The current period for limiting noise is inadequate, based on the biology of the species, which has critical breeding, nesting, and fledgling periods between approximately February 1 and December 1 each year at the site. The fecundity and rate of reproduction of ‘ua‘u is so low, that negative impacts on a single nest has significant effects on the species. There have been no studies assessing the effects of sound on breeding, nesting, or fledgling ‘ua‘u, nor any close relative or behaviorally similar bird species, particularly during these periods critical to reproduction, and particularly birds with such low fecundity rates that loss of a single nest has significant impacts on population demography. Habituation of bird to stimuli that alters their behavior(s) requires the source to be consistent and regular in nature [hence, Conomy et al 1998 and Burger & Gochfeld, as cited in SDEIS]. The subject project is not likely to be characterized by noise levels that are consistent and regular in nature. Furthermore, rather than assuming that habituation by mainland ducks and gulls applies to the behavior of endangered Hawaiian seabirds (Appendix M:18), or to human sleepers, (Appendix M:22-23, 25), we assume that higher noise levels conducted near burrows has some potential disturbance level to these birds, particularly at the start of each season, when no habituation could have occurred, and which, if disturbed, may result in non-nesting of pairs that would have otherwise nested, resulting potentially in the loss of an additional fledgling to the population. Such an event would also negatively impact the bond between the pair, and potentially their future reproductive behavior, in addition to the impacts listed in the current assessment.

In addition, the proposed sound and vibration limitations for April 20-July 15 are based on the egg incubation period, with the justification that that it “is the only time of year when adult petrels are at the Haleakalā colonies during the day”. However, limiting truck traffic during the day will increase the likelihood of nēnē-related accidents, as well as presenting incompatible use with park visitor functions. If truck traffic is permitted at night, then the impacts of trucks on petrels needs to be included for the period of time when adults and juveniles are present. The current assessment does not consider the effect of sound attenuation in rock (which may increase with distance, and is much more difficult to predict in mixed soil/rock profiles) on fledglings within the burrow. Effects of vibration on the fledglings is also not addressed in the current study. There are no studies that demonstrate no effect of sound or vibration on ‘ua‘u or similar ground-burrowing seabird fledglings; it is a reasonable assumption that this type of novel stimulus – particularly given the start-and-stop nature of the sound and vibration – would

**State of Hawai‘i, Dept. of Land and Natural Resources  
Division of Forestry and Wildlife (cont.)**

Mr. Nelson Ayers  
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increase the stress level, resulting in decreased body weight and likelihood of success of the fledglings.

We therefore recommend that the maximum 83 dB *cumulative* sound restriction and adequate monitoring and limitation of vibrations be extended to the entire breeding, nesting and fledgling period of Feb 1 through December 1.

13. **Spatial limitations of noise and vibration.** The USFWS assessment also indicates that the sound restriction would not apply to the project area near the petrel burrows (Figure 15). It is imperative that sound and vibration limitation be applied to this area as well, as their proximity to the known locations of ‘ua‘u and their burrows requires.

14. **Effects of increased traffic and exhaust on ‘ua‘u in burrows, or nēnē.** If the project’s truck traffic occurs in the day, it will result in greatly increased likelihood of collision with nēnē, a currently unauthorized form of take. Increased fumes may also have negative impact on nēnē, and if truck traffic is allowed at night, increased fumes may affect ‘ua‘u. Vehicular use associated with the project may, therefore, result in unavoidable take of either nēnē or ‘ua‘u, depending on the timing of truck use. This take should be authorized and mitigated under an approved license and plan.

15. **Estimates of Vibration Limitations for Burrow Collapse.** The current assessment is based on an unpublished paper by ATST project engineers (Barr, unpublished 2006, cited in Appendix M:12), which is unavailable to the reader. It is impossible to assess the accuracy, scope, sample size, sampling methodology, or other factors critical to determining the applicability of this study or its conclusions to the current project. As we understand it, this report was based on burrow entrance collapse. Partial or total collapse should be considered for the entire burrow length, including but not limited to the burrow chamber, and not be assessed solely on the basis of the entrance.

16. **Out-of-date and missing biological surveys.** Burrow surveys are out of date (>5 years past). There is also no evidence or consideration of nēnē nesting locations within or near the project area, so no assessment of impacts to nesting nēnē is possible at the current time. We strongly recommend a current burrow and nēnē surveys be performed in order to assess current impacts.

17. **Changes since USFWS Section 7 consultation.** Consideration of impacts to protected species by actions that have been added or changed since the 2006 DEIS, e.g., staging (2-22, 2-26), widening of shoulder (2-31, 2-32), Reber Circle (4-40,4-45), and those of ambiguous

**State of Hawai‘i, Dept. of Land and Natural Resources  
Division of Forestry and Wildlife (cont.)**

Mr. Nelson Ayers  
June 4, 2009  
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location, such as changes in power line pathways (2-39), location of fuel storage tank (2-41), placement of excess soil and rock (2-22), and staging area (2-26) have not been considered in the Section 7 consultation. Consideration of impacts from these actions to protected species should be assessed, and evidence presented. Some negative impacts appear to be unavoidable, e.g., reduction in nēnē habitat from widening of the shoulder. Any impacts will need to be avoided, minimized, and/or mitigated. If incidental take is likely to occur, authorization should be obtained before take occurs.

State of Hawai'i, Dept. of Land and Natural Resources  
Engineering Division



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
Office of Conservation and Coastal Lands  
POST OFFICE BOX 621  
HONOLULU, HAWAII 96809

BOARD OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
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HISTORIC PRESERVATION  
KAOLOAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

REF:OCCL:MC

corr MA-09-232

MEMORANDUM:

MAY 20 2009

To: DLNR  Office of the Chair  
 Historic Preservation Division  
 Forestry and Wildlife  
 DOCARE  
 Land Division  
 State Parks  
 Engineering

FROM: Samuel J. Lemmo, Administrator  
Office of Conservation and Coastal Lands

SUBJECT: REQUEST FOR COMMENTS  
Supplemental Draft Environmental Impact Statement  
Advanced Technology Solar Telescope  
Pu'u Kolekole, Haleakalā, Waiakoa District, Maui

APPLICANT: National Science Foundation

TMKs: (2) 2-2-07:08

The National Science Foundation has released the 3-volume Supplemental Draft Environmental Impact Statement for the proposed Advanced Technology Solar Telescope on Haleakalā, Maui. The 45-day public comment period will run through June 22, 2009.

The Office of Conservation and Coastal Lands (OCCL) will coordinate the response for the Department of Land and Natural Resources. We have a copy of the draft in our office for review; alternatively, you can view it online on the Department of Health's online EIS library at [oeqc.doh.hawaii.gov/default.aspx](http://oeqc.doh.hawaii.gov/default.aspx).

Please have all your comments to Michael Cain at OCCL by noon on Friday, June 19. We will not be able to extend this time period. If we do not receive a response from your office by then we will assume you have no comments.

Please contact Michael Cain at 587-0048, should you have any questions on this matter.

Comments Attached

No Comments

Signature

Date

6/12/09

**State of Hawai'i, Dept. of Land and Natural Resources  
Engineering Division (cont.)**

**DEPARTMENT OF LAND AND NATURAL RESOURCES  
ENGINEERING DIVISION**

**OCCL/MichaelCain**  
**Ref.: Supplemental DEIS Solar Telescope Haleakala**  
**Maui.461**

**COMMENTS**

- ( ) We confirm that the project site, according to the Flood Insurance Rate Map (FIRM), is located in Flood Zone \_\_\_\_.
- (X) **Please take note that according to the maps that you provided, it appears that the project site, according to the Flood Insurance Rate Map (FIRM), is located in an area of Minimal Tsunami Inundation. The National Flood Insurance Program does not have any regulations for developments within the Minimal Tsunami Inundation area.**
- ( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is \_\_\_\_.
- ( ) Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP) presented in Title 44 of the Code of Federal Regulations (44CFR), whenever development within a Special Flood Hazard Area is undertaken. If there are any questions, please contact the State NFIP Coordinator, Ms. Carol Tyau-Beam, of the Department of Land and Natural Resources, Engineering Division at (808) 587-0267.

Please be advised that 44CFR indicates the minimum standards set forth by the NFIP. Your Community's local flood ordinance may prove to be more restrictive and thus take precedence over the minimum NFIP standards. If there are questions regarding the local flood ordinances, please contact the applicable County NFIP Coordinators below:

- ( ) Mr. Robert Sumitomo at (808) 768-8097 or Mr. Mario Siu Li at (808) 768-8098 of the City and County of Honolulu, Department of Planning and Permitting.
  - ( ) Mr. Kelly Gomes at (808) 961-8327 (Hilo) or Mr. Kiran Emler at (808) 327-3530 (Kona) of the County of Hawaii, Department of Public Works.
  - ( ) Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.
  - ( ) Mr. Mario Antonio at (808) 241-6620 of the County of Kauai, Department of Public Works.
- ( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive a building permit and/or water meter.
  - ( ) The applicant should provide the water demands and calculations to the Engineering Division so it can be included in the State Water Projects Plan Update.
  - ( ) Additional Comments: \_\_\_\_\_  
\_\_\_\_\_
  - ( ) Other: \_\_\_\_\_  
\_\_\_\_\_

Should you have any questions, please call Ms. Suzie S. Agraan of the Planning Branch at 587-0258.

Signed: \_\_\_\_\_

ERIC T. HIRANO, CHIEF ENGINEER

Date: \_\_\_\_\_

6/12/09

## State of Hawai'i, Office of Hawaiian Affairs

From: Jason Jeremiah [mailto:[jasonj@oha.org](mailto:jasonj@oha.org)]

Sent: Monday, June 22, 2009 10:44 PM

To: Foltz, Craig B.

Subject: Supplemental Draft Environmental Impact Statement for the proposed Advanced Technology Solar Telescope at Haleakala High Altitude Observatory site, TMK (2) 2-2-007: 008, Ahupua'a of Papaanuio, Moku of Honua'ula, Island of Maui

Alohe e Craig B. Foltz,

Attached are comments from the Office of Hawaiian Affairs (OHA) regarding the Supplemental Draft Environmental Impact Statement for the proposed Advanced Technology Solar Telescope at Haleakala High Altitude Observatory site, TMK (2) 2-2-007: 008, Ahupua'a of Papaanuio, Moku of Honua'ula, Island of Maui. A hardcopy letter will also be sent in addition to this electronic mail submission.

Mahalo,

Jason Jeremiah

Jason Jeremiah

Policy Advocate, Preservation

Native Rights, Land, and Culture

Office of Hawaiian Affairs

711 Kapi'olani Blvd., Suite 500

Honolulu, Hawaii 96813

Phone: 808.594.1816

Fax: 808.594.1863

Email: [jasonj@oha.org](mailto:jasonj@oha.org)

## State of Hawai'i, Office of Hawaiian Affairs (cont.)

PHONE (808) 594-1888

FAX (808) 594-1865



**STATE OF HAWAII**  
**OFFICE OF HAWAIIAN AFFAIRS**  
711 KAPI'OLANI BOULEVARD, SUITE 500  
HONOLULU, HAWAII 96813

HRD09/1918/2048 O

June 22, 2009

Craig B. Foltz, Ph.D., ATST Program Manager  
Division of Astronomical Sciences  
National Science Foundation  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

**RE: Supplemental Draft Environmental Impact Statement for the proposed Advanced Technology Solar Telescope at Haleakalā High Altitude Observatory site, TMK (2) 2-2-007: 008, Ahupua'a of Papaauio, Moku of Honua'ula, Island of Maui**

Aloha e Craig B. Foltz,

The Office of Hawaiian Affairs (OHA) is in receipt of the above-mentioned letter dated May 2009. On behalf of the National Science Foundation (NSF), KC Environmental has provided the Supplemental Draft Environmental Impact Statement (SDEIS) for the proposed Advanced Technology Solar Telescope (ATST) at Haleakalā High Altitude Observatory site (HO) to our office. OHA has reviewed the document and offers the following comments.

The proposed project includes the construction, installation, and operation of the ATST at the HO. The trigger for this SDEIS is based upon the need for the National Park Service (NPS) to issue a Special Use Permit (SUP) for the operation of commercial vehicles on the road with the park.

Unfortunately, staff from OHA's Native Rights, Land and Culture staff were not able to attend the recent National Environmental Policy Act (NEPA) SDEIS Public Comment Hearings in Maui on June 3 and 4. In addition, we were not able to attend the National Historic Preservation Act (NHPA) Consultation Meetings from June 8-10.

Opposition has been continually expressed by a majority of the residents who participated in the environmental review processes for this project. The most recent June 2009 meetings were not exceptions. Local coverage by the newspapers expressed overwhelming frustration

## State of Hawai‘i, Office of Hawaiian Affairs (cont.)

Craig B. Foltz, Ph.D.  
June 22, 2009  
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from the Native Hawaiian community regarding the consultation process for this proposed project. The opinions expressed by the Native Hawaiian community members during the public review process indicate that the project has very little possibility of properly mitigating negative impacts to the traditional cultural landscape of the Haleakalā summit.

### **Proposed Construction Activities**

The entire proposed facility would include an area of 43,980 square feet of new building space, within a site footprint of 0.74 acres. According to the submission, the dimensions of the telescope need to be 43.5 meters (142.7 feet) in height and 25.6 meters (84.0 feet) in diameter. (SEIS 2-19)

The project proposes to remove 2,500 cubic yards of soil and rock in order to level the site in preparation for construction at the Mees Solar Observatory facility site. An additional 2,150 cubic yards of soil is also estimated to be excavated for construction purposes at that site for a total of 4,650 cubic yards of soil. (SDEIS 2-21) The disturbance and removal of the ‘āina creates severe impact upon the landscape of Haleakalā and will forever have an impact.

Figure 2-12 proposes that the foundation of the proposed project would include ground disturbing activities for the installation of pad and strip footings for the building columns and walls at a depth of approximately 1 meter deep. A utility tunnel with an anticipated depth of 3 meters (10 feet) would be necessary to connect the telescope to the utility building. Also, other utilities would need to be buried approximately 2 meters (6 feet) deep. (SDEIS 2-24) Concrete caissons (underground columns) extending from underneath the mat down would be required to be 1 meter (3 feet 3 inches) in diameter and of lengths varying from 2 meters (6 feet 6 inches) to a maximum of approximately 6 meters (20 feet). (SDEIS 2-24).

On-site staging areas for the project have been proposed on a leased Federal Aviation Administration (FAA) property at the open area southwest of the Faulkes Telescope. In addition to the proposed project’s footprint of construction, it is noted that an off-site staging area on private ranching lands in the Upcountry (Kula) area is being considered. (SDEIS 2-26) OHA asks whether this potential area has been included as part of the project area of this proposed project and whether it has been included in the evaluation during this SDEIS as it should have been.

### **Haleakalā is a Traditional Cultural Property**

According to the SDEIS, the summit of Haleakalā is a cultural resource and is eligible as a Traditional Cultural Property (TCP) under the National Park Service’s Criteria for eligibility to the National Register of Historic Places. It has been determined that the summit of Haleakalā is eligible for inclusion on the National Register because of its association with cultural practice or beliefs of a living community that are (Criterion A) rooted in that community’s history, and (Criterion B) are important in maintaining the continued cultural identity of the community. It is

## State of Hawai‘i, Office of Hawaiian Affairs (cont.)

Craig B. Foltz, Ph.D.  
June 22, 2009  
Page 3

also eligible under Criterion C because it is an example of a resource type, a natural summit, and a source for both traditional materials and sacred uses. (SDEIS 3-8)

The summits areas of mauna, such as Haleakalā, are the most sacred wao (regions) in the Hawaiian understanding of the ‘āina. It is in the realm of the akua, where people would frequent for ceremonial and religious purposes. The recognition of Haleakalā as a TCP is great; however, it seems that this recognition will have no weight on the decision to proceed with the project, to which OHA objects.

### **Mitigation of Cultural Effects**

As the summit of Haleakalā has been evaluated and determined to be a TCP during Section 106 consultation, this designation has still allowed the NSF and its contactors to proceed with the proposed project by continuing to propose strategies in order to mitigate adverse effects to Haleakalā. Three mitigation strategies have been offered to diminish the adverse effects of the construction of the proposed project.

The first mitigation strategy includes a program which will include the preservation of cultural resources the proposed ATST Project construction. According to the submission, “Sense of Place” training for everyone working at HO would be implemented and carried out by a Cultural Specialist. This Cultural Specialist would also be utilized as a Cultural Monitor during construction activities. According to the SDEIS, the Cultural Specialist must be a Kanaka Maoli, preferably a kupuna (elder) and if possible a kahu (clergyman) as well, and one who has personal knowledge of the spiritual and cultural significance and protocol of Haleakalā. (SDEIS 4-180) The Cultural Specialist’s knowledge should be concentrated in traditional and cultural practices and protocols and chosen through consultation with appropriate organizations and individuals with knowledge of such practices and protocols. OHA offers to assist in this effort and suggest organizations and individuals to consult with.

The second mitigation strategy offered is the development of a Memorandum of Agreement, within the guidance of Section 106 of the NHPA. A “public benefit package” was suggested in our office’s 2005 response to the DEIS. These programs were suggested because the proposed project area is on Ceded Lands which are Public Trust Lands, held in trust for our Native Hawaiian beneficiaries. OHA has a fiduciary duty to our beneficiaries to assure that these lands are used and treated properly. In addition, Public Trust Lands may be used for educational purposes and for the betterment of Hawaiians; therefore, OHA has requested that if the proposed project goes forward, part of the project should include a guarantee of training and education for Hawaiians.

A third mitigation strategy offered is the removal of the proposed ATST facility after its operational lifetime. This proposed “sunset” of the telescopes will ensure that there would be no long term adverse impacts to the summit of Haleakalā. After the lifetime of the telescope is completed, the facility would be taken down. If a “sunset” clause were to be implemented, this would need to be written in an enforceable legal document to ensure its compliance. According

## State of Hawai‘i, Office of Hawaiian Affairs (cont.)

Craig B. Foltz, Ph.D.  
June 22, 2009  
Page 4

to the submission, the lifetime of the proposed project would be at least 45 years once the telescope is operational. It states that NSF is “seriously considering decommissioning, deconstructing, or divestment of the proposed ATST project at the end of its productive lifetime.” The fear of this mitigation strategy is that this will not be followed through and other scientists could potentially have interest in using the facility. Assurances should be made, through a Memorandum of Agreement (MOA) for the disposition of the proposed project at the end of its life or a date set through consultation.

### **Lease for the project**

As noted earlier, the subject land is designated as Section 5(b) Ceded Lands, which hold a considerable amount of sentimental, historical and legal significance for Native Hawaiians and OHA. These lands were illegally taken from the Hawaiian Kingdom after the 1893 overthrow and later transferred (“ceded”) by the United States government to the State of Hawai‘i upon statehood. Today, the state holds the Ceded Lands corpus in trust for Native Hawaiians and the general public. OHA is supposed to receive a portion of all revenues generated on these lands. As such, we request that the state charge the applicant fair market value for the lease of the subject property for the project. OHA also requests that we receive our portion of the revenues derived from this project. In addition, we ask that the state Board of Land and Natural Resources’ consideration of the lease for this project be subject to Chapter 91 and Chapter 92, Hawaii Revised Statutes.

### **Consultation**

To date, consultation with our office has been through letters notifying us of opportunities to provide comment and attend NEPA and Section 106 consultation meetings. The comments our office have raised have been addressed through various drafts in the environmental process; however, no specific concern has been addressed directly by the lead federal agency or any of its contractors. Our office would appreciate any level of increased effort to directly consult with our office. This would include addressing any concerns we may have and also notifying our office of upcoming consultation meetings via mail, email, and telephone contact.

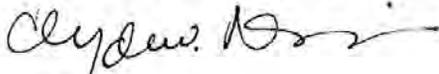
Haleakalā qualifies as a TCP in accordance with the NHPA and Section 106 regulations. It is not only considered an extremely important resource to Kanaka Maoli, but it remains one of the most sacred places in all of Hawai‘i. OHA’s position remains in opposition of the ATST telescope being built. However, our office will continue to participate in any future consultation towards the development of any future potential MOA or Programmatic Agreement.

**State of Hawai'i, Office of Hawaiian Affairs (cont.)**

Craig B. Foltz, Ph.D.  
June 22, 2009  
Page 5

Thank you for the opportunity to comment. If you have further questions, please contact Jason Jeremiah (808) 594-1816 or e-mail him at [jasonj@oha.org](mailto:jasonj@oha.org).

'O wau iho nō me ka 'ōia'i'ō,



Clyde W. Nāmu'ō  
Administrator

C: OHA Maui CRC Office

Katherine Puaana Kealoha, Director  
Office of Environmental Quality Control  
Department of Health  
REF: ATST  
235 South Beretania Street, Room 702  
Honolulu, HI 96813

Mike Maberry, Associate Director  
University of Hawai'i Institute for Astronomy  
34 Ohia Ku Street  
Pukalani, HI 96768

Charlie Fein, Ph.D  
KC Environmental, Inc.  
P.O. Box 1208  
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Laura Thielen  
State Historic Preservation Officer  
Department of Land and Natural Resources  
601 Kamokila Boulevard, Room 555  
Kapolei, Hawai'i 96707

Elizabeth Gordon  
Cultural Resources Program Manger  
Haleakalā National Park  
National Park Service  
P.O. Box 369  
Makawao, Hawai'i 96768

## Comment/Response - State of Hawai'i, Office of Hawaiian Affairs

----- Original Message -----

Subject: ATST SDEIS - public comment

Date: Tue, 19 May 2009 10:26:08 -1000 From:

Lisa Asato <lisaa@oha.org> To: jwagner@nso.edu CC: skeil@nso.edu, atst@nso.edu

Good morning,

I'm writing to you from a newspaper in Hawaii, Ka Wai Ola, which is produced by the Office of Hawaiian Affairs. I'm trying to find information about a public comment period for the supplementary draft environmental impact statement for the ATST.

When does the comment period end? And where do people send their comments to?

This information would run with two opinion pieces on the National Science Foundation's desire to house the ATST on Haleakala. The two pieces reflect pro and con opinions. It will be published in our June issue.

Your quick response would be greatly appreciated.

Thank you,

Lisa Asato Ka Wai Ola, Editor

Public Information Specialist

Office of Hawaiian Affairs

\*\*\*\*\*

Hi Lisa,

On behalf of the proposed ATST Project, thank you for your inquiry. Mr. Clyde Namuo of OHA was sent the attached cover letter with a CD of the SDEIS just prior to it becoming public on May 8, 2009. The cover letter provides information about the SDEIS Public comment period, information for both the NEPA public hearings and the NHPA Section 106 consultation meetings scheduled in June, and web addresses. The 45-day public comment period is from May 8, 2009 until June 22, 2009. For your convenience, the websites are also provided below:

The National Science Foundation's Environmental Compliance: <http://atst.nso.edu/nsf-env>

The SDEIS: <http://atst.nso.edu/SDEIS>

The NSF's Compliance with Section 106 of the NHPA: <http://atst.nso.edu/library/NHPA>

Also attached is a newsletter from the National Park Service that was just mailed out yesterday. Mr. Namuo is also a recipient of this newsletter.

We look forward to your piece about the proposed ATST Project in Ka Wai Ola. Thank you for your interest in this project.

Take care,

Sharon Loando-Monro

KC Environmental, Inc.

Planning Projects Manager

\*\*\*\*\*

Thank you, Lisa

Lisa Asato

Ka Wai Ola, Editor

Public Information Specialist

Office of Hawaiian Affairs

# State of Hawai'i, Dept. of Transportation

LINDA LINGLE  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

BRENNON T. MORIOKA  
DIRECTOR

Deputy Directors  
MICHAEL D. FORMBY  
FRANCOIS PAUL KEENO  
BRIAN H. SEKIGUCHI  
JIRO A. SUMADA

IN REPLY REFER TO:

STP 8.3265

May 22, 2009

Mr. Craig Foltz, Ph.D.  
ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, Virginia 22230

Dear Mr. Foltz:

Subject: Advanced Technology Solar Telescope (ATST), Haleakala, Maui, Hawaii,  
Supplemental Draft Environmental Impact Statement (SDEIS)

Thank you for requesting the State Department of Transportation's (DOT) review of the subject plan. DOT understands that the subject project involves the placement of an ATST at an observation site containing other astronomical instrumentation and support facilities on Haleakala. Access is from Haleakala Crater Road (Route 378).

The DOT Highways Division Planning Branch, telephone number (808) 587-1930, submits the following comments.

1. No Traffic Impact Analysis Report (TIAR) was provided. However, given the limited number of staff at the site, it is unlikely that the completed project would generate significant traffic impacts.
2. The available analysis was limited more to determining the impact on the pavement of Haleakala Crater Road, rather than the operational traffic impact of the heavy construction equipment.
3. The applicant's contractor should coordinate with the DOT Highways Division Maui District Engineer, telephone number (808) 873-3538, to ensure coordination of vehicle movements and compliance with any necessary procedures. This coordination should also include discussions of the need for any Oversize and Overweight Vehicles Permits to cover any transport of large equipment on State highway facilities leading to the site. Contingency plans should also be coordinated to ensure that the District Engineer is notified in a timely fashion whenever there is damage to State highway facilities. The contractor is responsible for remediation of any damage that occurs from the movement of construction vehicles.

DOT appreciates the opportunity to provide comments. If there are any other questions, please contact Mr. David Shimokawa of the Statewide Transportation Planning office at (808) 587-2356.

Very truly yours,

*Francis Paul Keeno*

*fpo* BRENNON T. MORIOKA, PH.D., P.E.  
Director of Transportation

c: Katherine Kealoha, Office of Environmental Quality Control  
Mike Maberry, University of Hawaii Institute for Astronomy  
Charlie Fein, Ph.D., KC Environmental, Inc.

# University of Hawai‘i, Environmental Center

Water Resources Research Center  
Environmental Center



UNIVERSITY  
of HAWAII®  
MANOA

June 22, 2009  
RE: 0792

Craig Foltz  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Dear Mr. Foltz:

Supplemental Draft Environmental Impact Statement  
Advanced Technology Solar Telescope  
Makawao, Maui

The National Science Foundation proposes to construct an Advanced Technology Solar Telescope (ATST) facility at the summit of Haleakala on 0.86 acres of land within the 18.166 acre University of Hawaii (UH) Institute for Astronomy (IfA) Haleakala High Altitude Observatories (HO) site. The preferred site is located east of the existing Mees Solar Observatory. The alternative site is another location within HO – a currently unutilized site known as Reber Circle. A No-Action Alternative is also analyzed in the document. The primary goal of the proposed project is to better understand solar magnetic activities and variability. The ATST Supplemental Draft Environmental Impact Statement (SDEIS) is a joint Federal and State of Hawaii document prepared in compliance with Federal National Environmental Policy Act (NEPA) regulations and the State of Hawaii Chapter 343, Hawaii Revised Statutes. The SDEIS is also prepared with the intent of evaluating potential environmental impacts associated with issuing a National Park Service Special Use Permit application to operate commercial vehicles on the Haleakala National Park road during the construction process and operational phase of the proposed project.

This review was conducted with the assistance of Richard Mayer, Maui Community College; Jacquelin Miller, Environmental Center; and Ryan Riddle, Environmental Center.

## General Comment

Our reviewers found preparation of a meaningful review of the SDEIS to be particularly difficult and time consuming due to the overall verbiage of its format and the extensive use of acronyms throughout the text. Throughout the document there are frequent duplications of sentences and incorrectly numbered figures and sections as a result of what appears to be cut and paste word processing. The document is also lacking in in-text references – an issue that makes cross-reference between the Executive Summary, Description of Affected Environment (Section 3.0) and Summary of Environmental Consequences Cumulative Effects and Mitigation (Section 4.0) particularly difficult. These factors all serve to frustrate the reader's ability to objectively review the text. As for

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## University of Hawai'i, Environmental Center (cont.)

June 22, 2009

Page 2

the plethora of acronyms, even a modest effort to write out the full name of the abbreviated term every few pages would make reading the document infinitely more user friendly.

In addition to our general comment, we also have several specific comments.

### **Electrical Systems** (p. ES – 41)

In regard to the provision of electrical power for the proposed project, the document states, “With this upgrade, there should be sufficient capacity to handle activities at the Mees or Reber Circle sites”. In this sentence the word “should” needs to be replaced with the word “will”.

### **Other Required Analyses** (p. ES – 45)

In reference to environmental impacts from implementation of the proposed project at either the Mees or Reber Circle site the SDEIS states, “No major effects were identified that could not be mitigated to a less minor level”. This use of a double negative is confusing to the reader.

### **Reasonably Foreseeable Future Actions** (p. ES – 46)

Mention is made of the proposed Satellite Laser Ranging (SLR) station that would be installed on the southwestern side of the Mees Solar Observatory. Is that action in any way related to or dependent upon ATST site selection? What possible effects could the SLR station have upon the ATST facility? Will the SLR station require an additional structure at the Mees site? What is the anticipated schedule for the implementation of the SLR project?

### **Topography, Geology, and Soils** (p. ES -53)

This paragraph references using native soils and rock to “restore the pu`u at Reber Circle from its present truncated cone shape to a closely rounded natural appearance” thereby adding an estimated 24 feet of additional height. Given the concerns expressed by the Hawaiian community for soil stability, preservation, and general protection of the mountain, additional information on the potential impacts of such an earth moving/building project warrants greater explanation. This is mentioned as a possible mitigation measure and an alteration of topography yet it is not discussed further in Section 4.

### **Project Location** (p. 1-2)

In the last paragraph on page 1.1 the total area of the project is given as 0.86 acres. The document states that this figure includes the leveling area, buildings, and paved pads. In Section ES-2.4 (p. ES-7) the SDEIS states, “The entire facility would include approximately 43,980 square feet of new building space within a site footprint of 0.74 acres.” We assume that the figure given in the executive summary does not include the entire leveling area and paved pads. It would be helpful to have a breakdown of the square footage required for each of the project’s various components.

## University of Hawai'i, Environmental Center (cont.)

June 22, 2009

Page 3

### **Site Selection Chronology (p. 2-2)**

In the first paragraph on page 2-2 the SDEIS states that the criteria that formed the basis for the elimination of the other 66 sites are discussed in Section 2.2.2 – Site Selection in Detail. There is no Section 2.2.2 in the text, however, there is a Section 2.3.1 titled “Site Selection in Detail”.

### **Response to Public Comment Regarding Alternative Siting on Haleakala (pp. 2-6 - 2-7)**

The SDEIS inadequately explains why a space-based telescope is not completely evaluated as one of the alternative sites. It would seem that a space-based telescope would have many of the advantages that were found at Haleakala and would avoid the need for “adaptive optics”.

The SDEIS limited its alternatives analysis to the 18 acre site operated by the UH IfA. A potentially superior site, perhaps in the saddle to the southwest of the 18-acre site, was only mentioned and did not receive detailed evaluation in the text. This alternative site could potentially avoid many of the visual problems of being located so close to Haleakala National Park. The site also may avoid some of the problems with Hawaiian cultural sites.

### **Features of Infrastructural Design (pp. 2-19 – 2-20)**

In literature supplied at one of the scoping meetings it was mentioned that a potential solution to the considerable ground heat at the location would be the installation of a white apron extending approximately 10 meters from the telescope’s base. It is further stated that this white apron would provide numerous benefits such as reducing the height of the telescope, containing spilled lubricating oil and collecting water runoff. This design element is never discussed in the SDEIS. If the white apron were built, what would be the needed telescope height?

### **Electricity (p. 2-39)**

In this paragraph the SDEIS discusses the electrical needs of the project. Were photovoltaics among the options considered? Given the local conditions this seems to be a suitable alternative.

An upgrade to Maui Electrical Company’s (MECO) HO sub-station is mentioned in this section. However, no mention is made as to who will pay for the upgrade. Will this burden fall upon the general population of Maui?

Also mentioned is a MECO-funded study that was conducted to identify economizing strategies for the proposed project. Can you summarize the potential strategies that were identified as a result of the study?

### **Features of Infrastructural Design (p. 2-41)**

In Section 2.5.1 the SDEIS mentions the need for a new above ground fuel storage tank to support the back-up generator at the Reber Circle site. The document states that the proposed

## University of Hawai'i, Environmental Center (cont.)

June 22, 2009

Page 4

location and capacity of the tank have yet to be determined. It would seem that the volume of fuel needed to operate the emergency system over the expected life of an emergency can be calculated. What is the capacity of the Mecs fuel storage tank and where is it located relative to the proposed structures?

### **Haleakala Summit as a Traditional Cultural Property** (pp. 3-8 – 3-9)

On pages 3-8 and 3-9 the SDEIS states, "Native Hawaiian stonemasons erected the West and East ahu for ceremonial use by Kanaka Maoli at HO in 2005 and 2006, respectively . . . Although the purpose of this construction was to restore structures previously existing on Haleakala, the original structures were not necessarily in the particular locations where the new ahu were erected". Is there any previous documentation (oral or written) of the use of the sites where the ahus were constructed in 2005 and 2006?

### **Visitor Use and Experience** (p. 3-46)

In regard to a 2007 survey given to visitors exiting HALE the SDEIS states, "HALE has indicated that this survey is significantly flawed and likely biased and there are significant technical errors in the instrument and related reporting. Also, HALE indicated that the conclusions are based on an insufficiently designed and administered survey." The SDEIS then seems to agree with the stated flaws while proceeding to draw conclusions from the results. Do plans exist for conducting a revised survey based upon recognized flaws in the 2007 survey? The SDEIS should not make the statement that "approximately 60 percent of respondents did not care if the new observatory was built" based on data that is recognized as being significantly flawed.

### **Natural Hazards** (p. 3-70)

In this section mention is made of closing the Park road whenever weather conditions become critical and serious enough to warrant protecting human life. How often does closing of the road occur and for what duration in any given winter? Will this present a problem for construction or safety during erection of the facility?

### **Earthquakes** (p. 3-71)

In the description of earthquake risk the SDEIS states, "Any repeat of the 1871 Lana'i earthquake would affect the project site. Mitigation of this risk is discussed in Section 4.17.14 – Natural Hazards". Section 4.17.14 is titled Air Quality, not Natural Hazards. Did you mean Section 4.18.14?

### **Land Use and Existing Activities** (p. 4-6)

This section mentions the FAA's 2007 issuance of a Notice of Presumed Hazard regarding probable radio frequency shadowing at the FAA RCAG facility. This issue seems to be of critical importance and perhaps one of the most significant impacts of the proposed project. This topic is

## University of Hawai'i, Environmental Center (cont.)

June 22, 2009

Page 5

only briefly discussed in the text and possible mitigation measures are never mentioned. Solutions to this navigation concern must be fully addressed in the Final SEIS.

### **Cultural, Historic, and Archaeological Resources** (pp. 4-7 – 4-14)

What is the time frame for the Memorandum of Agreement (MOA) / Programmatic Agreement (PA) and Section 106 consultation process? This is an issue that should have been resolved prior to issuance of the SDEIS and one that should be fully addressed in the Final SEIS.

### **Visual Resources and View Plane** (pp. 4-29 – 4-75)

The SDEIS does not mention the type of paint to be used in coating the exterior of the telescope facility. In scoping meetings it was pointed out that the white paint would be “extremely reflective” - much more so than the highly visible neighboring AEOS telescope. Consequently, the visual impact of the 143 feet high ATST will be amplified by its reflected radiance. The Final SEIS should discuss the impacts that this will have upon visual resources and view planes.

### **Visitor Use and Experience** (pp. 4-75 – 4-80)

Of particular concern are the 250-foot crane and smaller 100-foot cranes that will be utilized for many years during construction. These visual and aural disturbances (individually and in combination) are most certainly a significant environmental impact. Over the course of 7 years over 7,000,000 visitors will be impacted.

### **Communications Systems** (p. 4-92)

The SDEIS mentions that the location of the Maui base facility and ATST data repository has yet to be determined. How can one state that there is no impact to communication systems given that there is no description or evaluation of the facilities, equipment, and locations? In this section there is also reference to communication links via a fiber optic cable. The SDEIS states, “Connectivity from the site to the base headquarters would use existing dark optical fiber from the proposed ATST Project.” Does the connectivity refer to the military’s computer located in Kihei, to the Waiakoa Astronomy facility in Kula, to the new astronomy building constructed in Kula Malu in Pukalani or does it apply to all of these locations or none of these locations? This issue should be resolved in the Final SEIS.

### **Employment, Economics, and Income** (p. 4-112)

The economic analysis provided in the SDEIS is lacking. Section 3.12.1.2 fails to describe the major economic activity on Maui, namely tourism. It fails to mention employment in tourism as well as tourism dependency. Additionally, Section 4.12.2 does not mention how the proposed project could potentially alter the visitor experience and therefore the economic benefits associated with Maui’s tourist industry. The Final SEIS should include this as part of the economic study.

## University of Hawai'i, Environmental Center (cont.)

June 22, 2009

Page 6

### **Effects of Past, Present and Reasonably Foreseeable Future Actions (pp. 4-127 – 4-128)**

There are additional new projects at Haleakala in addition to the ATST: Pan-STARRS, the NASA Transportable Laser Ranging System, and the AEOS Mirror Coating Facility. What are the cumulative impacts associated with these projects? Do they each have a separate CDUA? If so, how will the DLNR Board be able to consider cumulative impacts?

Thank you for the opportunity to review this Supplemental Draft EIS.

Sincerely,

Peter Rappa  
Environmental Review Coordinator

cc: OEQC  
Charlie Fein, KC Environmental, Inc.  
Mike Maberry, UH Institute for Astronomy  
James Moncur, WRRC  
Richard Mayer  
Jacquelin Miller  
Ryan Riddle

**University of Hawai'i, Office of the Vice Chancellor  
For Research and Graduate Education**



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Office of the Vice Chancellor  
for Research and Graduate Education

June 24, 2009

Dr. Craig Foltz  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Dear Dr. Foltz:

**SUBJECT:** Mr. Peter Rappa's Comments on Supplemental Draft Environmental  
Impact Statement Advanced Technology Solar Telescope (ATST)  
Makawao, Maui

I have reviewed the comments submitted to you from Mr. Peter Rappa, who is a University of Hawai'i (UH) extension agent and indicates an affiliation with the UH Environmental Center, within the Water Resources Research Center, as an Environmental Review Coordinator. The UH supports and promotes academic freedom and encourage individual faculty members to respond to requests for public comment. However, after reviewing Mr. Rappa's comments submitted to you on the Environmental Center's letterhead, it should not be assumed that these views are those views of the Center, its employees, or affiliates.

I want to assure you that the University is still extremely enthused that Haleakala was chosen over more than seventy sites around the world as the best site from which to study the sun with the world's largest most advanced solar telescope. We sincerely appreciate that you have shown respect for the site and the community by undertaking a joint Federal and State of Hawai'i Supplemental Draft Environmental Impact Statement, and that you have acknowledged the area's cultural significance and are engaged in consultations in accordance with the National Environmental Policy Act.

Should you have any questions, please do not hesitate to contact me via phone, (808) 956-7837, or email at [gko@hawaii.edu](mailto:gko@hawaii.edu).

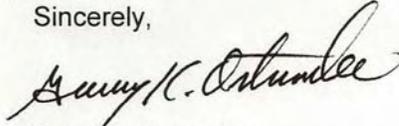
2500 Campus Road, Hawai'i Hall 211  
Honolulu, Hawai'i 96822  
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**University of Hawai'i, Office of the Vice Chancellor  
For Research and Graduate Education (cont.)**

Dr. Craig Foltz  
June 24, 2009  
Page 2

Sincerely,



Gary K. Ostrander  
Vice Chancellor for Research and Graduate Education

c: ✓ Charlie Fein, KC Environmental, Inc.  
Rolf Kudritzki, Director, Institute for Astronomy, UH-Mānoa  
Michael Maberry, Institute for Astronomy, UH-Mānoa  
Jim Gaines, Vice President for Research, University of Hawai'i  
Virginia Hinshaw, Chancellor, UH-Mānoa  
James Moncur, Director, Water Resources Research Center, UH- Mānoa  
Peter Rappa, Coastal Research Mgmt Extension Agent, UH-Mānoa

# U.S. Dept. of the Interior, National Park Service, Haleakalā National Park



## United States Department of the Interior

NATIONAL PARK SERVICE  
Pacific West Region  
1111 Jackson Street, Suite 700  
Oakland, California 94607-4807



IN REPLY REFER TO:  
L7621 (PWRO-PP)

JUN 25 2009

Dr. Craig Foltz, ATST Program manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Dear Dr. Foltz:

The National Park Service (NPS) appreciates the opportunity to review the Supplemental Draft Environmental Impact Statement for the Advanced Technology Solar Telescope (SDEIS). The NPS acknowledges the spirit of cooperation extended by the National Science Foundation (NSF) project team and understands that the accelerated time frame for completion of the SDEIS has presented a substantial challenge requiring many long hours of work. Although we continue to have concerns with both the process and the analytical conclusions presented in the document, it is evident that the document has been improved.

Our comments on the SDEIS are organized in the following manner. General comments summarizing our primary concerns are contained within the body of this letter. Detailed comments covering specific points and factual errors within the document have been categorized by chapter and impact topic and are included in attachment 1.

As you are aware, the supplemental document was issued by the NSF, in part, to analyze the effects of commercial vehicle traffic traveling on the park road. Generally, commercial traffic on park roads is prohibited by 36 CFR § 5.6 with few exceptions. One such exception is that the *"Superintendent shall issue permits for commercial vehicles used on park roads when such use is necessary for access to private lands situated within or adjacent to the park area, to which access is otherwise not available."* The decision to issue or deny a permit for a special park use flows from the appropriate compliance under the National Environmental Policy Act (NEPA), §106 of the National Historic Preservation Act of 1966 (NHPA), and other applicable laws. Although the Superintendent may require the applicant to prepare this documentation, the NPS remains responsible for its content. With that in mind, the NPS remains concerned that the informal §7 consultation with the US Fish and Wildlife Service (USFWS) will not adequately cover the proposal and associated mitigation as currently described. New measures that should be discussed with the USFWS include the proposed hazing of Nene at the park's entrance station, changes to the road shoulder, and night time driving of oversize loads through the park. Because the consultation document will form the basis for determining what specific mitigation may be required for issuance of the special use permit, it is essential that the document be complete. Conversationally, the project team has indicated that the NSF would be seeking formal §7 consultation, but that is not documented in the SDEIS. The NPS would appreciate clarification in this matter.

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The NPS appreciates the willingness of the NSF to include mitigation in the SDEIS to lessen the effects of commercial vehicle traffic through the park. The NPS believes that issuance of the special use permit will proceed smoothly once our concerns regarding the consultation process are addressed.

The NPS has several general concerns with the SDEIS. These include: use of some unsubstantiated conclusions in the analysis, inconsistent findings of effect from one section to another, and most importantly a lack of acknowledgement and understanding of the park's purposes as per Congressional act establishing Haleakala National Park ... its use and enjoyment - and the Congressionally designated Haleakala Wilderness within its boundary.

While an accurate description of the park is valuable in itself, even more important is how an adequate description of the area of potential effect properly informs analysis of potential impacts of the proposed project on the park and its visitors. No discussion of Haleakala is found until Section 3 (page 3-2) and then it appears in an overly truncated manner. The document continues to take lightly the analysis of several topics which are of primary concern to the NPS. These analyses include visitor experience, visual quality, cultural resources and threatened and endangered species. For example, the SDEIS arrives at a finding of a beneficial effect on visitor experience because interested visitors would be offered "*new science and technology education*" and "*new tour opportunities.*" This finding is more a statement on the potential use of the telescope than it is an assessment of the adverse effects to visitors who are actually using and appreciating the park for its purposes and resources. This indicates a lack of understanding of the basic tenets under which Haleakala was created and misconstrues the purposes of the park. Use of the telescope is not tantamount to use of the park. Moreover, neither NSF nor NSO have proposed that "*tours*" of the facility be a part of the "*Project.*" In fact, "*tours*" are not even proposed as "*mitigation.*"

Similarly, the finding that the No-Action alternative would have a negligible adverse effect on the Kolekole ua'u colony because less information would be available on their behavior and population takes lightly the severity of the adverse effects described in the analysis. This finding appears to indicate that the construction activities are beneficial because scientists would be afforded the opportunity to observe what petrels do when their nests are disturbed by construction noise, vibration and exhaust. The statement also indicates that the NSF is unaware or dismissive of petrel monitoring currently conducted by the NPS and DLNR.

Two additional issues merit comment here. First, the thresholds at pages 4-76 to 77 are written as if the ATST project is a proposal of the NPS or the action is proposed for the benefit of Haleakala. As reviewers of the SDEIS will be aware, it clearly is not. For example, the "*Intensity Description*" for the "*major*" effect states that "*Visitors would be highly aware of the effects associated with the changes proposed for visitor use and enjoyment of the Park resources.*" The ATST Project does not involve "*changes proposed for visitor use and enjoyment*" but does present the potential to affect visitor use and enjoyment of the park. The thresholds should be changed to reflect this.

Secondly, the NPS is concerned with the lack of an explanation as to how the conclusions of potential impacts in the SDEIS were reached. For several resource topics that are significant to resources at Haleakala, the measures of effects, the process for measurement, the data used to make the evaluations, and the conclusions reached are not adequately explained. Of primary concern is the analysis in Section 4.5 – Visual Resources and View Plane. On page 4-30, the SDEIS describes both "*qualitative*" and "*quantitative*" aspects. The description of the "*qualitative*" measurement, however, does not explain how the percent levels were selected or why these numbers make sense or how they

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(cont.)

represent an adequate measurement. Similarly, actual analysis of potential effects (pages 4-60 – 4-75) does not explain how the measurements were made (using the percentages in the EIS) or how the data was collected or analyzed. In addition, there is no explanation of how the “qualitative” impacts were factored into the analysis. Overall the analyses, measurements, and threshold comparisons appear to have been selected and applied arbitrarily. The document would be improved by citing qualified sources for all methodologies, metrics and measures used.

NPS believes that an adequate analysis—both quantitative and qualitative—would show that the impacts of the proposed ATST would be adverse, major and long term on the visual resources at key points along the summit. Similarly, the impacts to the visual resources of the existing facilities at the HO are adverse, major and long term and the addition of the proposed ATST would add significantly (i.e. major and adverse) to that existing impact. This is an abject demonstration of cumulative impacts on visual quality, and by extension, on visitor experience that should be disclosed as such in the SDEIS.

The SDEIS discusses a survey of park visitors commissioned by NSO (page 4-78). As noted in the SDEIS, the NPS has stated that this survey is not scientifically valid, and therefore, the data and analysis in the survey cannot be reliably used in the evaluation of effects of the proposed project on park visitors. We refer you to the attached review and comments provided by Dr. Steve Lawson, Assistant Professor of Social Sciences, Virginia Tech University. Again, the lack of an objective and professionally conducted analysis calls into question the legitimacy of conclusions about severity of environmental consequences.

Conversely the SDEIS omits discussion of a NPS study of visitors to Haleakala (NPS 2000) which indicates that the primary reasons for visiting the park were scenic driving and watching the sunrise. This same survey also found that the sites most often visited were the Pu’u Ula’ula Overlook and the Haleakala Visitor Center. Findings of moderate adverse or major adverse are also drawn under the topics of cultural resources and visitor experience. Clearly, the park’s purposes would be hindered given these, and other, SDEIS conclusions of impact.

A basic tenet of NEPA (42 CFR 1502.8) requires that environmental analysis be presented in clear and concise language. The SDEIS includes analytical conclusions that are unsubstantiated by the analysis or are in direct conflict with conclusions presented elsewhere in the document. For example, the analysis presented for land use at Section 4.1.3 states: *“The proposed ATST Project would not hinder the park’s purpose ‘to conserve the scenery and the natural and historic resources and the wildlife therein and to provide for the enjoyment of the same in such a manner and by such means as to leave them unimpaired for the enjoyment of future generations.’”* The rationale given for this conclusion is that *“the project would not constitute an impact on the land use resources in a way that would affect the cultural or natural integrity of Haleakala National Park since HO has previously been used as a site for other observatory facilities under CDUPS issued by DLNR and no terms or conditions have been imposed by DLNR on any past or present action to mitigate the loss of visual, biological or other reasons.”* This rationale implies that because there were no mitigation measures imposed on previous projects that the proposal (though different in location and scope) would have no effect. This rationale is clearly flawed and is in direct conflict with the analytical conclusions presented for other impact topics. For example, the analysis of effects on Visual Resources indicates that the effect of the action alternatives on the view (scenery) from the Pu’u Ula ula Overlook and elsewhere in the park would be major or moderate, adverse and long-term. This finding indicates that the proposal would indeed hinder the park’s ability to fulfill its purpose to conserve the scenery. It is unclear to the NPS what is intended by the SDEIS authors, and what the actual impact disclosure is.

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(cont.)**

Given the very difficult time constraints the NSF is under to produce this document, it is understandable that a draft document would require editing, however the SDEIS continues to contain findings which are inconsistently presented and unsubstantiated by the analysis. Furthermore the language used in many sections is neither objective nor clear. It should be acknowledged that the purposes for which this SDEIS is being produced are not a complement to the park, or the public uses for which it is enjoyed, but rather detracts from those purposes. The SDEIS would be improved by such an acknowledgement, and by a straightforward expression of the adverse effects upon the park and its visitors.

Haleakala National Park is a land of spectacular scenery and great cultural importance; these attributes were recognized by congress in 1916 and again in 1961 when the park was created as Haleakala National Park. The NPS believes that protection of the irreplaceable resources and superlative values of Haleakala National Park depends upon complete, accurate and objective analysis of the full effects of the proposed ATST. Consequently we are committed to cooperating with the NSF in the preparation of the Final EIS. Towards that end, please contact Superintendent Sarah Creachbaum, (808) 572-4445, for any clarification needed about our concerns or for further information.

Sincerely,



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(cont.)**

**Attachment 1**

**National Park Service Detailed Comments on ATST Supplemental Draft EIS**

The following detailed comments correspond to the SDEIS. Each comment is identified by a page number and/or section number.

**Introduction**

1-27/1.5.2

The subsection "Planned Projects at HALE, Park Road Corridor" should include the park's plan to slurry seal the upper two miles of the park road in 2011. The NPS also plans to rehabilitate the park road between MP11.2 -14.8 within the next five years. The effects of these projects should be analyzed as "reasonably foreseeable future actions" in the cumulative impacts analysis section in Chapter 4 of the SDEIS.

1-28/1.6.4

There is potential direct effect on endangered 'ua'u. If large trucks (greater than class 5) are to pass through the park at night while endangered 'ua'u are at their nesting burrows, the exhaust, noise and vibrations of the truck may cause nest abandonment (before, during and after incubation) and/or mortality of chicks resulting from nest abandonment. Please refer to the comments on Mitigation Measures for clarification.

**Proposed ATST Project and Alternatives**

2-2/2.3.1

The NPS finds that the site selection discussion does not fully explain the analysis of how the Haleakala site became the final and only location for ATST. The existing analysis does not provide a full analysis of the final three sites nor does it provide a clear justification and comparative analysis of "trade-offs" (i.e. impacts on adjacent resources) for this decision.

2-23/2.4.4

Large vehicles should not travel through the park at night when 'ua'u are in their burrows (February-October). Disturbance from travel during the day could occur, but may be minimal. Additional Section 7 consultation with USFWS is recommended if night time driving is to occur.

**Description of Affected Environment**

3-37 Figure 3-6

The map of petrel locations is from 2005. A survey for new burrows is needed. If new burrows are found near the proposed construction site, additional Section 7 consultation with USFWS will be necessary.

3-40/3.3.3.3

Although effort was made to determine the invertebrate Species of Concern in the ROI for the ATST, this information is not accurate. See the attached memo from Raina Kaholoa'a, NPS Biologist, for a detailed description of invertebrate resources.

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(cont.)**

3-46/3.6

The NPS notes that (Office of Management and Business) OMB approval was not given for the visitor survey. It was explained to the NPS that OMB issued a waiver for this survey. We believe that the waiver should be referenced and included in an appendix of the EIS.

3-47/3.6

The text incorrectly cites information from NPS visitor surveys and studies. The NPS visitor survey conducted in 2000 by the University of Idaho is not the same as the NPS study conducted between 2007 and 2008 (Lawson et al 2008) about backcountry visitor use. The EIS should include the information from the 2000 NPS visitor survey about the primary reasons visitors visit the summit area of the park: 1) sightsee/scenic driving and 2) watching sunrise. The 2000 NPS visitor survey also provides information that the most visited areas in the summit area of the park were the Pu'u Ula'ula Overlook and the Haleakala Visitor Center.

3-56/3.9.4

The following information from the 2009 FHWA report should be added to the EIS (page 30) "The factors that will most significantly impact the [park] roadway and result in damage will be if the estimated ATST construction traffic is much higher than anticipated and the construction vehicle loading exceed legal load limits." The data about culverts with the least amount of cover is incorrect. Table 8 of the 2009 FHWA report states two culverts (Site #26 and 68) have very little cover.

3-57/3.9.4

Delete the statement. "HALE is conducting traffic studies to develop a Draft Traffic Management Plan to address parking and visitor traffic volume congestion at the summit." NPS is not doing this study.

3-59/3.10

2007 and 2008 vehicular and bus traffic data is incorrect. Table 9 of the 2009 FHWA report states total vehicular entering the park in 2007 = 200,320 and 2008 = 182,906. Out of those total vehicles in 2007, 9125 were buses and in 2008, 6570 were buses.

**Summary of Environmental Consequences, Cumulative Effects and Mitigations**

**Land Use and Existing Activities**

4-4/4.1.2

The statement -- 'The proposed ATST project would not hinder the Park's purpose "to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as would leave them unimpaired for the enjoyment of future generations," or prevent the NPS from continuing its conservation work to meet its guiding mission of preservation.' should be deleted. Based on analysis the proposed action would not only hinder the NPS, but would prohibit our ability to conserve the scenery and other resources leaving them unimpaired for the enjoyment of future generations. This statement is in direct conflict with statement in 4.17.9 (pg 4-148) which reads, "However considering noise, visual losses and air quality effects, when combined with the past and present actions at HO, construction of the proposed ATST Project would result in major, adverse, and long-term effects on the experience of visitors to the Pu'u Ula'ula Overlook, Sliding sands Trailhead and HALE areas adjacent to HO.

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(cont.)**

**Cultural, Historic and Archeological Resources**

4-8/4.2.2

The statement “Although not nearly as prevalent, there was testimony in support of the proposed ATST Project, in most instances, supporters strongly rallied for education of Hawaii’s youth and the possible opportunities that such a facility might bring to Native Hawaiians.” should be deleted. This statement is argumentative and unsupported in the SDEIS. This statement is advocating for the project rather than analyzing the impacts.

4-9/4.2.2

The Cultural Resources subsection for the Mees Site states “On-going operations of the proposed ATST Project would have a major, adverse, and long-term effect on cultural resources; however implementation of mitigation measures would reduce the effect intensity to a moderate adverse, long-term level.” This conclusion is unsupported and the SDEIS does not contain an analysis of how the proposed mitigation would lessen the impact.

4-10/4.2.2

The Cultural Resources subsection for the Mees Site states “the noise resulting from the construction and operations of the proposed ATST project will have, during certain times of the day and during certain months, major, adverse impacts on the ability to conduct such practices. Mitigation measures imposed by USFWS and HALE would reduce those noise levels to a negligible level during certain hours of the day and during certain months of the year due to restrictions on noise-generating activities.” Mitigation measures cited as imposed by USFWS were to reduce impacts the ‘ua`u (Hawaiian petrel). Mitigation measures cited as imposed by HALE were to reduce impacts to visitor experiences at sunrise and sunset. These measures may not be relevant to what would mitigate traditional cultural practices impacts from noise. The analysis does not make a case for how proposed mitigation lowers traditional cultural practices impacts from major to negligible.

4-10/4.2.2

The NPS disagrees that the impacts to traditional cultural practices from noise within the park road corridor during ATST-related construction traffic would be negligible, adverse, and long-term. The analysis in this section of SDEIS is incomplete, unsupported and speculative.

4-12/4.2.2

The Historic Resources subsection for the Mees Site analyzes the impacts to the park road corridor solely on the amount of traffic-related to the proposed ATST project. The analysis is incomplete and does not taken into consideration the impacts from construction vehicles exceeding legal load limits and wide loads that could increase the probability of accidental damage to the bridge which were also mentioned in the 2009 FHWA report. The measures required by HALE for the issuance of the SUP, such as restrictions on load limits and wide loads, mitigates these impacts to minor, adverse, and short-term.

4-13/4.2.3

The Cultural Resources subsection for the Reber Circle Site states “the analysis set forth above for the Mees Site applies equally to the Reber Circle Site with regard to impacts on cultural resources, including impacts to traditional cultural practices. Accordingly, the construction and operation of the proposed ATST Project at the Reber Circle Site would result in major, adverse, and long-terms effects on cultural resources.” This impact determination is different than what is presented for the Mees Site on pages 4-8 to 4-10 of the SDEIS.

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(cont.)**

4-14/4.2.5

The impact determinations in the Cultural Resources Summary are different than what is presented for the Mees Site on pages 4-8 to 4-10 and Reber Circle Site on page 4-13 to 4-14 of the SDEIS.

**Biological Resources**

**General**

Based on the description of the project and new project components added to the SDEIS (example, modifications to the existing road shoulder and utilities at the park entrance station) Section 7 consultation with US Fish and Wildlife Service under the Endangered Species Act needs to be re-opened. The current SDEIS seems to indicate that incidental take of endangered species is likely to happen and there have been enough changes to the project since inception that additional consultation is necessary. The SDEIS does not clearly state, as required in the informal Section 7 consultation, that if a Hawaiian petrel or nene is "harmed or killed as a result of the ATST construction activities that the Service would be contacted immediately and that work action would cease until we have formally addressed the cause for the take". It is our understanding that formal Section 7 consultation would be sought prior to the start of construction. This is not clear in the SDEIS.

The National Park Service continues to have concern about the ATST construction schedule and how it correlates with the mitigation measures outlined in the USFWS Section 7 consultation. The mitigation measures include very specific times when certain ATST construction and associated activities will not be allowed. The SDEIS does not clearly outline how this will be implemented and enforced.

In addition, simply monitoring the 'ua'u throughout the project is not mitigation to lessen impacts. Affects to 'ua'u are not negligible because of the USFWS mitigations outlined in the informal Section 7 consultation. There is still opportunity for impacts to 'ua'u and other species.

4-17/4.3.2 (and 2-31)

The entrance station road shoulder construction should be addressed in this section. This project occurs in endangered nene habitat. Although work will be scheduled outside nesting season, nene regularly use the area for feeding and flocking. This is an activity that was not a proposed action when the Section 7 consultation was conducted.

4-15

Under the description of effects on biological resources the document states "...the extent or degree to which its implementation would do any of the following:

1. Substantially affect a rare, threatened, or endangered species or its habitat (HAR §11-200-12 and Endangered Species Act (ESA) 1973, Section 7 (a) 2, Interagency Cooperation).
2. Cause the "take" of a highly sensitive resource, such as a threatened, endangered, or special status species."

However, on page 4-18 it also states that "Effects from construction could include the potential for disturbance of the habitat..." The description in this paragraph seems to describe a "take" of 'ua'u. The document further states, "Formal consultation would take place in the event that a "take" were to occur in the future..."

Additionally on page 4-24, the document states, "Potential major, adverse effects from construction could include the disturbance of the 'ua'u habitat at HO, where birds would not be willing to remain in their burrows during the nesting season. Construction noise, vibration, or human proximity could affect the nesting habits of the 'ua'u to the extent that they may not return to, remain in, or otherwise utilize the burrows that are inhabited each year. Construction activity has the potential of causing burrow collapse,

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directly related to excavation, vibration, or other human activities. Collapse of a burrow could result in 'ua'u mortality. Mitigation measures to these potential major, adverse effects are described in Section 4.18.3-Biological Resources." NPS believes that as described this would constitute a "take" under ESA.

4-21

The current informal consultation does not cover "take". Additionally, the SDEIS fails to emphasize that if "take" does occur, all construction activities would cease as outlined in the Section 7 consultation.

4.18.3

A detailed construction schedule is needed to determine if activities will adhere to mitigation measures. Also, monitoring is not mitigation. Information on potential monitoring of 'ua'u at Haleakala NP as a control site has not been discussed. This needs to be addressed.

4-20

The construction at the entrance station road shoulder should be addressed in the discussion about nene.

4-23

Based on the analysis in the SDEIS, the effects on the 'ua'u are not negligible just because the USFWS mitigation measures are implemented.

4-24

The statement, "The No-Action Alternative would result in a negligible, adverse effect on the monitoring of the Kolekole 'ua'u colony and less information would be available on their behavior and population." This statement is unsupported and incorrect. The National Park Service, in cooperation with the state Department of Fish and Wildlife, will continue to monitor and to manage the 'ua'u, as it has for over 25 years.

4-24

The summary does not include information on the nene or bats.

**Visual Resources and View Plane**

4-30/4.5.1

The Visual Resources and View Plane section of the SDEIS does not provide a prediction of the potential visual affect the proposed ATST project would have within the Region of Influence (ROI), as stated. It is simply a description of where one would be able to see the telescope from various locations.

It is unclear how the quantitative evaluation values in the EIS were determined and why they are used. No information is provided to show that the percentages are scientifically valid or accepted in the scientific community. Moreover, as selected, the percentages don't make sense. For example, a small percentage determined by this scale could actually result in a major impact.

The quantitative measure is not used in each case/location assessment in this section. For example on page 4-60 there is no discussion of the quantitative measurement and no explanation of how the impact assessment was determined for the Pu'u Ula'ula overlook. On page 4-61 the discussion regarding the Areas of HALE Adjacent to HO, but Not on Pu'u Ula'ula, Including Magnetic Peak does not offer a measurement to determine how the moderate adverse impact assessment was done. Even though the construction activities could be considered short-term they will still be a major impact to the viewshed.

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The NPS believes that both during construction (short-term) and operation (long-term) the ATST will have a major adverse impact to the viewshed. Even though the construction phase will be short-term, there will still be a major impact to the viewshed.

4-30/4.5.1

More information is needed about the basis of the qualitative evaluation. A social science study is necessary to properly evaluate the qualitative range of acceptable, minimally acceptable, and unacceptable visual conditions for the summit area of Haleakala. This would be achieved by surveying of a statistically valid sample of the people of Maui and the visiting public.

4-60 to 4-66/4.5.3 and 4-66 to 4-73/4.5.5

The NPS disagrees with the conclusion that the proposed ATST would at the Mees Site have a moderate adverse and long-term effect on the visual resources and view plane from the Pu'u Ula'ula Overlook, Areas of HALE Adjacent to HO, and Upper Park Road Corridor during the later stages of construction and operations phase versus the Reber Circle Site which would have a major, adverse and long-term effect. There are no quantitative differences between the two sites when you compare Figure 4-29 with Figure 4-30; nor noticeable qualitative differences between the two sites when you compare the photo renderings in Figure 4-14 with Figure 4-34. Both sites will have a major, adverse and long-term effect in the visual resources and view plane from the Pu'u Ula'ula Overlook, Areas of HALE Adjacent to HO, and Upper Park Road Corridor during the later stages of construction and operations phase of the proposed project.

4-62 vs. 4-65/4.5.3

The NPS disagrees with the conclusion that the proposed ATST would at the Mees Site have a moderate, adverse and long-term effect on the visual resources and view plane from Areas of HALE Adjacent to HO during the later stages of construction and a negligible, adverse and long-term effect on the same visual resources and view plane during the operations phase of the proposed project. The effect determinations during the later stages of construction and operations phase should be the same -- moderate, adverse and long-term effect.

4-64 and 4-75

The NPS disagrees that the ATST would not dominate the current vista from the Pu'u Ula'ula Overlook.

4-67/4.5.4

The 250 foot tall construction crane would dominate the topography, as stated in the EIS, the NPS believes that the impact would be major short-term.

4-67/4.5.4

The NPS suggests removing the statement "... however, it would be within the context of the facilities at HO". These statements throughout this section and the document are not a good justification for adding another telescope to the HO. This statement does not lessen the impacts to the resources.

4-67/4.5.4

The EIS states "Qualitatively, those who find tall man-made structures to be out of character with the natural topography might have a negative reaction to the large, white structure clearly visible along the upper Park road corridor". NPS believes that this statement is nonsensical and at best a mere truism.

4-68 vs. 4-71/4.5.4

The NPS disagrees with the conclusion that the proposed ATST would at the Reber Circle Site have a moderate, adverse and long-term effect on the visual resources and view plane from Areas of HALE Adjacent to HO during the later stages of construction and a negligible, adverse and long-term effect on

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the same visual resources and view plane during the operations phase of the proposed project. The effect determinations during the later stages of construction and operations phase should be the same -- moderate, adverse and long-term effect.

4-75/4.5.6

The Visual Resources and View Plane summary impact determinations are different that what is presented for the Mees Site on pages 4-60 to 4-66 and Reber Circle Site on page 4-66 to 4-73 of the SDEIS.

**Visitor Use and Experience**

4.75/4.6

Visitor Use and Experience analysis in this section of SDEIS is incomplete, unsupported and speculative. The ROI analyzed in Chapter 4 does not match the ROI for this topic in Chapter 3 (pages 3-45 to 3-47). The ROI analyzed in Chapter 4 should be confined to HALE and the Skyline Drive Trail outside of HALE which are the primary visitor use and experience areas at the summit of Haleakala.

4-76/4.6.1

The statement " Effects on visitor use and experience could be considered adverse if they result in a decline in the quality or quantity of existing recreational facilities, or if they exceed adopted Federal, State or County recreation planning standards" is not an accurate way to measure impacts to visitor use within the park. Additionally, it is not clear what is meant by Federal, State and County recreation planning standards.

4-76/4.6.1

Your description of direct and indirect effects is confusing and nonsensical. An example of direct effects, "... change the amount of available land so that the quality of a visitor's experience would be reduced. An example of indirect effects "...from an increase in the local human population that would result in overcrowding of facilities, or from a reduction in the local human population such that the Park reduced amenities or services available to visitors.

The Intensity Description for Visitor Use and experience is incorrect. The intensity should be on visitor experience from the proposed project. The project is not proposed changes for visitor use, but rather the proposed change is the construction and operation of the ATST. Impacts are not on visitor 'services', but instead visitor use and experience. The intensity description of visitors being 'aware' or 'highly aware' of changes proposed to visitor use is not a measurement.

4-77/4.6.2

The Visual resources subsection analysis for the Mees Site is not adequate. The impacts of the operations phase of the proposed project are not analyzed.

4-77/4.6.2

Direct and indirect effects to the visual resources should include a discussion of the impacts to the sunset/sunrise experience and viewing of the crater. These are important visitor experience activities and resources.

4-78/4.6.2

The NPS disagrees with the conclusion that mitigation measures would reduce the effects on visitor use and experience during construction to negligible, adverse and long-term. The mitigation measure – on-site construction noise limited to between 30 minutes after sunrise and 30 minutes prior to sunrise – may mitigate noise impacts to visitor use and experience at the park for sunrise/sunset viewing (i.e. peak park

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visitor use times), but it does not mitigate the noise impacts to visitor use and experience during 11AM to 2PM which is another peak park visitor use time.

4-78/4.6.2

The entire discussion of the 2007 visitor survey should be deleted. The NPS does not support this survey and it cannot be used. The survey is flawed – the questions were leading, it did not discuss damage to cultural sites and values, it did not address viewsheds or wilderness, it did not ask people why they visited Haleakala National Park, it was conducted outside park boundaries and it was not an accurate sample of park visitors.

4-78/4.6.2

The NPS disagrees with the conclusion that the proposed project would have a minor, beneficial, long-term effect on visitor experience subsection. Visitor experience subsection does not analyze the impacts during construction and operations phase of the proposed project on why visitors visit the summit area of the park (e.g., sightsee/scenic driving, watching sunrise, experiencing solitude and natural sounds/quiet, and lack of human presence and/or development. Touring telescopes is not why people come to visit the park; it's not part of the park's visitor use and experience. The telescopes are within the HO site which is not open to the public (i.e., visitors). The NPS believes that there will be a major impact to visitor experience.

4-78/4.6.2

The NPS disagrees with the conclusion that the proposed project would have a negligible, long-term effect on traffic subsection. The analysis of traffic on visitor use and experience should include not only impacts from the increase in vehicular traffic but the type of vehicles on the road. Large, heavy and wide construction vehicles (FHWA class 5 vehicles and above) move slowly and impact visitor use and experience traffic more than other types of vehicles. There will be an anticipated 947 such vehicles on the road associated with the proposed project.

4-79/4.6.5

The Visitor Use and Experience summary impact determinations are different than what is presented on pages 4-77 to 4-79. The summary mentions air quality impacts which are not discussed or analyzed on these pages.

4-79/4.6.5

The NPS disagrees that the effects on visitor use and experience is moderate. Because of the impacts to visual resources and the soundscape and the impacts from added construction traffic, including slow moving wide-loads, the effect is major.

**Infrastructure and Utilities**

4-96/4.9.2

The analysis of the impacts of traffic on the park road during construction should include not only impacts from the increase in vehicular traffic but the type of vehicles on the road. Large, heavy and wide construction vehicles (FHWA class 5 vehicles and above) move slowly and impact other traffic traveling the road more than other types of vehicles. There will be an anticipated 947 such vehicles on the road associated with the proposed project.

**U.S. Dept. of the Interior, National Park Service, Haleakalā National Park  
(cont.)**

**Noise**

4-100/ 4.10.2

The NPS disagrees with the conclusion that mitigation measures would reduce the effects of noise during construction to negligible, adverse and long-term. The mitigation measure for on-site construction noise limited to between 30 minutes after sunrise and 30 minutes prior to sunrise – may mitigate noise impacts for sunrise and sunset periods of the day, but it does not mitigate the noise impacts during the remainder of the day.

4-105/ 4.10.5

The Noise summary impact determinations are different than what is presented on pages 4-99 to 4-104. The summary mentions air quality impacts which are not discussed or analyzed on these pages.

**Public Services and Facilities**

4-116/ 4.13

Recreational Facilities subsection analysis in this section of SDEIS is incomplete, unsupported and speculative. The analysis needs to distinguish the impacts during construction and operations phase of the proposed project on recreation facilities.

4-117/ 4.13.5

The NPS disagrees with the summary conclusion that the proposed project would have a minor adverse, long-term effect on recreational facilities within the park. The statement “The proposed ATST Project would appear amongst the other HO observatories visible from that [overlook parking lot] and at various locations along the Park road and given the large visitor population and heavy traffic the adverse effect of an additional observatory would be minor and long-term for those who see it”. The current impacts to the viewshed are already major. Adding another telescope to HO will add another major impact.

**Cumulative Effects to the Affected Environment**

4-125/ 4.17.1

SDEIS incorrectly states that the excavation at the eastern end of the Haleakala Visitor Center parking area was 50 feet deep. The excavation was 25 feet deep according to park as built site plans and photos.

3-59/3.10

The 2007 and 2008 vehicular and bus traffic data for the HALE Park Road Corridor is incorrect. Table 9 of the 2009 FHWA report states total vehicular entering the park in 2007 = 200,320 and 2008 = 182,906. Out of those total vehicles in 2007, 9125 were buses and in 2008, 6570 were buses.

4-126/ 4/17.3

The document incorrectly states there are no planned actions within the reasonable foreseeable future along the HALE Park Road Corridor. The park plans to slurry seal the upper two miles of the park road in 2011. The park also plans to rehabilitate the park road between MP11.2 -14.8 within the next 5 years. The cumulative impacts of these projects need to be analyzed in the SDEIS.

4-128 to 4-130/4.17.5

Pre-contact and post-contact effects on cultural, historic and archeological resources are not relevant to assessing the cumulative effects. The section should evaluate the effects of the past, present and future actions mentioned in subsections 4.17.1, 4.17.2 and 4.17.3 on cultural, historic and archeological resources.

**U.S. Dept. of the Interior, National Park Service, Haleakalā National Park  
(cont.)**

4-131/ 4.17.5

The Cumulative effects on historic and archeological resources subsection for the Mees and Reber Circle Sites analyzes the impacts to the park road corridor solely on the amount of traffic-related to the proposed ATST project. The analysis is incomplete and does not take into consideration the impacts from construction vehicles exceeding legal load limits and wide loads that can proportionally increase the probability of accidental damage to the bridge which were also mentioned in the 2009 FHWA report. Measures required by HALE for the issuance of SUPs for past, present and future actions, such as restrictions on load limits and wide loads, mitigates these cumulative impacts to minor, adverse, and long-term.

4-143/ 4.17.8

The NPS disagrees with the conclusion that past and present actions at HO have had a minor, adverse, and long-term cumulative effect on the visual resources and view plane from the Pu'u Ula'ula Overlook, Areas of HALE Adjacent to HO, and Upper Park Road Corridor. Figure 4-4 quantitatively shows the AEOS and MSSS similarly visible as the proposed project at the Mees and Reber Circle Sites at these areas. The current impacts to the visual resources are major. The addition of the ATST, a major impact, would result in major adverse long-term impacts.

4-144 to 4-146/ 4.17.8

Disagree with the conclusion that the proposed ATST would at the Mees Site have a moderate adverse and long-term cumulative effect on the visual resources and view plane from the Pu'u Ula'ula Overlook, Areas of HALE Adjacent to HO, and Upper Park Road Corridor versus the Reber Circle Site which would have a major, adverse and long-term effect. There are no quantitative differences between the two sites when you compare Figure 4-29 with Figure 4-30; nor noticeable qualitative differences between the two sites when you compare the photo renderings in Figure 4-14 with Figure 4-34. If the direct and indirect impacts of the proposed project are major, adverse and long-term to visual resources and view plane from these areas, the addition of the impacts of past, present and future actions would make the cumulative effects major, adverse and long-term.

4-147 to 4-148/4.17.9

The "Cumulative Effect on Visitor Use and Experience" section of SDEIS is incomplete, unsupported and speculative. What data was used to base the analysis and conclusions reached on with regard to impacts to park visitor use and experience?

4-147/4.17.9

Simply stating that during the public review of the DEIS there were no negative comments received about the visual impacts of the existing facilities at HO does not result in a minor effect.

Visitors do not "experience" the activities at HO. Because there are not a lot of places for visitors to park along the side of the park road and get out of their vehicles does not diminish what visitors see as they drive through the park.

Additionally, you can see HO from trails within the crater. "Formal park services" have nothing to do with visitor experience in this case.

**U.S. Dept. of the Interior, National Park Service, Haleakalā National Park  
(cont.)**

4-157/ 4.17.12

The “Cumulative Effect on Roadways and Traffic” subsection of SDEIS is incomplete, unsupported and speculative. This subsection talks about HO users and park traffic, but what about the amount and type of vehicles associated with past actions like the AEOS construction?

The 2007 and 2008 vehicular and bus traffic data is different than what is presented on page 3-3 of the SDEIS. The 2007 and 2008 vehicular and bus traffic data is incorrect. Table 9 of the 2009 FHWA report states total vehicular entering the park in 2007 = 200,320 and 2008 = 182,906. Out of those total vehicles in 2007, 9125 were buses and in 2008, 6570 were buses.

4-161 to 4-162/ 4.17.12

The “Construction-Related Cumulative Effects on Roadways Leading to HO” subsection states the past, present and future actions at HO and adjacent neighbors would result in moderate, adverse and short-term on the State Highways and roadway through the park. Why then are the construction-related cumulative effects of the State Road and Park road states as being minor, adverse and short-term. The impacts should be the same (i.e., moderate, adverse and short-term).

**Mitigation**

4-180 to 4-182/4.18.2

Measures (e.g., restrictions on load limits and wide loads) required by HALE for the issuance of the SUP that will mitigate impacts to the park road corridor, a historic resources, are missing and need to be included in this section. Measures to mitigate the impacts to Site 5443, a historic resource at the HO site, are missing and need to be included in this section.

4-187/ 4.18.9

Second bullet incorrectly states park mitigation measures as presented on pages 4-192 to 4-194. Certification of legal load limits (i.e., no loads heavier than historic bridge current load rating). No more than 35 wide loads. Wide load must not exceed the clearances along the park road. A minimum of 2 weeks advanced notice to NPS of wide loads is required.

**Land Use and Existing Activities**

4-180/4.18.1 and 4-182/4.18.2

The SDEIS states, “As a mitigation measure under Section 106 of the NHPA, and relating to other categories of impact as well, NSF is seriously considering decommissioning, deconstruction or divestment of the proposed ATST Project at the end of its productive lifetime”. This is not a mitigation measure until it is agreed upon and committed too.

**Cultural, Historic and Archeological Resources**

4-180/4.18.2

Mitigation measures outlined in the FHWA report and by the NPS for the Historic Park Road need to be added to this section.

**SUP Mitigation Measures**

Please note -- Earlier discussion between the NPS and NSF resulted in the inclusion of the SUP mitigations. Upon further review the NPS suggests not including this section in the EIS.

**U.S. Dept. of the Interior, National Park Service, Haleakalā National Park  
(cont.)**

Because the topics do not follow the same outline as the EIS, it is confusing to the reader. If this information remains in the EIS it should be clearly noted that there mitigation measures are proposed and may be changed when the SUP is applied for.

4-192/4.18.15

For clarification, not all impacts are covered under the SUP Mitigation Measures. For example, visual impacts are not covered. SUP Mitigation Measures will continue to be developed during the permitting process.

4-192/4.18.15

The NPS previously suggested that all wide loads traverse the park road at night between the hours of 8:00 pm and 4:00 am to lessen the impacts to park visitors. Upon further discussion it was recognized that night time driving during much of the year could impact the Hawaiian petrels. The NPS will work with NSF to develop new mitigation measures for wide loads traversing the park road.

U.S. Dept. of the Interior, National Park Service, Haleakalā National Park  
(cont.)

MEMORANDUM

DATE: May 27, 2009  
TO: Cari Kreshak, ATST Coordinator  
FROM: Raina Kaholoa'a, Biologist  
SUBJECT: Comments on Invertebrate Resources section of SDEIS – Advanced Technology Solar Telescope

My comments will be focused on section 3.3.3.3 Invertebrate Resources of the Supplemental Draft Environmental Impact Statement (SDEIS) for ATST.

There is one paragraph in particular that needs to be addressed and changed, relating to "Species of Concern", or SOC.

In paragraph 8, the SDEIS states, "Using an updated (2008) version of the Hawai'i Biodiversity and Mapping Program data set, which includes map locations for SOC, the USFWS imported the data to the Hawai'i Biodiversity and Mapping Program and no invertebrate SOC were identified in the ROI for the proposed ATST Project (D. Greenlee, USFWS, personal communication, April 2009)."

Although effort was made to determine the Species of Concern in the ROI for the ATST, this information unfortunately was not accurate. Perhaps the species localities for the SOC's in question were not yet generated in the USFWS mapping program.

The best method for determining if SOC's are possibly in the ROI is by doing a literature search to determine the historical range of each species and by doing an actual survey using methods that focus on those species that may be present. This has not been done in earlier surveys, and is the reason that I commented on the lack of focus on SOC's.

There are several species on SOC list that I would consider possibly present in the ATST ROI. I list those species below with a brief description of where they are known from. This is only a cursory look at SOC list and literature. A more in-depth look would likely reveal further species or information.

*Thyrocopa apatela* (Walsingham). This species was collected in the 2003 Arthropod Inventory and Assessment Haleakalā High Altitude Observatory Site (Pacific Analytics, 2003). It was originally found at elevations above 6000 ft. on Haleakalā, but is now only found at elevations above 9000 ft., possibly as a result of predation by introduced ants which are found in Haleakalā National Park (Medeiros, 2008). Because of its shrinking range, *T. apatela* should be looked at very closely.

*Plagithmysus dubautianus* (Gressitt and Davis). This species was collected by Beardsley (1980) on kupaoa on White Hill, near the summit of Haleakalā.

**U.S. Dept. of the Interior, National Park Service, Haleakalā National Park  
(cont.)**

*Plagithmysus swezeyanus* Gressitt and Davis. This species was collected by Beardsley (1980) at the summit of Haleakalā.

*Plagithmysus swezeyi* Perkins. This species could possibly be at the summit.

*Hylaeus volatilis* (Smith). Collected at Haleakalā Visitor Center, near the summit (Daly and Magnacca, 2003). This species was once known from Maui, Lanai, Molokai, and Oahu, but has been collected recently only from Maui (Daly and Magnacca, 2003).

**REFERENCES**

Beardsley, J. 1980. Haleakala National Park Crater District Resources Basic Inventory: Insects. Cooperative National Park Resources Studies Unit, University of Hawaii at Manoa, Technical Report 31. 49 pp.

Daly, H.V. and K.N. Magnacca, 2003. Insects of Hawaii, volume 17. University of Hawaii Press, Honolulu. 234pp.

Pacific Analytics, L.L.C., 2003. Arthropod Inventory and assessment Haleakalā High Altitude Observatory Site Maui, Hawaii. July 2003. Prepared for K.C. Environmental Co, Inc., Makawao, Hawai'i.

**U.S. Dept. of the Interior, National Park Service, Haleakalā National Park  
(cont.)**

**Review and Comments by Dr. Steve Lawson, Assistant Professor of Social Sciences,  
Virginia Tech University**

The report concludes that the current visitor experience includes the observatories, however:

- Three-quarters (74.5%) of visitors did not take a picture of the telescope, in contrast to just over one-fifth (21.2%) who did.
- While about one-quarter (22.3%) of respondents saw and read the observatory sign, a fairly similar proportion (16.6%) saw, but did not read the observatory information sign.
- The majority (58.5%) of respondents did not see the observatory sign, suggesting that for most visitors, seeing and learning about the observatory is not part of their park experience.
- Over one-quarter (25.5%) of respondents reported that if the new telescope is built it is not very likely or not at all likely they would return to Haleakala to tour the telescope.

The report concludes that the impact of the telescope on visitors is small but positive, however, in a recent survey of overnight visitors to Haleakala National Park's backcountry:

- About one-quarter (24.5%) of backcountry campers reported being able to see man-made structures on the crater rim from one or more of the campgrounds where they stayed overnight.
- A majority of overnight backcountry campers (53.5%) reported noticing man-made structures on the crater rim from the trail, near the rim of the crater.
- About one-fifth (19.6%) of backcountry campers indicated that the visibility of man-made structures on the crater rim detracted somewhat or greatly from their wilderness experience.
- The vast majority (86.4%) of backcountry campers reported that experiencing a sense of remoteness in the park's wilderness is very or extremely important. Nearly three-quarters (71.9%) of backcountry campers indicated that experiencing solitude in the park's wilderness is very or extremely important.
- Backcountry visitor trips occur in congressionally designated Wilderness, which the NPS is legally mandated to manage to appear to have been affected primarily by the forces of nature and provide outstanding opportunities for solitude or a primitive type of recreation. The findings from the backcountry visitor study cited above suggest that the visibility of the existing telescope from the park's wilderness area conflicts directly with the NPS' ability to meet the legal mandates of the Wilderness Act.

The report concludes that there is very little negative reaction from visitors to an additional solar observatory, however:

- The design of the question used to gauge visitors' reaction to an additional observatory does not follow survey question design principles in the following ways:

U.S. Dept. of the Interior, National Park Service, Haleakalā National Park  
(cont.)

- Asking visitors if they *care* whether the observatory is built is not the same as asking if they *support* building a new observatory. Yet, responses to the question are interpreted as measures of visitors' support or lack of support for the observatory.
- Consequently, responses to the "do you care" and "how likely are you to return" questions had to be interpreted in a speculative manner to estimate the proportions of visitors in favor and not in favor of the new telescope (Figure 7 in the report). A properly designed survey would have eliminated the need to conduct speculative analyses on arguably the most important question in the study (i.e., do visitors support or oppose the construction of a new observatory).
- The response options to the question are not mutually exclusive and include two options for responding "don't care" ("No" and "Don't care either way"). Thus, the question is not asked in a valid manner and responses are biased.
- The sampling methodology used in the study limits the ability to make conclusions about the reaction of visitors and other stakeholders to an additional solar observatory, in the following ways:
  - The study population can be characterized as sightseeing visitors to highly developed/facility intensive areas of the park. Thus, the sample represents visitors who "self-select" visits to areas of the park with facilities and development.
  - Visitors to the park's backcountry and other less-developed areas of the park are essentially absent from the sample.
  - Local residents, and those who identify themselves as Hawaiian or part-Hawaiian are essentially absent from the sample.
  - The report does not provide enough information to conclude that the sampling was conducted in a systematic, statistically valid manner, but does state that the intercept surveys are not based on rigorous probability samples.
- For these reasons, while not required, it would have been advisable to have the survey reviewed by the NPS Social Science Program and OMB. This is a required step in NPS-sponsored surveys of national park visitors. Such a review may have helped eliminate the flawed survey methodology and narrowly scoped sampling approach used in the study.

## Comment/Response - U.S. Dept. of the Interior



### United States Department of the Interior

OFFICE OF THE SECRETARY  
Office of Environmental Policy and Compliance  
Pacific Southwest Region  
1111 Jackson Street, Suite 520  
Oakland, California 94607

IN REPLY REFER TO:  
ER# 09/492

*E-Filed*

22 June 2009

Craig Foltz, ATST Program Manager  
Division of Astronomical Sciences  
National Science Foundation  
4201 Wilson Blvd, Rm. 1045  
Arlington, VA 22230

Subject: Review of the Supplemental Draft Environmental Impact Statement (EIS) for the  
Advanced Technology Solar Telescope (ATST), Haleakala, Maui, Hawaii

Dear Mr. Foltz:

The Department of the Interior has received and reviewed the subject document and has no  
comments to offer.

Thank you for the opportunity to review this project.

Sincerely,

Patricia Sanderson Port  
Regional Environmental Officer

cc:  
Director, OEPC

## Comment/Response - U.S. Dept. of the Interior



### United States Department of the Interior

OFFICE OF THE SECRETARY  
Office of Environmental Policy and Compliance  
Pacific Southwest Region  
1111 Jackson Street, Suite 520  
Oakland, California 94607

IN REPLY REFER TO:  
ER# 09/492

*E-Filed*

30 June 2009

Craig Foltz, ATST Program Manager  
Division of Astronomical Sciences  
National Science Foundation  
4201 Wilson Blvd, Rm. 1045  
Arlington, VA 22230

Subject: Review of the Supplemental Draft Environmental Impact Statement (EIS) for the  
Advanced Technology Solar Telescope (ATST), Haleakala, Maui, Hawaii

Dear Mr. Foltz:

The Department of the Interior would like to rescind its letter, dated June 22, 2009, stating that we have no comments to offer on the subject document. Please refer to the comments dated June 25, 2009, sent directly from the National Park Service.

Thank you for the opportunity to review this project.

Sincerely,

Patricia Sanderson Port  
Regional Environmental Officer

cc:  
Director, OEPC

# List of Individuals and Community Groups

	Last Name	First Name	Affiliation
1	Hashimoto	Clifford, Ali'i Sir and Grand Master	Aha Ali'i O Kapu'aiwa O Kamehameha V
2	Wordeman	Matt	Friends of Haleakalā National Park, President
3	Alconcel	Mason	Hawai'i Carpenter's Union
4	Ambrose	Robert	
5	Barcai	Kekoa	
6	Chinen	Terry K.	
7	Daguio, Jr.	Efren	
8	Kenolio	Paul	
9	Lay	Ivan	
10	Mashino	Robert	
11	Tom	Teddy	
12	Williams	Kalihoku	
13	Faulkner	Keirsten	Historic Hawai'i Foundation, Executive Director
14	Lee	Brian	International Brotherhood of Electrical Workers, Local 1186 Research & Communications Director
15	Shimabuku	Ray	International Brotherhood of Electrical Workers, Local 1186 Business Representative
16	Townsend	Marti	Kahea, Program Director
17	(Illegible)	Dawson	Laborers' International Union of North America Local 368
18	(Illegible)	E.	
19	Aikala	George	
20	Burns	Burt	
21	Burns	C.	
22	Cardoza	Michael	
23	Carvalto	Anthony	
24	Chang	Kawika	
25	Chung	Patrick	
26	Cruz	Allan	
27	Dutro	Warrick	
28	Duvauchelle, Jr.	James	
29	Echiverri	Keith	
30	Emmanual	Justin	
31	Han	Walter	
32	Hema, Sr.	Clayton	
33	Hoewaa	June	
34	Inciong	H.	
35	Kaalakea	Kalvin K.	
36	Kahahane	Joshua	
37	Kahakauwila	Daniel	
38	Kahele	Diane	
39	Kahele-Strong	Annette	
40	Kauha'aha'a	Jared	
41	Kauha'aha'a	Thelma (Lani)	
42	Kaupo	Patrick	
43	Kehano	Everett	
44	Kenui	James	
45	Kiaaina	Solomon Dino	
46	Lani	Daniel	
47	Lau	Kalani	
48	Manois	George	
49	Marras	Sonnette	
50	Mateo	Jonathan	
51	Morton III	Edgar	
52	Nakasone	Dustin	
53	Nakooka	Leslie	

## List of Individuals and Community Groups

	Last Name	First Name	Affiliation
54	Nu	Benjamin	Laborers' International Union of North America Local 368
55	Olds	Edward	
56	Pagan	Dino	
57	Perez	Leroy	
58	Plunkett	Howard	
59	Rodrigues	Kaililau	
60	Smith	Frederick K.	
61	Smith	R. Olelo	
62	Sylva	Shenandoah	
63	Thompson	Tiana Lee	
64	Verbeckmoes	Martin	
65	Wagner	Douglas	Laborers' International Union of North America Local 368, Government Relations
66	Lardizabal	Al	
67	Skogg	Jeanne Unemori	Maui Economic Development Board
68	Unemori Skogg	Jeanne	Maui Economic Development Board, Inc, President and CEO
69	Reimann	Carol	Maui Hotel and Lodging Association, Executive Director
70	Kihune	Howard	Maui Native Hawaiian Chamber of Commerce, President
71	Frankel	David Kimo	Native Hawaiian Legal Corporation, on behalf of Kilakila O' Haleakalā, Staff Attorney
72	Kalama	Camille	
73	Kari	Kiser	National Parks Conservation Association
74	McDuff	Kathy	Individually and for Sierra Club
75	Kahoo'hanohano CK	Ali'i Sir George	Royal Order of Kamehameha I
76	Lawson	Dr. Steve	Assistant Professor of Social Sciences, Virginia Tech University
77	Anonymous		Submitted at June 10, 2009, NEPA Public Comment Hearing
78	Ampong	Foster	
79	Apana	Clare	
80	Aquino	Princess Leihuanani	
81	Cabral	Sylvia	
82	Bagshaw	Jeff	
83	Cannon	Thomas	
84	Carroll	Judith	
85	Cochran	Elle	
84	Coehn	Alan	
85	Danse	Sonia	
86	Davis	Penny Lin	
87	Field and Family	Douglas	
88	Grafe	Joe and Karen	
89	Havelin	Elizabeth	
90	Hawley	Roger Dennis	
91	Hessler	Malia	
92	Hessler	Noelani	
92	Helm	Mikahala	
93	Holtman	Dan	
94	Horovitz	Liana	
95	Kanahele	Daniel	
96	Keyser	Harold	
97	King	Maury	
98	Laing	Leslie	
99	Lucas	Michael	
100	Lucas	Richard	

## List of Individuals and Community Groups

	Last Name	First Name	Affiliation
101	Mancini	Judith	
102	McGaughey	Steve and Ellie	
103	Mealey	Richard	
104	Miller	R.	
105	Mayer	Dick	
106	O'Leary	Sean	
107	Paapanen	Shannon	
108	Parker	Hilary	
109	Parsons	Mark	
110	Pitzer	Frances	
111	Platero	German	
112	Ratkowski	Rob	
113	Rossmann	Robert	
114	Roth	Stephen	
115	Shearman	Nanacy	
116	Shibuya	Warren	
117	Wender	Elaine	
118	Witt	Harriett	
119	Wrobel	Ken	
120	<b>E-mail form letters:</b> Lists of individuals who submitted an identical e-mail form letter can be found following the copy of the form letter.		
121	<b>Petition:</b> List of Individuals submitting an "Enough is Enough" Petition is found following the copy of the Petition.		

**Comment/Response – Aha Ali'i O Kapu'aiwa O Kamehameha V  
Mitigation Proposal**

AHA ALI'I O KAPU'AIWA O KAMEHAMEHA V.  
P. O. Box 836  
Hana, Hawaii 96713

June 18, 2009

Caroline Blanco  
National Science Foundation  
4201 Wilson Boulevard  
Arlington, Virginia 22230

Re: Consultation Meetings to mitigate the impacts of the Haleakala Development;

Aloha Caroline;

I was advised by Mike Mabry to contact you with our interest to participate  
As a consulting party for the proposed ATST project on Haleakala.

We want to be a Consulting Party to minimize the negative impacts to the  
Haleakala through a Community Benefits Package that provide educational and  
employment opportunities for NATIVE HAWAIIAN children and potential adverse  
Impacts to the cultural and natural assets throughout the proposed area.

The you for the opportunity to address our desire to be a member of the  
Consulting party for the proposed project on Haleakala. If you have further questions  
For us, please contact me Clifford Hashimoto (808) 248-8827 or e-mail  
at [hashi.cp@hotmail.com](mailto:hashi.cp@hotmail.com).

O wau iho no me ka 'oia'I'o.

Clifford Hashimoto  
Alii Nui & Grand Master

**Anonymous – Submitted at the June 10, 2009 NEPA Public Hearing  
Held at Mayor Hannibal Tavares Community Center**

**Public Comments**

**Advanced Technology Solar Telescope and Haleakala National Park Road  
National Historic Preservation Act Section 106 Consultation Meeting**

If you wish to submit written comments about the project please fill out this form. This form can be left at the meeting or mailed to:

Caroline Blanco  
Federal Preservation Officer and Assistant General Counsel for the Environment  
National Science Foundation  
4201 Wilson Boulevard, Suite 1265  
Arlington, Virginia 22230

Comment --

It was shared to me that when the prism/mirror or telescope lens was transported by the trucking company, it took them 11 hours. The weight and value of these equipment was the reason it took them so long, it was their concern that the weight was strainous on the trucks transporting the parts.

Have you factored the weight of the newer and larger telescope that may have an impact to the wear and tear of the roads and bridges?

Print name \_\_\_\_\_

## Clare Apana

June 22, 2009

TO WHOM IT MAY CONCERN:

This is in response to the EIS for the ATST Project. I found the process of the EIS to be flawed as a communication tool and that discussion should be continued when ample time is allowed, questions are answered and qualified. I, as a representative of Maui Cultural Lands and as a very concerned citizen of Maui and kanaka maoli insist we continue communication before and final EIS is completed.

The meeting at the Kula Community Center on June 8, 2009 did not allow me to fully express my concerns and to have my questions answered.

I spoke with the attorney for the project who indicated they would answer the question of land title in the final EIS. The land title issue has been asked repeated for the last three years and to date the answer has not been forthcoming. Subsequently, the question of land title was asked at the next 2 meetings and was never discussed.

For the record, the mitigations offered are in part things which should have been done before using the land; ie, noise level (30 decibels is TOO HIGH) for any equipment on the summit of Haleakala; commercial telecommunication towers are not appropriate in a place dedicated a place of science; full disclosure of electromagnetic radiation; etc.

Sincerely,



Clare Apana

## Clare Apana (cont.)

June 30, 2009

Dear Craig Foltz PhD and astronomer,

I have spoken to you at meetings for the SDEIS of the proposed ATST. You seem like a decent human being. I am sending you this letter to remind you of the deep soul that I have seen within you. It is unfortunate that we must sometimes give up our own dreams to be true human beings. I believe you have heard in some of the meetings Kanaka Maoli speak of how we must never forget that our kupuna(elders, ancestors) taught us that we must first be and value unconditional love. We as a people have done remarkably well to keep this, even if it merely means we have not resorted to violence and have kept faith in Ke Akua, our creator God.

As you probably know, being an astronomer, the Kanaka Maoli oral history traces our origin to the Pleiades. We, the Kanaka Maoli are guardians of these Hawaiian islands which hold sacred and important energy vortexes for this planet. We have a history that goes back centuries while the United States is merely 233 years old.

You propose to become caretakers of this mountain? In your 21 million dollars already spent, it is not demonstrated in your design that you love or cherish this land. You have an agenda of taking from this place. I am quite serious in demanding that you redesign your project.

Start first with the mountain, cherish this place and the energy field that she is holding. Do her no harm. In the green revolution that is taking over the US your project would not even get one energy star. Even the sidewalks of Chicago are paved with photovoltaic tiles. Your proposed telescope has a heat problem and you choose a lava field that heats up to place it on?

Not only does your project disrespect the Kanaka Maoli, it disrespects Nature.

## Clare Apana (cont.)

If you could only love this place as we do, you would be designing something that would be worthy of being built on Haleakala not a monument to man's illusion of what science is. Instead of working with the blessings of nature you have chosen to impose a lack of spiritual foundation and insufficient scientific endeavor upon the land with your intrusive design. Cultural values and sense of being caretakers of this mountain of the Kanaka Maoli will not be able to be repaired, mitigated or coerced into agreement with this proposed ATST.

Should any project, no matter how noble its aspiration, be undertaken at the expense of people? Plainly spoken, how could a telescope and a particular community of scientists be more important than the rights and respect of the Kanaka Maoli, the legal and true "owners" of this summit and the Hawaiian Islands. Your team has very cleverly avoided answering the question of who really owns the land that the proposed ATST would rest upon. This question has been asked for 3 years and your team will not answer. The final EIS is too little and much too late to show our people respect by answering with a legal based opinion from a legal expert. In this respect your team has failed in its duty to carry out section 106 policy. Does consultation mean the natives speak and the team chooses not to answer directly? Definition of consultation :exchange of opinions, a discussion aimed at ascertaining opinions or reaching an agreement.

Quote from Pakukalo meeting.

"I'm from the General Counsel's office at NSF, I'm here to make sure that we follow the process, we follow the law. And the law says that agencies must consult with -- under Section 106 with any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to an affected historic property. Okay?"

As a member of a Hawaiian organization, Maui Cultural Lands, and as a registered consulted party I voice my objection to the gathering of information being one sided. I would like to see real consultation where the NSF and the group of scientists actually answer questions and speaking is freely done. I raised my hand to speak but was told by the moderator that she wanted to hear from those who did not ask any questions yet.

## Clare Apana (cont.)

Consultation in its best sense, in contrast to your definition of gathering information that can be used or not, requires that NSF and the team answer us in equal and fair discussion. Let's enter a new era where you actually as representatives of the US government treat the original people as humans of equal stature.

There have been many comments at meetings where a Kanaka Maoli has said your mitigation is insulting... I can see that as meetings progress no real changes are made to rectify this. The boredom of the scientists is so appar

### **This is insulting**

NSF will give the MCC 20 mil dollars. You take money from one US government organization give it to another. The lease rent is \$1 to the Crown lands. Where did the Kanaka Maoli benefit? How many homeless Hawaiian children got a place to live or a meal to eat from this 20 million dollars? Oh yes Mr. Clyde Sakamoto said he wanted to encourage Hawaiian students to go on to higher education. If this is not happening already, you NSF should be wary of wasting your rent money.

**This is better** We realize that this proposed project is on seeded lands. We will be making payments directly to a scholarship fund for Kanaka Maoli to be administered by a non-government agency, perhaps the Kamehameha Schools scholarship office. **All benefits of monetary or services exchange for using the site will go to the benefit of the Kanaka Maoli and their descendants.**

**This is insulting.** (My memory from Kula Meeting)The decibel level is at 30 the same as the wind measured. There is no cumulative level of noise. The noise up there is probably from the air force.

**This is better** It is a travesty that the buildings in Science city do make noise. Instead of only adding to the problem, we would like to get all the tenants on board with the best

## Clare Apana (cont.)

and latest technology available. 'We will work with the UH to start right now because you have brought this to our attention and it is a very valid concern. Let us work on a solution to make it much quieter than it is now. The cumulative affect of sound could be very distracting and disturbing on the summit and especially if you are doing a spiritual ceremony. When the wind gusts it is 30 db and if you have listened to the wind that is pretty loud, we will keep the noise level to be far below that level as a cumulative community. We will accomplish this by... \_\_\_\_\_.

### This is insulting

An answer was given by the head of the UH astronomy center to the question of land title. He answered "when the government of Hawaii gets organized and is reinstated, then the land will go back to the Hawaiians." I paraphrase from memory because I did not find it in the record of the meeting moderated by Annelie Amaral at the UH Astronomy building.. Did it disappear from the transcript?

This is better The question of land ownership is clear; it is crown lands belonging to the Kanaka Maoli and descendants of the Kingdom of Hawaii. The Executive Order given by Governor Quinn is in question as to its legality. We recognize as do the World International court at the Hague that Hawaii is an illegally occupied nation and is not a territory or state of the United States. Until this is cleared by the courts and the appropriate agencies, the NSF can only ask the landowners and caretakers of this property for permission to use the land in question. We apologize for our reluctance to answer the Kanaka Maoli questions that have been posed for the last three years. The question is beyond our ability to solve. We can only work as tenants to landowners(the Crown land trust and Kanaka Maoli) and to try to accomplish our goal.

This is insulting The solar telescope at Bear Lake California although just completed last year is inadequate. We even agree that it has great viewing of the Sun and so many sunny days to do our study according the information. we posted on our newsletter and

## Clare Apana (cont.)

web site. Haleakala is the only site possible. We need to do Haleakala because no one else in the world is planning a solar telescope of this scale and magnitude.

This is better Here are the facts. This is what we learned for your taxpayer money from the Bear Lake site. This is how we earned our salaries in the Bear Lake project. This is how it has benefited the life of each taxpayer.

We are not able to study the surface of the sun and its reactions with this telescope we just built because ..... Here is a comparison of data that will be collected to the data being collected now. This is how we intend to use this data. This is how the information we spent millions of dollars of taxpayer money and defiled the summit of Haleakala, as no other telescope has done in the whole world, will be benefiting you the people of Maui and the Kanaka Maoli.

"the ATST, if constructed, would replace a number of major solar telescopes that are currently in place around the world. There is no project of this magnitude being planned internationally. This would become the world's flagship facility. Its design is based on broad interests from the solar physics and solar astronomy. It will address current and future challenges. It will provide flexibility to adapt"

*SECTION 106 MEETING, PAUKŪKALO COMMUNITY CENTER, MAY 1, 2006*

**Therefore, we will never have to build another one. We, the science community, will give up any future projects on the summit of Haleakala. The UH will be mandated not to build any more structures on the summit and they will take down any unused structures and any structures or businesses that are already there without a direct relationship to astronomy will be terminated. All rents collected will go to the Crown land trust.**

**We are so sure that this is a necessary and end all facility, the US government or any of its agencies will not ever intrude upon this mountain again. When you give up**

## Clare Apana (cont.)

your precious Haleakala rest 100% assured that we won't make it antiquated like the Bear Lake facility as soon as it is built.

Mr Foltz, in conclusion, if you and your esteemed scientist could have learned one thing in the past few decades observing the destruction on Earth by science coupled with corporate interests, it would be that we must respect and honor nature and her wisdom. when we build we must not harm the Earth, or our fellow man. The lesson of Earth is to show up as a human being and to love one another and cherish our home. The ATST proposal falls short of this and would be a great example of

**Science at the cost of Humanity.** Or would it more apropos to state:

Science for the sake of the egos of Scientists and to hell with Haleakala and the Kanaka Maoli? I am in support of preserving the sacred mountain of Haleakala and the culture and people who have been given the mission to protect her. No mitigation/NO ATST on Haleakala chose an alternative site.

Respectfully submitted to you.

  
Clare H. Apana

## Comment /Response – Foster Ampong

From: Kekahuna Keaweiwi [mailto:kekahunakeaweiwi@xxxxcom]  
Sent: Thursday, June 04, 2009 5:20 AM  
To: Blanco, Caroline M  
Cc: Foltz, Craig B.; ahkada@xxxxcom; hohani2@xxxx.com; Kiope Raymond; Kaleikoa Kaeo; James McCarty  
Subject: ATST Telescope

Aloha Ms. Blanco,

Thank you for taking my questions tonight at the Cameron Center regarding the ATST Telescope Project.

I realized after-the-fact that you had answered all my questions except for who (by name) is going to make the final decision to either approve or disapprove (ROD) the ATST Project to be built on Haleakala.

Is the Director of the NSF, Dr. Arden L. Bement Jr. the individual with authority to definitively decide the ATST Project to be constructed on Haleakala?

If not, who specifically by name, position and contact information is?

Your assistance is greatly appreciated.

Mahalo  
Foster Ampong

\*\*\*\*\*

From: Blanco, Caroline M  
Sent: Thursday, June 04, 2009 9:34 PM  
To: 'Kekahuna Keaweiwi'  
Cc: Foltz, Craig B.; ahkada@xxxxcom; hohani2@xxxx.com; Kiope Raymond; Kaleikoa Kaeo; James McCarty  
Subject: RE: ATST Telescope

Dear Mr. Ampong,

Thank you for your message and for sharing your comments at last night's public hearing. I apologize for not answering all of your questions last night, but I hope to do so now. You are correct that the name of the Director of the National Science Foundation is Dr. Arden L. Bement, Jr. Dr. Bement is, indeed, the person who will ultimately decide whether the National Science Foundation will fund the construction and operation of the proposed ATST Project.

Thank you for your interest in the public process associated with the National Environmental Policy Act.

Best regards,  
Caroline M. Blanco  
Assistant General Counsel  
National Science Foundation

## Princess Lehuanani Aquino

----- Original Message -----

Subject:

get off our ancestors 'aina

Date:

Sat, 6 Jun 2009 14:45:37 -0700 (PDT)

From:

lehuanani aquino <vlehuanani@xxxx.com>

To:

cfoltz@nsf.gov, abetment@nsf.gov, charlie@kcenv.com, kekahunakeaweiwi@xxxx.com

Craig Foltz, Arden L. Benaent and Charlie Fern,

shame on all of you for not listening to our people of this 'aina (land), the Kingdom of Maui Nui. we have spoken years ago to stop your greediness on Haleakala.

why do you continue to stab the heart of Pele and have NO respect to our call to stop!!!

I have personally spoken at your public meetings a few years ago along with my other faithful living Kupuna's and you just turn your ears showing NO consideration to our voices.

this is not a benefit for our people and land but the greediness you use to benefit yourselves using science to cover you greediness.

the employees that you will be hiring comes from the mainland, not a kanaka maoli born and raised here having been raised the kanaka maoli way of life, will be willing to go against what we know is wrong (hewa), against our ancestors of this land for they know the hewa that will be brought upon their ohana.

this is a scaced land that deserves the Respect and Honor from outsiders like yourselves.

I pray and ask all of you again to Stop you nonsense of Greed. and to begin the healing of and sacred place to seek peace with in her people and her sacred land.

it is because of our respect of our ancestors and land that we come with aggression and voicing this concern of another greed by business scientific men like yourselves.

this is not like the mainland that have NO Respect for their people and land like what you have brought to our land of Aloha.

why have you contuinued your project even after the voices of our Kupuna's kindly ask you to stop???

Why??? only answer is the greed of our land.

in ancient hawaii we never need technology like todays machinery to help us study the sun or stars, we relied on our knowledge and respect of our Kupuna's to guide us and we were a perfect society until you western greedy business men arrived.

Please take your project some where else there are many other lands that will welcome you and your greed. Again, I am asking all of you with Respect and Honor to my Kupuna Kahiko (ancestors) to leave Haleakala alone in peace.

Foster, Mahalo for speaking up for our people and sacred lands!!!

Princess Lehuanani

Lahaina, Maui, Hawaii

## Jeff Bagshaw

My college degrees are in science (botany, chemistry, ecology) and teaching, and for 23 years I have worked on Maui in conservation and public education. Always in love with astronomy, I finally began to try to learn the constellations having never lived where the "seeing" (atmospheric clarity and lack of light pollution) were so good. I have taken MCC's course in astronomy not for a degree, but for thirst (and earned an A!). I have studied and taught the Hawaiian names of stars and constellations, in an effort to understand Polynesian navigation. I co-teach Hawaiian astronomy in star watching programs (free to the public) on a regular basis. I have found some clues that the names of the SW rift zone cones coincide with names of constellations used in navigational chants.

I have learned that Kilo Hoku, star watchers, would use many areas of the islands, but especially the summits of the mountains here to travel to and study. Its inconclusive if there are archeoastronomy sites atop Haleakala. It is clear however that all of the island summits were important in the following way: young who would become navigators would travel for days to the summits (including Haleakala) to arrive and camp at sunset. The most important time of the day for a navigator (see Kamakao's *The People of Old*), was sunset because the navigator would need an unobstructed view of the horizon, both East and West (the same unobstructed view they'd have out at sea), to see which stars/constellations were on the horizons and how they had moved through the day.

The very top of the volcano is in public trust and always accessible, as Haleakala National Park. Unfortunately, neighboring land is not and the neighbors seem to forget that they are responsible for a public trust that has no boundaries. Adding a 140 foot plus building will permanently destroy and further degrade an archeoastronomy site. People (of any race) wishing to practice Hawaiian astronomy have yet another piece taken away. This is just one price for a project that will waste millions of dollars.

One argument for the telescope is an advance in science. The multinational SOHO satellite is dedicated to solar research and with far lower costs and no damage to Earthly landscapes has advanced solar understanding immensely. The data gathered is available to anyone who visits the NASA website [spaceweather.com](http://spaceweather.com). This telescope would be replicative technology already available and could not achieve what a satellite in orbit can.

Another argument for the telescope is to create jobs. I would like to see how many people currently employed by all the astronomical institutions in Hawaii were residents PRIOR to the construction of those facilities. Shipping people over to Hawaii does not create jobs for those who already live here.

An argument for increased tourism has been raised. Do any of the current institutions on Haleakala allow daily or even weekly tours? (No) Is there an education/visitor center that can attract visitors and help them understand the science of astronomy? The small office in Pukalani with two conference rooms, lined with physics texts, hosting monthly talks to 20 or so locals doesn't seem like the type of facility/venue that would attract many visitors. Do people travel to Maui just to see the wind turbines, a

## Jeff Bagshaw (cont.)

monument to human technology? How many will be offended by seeing the tallest building on Maui atop mountain, instead of a mountain as once viewed hundreds of years ago? A view from a distance is all that is currently offered by any of the facilities on Haleakala.

Construction workers have also hauled out the time-tested argument of jobs and community. Does Maui have enough construction workers for this project, or will they too travel from off-island to fill the job needs? Maui doesn't even have enough cement trucks or drivers. They had to come from all islands for the last "big pour" atop Haleakala. If suddenly there were too many teachers or nurses, would we encourage people to have more children or get hurt more often to "keep our teachers and nurses employed?"

This project will advance careers, maybe even one or two who live here. They may even be able to afford retirement homes here (I still rent). It will create work for a short time for a few who live here, more for those who don't. It will educate the public if you believe monthly lectures with slides in a small room is enough. It may advance solar science for a time, before the next advanced satellite is launched. And it will be built in endangered species habitat, scar the landscape for generations long after the science it can achieve is obsolete. Most importantly, it will tell a people who've lost their heritage bit by bit that one more piece is gone, their ancient science is less important. One can only understand a place in the universe with millions of dollars.

If the proponents of this project here would take the time to learn about the islands, they would have discovered that that portion of the mountain was given a different name. Each pu`u had its own and many still debate the exact name for that area. The name Haleakala belongs to a different portion of the mountain. This simple fact shows how they have chosen to ignore all sides and consider only the snippets that advance their project, one better suited for California perhaps. I'm sure one can build a nice retirement home there. They are proposing to build in a community, not just on a mountaintop. They need to begin to understand this.

Jeff Bagshaw  
Haiku

**Sylvia Cabral, Noelani Hessler, Malia Hessler**

June 13, 2009

Re: Haleakala Telescope

- 1) This will set precedents to allow building heights over six floors on Maui.
- 2) Our children and grandchildren will soon travel to the moon and other planets for vacations, technology is proceeding that fast, this telescope will have nothing to do with stopping what is already started in technology.
- 3) Telescope of that height would be a disgrace to Maui and to its' fabulous Crater.
- 4) We don't need anymore telescopes in the islands. They have so many telescopes here already. To say that this one will bring different results is probably untrue.
- 5) Send the telescope to California
- 6) See three Maui News Articles June 17, 2009, June 3, 2009, April 4, 2009 about Korea targeting the islands including evacuation of Hawaii beaches.
- 7) We do not need to give more incentives to radical leaders to attack the closest United State and we do not need the Government to give more incentives to its own contractors to waste more money.

Sylvia Cabral

Sylvia Cabral

Noelani Hessler

Malia Hessler

## Thomas Cannon

From: "T. Cannon"  
Date: Mon, 22 Jun 2009 16:15:56 -1000  
To: <cfoltz@nsf.gov>  
Subject: Haleakala Solar Telescope Comments 6-22-09

Hello,

It is 3:00 pm on 22 June 2009 on Maui in Hawaii.

This is to express my opposition to the Solar Telescope planned for the summit of Haleakala, Maui, Hawaii, and to request being a consulted party in any further discussion and input related to the potential facility.

Not only is the planned 14-story telescope offensive to the native Hawaiian culture, but it would have a major detrimental effect on the sense-of-place of Haleakala Crater and especially its summit for all hikers and other users of Haleakala National Park.

Also, as chairman of the Maui Island General Plan Advisory Committee I want to inform you the 25-member committee voted to recommend no additional building on the summit.

Thank you for keeping me informed on the status of the solar telescope proposal.

Sincerely,

Thomas R. Cannon

## Judith Carroll, R.N.

JUNE 19<sup>TH</sup>, 2009

Dear Mr. Charlie Fein

Concerning the proposed solar telescope atop Haleakala also known as House of the Sun. As I am sure you are aware this site is one of the most magnificent wonders of the world. That in itself is good enough reason not to desecrate it more by erecting such an eyesore as you support. But besides esthetics how about the fact that you folks want to STUDY THE SUN!!! Haven't we studied the sun already? What did we learn? We learned that we can harness the suns power. Have we done that? NO. Consider this: Maui has the highest electric bill of any state in the country! One 1000 square foot store cost \$2800.00 per month!!!! This is outrageous considering we could harness the suns power and install solar farms and create enough energy to power the entire island with some energy to spare and possibly sell to other islands!! What is wrong with you people? Aren't you supposed to be smart scientist?? It doesn't take a rocket scientist to know that we need to start building solar powered farms, wave generators, and wind farms. We need to do this now! Why can't you change directions and stop studying the sun and start using the sun? More study will do nothing to create green jobs. It will only create more short term construction...leaving behind an ugly footprint that did nothing to help solve our energy problems. Now is the time to change direction....change the wasteful amounts of money spent on study and turn the project into a renewal energy project that will create something we need.....electricity. We do not need more

journals filled with useless data to be collected and studied? What is to learn?

The sun is free energy that is all we need to know. What a waste to study the sun more when we aren't even taking advantage of what we already know. You scientist should be ashamed for even proposing such nonsense on top the most sacred mountain in the world. Have you considered the possibility that it is dormant now but Pele could become agitated very easily? I say if you build that thing...let the lava flow!

Judith Carroll R.N.

## Elle Cochran

Comments on SDEIS for the proposed ATST:

It astounds me that we can't even predict what we can see with our naked eyes much less what's light years away. Our daily weather reporter can't get it straight. The tourist ask me if I can guarantee it will be clear on the summit for sunrise? No, clouds blow in as fast as they blow out.

Can you see through this vog we have had for weeks? Thick clouds hamper the viewing?

Does the lens fog or steam up? Tax payers paying for this down time?

The constant noise and disruption of the peace on the crater is a sin.

Hawaiian culture respected the Wao Akua the realm of God's which the summit of Haleakala.

Please, enough is enough. The National Science Foundation may have a passion for searching the galaxies and discovering anomalies that are out-of-this world. That's the problem today.

We search too much outside of ourselves. We look outside of ourselves for answers when the answers are within each and every one of us. The answers are here on Earth, in our oceans, in our forests, in our towns, in our families, in our own lives, in our heart and soul. The space race is over, it's an Earth race. The race to save our dying Earth and the people on it.

Mahalo for the opportunity to comment.

Elle Cochran

## Alan Cohen



Aloha.

I am greatly concerned about the proposed plan to construct the ATST on the summit of Haleakala. I am adding my voice to the many who oppose this unethical plan, and respectfully ask that the permit be categorically denied.

As a 23-year resident, homeowner, and taxpayer on Maui, I already cringe to gaze at the summit of this beautiful ancient sacred mountain and see it pockmarked with scientific buildings. A sight that was once an inspiration has become an ode to mismanagement and desecration in the name of science.

While I am all for scientific progress and the values of astronomy, I believe scientific advancement must be made in harmony with nature, not to overrun and ruin it. How many more telescopes do we need?

Even more significantly, the proposed telescope will desecrate an ancient Hawaiian burial ground. To me this is unthinkable. I imagine that if any of the proponents of the telescope were approached and asked if their parents' bones could be exhumed for a scientific building, they would be appalled. Why, then would we dishonor the bones of the sacred ancestors of the Hawaiian people and insult their descendants?

Please hear the voices of those who care about the beauty of these rare and peaceful islands, and honor the heritage that has made it safe and sacred for us all to be here.

Sincerely,

A handwritten signature in cursive script that reads "Alan Cohen".

Alan Cohen

## Comment/Response – Sonia Danse

-----Original Message-----

From: SoniaDanse [mailto:songandanse@xxxx]

Sent: Monday, June 22, 2009 4:23 PM

To: Foltz, Craig B.

Subject: Haleakala New telescope

Aloha Craig,

This is a follow up to my telephone message yesterday. Please build another telescope on Haleakala!!! I am sure you can take care of the silverswords. The tourists walking everywhere are more of a problem I am sure???

I enjoy the pink gleam of the domes at sunset, weather permitting!!!  
The exploration of space is something we can be proud of these days. A  
hui hou Sonia

## Penny Lin Davis

-----Original Message-----

From: Penny Davis  
To: Dr Charlie Fein  
Sent: May 30, 2009 11:23 AM  
Subject: atst project

Dear Sirs:

I am not in favor of the installation of the solar telescope.

In my opinion there is too much desecration already to Mauna Haleakala.

The only structures that should remain is the old observatory building and the lumi ho'opau pilikia (bathroom).

The present telescopes should all be taken down.

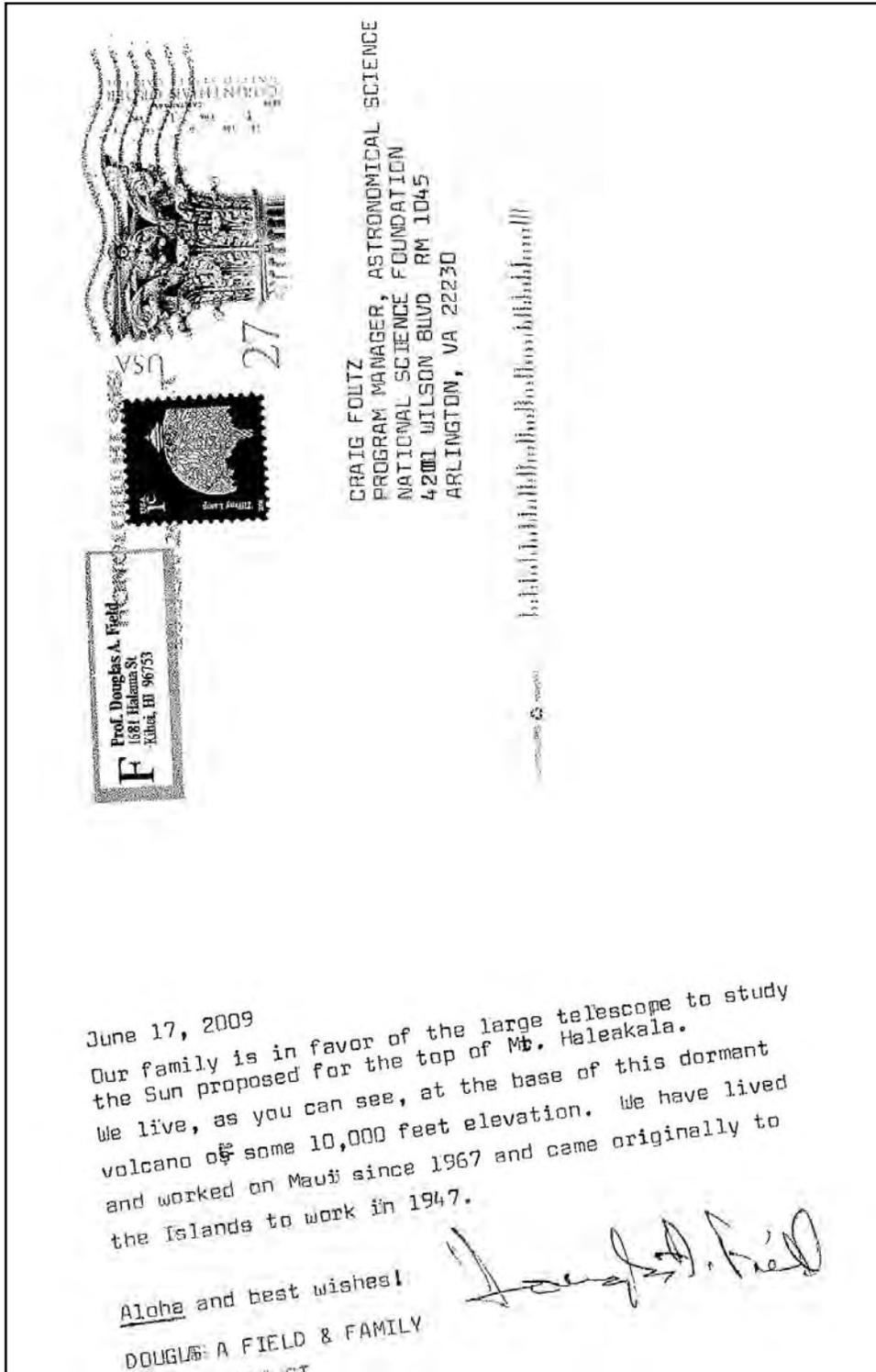
Mahalo for your assistance.

Penny Lin Davis

Wailuiku, Hi 96793

PS I am a native Maui Person. I was born and raised in Paia.

**Comment /Response – Douglas Field and Family**



## Friends of Haleakalā National Park

Matt Wordeman  
Friends of Haleakalā National Park  
PO Box 322  
Makawao, HI 96768

June 18, 2009

Dr. Craig Foltz  
ATST program manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Blvd., Room 1045  
Arlington, Va. 22230  
[cfoltz@nsf.gov](mailto:cfoltz@nsf.gov)

Re: Comments from the Friends of Haleakalā National Park, Inc. on the Supplemental Draft Environmental Impact Statement – Advanced Technology Solar Telescope

Dear Dr. Foltz:

Thank you for providing the opportunity to comment on the Supplement to the Draft Environmental Impact Statement for the Advanced Technology Solar Telescope proposed for Haleakalā.

The Friends of Haleakalā National Park, Inc. (FHNP) is a non-profit organization chartered in 1996, essentially, to support and promote the mission of Haleakalā National Park. Consistent with the mission of the FHNP, the comments included here deal primarily with sections of the DEIS and SDEIS that deal with impact analysis and/or mitigation proposals that directly relate to the resources of Haleakalā National Park, to visitors to the Park, to researchers who utilize the resources of the Park from a distance and to future generations of same.

The FHNP believes that the process of environmental impact assessment is an important one. Hence, we applaud the NSF and their contractors for the work that they have done in preparing the Draft EIS and its supplement. We further encourage your agency to follow all such appropriate review and application processes including the Conservation District Use Permit procedure.

The FHNP opposes the construction and operation of the ATST on Haleakalā. We feel that this project will have a net negative impact on Haleakalā National Park and its users and hence we prefer the no-action alternative.

Following are more detailed comments, specific to the SDEIS, in support of our position.

### **Impact on users of the Haleakalā National Park**

An excerpt of section 4.1.2 of the SDEIS states

#### ***Evaluation of Potential Effects at the Mees Site DIRECT AND INDIRECT EFFECTS***

...  
*With the construction of an additional telescope facility, the level of existing telescope activities would increase but the change would be small and localized and of little consequence. The addition of the proposed ATST Project would not constitute an effect on the land use resources in such a manner that would affect the cultural or natural integrity of Haleakalā National Park (HALE), since HO has previously been used as a site for other observatory facilities under CDUPs issued by the DLNR. No SHPD records for HO indicate that prior actions have had adverse effects on cultural or historic resources within HO, and no terms or conditions have been imposed by DLNR on any past or present action to mitigate loss of visual, biological, or other resources. The proposed ATST Project would not hinder the Park's purpose "to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as would leave them unimpaired for the enjoyment of future generations," (U.S. Code Title 16, 1, 2, 3, and 4) or prevent the NPS from continuing its conservation work to meet its guiding mission of preservation. ...*

## Friends of Haleakalā National Park (cont.)

The FHNP believes that it is not proper to conclude that since HO has previously been used as a site for other observatory facilities under CDUPs ... that the proposed ATST Project would not hinder the Park's purpose to "conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such manner any by such means as would leave them unimpaired for the enjoyment of future generations.:

A CDUP has not been issued for the proposed ATST. The size and proximity of the proposed ATST suggest that it is a reasonable possibility that the DLNR could impose specific constraints or mitigations on an ATST project that were not imposed on previous projects.

The SDEIS has gone to great lengths to estimate the changes that the ATST will cause to the scenery of Maui, and specifically to the visual impact that the ATST will have on the Park. The FHNP feels that these impacts on the Park are negative, significant and long term. The rendering provided as figure 4-18, shows clearly that the proposed ATST would result in a significant additional obstruction of the horizon as viewed from Pu'u Ula'ula in the Park. It also represents a taller obstruction than any other when observed from this point. The view of the horizon is critical to anyone wishing to study traditional Hawaiian navigational techniques. The presence of the ATST would certainly diminish this capability from the popular viewpoint within the Park.

Viewshed studies from within the wilderness areas of the Park, as provided in the SDEIS show that the ATST would not be visible from currently maintained trails within the wilderness area of the Park. The FHNP appreciates the effort that was put into this detailed analysis. However, we draw a different conclusion from the data from that in the SDEIS. The data in Fig. 4-29 and 4-30 of the visibility of the ATST at the Mees and Reber sites shows that while the ATST would not be visible from current maintained trails, it would be visible from current unmaintained trails. The Mees site would be visible from portions of the Lau'ula trail, and the Mees site from both Lau'ula and Mauna Hina unmaintained trails. The FHNP feels that the addition of an additional man-made structure visible on the horizon from *any* wilderness area within Haleakalā National Park diminishes the effectiveness of the Park and violates its charter to *conserve the scenery .. and to provide for the enjoyment of the same in such manner and by such means as would leave them unimpaired for the enjoyment of future generations. ...* Hence the impact of the ATST on the scenery of HALE would be significant and negative and would last for the length of the construction, operation and removal phases of the ATST, hence long term.

Studies presented in the SDEIS Vol. II Appendix N (visitor surveys) conclude that the presence of the ATST would not negatively impact the experience of visitors to HALE. This may indeed be true for the majority of visitors to the Park, specifically that group of visitors who could be classified as sight-seers. However, the FHNP believes that HALE must also be preserved for the use of those seeking a wilderness experience and for those who visit or use the Park for its unique native flora and fauna and natural environment.

The FHNP concludes that seeing a man-made object on the horizon from a wilderness area diminishes the wilderness experience. We also believe that the negative effect is cumulative. That is, an additional or larger or taller structure has an additional negative impact on the wilderness experience, even when the new structure represents an addition to an already imperfect view.

### **Impact on the Biological Resources of the Park**

The introduction of alien species to the natural environment of Haleakalā National Park presents a serious and significant threat to the long term health and viability of the Park. The SDEIS section 4.18.3 outlines techniques proposed to mitigate the impact of AIS by trying to prevent their introduction. However, few human endeavors are executed perfectly, and no provisions have been stated in the SDEIS to deal with AIS if they do, accidentally, become introduced. Furthermore, introduction of some invasive species, left unchecked could have a devastating effect on HALE. While the proposed monitoring and avoidance techniques are a partial mitigation, they are insufficient. Some provisions must be included to deal with the effects of an accidental introduction of non-native plants or animals. A threefold effort is required that includes; prevention, early detection and eradication. The FHNP believes that any project should provide a net conservation benefit when considering the impact on the natural resources of the Park.

## Friends of Haleakalā National Park (cont.)

The DEIS describes, at length, the locations and possible impact that the construction of the ATST may have on the nearby habitat for the 'u'au. The FHNP feels that before any construction occur, that a CDUP must be obtained and that such a permit clearly describe a plan whereby any actions and activities connected with each phase of the ATST, i.e. construction, operation and removal, each has a net conservation benefit to the 'u'au population.

### **Road:**

In all cases it should be made clear that the best practices and mitigation efforts used to minimize the impact on the Park (in terms of noise, AIS, road damage, traffic, protection of the fauna and widening of the road near the entry station) and its users (in terms of traffic) be adhered to in all phases of the project including: construction, use and removal. Modifications to the road near the entryway should be removed immediately after the last wide load is delivered in the construction phase. If wide or heavy loads must be transported after the end of the construction phase of the project, then sufficient provisions must be made at that time to eliminate or repair damage done to the road and any modifications required to accommodate wide loads should be temporary. Any changes should provide a net benefit to those who use the road for access to the Park as well as a net conservation benefit to the Park in terms of its biological resources.

### **Cultural impact**

One of the missions of Haleakalā National Park is to preserve the cultural resources of the Park. Native Hawaiians depend on the preservation of natural resources in order to perpetuate their culture. The FHNP feels that the view from the summit and the summit area in general is a sensitive and sacred cultural resource that deserves protection for the sake of the Hawaiian culture. The SDEIS discloses that the area "is a very sacred place for the Kanaka Maoli (Native Hawaiian), past and present." (p.3-7). By the nature of its close proximity to the summit, the ATST would necessarily have an impact on the cultural resources of the Haleakala National Park. Furthermore, this impact disproportionately and adversely affects the Native Hawaiian population. The EIS must be revised to highlight this impact as well the environmental injustice of ATST.

Thank you for your consideration.

Respectfully,

Matt Wordeman, President Friends of Haleakalā National Park

cc:

The state Department of Health, Office of Environmental Quality Control,  
Ref. ATST  
235 S. Beretania St., Room 702  
Honolulu 96813

Mike Maberry  
University of Hawaii Institute for Astronomy  
34 Ohia Ku St.,  
Pukalani 96768

Charlie Fein  
KC Environmental Inc.  
P.O. Box 1208  
Makawao 96768

## Joe and Karen Grafe

From: karjog@aol.com [mailto:karjog@xxxx]  
Sent: Wednesday, June 17, 2009 11:56 PM  
To: Foltz, Craig B.  
Subject: Maui Telescope

Aloha Mr. Craig Foltz,

We are writing to let you know that we are in favor of building the proposed telescope on Haleakala. This is not, by any means, the first telescope to be built on the mountain. Therefore, we do not believe that this one would cause any more cultural or spiritual disruption than has already taken place. Additionally, we strongly support advancements in science that a new telescope would bring. We know Maui is the perfect place for astronomy and the study of the sun at the "House of the Sun" seems perfect to us. The encouragement of our local youth to study science and, in particular, astronomy would be aided by gains in scientific knowledge made on Maui. Recently, the Maui Branch of AAUW donated funds which we helped raise to our Kihei Charter school to purchase astronomy equipment for the school. The students' ability to see the work of scientists on our own little island is a great inspiration to our local students. The Kihei Charter school and AAUW support STEM (science, technology, engineering and math) programs which would greatly benefit the children of scientists as well as our local youth.

We know there are many considerations in deciding where to place such an important telescope and we hope that the many social, educational and economic benefits to Maui will be taken into account as well as the needs of the scientific community.

Thank you for your consideration of our opinion.

Sincerely,

Joe and Karen Grafe  
Kihei, HI

## Elizabeth Havelin

----- Original Message -----

Date: Mon, 22 Jun 2009 19:34:49 -0700 (PDT)

From: E Havelin <e\_havelin@xxxx>

To: cfoltz@nsf.gov, charlie@kcenv.com, maberry@ifa.hawaii.edu

CC: elizabeth\_gordon@nps.gov

While there is nothing wrong with contributing scientific advancement and solid research- there is something wrong with how irrevocably a natural and cultural HEIRLOOM is being forever diminished. Wouldn't you think it incorrect(on many levels) to place a large facility at the immediate base or entrance to the national park? Similarities do exist. Citizens of the US feel fortunate and enjoy knowing that our parks have been set aside in recognition of their beauty, serenity, and cultural worth.

The mission of the Park Service is to preserve these sites "for UNIMPAIRED enjoyment of future generations". This is only achieved by no one group or interest garnering disproportionate time/use/decision-making power over the future of said areas. It's not within the park parameter might be the response here, but it is indeed within the visual representation of this majestic place. So much so that it is becoming the attraction most visible from every vantage point on Maui. Then, upon viewing the photos that look up to the existing telescope site from different vantage points on Maui it was notable that it appeared barely visible from Pukalani, Kaupo, the beaches, anywhere according to the photos in your report. Each one had to be magnified 10X's to show where the telescope is on top of the mountain! Hhhmmmm... Ask any resident or visitor if they can ever see what's atop Haleakala National Park and you'll surely get a much different answer. No magnification necessary. We see it all too clearly most of the time. From everywhere. This is very significant to note that your photos don't reflect this truth. In that instant this project was likened to an internet predator grossly misrepresenting themselves to gain access to, or control of, otherwise off-limits or inappropriate areas. How can the project be honorable or taken seriously when the documents put forth for consideration of the proposal provide such distortion and flat-out misrepresentaion?

When I looked at the Supplemental Draft Environmental Impact Statement there were many statements that struck me as doubletalk. There where way too many sentences including "minor, adverse,long-term effect" These words placed together create contradictory statements in and of themselves. Especially in light of it 'effecting' a cultural, natural sanctuary. On page ES-36 it states "effects from land clearing, demolition, grading/leveling, excavation, soil retention and placement, construction, paving and other site improvement activities..." and that there would be "...no adverse or beneficial effects on topography under the No Action Alternative". Many of us see non development greatly benefiting Haleakala mountain in the protection of, and the respect forit.

On page 4-1 is a telling passage- "Effects include ecological...on natural resources...affected ecosystems...aesthetic, historical, cultural, economical, social, or health, whether direct or indirect, or cumulative. Effects may also include those resulting from actions that may have both beneficial and detrimental effects, even if on balance, the agency believes that the effect would be beneficial." What I'm reading here is that while acknowledging there will likely be adverse effects you just want to do it. period. This means one group or interest can push their objectives though even if it means forever altering a communally revered special place. Good work it may be, but it needs to be done somewhere else.

Mahalo, Jane Q. Public

## Hawai'i Carpenter's Union

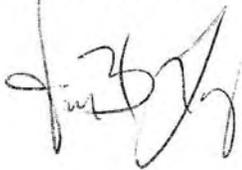
Name: Ivan Lay  
Address: Haiku HI. 96708  
Ph# 808-572-1953

Craig Foltz  
ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Blvd., Room 1045  
Arlington, VA. 22230

To Mr. Craig Foltz:

My name is Ivan Lay and I am a representative Hawaii Carpenters Union here on Maui but more importantly I was born and raised here in Hawaii. My mother's ancestors are of these islands from the Lahaina district. Her mother was pure Hawaiian. My mom was a Kumu Hula, she taught Hawaiian dance. My mother taught me how to dance Hawaiian and was one of her students for over ten years. My mother was also a Kupuna (teacher of Hawaiiana) at the up country schools. So as you can tell from this I was brought up in very Hawaiian Cultural household.

This project will benefit all cultures. It will have a positive effect worldwide I support and ask that you move it forward as fast as possible.



## Hawai'i Carpenter's Union (cont.)

To Mr. Craig Foltz:

My name is Ivan Lay and I am a representative Hawaii Carpenters Union here on Maui but more importantly I was born and raised here in Hawaii. My mother's ancestors are from Maui. Her mother was pure Hawaiian. My mom was a Kumu Hula, she taught Hawaiian dance. I was one of her students for over ten years. My mother was also a Kupuna (teacher of Hawaiiana) at the Maui up-country schools. So as you can see my up-bringing was filled with Hawaiian culture. This project will benefit cultures worldwide. The positive effects from ATST's study the sun will be countless. With Global warming already affecting us, a better understanding of the sun is a must.

I support and ask that you move it forward as fast as possible. I would also like to make two recommendations for this project. I've verbally stated these recommendations at public meetings previously, and now in writing.

### **1<sup>st</sup> Recommendation**

They employ a local workforce for the construction of this project.

### **2<sup>nd</sup> Recommendation**

Education is the key issue, be it the scientific or spiritual. But let's take it one step further and include education on the construction site.

Our Apprentice Training Program is an accredited carpenter's apprentice program that is accepted under the Davis Bacon, Prevailing Wages regulations, which this project falls under.

Our apprentices are all residents of this island, with a very high percentage of them native Hawaiian. Shouldn't the construction of this project include the training of our local apprentices?

We have a young work force willing and able to take the challenges that will come with this project. Our apprentice program is a four year schooling program that covers all aspects of carpentry including framing, layout, and concrete form work and finishing.

They are taught at schools and more importantly, hands on in the field. A state of the art faculty like this ATST project will further enhance their education and abilities in the carpentry field. Go that one that step further and help these young adults in securing a foot-hold on their island home. Support their apprentice program.

Sincerely,

Home: Ivan Lay

Haiku HI. 96708

Office: Hawaii Carpenters Union

330 Hookahi St.

Wailuku, HI. 96793

Ph# 808-242-6891

## Hawai'i Carpenter's Union (cont.)

Name Robert L. Ambrose Jr  
 Address 141 Mahalele Pl Kihai Hi 96753

Craig Foltz  
 ATST Program Manager  
 National Science Foundation  
 Division of Astronomical Sciences  
 4201 Wilson Blvd., Room 1045  
 Arlington, VA 22230

To Mr. Craig Foltz:

My name is Robert Ambrose Jr and I am a member of the Hawaii Carpenters Union. I am Native Hawaiian and I live in Kihai. I have lived on Maui all life.

I care about what happens to Haleakala, but I support the Advanced Technology Solar Telescope because I believe that we can have a balance between Hawaiian culture and science. Ancient Hawaiians studied the stars and the Hokulea has proven that it was this understanding of the stars that allowed ancient Hawaiians to voyage across the Pacific. The study of the sun, what better place then The House of the Sun.

Mahalo.

Sincerely,



### Individuals who sent identical comments:

Last Name	First Name
Barcai	Kekoa
Kenolio	Paul
Tom	Teddy
Williams	Kaliihoku

**Hawai'i Carpenter's Union (cont.)**

Name *Mason Pleasant*  
 Address :

*Wailea, Maui HI  
 96793*

Craig Foltz  
 ATST Program Manager  
 National Science Foundation  
 Division of Astronomical Sciences  
 4201 Wilson Blvd., Room 1045  
 Arlington, VA 22230

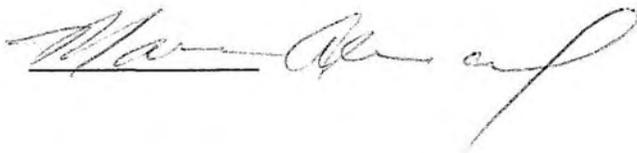
To Mr. Craig Foltz:

My name is *Mason Pleasant* and I am a member of the Hawaii Carpenters Union. My family and were I born and raised here on Maui.

I support the Advanced Technology Solar Telescope because I believe that we cannot be naïve about what's going around in this vast universe. Having the ability to predict upcoming weather and solar storms is a common sense thing to our family. Insuring and keeping the future safe is our responsibility, Start Now!

Mahalo.

Sincerely,



**Individuals who sent identical comments:**

Last Name	First Name
Chinen	Terry K.
Daguio, Jr.	Efren
Mashino	Robert

## Mikahala Helm

June 22, 2009

Craig Foltz, ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Rm. 1045  
Arlington, VA 22230

Dear Craig,

Re: Advanced Technology Solar Telescope (ATST) - SECTION 106 COMMENTS

The following comments regarding the Section 106 process include the three June 2009 Section 106 meetings held here on Maui

1. *Section 106 seeks to accommodate historic preservation concerns with the needs of Federal undertakings through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties, commencing at the early stages of project planning... The agency official should plan consultations appropriate to the scale of the undertaking and the scope of Federal involvement.*

**The NSF has failed to develop a Section 106 plan for public involvement, notification, and consultation. Steps were not properly taken and disclosed regarding the meetings to ensure that more Hawaiian practitioners and consultants were consistently involved. Meetings were held at times and days that conflicted with major community activities on our island and/or at times when many were at work and unable to attend. Assumptions were made and some individuals requesting to be Section 106 consultants were no longer notified of upcoming meetings.**

2. *The agency official shall ensure that consultation in the section 106 process provides the Native Hawaiian organization a reasonable opportunity to identify its concerns about historic properties, advise on the identification and evaluation of historic properties, including those of traditional religious and cultural importance, articulate its views on the undertaking's effects on such properties, and participate in the resolutions of adverse effects.*

**There was no connectivity from the start of the Section 106 process. The context was not clear; those Hawaiian consultants who were participating to talk about historic preservation and avoidance were tracked into meetings that were focused on community benefits and mitigation. As a matter of fact, a few years ago, I was told that the Section 106 meeting was for those with mitigation proposals. Those of us supporting "avoidance" were asked to attend the community public meetings.**

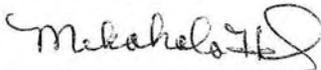
## Mikahala Helm (cont.)

3. *Consultation with Native Hawaiian organizations should be conducted in a manner sensitive to the concerns and needs of the Native Hawaiian organization.*

**There has been overwhelming confirmation on the sacredness of Haleakalā and its vital role in perpetuating our Hawaiian culture, traditions, and beliefs. Hawaiian practitioners and keepers of the culture have repeatedly come forward, clearly voicing that the spirituality and sacredness of Haleakalā could not be mitigated. There was no way to mitigate the shadow of this monolithic man made structure on our sacred land. This process was supposed to be data gathering; however, it came predisposed with money to plan, design, and now, to construct the ATST. The NSF was supposed to put forth efforts and did not come across objective. Meetings were not held to empower the people with future decision-making or to recognize our unique status as decision-makers to shape the future. We are true stakeholders and need the NSF to recognize this.**

In closing, are we going to have additional Section 106 meetings that will focus on our cultural and religious heritage issues relative to the use of the summit of Haleakalā? Your prompt reply will be much appreciated.

Sincerely,



Mikahala Helm

Cc: Charlene Dwin Vaughn  
Laura Thielen  
✓Charlie Fein  
Mike Maberry  
Department of Health, Office of  
Environmental Quality Control

## Historic Hawai'i Foundation

# HISTORIC HAWAII FOUNDATION

June 8, 2009

Craig Foltz  
ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Rm. 1045  
Arlington, VA 22230

**RE: NSF Advanced Technology Solar Telescope Project, Haleakalā National Park, Hawai'i**

Dear Mr. Foltz:

Thank you for providing Historic Hawai'i Foundation (HHF) with a copy of your Cultural Landscape Inventory and Condition Report for this project.

Under the proposed project the National Science Foundation (NSF) is considering whether to fund the proposal to construct the 142.8 foot high Advanced Technology Solar Telescope (ATST) within the University of Hawai'i, Institute of Astronomy Haleakalā High Altitude Observatory site at the summit of Haleakalā.

The only access road to the site is through Haleakalā National Park. Therefore, the National Park Service (NPS) will need to issue a Special Use Permit (SUP) to operate commercial vehicles on the park road during the construction and operation of the proposed ATST project, if approved. The SUP would ensure that impacts to park natural, cultural, historic and archeological resources and visitor experience from the varying types and additional quantities of vehicles needing to travel on the park road for the proposed project would be reduced through proper mitigation measures.

The mitigation that you proposed for the adverse effects to the historic park road and associated features include the following:

- No vehicle loads above legal limit and load rated capacity for the bridge
- No vehicles driving on the edges of the road
- Pre and Post project documentation of all historic features
- Traffic planning and controls
- Monitor to ensure mitigative measures are being followed



680 Iwilei Road, Suite 690 / Honolulu, Hawai'i 96817 / Tel (808)523-2900 / Fax (808)523-0800  
Email [preservation@historichawaii.org](mailto:preservation@historichawaii.org) / Web [www.historichawaii.org](http://www.historichawaii.org)

## Historic Hawai'i Foundation (cont.)

# HISTORIC HAWAII FOUNDATION

HHF feels that the vehicle load limits should relate not just to “the bridge” but also to the culverts. As the vast majority of contributing features are culverts we feel that there should be some mitigative measures preventing the culverts from being overloaded.

Monitoring to ensure the mitigative measures are followed and implementing traffic planning and controls are important measures, and we are happy to see these as part of the mitigation. Will there be some kind of plan as to what to do if damage inadvertently occurs to the roadway and related features during the course of the project? HHF feels that should there be any damage that replacements and/or patching should be made using in kind materials following the Secretary of the Interior's Standards for Rehabilitation.

We understand that a Historic American Engineering Record (HAER) report was completed in 1999 we would like to suggest that as part of the mitigation that this report be used for some kind of educational purpose within the park. Possible ideas include putting the report on the Park website, or perhaps doing a piece on it for the Park newsletter.

Thank you for the opportunity to comment on the proposed project.

Very truly yours,



Kiersten Faulkner, AICP  
Executive Director

Cc: Charlie Fein, KC Environmental Inc., P.O. Box 1208, Makawao, Hawai'i 96768  
Mike Maberry, Associate Director, University of Hawai'i, Institute for Astronomy, 34  
'Ōhi'a Ku Street, Pukalani, Hawai'i 96768  
Department of Health, Office of Environmental Quality Control, REF: ATST, 235  
S. Beretania Street, Rm. 702, Honolulu, Hawai'i 96813  
Pua Aiu and Nancy McMahon, SHPD (via email)  
Cari Kreshak, Melia Lane-Kamahele, and Liz Gordon, NPS (via email)  
Martha Catlin, ACHP (via email)  
Betsy Merritt and Brian Turner, NTHP (via email)



680 Iwilei Road, Suite 690 / Honolulu, Hawai'i 96817 / Tel (808) 523-2900 / Fax (808) 523-0800  
Email [preservation@historichawaii.org](mailto:preservation@historichawaii.org) / Web [www.historichawaii.org](http://www.historichawaii.org)

Roger Dennis Hawley

Viewpoint commentary June 22, 2009 page 1  
Letters  
The Maui News  
100, Mahalaui St  
Wailuku, HI 96793

Dear, Editor

The Maui News of 6/4/09' ran an article titled: "Debate over Haleakala telescope re-engaged". At this time I would like to add my own two cents worth of common sense to this on-going controversy.

As a holder of numerous Haleakala volcano mountain hiking records over the past four decades, I find that some of the objections to this huge proposed telescope are ludicrous. Opponents say the summit and crater are sacred land, well isn't Hana, Makena, Ulupalakua, Haiku, Keanae, Kaupo and the soil and rocks under Charlie Maxwell's toilet in Pukalani sacred also?

The ceded lands issue of Haleakala, give me a break, 50 years ago this month of June 1959, documented records show that 97% of the adult Kanaka maoli native Hawaiian population voted for Hawaii statehood.

I have just three common sense objections to this proposed solar telescope as planned. ① The present proposed site is ridiculous.

→

A far, far better location is available on land adjacent to science city, owned by the State of Hawaii. With a deed or lease to the National Science Foundation for this 15 to 20 acres and proper county of Maui grading and building permits, this unique project could start construction.

Within one hundred days, a major construction company could excavate loose and semi-loose cinders and rocks just below the F.A.A. Repeater station on top of the 9,800 ft. Summit of the Kahikini cinder cones eastside.

Enlarging this cinder cones central crater down to 150-160 ft. below the western summit, leveling out to about the 9,640 ft. elevation on the eastside, the entire proposed solar telescope building would not ever be seen from anywhere down in central Maui or barely seen from Haleakala's summit or crater areas.

② I object to the solar telescopes Supplemental Draft Environmental Impact Statement's detail on page ES-41, which states "That full and empty concrete trucks will adversely effect traffic along state highways and Haleakala Crater Road".

It makes more sense to do what →

Hana town did many years ago. And that is to erect a temporary concrete batch plant and take up individual smaller truck loads of cement, clay, hard rock aggregate, sand and water to a site of an abandoned radio or television tower near the proposed solar telescope construction site.

③ I also object to the very really dangerous aspect of hundreds of local construction workers racing up and down Haleakala mountain every day to and from work on the proposed solar telescope site and building. Why not use part of Dowlings Pukalani Shopping Center parking lot as a staging area for the future construction workers' private cars and trucks?

And then shuttle all of them to the Haleakala summit free of cost in vans to be provided by the different construction companies building the proposed \$161 million advanced technology solar telescope.

If these three problems are resolved, and the daily data from the completed working solar telescope is available to all Hawaii state schools through the internet, I would totally support its beneficial construction and operation. →

**Roger Dennis Hawley (cont.)**

page 4

Finally, just remember that on August 7, 1972, one of the largest solar flares ever recorded at 250,000 miles in length, out from the sun, caused world-wide power blackouts and telecommunications failures. With the proposed solar telescope atop Haleakala, it would give advance warning around the world of a coming crisis.

Aloha Roger Dennis Hawley

Copies to -

Craig Foltz, Ph.D., AT&T  
Program manager  
National Science Foundation,  
Division of Astronomical Sciences  
4201 Wilson Boulevard  
room 1045, Arlington Va, 22230

Senator Daniel K. Inouye  
United States Senate  
722 Hart Senate Office Building  
Washington D.C. 20510-1102

Senator Daniel K. Akaka - United States Senate  
141 Hart Senate Office Building Washington D.C. 20510

Congressperson Mazie Hirono  
1524 Longworth House Office Building  
Washington, D.C. 20515

## Dan Holtman

Dan Holtman  
1215 S. Kihei Rd.  
Suite O, #831  
Kihei, HI 96753

Mr. Craig Foltz  
ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Blvd  
Room 1045  
Arlington, VA 22230

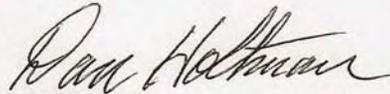
June 13, 2009

Dear Mr. Foltz,

I am a resident of Kihei, Maui, Hawai'i. I can see the observatories on Haleakala from my house, and I am quite proud of the fact that they are there. It should be a source of pride for Hawaiians to have one of the premier astronomical sites in the world located in our state.

I am fully in favor of the construction of the ATST on Haleakala. I cannot think of a more appropriate place for the new telescope than in the "House of the Sun."

Sincerely yours,

  
Dan Holtman

cc: Mike Maberry, Charlie Fein, Hawai'i Dept. of Health

## Comment/Response - Liana Horovitz

Wednesday, May 20, 2009

Charlie Fein,  
KC Environmental Inc.  
P.O. Box 1208,  
Makawao, HI 96768

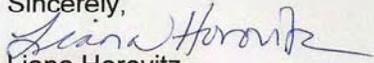
Dear Mr. Fein:

Our island ecosystem is both fragile and finite. I know that you've heard impassioned pleas from our Hawaiian kupuna and Island elders explaining why this solar telescope project is not suited for our small Maui home. Why it is not culturally appropriate nor acceptable. Why we who have grown up in Kula, and raise our families in this community feel so strongly opposed to this project.

I can offer no new evidence, scientific or otherwise, in hopes of persuading you that mitigation efforts will never be enough to preserve what is so fragile and finite. I can only hope to appeal to your sense of humanity, in understanding that Haleakala is not the place for this worthwhile global project.

Please find another location that won't divide the community.

Sincerely,

  
Liana Horovitz

Response:

Thank you for your comments.

**Comment/Response –  
International Brotherhood of Electrical Workers, Local 1186**

-----Original Message-----

From: Brian Lee [mailto:ibewblee@hawaii.rr.com]

Sent: Thursday, May 28, 2009 8:02 PM

To: Blanco, Caroline M

Subject: Proposed Advanced Technology Solar Telescope (ATST), Haleakala High Altitude Observatory Site

Ms. Caroline Blanco,

Our organization, the International Brotherhood of Electrical workers Local 1186 in Hawaii believes that the potential cultural impact of the solar telescope project being proposed for the Haleakala High Altitude Observatory Site, which is managed by the University of Hawaii, may be mitigated and we would like to be a "Consulting Party" in the NHPA Section 106 process.

Aloha,

Brian Lee, Research & Communications Director

International Brotherhood of

Electrical Workers Local Union 1186

1935 Hau Street

Honolulu, HI 96819

\*\*\*\*\*

Hello, Mr. Lee - Thank you for your message, and for your interest in the Section 106 consultation process. NSF will add your organization to the list of consulting parties. Please note that I am copying, among others, two folks from the National Park Service on this message because the National Science Foundation is working with the National Park Service to fulfill both agencies' Section 106 consultation responsibilities associated with the proposed ATST Project.

We look forward to having you join us during our Section 106 consultation meetings on June 8, 9, and 10th in Maui. Please also note that NSF will be holding two public hearings pursuant to the National Environmental Policy Act on NSF's recently issued Supplemental Draft Environmental Impact Statement on June 3rd and 4th in Maui. For your information, I am attaching a newsletter prepared by the National Park Service that has some background information on the proposed ATST Project, a summary of compliance efforts with the National Historic Preservation Act and the National Environmental Policy Act made to date, and details on the upcoming meetings. Please let me know if you would like to have any additional information.

Best regards,

Caroline M. Blanco

Assistant General Counsel

National Science Foundation

## International Brotherhood of Electrical Workers, Local 1186



### International Brotherhood of Electrical Workers

LOCAL UNION 1186    Affiliated with AFL-CIO  
291 HOOKAHI ST, SUITE 108    WAILUKU, MAUI, HI. 96793  
TELEPHONE (808) 244-8002    FAX (808)244-8009

June 17, 2009

Mr. Craig Foltz  
ATST Program Director  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Blvd., Room 1045  
Arlington, VA. 22230  
Re: ATST, Haleakala Telescope

Dear Mr. Foltz,

As a supporter of the ATST atop the summit of Haleakala, I would like to submit testimony regarding this project.

I believe that this scientific project proposed here on the Island of Maui can be of many benefits to our Island home. It would be an asset in our economic status, creating new employment, and having the opportunity to explore in new technology, just to name a few.

This project would fall under the laws regarding the Davis-Bacon Act, Prevailing Wages regulation. Our NJATC apprenticeship program is a qualified program that is recognized by this law. It would be a tremendous experience for our apprentices to be able to be a part of building a one of a kind facility right here on Maui. Our Apprenticeship program is a five year program which includes schooling and on the job training. A project of this magnitude might not be available again in our lifetime, so why not take advantage of this and give our young men and women an opportunity to have an incredible experience.

Respectfully Submitted,

Ray Shimabuku  
Business Representative  
IBEW, LU 1186-Maui

# Kahea



# KAHEA

THE HAWAIIAN-ENVIRONMENTAL ALLIANCE

PROTECTING

NATIVE HAWAIIAN

CUSTOMARY &

TRADITIONAL RIGHTS

AND OUR FRAGILE

ENVIRONMENT

Office

1149 Bethel Street, Ste. 415  
Honolulu, HI 96813

Mailing Address

P.O. Box 37368  
Honolulu, HI 96837

toll-free phone/fax  
888.528.6288

www.KAHEA.org  
kahea-alliance@hawaii.rr.com

KAHEA: the Hawaiian-Environmental Alliance is a non-profit 501(c)3 working to protect the unique natural and cultural resources of the Hawaiian islands. KAHEA translates to english as "the call."

June 22, 2009

Dr. Craig Foltz  
ATST Program Manager, National Science Foundation,  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230  
[cfoltz@nsf.gov](mailto:cfoltz@nsf.gov).

Aloha Dr. Foltz,

Thank you for this opportunity to submit comments on the Supplemental Draft Environmental Impact Statement for the Advanced Technology Solar Telescope (ATST) proposed by the National Science Foundation (NSF) for construction on the sacred summit of Haleakalā. KAHEA: The Hawaiian-Environmental Alliance strongly opposes this proposal because the study of weather in space does not remotely justify disregard for the rule of law, degradation of the Haleakalā conservation district, or desecration of Native Hawaiian religious and cultural practice on Haleakalā. NSF has many other options available to it, we strongly advise NSF to pursue them instead of construction on Haleakalā.

KAHEA is a local network of over 6,000 people representing kūpuna, cultural practitioners, scientists, educators, and concerned citizens working to protect Hawai'i's unique natural and cultural resources. KAHEA continues to successfully advocate for the protection of Hawai'i's sacred summits.

## I. NSF's ATST Proposal Would Degrade the Haleakalā Conservation District

The summit of Haleakalā is protected by state law as a conservation district, where construction is specifically "discouraged" in order to protect the unique ecology, landscape, and cultural features of the area. Before construction in a conservation district can even be considered, the law requires a comprehensive management for the protection of these resources be adopted by the state Board of Land and Natural Resources. To ensure that proposed construction does not undermine or frustrate the ultimate purpose of the conservation district, the law also forbids any activity that might have "significant, substantial, or adverse" impacts on the resources of the district.

Not only is NSF proposing to build the ATST in a conservation district without a management plan, but the SDEIS for the proposal concedes

## Kahea (cont.)

that construction will have a significant and adverse impact on the resources of the district. Haleakalā is home to many rare and at risk species, including the threatened 'ahinahina and the extremely endangered 'ua'u. Construction of the ATST would require widening the road to the telescope site, thus destroying significant 'ahinahina habitat. It would also result in serious disturbance to the ground -- the structure will extend 40 feet into the ground -- which jeopardizes one of the last two colonies of the ground-burrowing 'ua'u on earth.

Given the legal framework for conservation districts and the actual conservation needs of Haleakalā, it is surprising that NSF would proceed with the proposal to build the ATST on Haleakalā. If there is no management plan, and the SDEIS concedes that construction will have a significant and adverse impact on the resources, then how can NSF expect to build the ATST?

### **II. NSF's ATST Proposal Would Desecrate Religious and Cultural Practices on Haleakalā**

Traditional and customary Native Hawaiian practices and the sites associated with them are protected by state and federal law. NSF proposes to disregard these legal protections by constructing the 14-story, 100-acre ATST immediately adjacent to significant and actively used Native Hawaiian cultural sites on Haleakalā. It is insulting to hear NSF attempt to justify this act of cultural genocide by describing modern, giant telescope structures as consistent with ancient Hawaiian astronomy, especially since construction of the ATST will actually block traditional viewplanes and key constellations as seen from the Haleakalā Crater.

The SDEIS plainly misstates the reality: it is the new project proposal, the ATST, which can modify its needs, objectives, and methodologies, while it is the pre-existing, ancient cultural and religious practices that are sacred and unalterable. NSF's unwillingness to even consider modifications to the project proposal that would help to protect Native Hawaiian cultural and religious practices is a sign that NSF suffers from scientific imperialism. To go forward, NSF must find a way to balance the ATST project needs with the existing limitations of the world we live in. This is the way, the study of weather in space is no justification for destroying life in Hawai'i as we know it.

### **III. Inadequate Alternatives Analysis**

NSF has other, arguably better, options for collecting data about the sun and weather in space. These include constructing a new telescope in space, constructing a new telescope at either Big Bear Lake or La Palma, or remodeling an existing telescope to meet the project objectives. None of these options are considered in the SDEIS. Instead, the SDEIS only evaluates two possible sites in the same location, both of which have nearly identical consequences if the ATST is built there. This is a textbook example of an inadequate alternatives analysis under the National Environmental Policy Act. There are several practical alternatives that have not been evaluated. Without a thorough analysis of alternatives, how can a decision-maker weigh all of the costs and benefits of a proposal and

## Kahea (cont.)

come to an informed conclusion about which alternative achieves the appropriate balance between need and consequence? They cannot. Thus, without significant revisions, NSF can expect serious legal challenges on the failure to comply the requirements of NEPA.

For these reasons, we strongly encourage NSF to pursue other available alternatives for collecting data about the weather in space.

Mahalo,



Miwa Tamanaha  
Executive Director



Marti Townsend, J.D.  
Program Director

Cc:  
Michael Maberry  
Office of Environmental Quality Control  
Senator Daniel Inouye  
Senator Daniel Akaka  
Representative Neil Abercrombie  
Representative Mazie Hirono

Daniel Kanahale

June 29, 2009.

To: National Science Foundation Officials and Representatives  
And other Stake holders of the Advanced Technological Solar Telescope (ATST)

From: Daniel Kanahale

RE: ATST Proposed Project For Haleakala Summit.  
And Consultation Process under Act 106.

To Whom it may concern:

As a consulted party under Act 106, regarding the proposed ATST proposed project by the NSF for the Summit of Haleakala, I would like to offer the following comments.

1. I would like to state for the record that I feel that the consultation process under Act 106 for the ATST is not or should not be over. There are still a lot of questions that need to be asked and answered by many who have signed up to be consulted and that more time should and needs to be allowed for dialog and the asking and answering of questions. For me personally, I feel we have yet to discuss in a meaningful way, the bricks and mortar aspects, i.e. the mitigation of impacts, of this proposed project. In the meeting I attended on June 10, 2009 at the Maui Community College, we ran out of time before that happened. There were too many comments and too many participants and just not enough time.

Daniel Kanahale (cont.)

allotted at that meeting to finish the discussion, which, in my opinion, was just beginning when the meeting was adjourned. I feel that it would be wrong and premature to sign off on the 106 processes at this point. The Dialog between the stake holders needs to continue.

2. I would like to know who has the final authority to sign off on the 106 Consultation process for this proposed Project?
3. I would like to know if I am considered a consulting party under the 106 consultation process by the officials of the National Science Foundation and by the National Historic Preservation Council?
4. I would like to know if the 106 consultation processes for the ATST project will continue and if so, when are the next meetings scheduled? If not, what are your reasons for ending it?

Sincerely,

Daniel K. Kanahale

Daniel K. Kanahale

## Harold Keyser

From: Keyser, Harold [mailto:KeyserH@xxxx]  
Sent: Wednesday, June 17, 2009 2:42 PM  
To: Foltz, Craig B.  
Subject: Comments on ATST Maui

Aloha Dr. Foltz,

I writing in support of the ATST proposed for Haleakala on Maui. I am a resident of Kula and have an unobstructed view of the peaks of Haleakala. It is a wonderful sight, is a great place to visit and hike, and it is home to telescopes that truly enrich our understanding of our universe.

“Every day we rely on technologies made possible through the application of scientific knowledge and processes. The computers and cell phones which we use, the cars and airplanes in which we travel, the medicines that we take, and many of the foods that we eat were developed in part though insights obtained from scientific research. Science has boosted living standards, has enabled humans to travel into Earth’s orbit and to the Moon, and has given us new ways of thinking about ourselves and the universe”.

These words are from the Preface of *Science, Evolution and Creationism*, National Academy of Sciences, 2008. My life experiences have shown these words to be true. As a young boy in Pasadena, some playmates had parents who were working at CalTech and Jet Propulsion Lab during the Sputnik era. They were we working on miniaturization of electronics that would be necessary for space exploration. That early research led to developments that have dramatically improved the productivity and living standards of much of humanity. In my field of agriculture, I have seen similar advances through science contribute to increased food abundance achieved with a reduced chemical footprint and improved soil conservation practices. These advances began with research to increase our knowledge and understanding – the applications and extent of their benefits are often beyond our immediate horizon.

The peaks or Haleakala are not diminished by the presence of man’s technology. Indeed, the mountain is a vast and majestic giant that is almost entirely naturally landscaped with forests and rangelands. I believe that the peak of Haleakala is even more wondrous and impressive through the inclusion of advanced technology that enables us to better understand our sun and its effects on earth and our future. I wholeheartedly support this endeavor and believe that such a unique activity enriches and diversifies our community.

Sincerely,  
Harold Keyser  
Kula, Maui

## Maury King

-----Original Message-----

From: Maury King [mailto:maury@xxxxx]

Sent: Friday, June 12, 2009 11:52 AM

To: cfoltz@nsf.gov

Cc: charlie@kcenv.com, kud@ifa.hawaii.edu, maberry@ifa.hawaii.edu,

rehbock@ifa.hawaii.edu, kuhn@ifa.hawaii.edu

Subject: Please, no telescope

I had the privilege of attending the final public meeting about the new 14 story telescope atop Haleakala. I saw Hawaiians cry, once more, over the way this and other issues like this are handled, with little respect for the aina and cultural history.

I felt sad that haole powers that be seem to be in charge of the decision, perhaps from a room in Washington with only a paper transcript carrying none of the heartfelt emotions actually present at the meeting, and the cultural heritage is once again made less relevant and trampled on.

In addition to all the pono reasons not to do this, at a time when we are finally beginning to seriously address our energy future, one of the smart things we can do is not adding a telescope to the grid that will have its own substation and apparently use as much electricity as a couple of thousand homes.

Maury King

Kihei, HI 96753

## Laborers' International Union of North America, Local 368

Comments on the Supplemental Environmental Impact Statement  
For the Proposed Advanced Technology Solar Telescope Project  
June 4, 2009, Thursday  
Hannibal Tavares (Pukalani) Community Center  
Pukalani, Maui

National Science Foundation  
Division of Astronomical Sciences

By Al Lardizabal, Director  
Government Relations  
Laborers' International Union of North America  
Local 368

The Advanced Technology Solar Telescope is a scientific project by the National Science Foundation within the University of Hawaii Institute for Astronomy Haleakala High Altitude Observatories site at the summit of Haleakala, County of Maui. It is a proposal by the National Solar Observatory (NSO).

It is proposed that the construction include an observatory facility including a telescope (world largest optical solar telescope), its piers and rotating platforms, telescope enclosures, support building, parking facilities and modifications to the existing facility. If approved, it is estimated that the site will be fully operational by 2017 with the estimated construction schedule about 7 years.

The ATST Project is a welcome investment not only for the scientific and educational community but to the local economy as well. It is no secret that the entire state economy is depressed. Indeed, Maui County's economic momentum brought about by construction has largely disappeared over the last two years. Construction is a primary driver for employment. Today, Maui's unemployment rate is 8.1% nearly double that of 2008 at 4.5%; more than 6,450 civilians are unemployed today compared to 3,600 unemployed in 2008. Clearly, there is economic hardship in practically many communities on Maui and it is projected to get worse before it gets better. The ATST Project and other job creating opportunities are needed.

We are cognizant however, of the concerns of our native Hawaiian brethren and persons concerned with the environment. Their views must be heard and appreciated for cultural and religious values and practices as well as the need to protect the environment. We also believe that the ATST project can be built respecting these values with attention to mitigation actions. The National Solar Observatory is developing a management plan to ensure implementation of mitigation measures with the associated ATST Project. Mitigation measures would include a cultural specialist to provide oversight for construction activities and training. Furthermore, a variety of best management practices would be implemented during construction to prevent damage to the natural environment.

The proposed ATST Project would be located in the area of the Conservation District that has been set aside for astronomical research. The objective of the Conservation District is to conserve, protect, and preserve the important natural resources of the State through appropriate management and use in order to promote their long-term sustainability and the public health, safety and welfare. Additionally, it is the policy of the Makawao-Pukalani-Kula Community Plan to: "Encourage Federal, State and County cooperation in the preparation of a comprehensive Haleakala summit plan to promote orderly and sensitive development which is compatible with the natural and Native Hawaiian cultural environment of Haleakala National Park." We believe that the ATST Project would comply with these requirements.

### Effects

ES 31 The ATST would have minor adverse, long-term effects on current land use designated as Conservation District. No mitigation is needed.

ES45 Beneficial effects would be to the economy and education.

## Laborers' International Union of North America, Local 368 (cont.)

June 9, 2009

George Aikala

Wailuku, Hi. 96793

Aloha

My name is George Aikala, I'm here as a concern Hawaiian, most of you know that I work for the Laborers Union as a Field Representative, the last meeting at Hannibal Tavares Community Center that I attended a lot of my fellow Hawaiians spoke against the Solar Telescope on Haleakala because they felt the mountain is sacred. I'm responsible 300 working man and some woman here on Maui. My out of work list today shows 82, but it does not show the twenty plus workers that had not work from the middle of 2008 and are no longer collecting unemployment which means they can't pay their dues, which means the union had to drop them from the out of work list, if this continues families will lose their home and today you can't live on the beaches, cause DLNR compliance officer's will be there to evict any and all homeless persons or even jail you for breaking the law.

A brother spoke that we should go back to the Aina and grow our food, if any one knows where this Aina is that is free, where a family can live with out prosecution or paying any Land Taxes, Mortgage, Rents, then please put up your sign so those that are in need can go and enjoy the Kanaka Ma'oli way of life. Another Brother spoke of sovereignty and I'm for that, but until America recognizes the independents of the Hawaiian Nation, we need to survive. I know some of you will say I'm working for the Haole, and that I'm looking for the money, well I can't stop you from feeling that way. And if you say I have an agenda, because I want to see my brothers and sisters go back to work on this project or any other project so they can keep their families together; then I'm guilty. We're saying the mountain is sacred but what about our young Native Hawaiians that have no jobs and are struggling to make ends meet aren't they more sacred then the land. We must come together to understand why we in the Union Trades are always fighting to preserve equality living for all our brothers and sisters.

Mahalo

**Laborers' International Union of North America, Local 368 (cont.)**

June 9, 2009

George Aikala  
649 Akaku Street  
Wailuku, Hawaii 96793

Craig Foltz  
ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Blvd., Room 1045  
Arlington, VA 22230

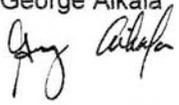
To Mr. Craig Foltz:

My name is George Aikala and I am a member of the Hawaii Laborers' Union, Local 368. I am Native Hawaiian and I live in Wailuku, Maui. I was born and raised on Maui and have lived on Maui my entire life.

I care about what happens to Haleakala, but I support the Advanced Technology Solar Telescope because I believe that we can have a balance between Hawaiian culture and science. Ancient Hawaiians studied the stars and the Hokulea has proven that it was this understanding of the stars that allowed ancient Hawaiians to voyage across the Pacific.

Mahalo.

Sincerely,

George Aikala  


**Laborers' International Union of North America, Local 368 (cont.)**

Name: Richard Apuna

Address: \_\_\_\_\_  
Wailuku, HI

Craig Foltz  
ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Blvd., Room 1045  
Arlington, VA 22230

To Mr. Craig Foltz:

My name is Richard Apuna and I am a member of the Hawaii  
Laborers' Union, Local 368. I am Native Hawaiian and I live in Maui.

I care about what happens to Haleakala, but I support the Advanced Technology Solar  
Telescope because I believe that we can have a balance between Hawaiian culture and  
science. Ancient Hawaiians studied the stars and the Hokulea has proven that it was  
this understanding of the stars that allowed ancient Hawaiians to voyage across the  
Pacific.

Mahalo.

Sincerely,

 \_\_\_\_\_

**Laborers' International Union of North America, Local 368 (cont.)**

**Individuals who sent identical comments shown on the previous page:**

<b>Last Name</b>	<b>First Name</b>		<b>Last Name</b>	<b>First Name</b>
<i>Apologies to mis-spellings, some signatures illegible.</i>				
Burns	Burt		Kenui	James
Burns	C.		Kiaaina	Solomon Dino
Cardoza	Michael		(Illegible)	Dawson
Carvalto	Anthony		(Illegible)	E.
Chang	Kawika		Lani	Daniel
Chung	Patrick		Lau	Kalani
Cruz	Allan		Manois	George
Dutro	Warrick		Marras	Sonnette
Duvauchelle, Jr.	James		Mateo	Jonathan
Echiverri	Keith		Morton III	Edgar
Emmanual	Justin		Nakasone	Dustin
Han	Walter		Nakooka	Leslie
Hema, Sr.	Clayton		Nu	Benjamin
Hoewaa	June		Olds	Edward
Inciong	H.		Pagan	Dino
Kaalakea	Kalvin K.		Perez	Leroy
Kahahane	Joshua		Plunkett	Howard
Kahakauwila	Daniel		Rodrigues	Kaililau
Kahele	Diane		Smith	Frederick K.
Kahele-Strong	Annette		Smith	R. Olelo
Kauha'aha'a	Jared		Sylva	Shenandoah
Kauha'aha'a	Thelma (Lani)		Thompson	Tiana Lee
Kaupo	Patrick		Wagner	Douglas
Kehano	Everett		Verbeckmoes	Martin

## Leslie Laing

-----Original Message-----

From: Leslie Ann Laing

To: Dr Charlie Fein

ReplyTo: leslieannlaing@xxxx

Sent: Jun 19, 2009 11:06 AM

Subject: I am against building anything on Haleakala!

Haleakala is already under serious stress from the several million people who visit the summit every year. A comprehensive management plan is essential to minimizing the harms from current activities on the summit. I support no more building on Haleakala.

As it stands now, there are so many places a human foot can not tread to avoid damage on Haleakala, how can anyone dare to even think about building. That entails large trucks and equipment; even the thought is shocking! Please come to your senses, everyone. This is such a sacred place. No desecration, please.

Please stop wasting public funds. Hawaii people tried to talk to the Superferry company and tell them it wouldn't work the way it was being done. I hope the people making the proposal to build the ATST on Haleakala will listen. Haleakala is NO place for this!

Please use alternative locations for the ATST, such as Big Bear Lake in California and La Palma in the Canary Islands.

Thank you very much,

Leslie Ann Laing

Kapa"a, Kaua"i, HI 96746

## Michael Lucas

Michael Lucas

June 22, 2009

Craig Foltz, ATST Program Manager National Science Foundation,  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Rm 1045,  
Arlington, VA 22230

Arden L. Bement, Director  
The National Science Foundation  
4201 Wilson Boulevard, Room 1205 N  
Arlington, Virginia 22230

Charlie Fein  
KC Environmental Inc.  
P.O. Box 1208  
Makawao, HI 96768

Mike Maberry, Associate Director  
University of Hawai'i, Institute for Astronomy  
34 Ohia Ku Street  
Pukalani, HI 96768

Dept. of Health, Office of Environmental Quality Control  
REF: ATST  
235 S. Beretania Street, Rm 702  
Honolulu, HI 96813

To Whom It May Concern:

## Michael Lucas (cont.)

Please explain to the public WHY the ATST telescope must be located on the TOP of Haleakala. A location on the south-facing slope (the "back" slope) of Haleakala would avoid the sacred summit, would avoid creating a visual eyesore for residents and visitors, and would still allow full functioning of the telescope as a solar observatory.

Most observatories seek a high location which will afford an unrestricted 360 degree view of the sky. In this way, the totality of the observable universe will be visible. But the ATST is commissioned SOLELY as a solar observatory. Because the sun follows a known path daily, the observatory needs only unrestricted viewing access along that narrow path, not the entire sky. Allowing for seasonal variations, the telescope needs unrestricted observation from 23 ° 26 " north latitude to 23 ° 26 " south latitude, or approximately 47/180<sup>th</sup> of the sky, a narrow path not requiring location on the summit of the chosen locale. Because the island of Maui is located at approximately 21 ° north latitude, the telescope could be built on the south-facing slope of Haleakala without interference with the observational path of the telescope.

In each instance where mitigation was discussed in the DEIS, the proposals from NSF sought concessions from the community rather than any modification or concession from NSF. When concern was raised about the negative impact of the telescope on visitors to Haleakala (the single most-visited tourist location on the island of Maui), the NSF refused to consider alteration to the location, elevation or color of the observatory. Instead, it commissioned an expensive (and statistically flawed) "survey" to try to refute the concerns raised. The NSF has made it clear that it intends to construct this observatory WHERE it wants it, HOW it wants it, and WHEN it wants it, irrespective of community concerns or cultural issues.

But this issue cannot be ignored. The telescope does NOT have to be built on the summit of Haleakala. Moving it to the south slope would provide AVOIDANCE of the summit location, which the Hawaiian spokespeople have said repeatedly, passionately and loudly is the only solution to the cultural issues surrounding this project. Moving it to the south slope would provide the benefits of the Haleakala location without the desecration of the summit area.

This issue must be SPECIFICALLY addressed in the discussion of cultural issues in the Environmental Impact Statement. When a less intrusive alternative is proposed in response to an admitted "significant adverse impact", specific and compelling reasons must be given for the rejection of the alternative. Failure to meet this standard invalidates the EIS.

I await your analysis and response to this proposal.

Sincerely,



Michael Lucas

## Richard Lucas

Richard Lucas

June 19, 2009

Craig Foltz, ATST Program Manager National Science Foundation,  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Rm 1045,  
Arlington, VA 22230

Arden L. Bement, Director  
The National Science Foundation  
4201 Wilson Boulevard, Room 1205 N  
Arlington, Virginia 22230

Charlie Fein  
KC Environmental Inc.  
P.O. Box 1208  
Makawao, HI 96768

Mike Maberry, Associate Director  
University of Hawai'i, Institute for Astronomy  
34 Ohia Ku Street  
Pukalani, HI 96768

Dept. of Health, Office of Environmental Quality Control  
REF: ATST  
235 S. Beretania Street, Rm 702  
Honolulu, HI 96813

To Whom It May Concern:

## Richard Lucas (cont.)



When the United States government assisted in the overthrow of the Hawaiian nation in 1893, the queen, Liliokalani, spared her people a genocide at the hands of a well-armed U.S. Navy and relinquished authority over the kingdom. Territorial designation was next, followed by statehood.

But in truth, Hawai'i today remains an occupied land.

But her people and her culture survive. Her people and her culture stand proud. Her people and her culture demand justice.

As scientists, you understand being the target of ignorance and oppression. Galileo was thrown to the inquisitors for his scientific theories. Pasteur was mocked. Rachel Carson was vilified. Darwin remains controversial 120 years after his death.

On this twentieth anniversary of Tiananmen Square, it's time to celebrate the triumph of the individual over the oppressor. It's time to recognize the importance of standing up to what some might regard as inevitable. It's time to acknowledge that not everything that is possible is also desirable. Nor is it necessarily right.

True science demands respect for things that cannot be seen, for things that are beyond understanding. A scientist seeks to explore without disturbing, to observe without altering. It is the nature of science to seek understanding and respect.

That is what we offer to you. No one who speaks on behalf of Haleakala asks you to abandon your passion for science or to give up your desire to explore the unknown. To do so would be arrogant.

But in the same moment, we ask you to understand and respect a culture that was exploring the far reaches of the Pacific Ocean at a time when most of our European ancestors still believed that the world was flat.

## Richard Lucas (cont.)

We wish you well. We wish you success. We wish you would select another location for this observatory.

We don't demand that you understand the importance of this place to the Hawaiian people. We don't demand that you appreciate the thousand-year connection that the Hawaiian people have to this sacred mountain. But we do expect you to respect their beliefs and values. Because that's what scientists do.

When convenience and opportunism replace understanding and respect, science is reduced to intellectual imperialism. Science without respect gave us mustard gas and napalm. Science without conscience gave us Dr. Mengele. Science must thrive within the context of a system of values, not in opposition to it.

If you advance scientific knowledge by promoting cultural genocide, you transform the National Science Foundation into the Multi-national Science Corporation.



Look at the power of one man, steadfast in his beliefs.

Respect the man. Don't be the tank.

Please.

PLEASE.

## Judith Mancini

June 14, 2009

Craig Foltz, Ph.D, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045, Arlington, VA 22230

RE: Written testimony in opposition to the Advance Technology Solar Telescope (ATST)  
Project on Haleakalā

Mr. Foltz:

I have attended many public hearings and listened to arguments both for and against the ATST project. I am speaking as a long time non-Hawaiian resident on this mountain and as a grandmother concerned about the arguments made by ATST proponents for my children and grandchildren. There is mention of the need for jobs by the construction industry, the need for another tourist attraction and the need for educational opportunities in science for our students. We may need these things, but we also need a vision for our children's future. The jobs will end in a few short years and the tourists won't actually have to come to the mountain because many will be able to see the facility from their hotel rooms many miles away. As far as the students are concerned, I would like to make the argument for the need for a different type of knowledge in this world of increasing conflict and uncertainty. This knowledge does not come from a book or any other kind of modern technology. It is entirely experiential and provides food and nurturance for the spirit and for the soul. What our children need are opportunities to develop a sense of wonder about the universe, and to have the experience of undisturbed nature that they see with their own eyes, touch with their own hands and feel with their whole hearts. Before our children can appreciate outer space, we need to instill in them a love for this space. What we adults can give them by example is a respect for other peoples and a sense of responsibility for this home that we all share.

"In 1916, President Wilson signed the act creating the National Park Service which states that: "the Service thus established shall promote and regulate the use of Federal areas known as national parks, monuments and reservations.

The mission of the Park Service is really very clearly stated.

*"...which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations." Some of the guiding principles of the park service clearly state that:*

*Partnerships will "collaborate with federal, state, tribal, and local governments, private organizations, and businesses to work toward common goals.... and that: " effective management would instill a performance management philosophy that fosters creativity, focuses on results, and requires accountability at all levels... and yet one hundred and forty-six million dollars of Federal stimulus money has been set aside for a project not yet approved and without public input as to how the money should be spent. Federal money could have been allocated for jobs with minimal impact to our environment and without the need to mitigate the effects of a project clearly offensive to the host culture. This money could have been allocated to maintain the park itself or to improve dilapidated schools, roads, and parks, or to permanently solve the water shortage in up-country Maui, something that would have benefited all residents including the*

## Judith Mancini (cont.)

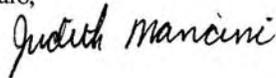
*construction industry, not just the scientific community with an agenda that remains unclear to the public.*

*The mission further states that: "wise decisions would integrate social, economic, environmental, and ethical considerations into the decision making process... and yet many kanaka maoli have passionately, eloquently, and consistently presented their opposition to this project on the grounds that the mountain is a living spirit, an embodiment of what it means to be Hawaiian. Project proponents insist that the negative impact they acknowledge exists can be mitigated to the satisfaction of kanaka maoli, yet they consistently minimize a belief system that is incompatible with the project. The ATST project may have merit, but the choice of this location is also incompatible with the mission of the Park service.*

While the project does not lie within the park itself, the National Park Service is described as a "guardian of our diverse cultural and recreational resources; an environmental advocate; a world leader in the parks and preservation community; and a pioneer in the drive to protect America's open space". The ATST project does impact the mission and goal of the Park service. The Park Service has a duty, and a moral responsibility to protect Haleakalā for all of our children. The assertion that they must grant a special use permit to another adjacent user who can meet the criteria for not impacting bridges and roads is ludicrous when we the public must endure the impact of a fourteen story building in a wilderness area on a mountain that has no comprehensive plan and on land whose legal standing is yet challenged.

I am asking the National Park Service to examine this issue from a broader perspective and to uphold their mission for all of us. Granting the necessary easement for a project of this magnitude diminishes the opportunity for the next generation of young people on Maui to experience the natural environment of Haleakalā and to learn lessons that only the mountain can teach.

Mahalo,



Cc:

Senator J. Kalani English, 6<sup>th</sup> District, Upcountry Maui

Dept. Health, Office of Environmental Quality Control, REF: ATST

Mr. Mike Maberry, Associate Director, University of Hawai'i Institute for Astronomy

Mr. Charlie Fein, Ph.D, KC Environmental Inc.

Sarah Creachbaum, Superintendent Of Haleakalā National Park

Cari Kreshak, Environmental Compliance Specialist at Haleakalā National Park

Elizabeth Gordon, Cultural Resources Program Manager at Haleakalā National Park

**Kathy McDuff Individually and for Sierra Maui Club**

Comments re SDEIS for  
ATST Project on Mount Haleakalā

Submitted to  
Dr. Craig Foltz, National Science Foundation  
OEQC Hawai'i State Dept of Health  
Mr. Mike Maberry, UH IfA  
Dr. Charlie Fein, KC Environmental, Inc.

Submitted by  
Kathleen McDuff Individually and  
for Sierra Club Maui Group  
June 14, 2009

Please accept these comments as a supplement to the comments that were originally submitted in writing in October 2006. The comments that were originally submitted will not be repeated here but are equally pertinent to this issue.

## Kathy McDuff Individually and for Sierra Maui Club (cont.)

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**Kathy McDuff Individually and for Sierra Maui Club (cont.)**

*On Behalf of the Sacred Mountain Haleakalā*

Hawaiian Protocol for Sacred Places

**E Ui No Ka 'Ae**

*Ask Permission,*

**E Mahalo Aku**

*Give Thanks,*

**E Komo Me Ka Hoano**

*Enter With Reverence,*

**I ka hele aku, e ho'oma'amau I ka wahi!**

*When you leave, return it as you found it!*



**INTRODUCTION**

The summit of Haleakalā is sacred, not only to the Kānaka Maoli (Native Hawaiians), but to the world at large. The beautiful painting above comes from the website of *Sacred Sites*, on which Haleakalā is listed as one of the most sacred sites on Mother Earth. On the website *Sacred Lands*, Haleakalā is called a holy site or *wahi pana*. The status of sacred Haleakalā is listed on this website as

## Kathy McDuff Individually and for Sierra Maui Club (cont.)

“Threatened”, due to the proposed ATST telescope that is being planned on its summit. It is noted on this site of sacred places around the world:

*The summit and crater area of Haleakalā is a sacred site to Native Hawaiians, who have always been against construction of the observatories. In the early 1960s, Hawaiians led peaceful protests at the state capitol in Honolulu, opposing the observatories and insisting that the mountain belonged to everyone—not just astronomers. Their demands went unheard.*

“Their demands went unheard.” Unfortunately, this is one of the familiar stories of the Kānaka Maoli. Their demands have gone unheard since their kingdom was illegally overthrown in 1893. It is time for this to cease. The people of Hawai‘i are unique. They should not be lumped together with the Native American tribes, which are specifically given protection in the U.S. Constitution. The Hawai‘ian people do not have a tribal council that speaks for them and which you, by law, are required to confer with. They must be dealt with differently and so far that has not occurred.

Hawai‘ians are very spiritual people. The sacred ‘āina (land) on which you are proposing to build your huge structure is a living being; it is their ancestor. The people who have been attending the 106 meetings on behalf of NSF acknowledge that they do not understand the cultural practices and beliefs of the Kānaka Maoli; as a result, the 106 process you have been conducting has not worked. In order for the decision makers of NSF to understand the significance of what the construction of this 143'+ structure will have on the Native Hawaiians and their cultural practices, SOMETHING ELSE needs to happen. Your current 106 process is insufficient. The Native Hawaiians are part of a Kingdom that was taken away from them over one hundred years ago, with very little remorse being shown. In the Apology Resolution that Congress enacted in 1993 to apologize for this illegal overthrow, it was acknowledged that

*...the Native Hawai‘ian people are determined to preserve, envelope and transmit to future generations their ancestral territory, and their cultural identity in accordance with their own spiritual and traditional beliefs, customs, practices, language and social institutions.*

## **Kathy McDuff Individually and for Sierra Maui Club (cont.)**

Placing the wants and desires of scientists (who can build their structure in a different location where there would not be an adverse effect to the culture and archeology of that area) over the desires of the Native Hawai'ian people who rightly demand that their sacred mountain not be further desecrated is clearly not following this directive by the members of Congress who chose to honor the Hawai'ians and their culture in an effort to reconcile the injustice done to them 100 years prior. It is past time for the Hawai'ian culture, the Hawai'ian people, and the Hawai'ian 'āina to come first.

### **1. HALEAKALĀ IS NOT THE ONLY VIABLE SITE FOR THIS PROJECT BUT IT IS THE ONLY SITE WITH CULTURAL AND HISTORIC PRESERVATION CONCERNS**

One interesting change from the draft EIS (DEIS) and the Supplemental Draft EIS (SDEIS) is that now it is being claimed that the Haleakalā site(s) is the only site out of over 70 other sites that satisfies the criteria for this project. This is interesting because both in the DEIS and other documentation from the website of NSF it has been stated that all three final sites were excellent candidates. It was noted by the New Jersey Science and Technology Institute in an article on their website (Press release 973-596-3436, dated May 20, 2009 and titled *World's Largest Telescope at NJIT's Big Bear Captures Sun's Magnetic Field Better*) that Big Bear Solar Observatory (BBSO), the world's largest telescope located at Big Bear Lake, CA (one of the three final proposed sites for the ATST where there are no cultural or archaeological issues),

*is one of the premier land-based facilities supported by federal funding. "We are already seeing images offering a better understanding of the Sun," said Goode. "With this instrument we should be able to have a better understanding of dynamic storms and space weather—which can have dramatic effects on Earth." The new instrument has three times the aperture of the old telescope. It represents a significant advance in high-resolution observations of the Sun, since it has the largest aperture of any solar telescope in existence, said Goode. Since it is an off-axis telescope, there is no part of the sunlight blocked by the telescope. Other pluses include a marvelous location-- high in a Southern California mountain lake.*

## Kathy McDuff Individually and for Sierra Maui Club (cont.)

Obviously, the ATST could be built at Big Bear Lake. They have just chosen not to. Serious questions remain regarding the scoring of the three final sites. For example, at Big Bear, CA, a site which received a “fail” designation for “seeing” characteristics, the testing was so flawed that less than 25% of the data sought to be evaluated was even gathered and analyzed.

. . . if the seeing monitor would have been operational every day from sunrise to sunset 4,070,000 individual measurements could have been obtained. However, the number of data entries for BBSO is about 1,430,000. A substantial fraction of the missing data is related to the aforementioned observer profile. Other contributions are from complete system failures (July and November 2003) and bad weather conditions. Considering all data without a “failed ShaBaR” error flag about 910,000 data points could be used in this study. This number, however, is further reduced by about 60,000 data points, since some S-DIMM data were not properly transferred to the control computer.

***The Local Seeing Environment at Big Bear Solar Observatory, Angelo Verdoni and Carsten Denker<sup>1</sup>, New Jersey Institute of Technology, Center for Solar-Terrestrial Research***

This clearly does not present the profile of a serious scientific study. Likewise, the proposed La Palma site (which finished 2<sup>nd</sup> in the testing) was tested for two years and no potential cultural or archaeological problems were found there. Interestingly, at La Palma it was noted that the view plane of a specific peak called the Cumbrecita, which was a popular tourist attraction because of numerous hiking trails and scenic viewpoints – like Haleakalā -- was so significant to the people of the Canary Islands that it was determined during the testing process that this view plane must be protected. In deference to this conclusion, the proposed site of the telescope was relocated downhill. What a shame that you could not understand that the view plane of Haleakalā is just as important to the Native Hawaiians!

It was noted that the La Palma site offers excellent high elevation “seeing” capabilities. Since La Palma finished ahead of Big Bear Lake in the testing process, and since Big Bear Lake can clearly be used for studying the sun flares, storms and weather – given that it already is – the La Palma site is a viable site. The fact that there may be a few less annual hours of sky brightness is something

## **Kathy McDuff Individually and for Sierra Maui Club (cont.)**

that can be worked out by the scientific community. At least one of the brilliant technological minds from our scientific community should be able to solve this glitch. Again, Haleakalā is the preferred site, so you have chosen to say that it is the only site that will work. This is disingenuous – we need more honesty and more transparency. You are asking the Hawai’ian people to “mitigate” their spirituality even though it could destroy their practice, but you are not willing to mitigate your preferred site with your second or third choices. That is what could be termed as arrogance. You should also be straightforward when discussing how important this project might be to the scientific world, since you have apparently failed to disclose that similar information has already been gathered and is still being gathered elsewhere and still has not been put to use.

### **2. THE EFFECT OF THIS PROJECT ON THE AHUS AND ON HAWAI’IAN SPIRITUALITY WOULD BE DEVASTATING AND WOULD IRREPARABLY INTERFERE WITH NATIVE HAWAI’IAN PRACTITIONERS’ FIRST AMENDMENT RIGHTS**

There is insufficient information provided here regarding the effect upon the two ahus that have been set aside for Native Hawai’ian practitioners. First, from a personal point of view as a person who practices Native Hawai’ian spirituality up on the summit, the noise generated by the current projects is already very, very distracting. I was up on the summit for sunset for a group ceremony recently, and we were unable to do our meditations as they were meant to be because of the noise from some generator or fan at one of the buildings currently there. The noise we heard is before you add the operational noise from a building that will be much larger and that requires a huge air conditioning system and large fans to help keep it cool. Even though this was mentioned several times during the meetings and consultations and the written comments in 2006, the SDEIS has failed to address the impact this huge structure will have upon the ahus themselves. How can one meditate and practice spirituality in accordance with a tradition that integrates vibrations, meditations, prayers, communication with nature and spiritual energy and view planes, as well as communication

## Kathy McDuff Individually and for Sierra Maui Club (cont.)

with ancestors and spiritual beings, with this monstrous, noisy structure towering over you, as it will be at Pā'ele Kū Ai I Ka Moku. You infer that this is minimized by the fact that there is an unobstructed view outward from the mountain, but this shows how little you know about Hawai'ian spirituality and is a clear example of why the 106 process failed. This has been explained to you, but either you do not listen or you are not able to understand. Either way, the Hawai'ian people have not been represented as they are required to be during this federally mandated process.

Furthermore, as I mentioned during the 106 consultations, the energy on the top of the mountain will be irreversibly damaged by the construction of this structure. I presented this statement during the 106 comments, but since it was not transcribed for the record, the person making the decision as to whether the funding will be granted would not be able to hear it. For that reason, I am reiterating it for the record herein.

*I am a Native American Spiritual Practitioner and I also practice Native Hawai'ian spirituality and have for many, many years. I am what is known by my people as a Dream Walker. I am able to journey back and forth between the physical and spiritual worlds. I have been very blessed by the spirits of this beautiful 'āina and have been fortunate enough to have been gifted many visions from the ancients of this land as well. One of the gifts that I have received from these beautiful spirits was a very interesting vision. I was transported up to the summit of Haleakalā and shown by the ancients what the kahunas felt when they were conducting their spiritual practices up on the sacred summit. I could literally see and feel the web that connected the different heiaus around the islands (including all of Maui Nui and the peaks of the island of Hawai'i) to the top of the summit. I experienced the incredible force of the energy that this web created and it was beyond description. My senses will never be the same. Then I was shown what that energy felt like today, after the buildings that are on the top of the summit have been constructed and after many of the heiaus have been destroyed, and the energy was much different. Much less powerful and a much different feeling. Then I was shown what the energy would be like after further desecration to the sacred summit – when this large 14 story telescope is constructed shadowing over the ahus -- and I felt virtually nothing in comparison to what I experienced before. It felt like the Mountain was withdrawing. He was tired of fighting the negative energy on his summit and was very disappointed. At that moment, I was brought back down to my luncheon in Kahului, a much different person, with a lot to share with my companions. I hope you are beginning to understand that spirituality cannot be mitigation. You can't put building after building (getting larger every time) up on a sacred mountain where spiritual practitioners go to pray and practice at a site where their ancestors sanctified the 'āina over hundreds of years and created the energy for a special practice for themselves and their descendents, and then assume that you have not desecrated this holy, blessed site. It will never be the same. The desecration must stop – and it must stop now while there is still hope of bringing back that wonderful, special energy for*

## Kathy McDuff Individually and for Sierra Maui Club (cont.)

*Hawaiian spiritual practitioners. Allowing Hawaiian spiritual practitioners an ahu amidst the buildings that are violating the very spirit of the 'āina is not the pono way. Stopping the desecration of this living mountain is pono. Allow the ancient energy to come back. Allow Native Hawaiian Practitioners to reconnect with their 'āina and with their ancestors in the way it was meant to be.*

You cannot build another structure upon this mountain and not interfere irreparably with the energy of this sacred mountain that is an integral part of Hawaiian spirituality. I have heard from other Hawaiian practitioners who say that their practice will be adversely affected to the point where they won't even want to go up to practice anymore. Native Hawaiian Practitioners should never have to go elsewhere to do their practice and they should never have to sacrifice or limit their own spiritual practices. This is their home. Haleakalā is their ancestor. Practicing their spirituality in the way it is meant to be practiced is their right. Directly interfering with their First Amendment rights to practice their faith in the way it was meant to be and has been practiced traditionally for centuries is not only illegal – more importantly, under the Hawaiian culture – it is not pono.

This sacred summit has been sanctified by Maui himself, by the goddess Pele, and by the Kāhunas and the Kupunas from ancient times through the present. It is a place where the tones of ancient prayer are balanced within the vortex of energy for spiritual manifestations. It should be honored by all. To take any action other than avoidance will irreversibly interfere with the United States and Hawaiian Constitutionally protected spiritual rights of the indigenous people of Hawai'i. First Amendment religious rights are allowed to be absolute just because of their nature.

If this project is approved and construction is started, Kānaka Maoli Practitioners will be prohibited from experiencing the full practice of their spirituality. I challenge the statement in the SDEIS on page 4-9 that although the project would have a major/adverse and long-term effect on cultural resources, it would have no effect upon the survival of Hawaiian cultural practices and beliefs. It was further claimed that the proposed "mitigation" would lessen the major adverse effects on the Hawaiian culture to only "moderate." On what evidence do you base this conclusion? Please

## **Kathy McDuff Individually and for Sierra Maui Club (cont.)**

provide us with documentation of the technical data you used to formulate this absurd deduction. It appears to be mere speculation that has no basis. It was acknowledged by the representatives at the 106 meetings that there are no Hawaiians who work within the NSF or even within the Advisory Council for Historic Preservation. It was also apparent that none of the NSF representatives present at the meetings had any real understanding of the Hawaiian culture or Hawaiian spirituality, and when they were questioned on this by a Kānaka Maoli Kupuna, the response was that one of the objectives of the meeting was to try to obtain some understanding of Hawaiian beliefs and culture. How, based upon your total lack of understanding of the spiritual and cultural beliefs of this indigenous culture, can you determine that your proposed "mitigation" matters would lessen the cultural adverse effects to "moderate", when you have been told again and again by Kānaka Maoli that this is not so -- you CANNOT mitigate spirituality.

Anytime you interfere with Hawaiian spiritual practices and prohibit the practitioners from practicing them in any way other than the way they were meant to be practiced, you are absolutely interfering with the survival of Hawaiian cultural practices and beliefs in a major adverse long term (i.e. permanent) way. If this project is built, Native Hawaiian Practitioners will be adversely affected the rest of their lives – they will not be able to practice their spirituality as it was meant to be at this sacred place where their ancestors conducted and taught prayers; where they connected to Wakea and Papa; and where they wove the vortex connecting all of the heiaus of Maui and even Hawai'i to this sacred summit where numerous Hawaiian gods and goddesses are said to reside.

## **Kathy McDuff Individually and for Sierra Maui Club (cont.)**

### **3. CONSTRUCTION ACTIVITIES AND EXCAVATION WOULD CAUSE IRREPARABLE HARM TO NATIVE HAWAIIAN CULTURAL BELIEFS AND PRACTICES AND COULD CAUSE IRREPARABLE HARM TO ENDANGERED SPECIES, THE MAUI VISITOR INDUSTRY AND PROTECTED HISTORICAL SITES**

You state in the SDEIS that a minimum of 250 truckloads or 125,550 cu. feet of sacred stone and native soil will be bulldozed up and relocated. Just digging into the lava rock, which is believed by many Native Hawaiians to be the bones of Pele, is an affront to Hawaiian spirituality. You may not move even one Pōhaku (stone) without first asking permission of the stone itself, which is a living entity. If permission is not granted, you do not move the stone. To bring in a bulldozer to dig up and relocate 125,550 cu. feet from a sacred summit is an insult to the Hawaiian culture. Your proposed “mitigation” of limiting this outrageous act to certain times of the day does not even begin to offset the offense. There is no nexus between the two. Again, this clearly shows a lack of understanding of Hawaiian beliefs and culture. The land clearing, the demolition, the excavation, the grading/leveling, further digging into the ‘āina to bury electrical wires and cables, and the subsequent relocation of the soil and Pōhaku from a sacred summit are all contrary to Hawaiian culture and beliefs. Placing 21 caissons into sacred ground, bringing in three to five cranes well over 153 feet in height, and pouring cement onto and into sacred ground -- all of this irreparably harms a living ancestor of the Hawaiian people. Moreover, all of this activity irreversibly interferes with practitioners trying to meditate and practice in very close proximity. It is irreversible because spirituality must be practiced in the time and in the manner in which it was meant to be – you cannot make up in 2014 what you missed in 2011, because what you missed in 2011 may be gone forever. Hawaiian spirituality is not just offering prayers to a Supreme Being. It is much, much more.

In addition to the cultural issues, which are paramount in this case, at least 250 over-size capacity dump truck loads (it could be more), many more regular large trucks, delivery vehicles, van

## **Kathy McDuff Individually and for Sierra Maui Club (cont.)**

shuttles and passenger vehicles would travel the roadways leading to the construction site during the construction phase. The Park entrance station will have to be moved during the period to accommodate the huge structures that would be brought in. Not only is this historic roadway subject to potential harm during the construction period, but the 1.7 million visitors as well as kama'āina (native born) who travel up to Haleakalā National Park and to the summit each year will be adversely affected in a major cumulative way. Visitors come up to the summit all day long – not just in the middle of the night to see the sunrise. This has not been addressed effectively`1111.

There are endangered species that reside within Haleakalā National Park. This is where the 'ua'u have their burrows that they return to each year and incubate their young. There are many silversword plants along the roadway going up to the summit and on the summit itself. When I was there last week, I was amazed at the number that were blooming, and I could only see the ones that were in close proximity to the roadway – very near to the shoulder of the road that will be required to be widened in order to bring all the equipment up for construction. The nene are able to explore throughout the park and these beautiful spirits are always running across the roadway. The huge trucks and numerous vehicles coming and going will clearly present a danger to these endangered beings – there are only about 300 living nenes at this time – we cannot afford to lose even one.

#### **4. THE OPERATIONAL NOISE AND THE CONSTRUCTION NOISE WOULD CAUSE IRREPARABLE HARM TO NATIVE HAWAII'IAN PRACTITIONERS AND COULD CAUSE IRREPARABLE HARM TO FEDERALLY PROTECTED ENDANGERED SPECIES AND THE MAUI VISITOR INDUSTRY**

A related issue to the construction problems is the noise issue. As noted above, the operational noise from the existing buildings (generators, air conditioning systems and exhaust fans) as well as traffic and other stationary sources are already causing harm to the practice of Native Hawaiian Practitioners. The additional operating noise from the proposed ATST will magnify this

## Kathy McDuff Individually and for Sierra Maui Club (cont.)

many times over. One possible mitigation proposed in the SDEIS was to limit the noise to certain times of the day. Native Hawai'ian spirituality is practiced for all of your life, all times of the day, all days of the year. It is not limited to day more than night or winter more than summer. It *is* affected, however, by where and how you practice. Practicing at sacred sites such as Haleakalā is a vital part of the rites that practitioners perform. Quiet and solitude are also essential components of the practice. Chants, meditations, and deep reflections and journeys are also integral parts of the tradition, but they cannot transpire if outside noise is interfering with your consciousness.

During the long construction phase, the heavy machinery, equipment and trucks, the excavation of the sacred soil and stone, the operation of the crane, the assembling of the structure, and the coming and going of the trucks and the personnel and other construction noises (which will be huge) will cumulatively result in Native Hawai'ian Practitioners being unable to practice in a meaningful way. How can you communicate with nature in a meditative state with a bulldozer excavating soil or grading nearby? It is stated in the SDEIS that there are "no noise-sensitive human receptors at HO", so presumably, there shouldn't be a noise problem on the site itself. Where exactly do you think the Hawai'ian ahus are located? Any noise other than nature is an intrusion upon spiritual practices so Native Hawai'ian Practitioners are actually **extra sensitive** "noise sensitive human receptors" and should be treated accordingly.

It is also ridiculous to state that a visitor standing at Red Hill is not within the area that will be affected in a major adverse way by the machinery noise of a bulldozer or other machinery, and thus concluding that the effect to visitors to the summit would be minor and short term. (Although in another section of the SDEIS –page 4-10 – you state that visitors standing on Red Hill, which is only 2500 feet away, would be affected in a long term way, while still limiting it to minor.) The construction phase is not short term for a visitor who comes to Maui for a two week vacation and has

## **Kathy McDuff Individually and for Sierra Maui Club (cont.)**

it marred by construction noises permeating their entire (and perhaps only) visit to the summit. What a terrible experience! Did you ask in your "visitors survey" whether the noise from a bulldozer a few hundred feet away would interfere with their experience at the summit? I was up at the summit recently and I asked visitors there at that time this question and every response I received was that it would indeed have an adverse effect upon their experience. In fact, one man who had come 3,000 miles with his girl friend to propose to her on the top of the summit that day said that even someone talking would have lessened the experience, much less if a bulldozer started up in the middle of his proposal.

Limiting the noise-generating activities from thirty minutes prior to sunset and thirty minutes after sunrise will not mitigate major adverse impacts down to minor adverse as you have inferred, since there will be people suffering from the noises all day. Even at the critical sunrise and sunset peak times you are considering only limiting the noises above 82 dBA – a number that you have arbitrarily determined to be the criteria. This number seems quite high to me, and I assume to you as well, since you also determined that noise level changes above 20dBA are "major". Red Hill is 2,500 feet away from the construction site – what about the Native Hawai'ian Practitioners who will be conducting spiritual practices next to the site. If the noise 2,500 feet away is considered to have a major effect upon the people visiting the overlook, this same noise immediately adjacent to where the Kānaka Maoli are trying to practice would be prohibitive.

Further, drawing a conclusion that since that the roadways already have personnel traffic on them, then the increased vehicle traffic will only have a negligible adverse effect on ambient noise is not realistic. The construction trucks alone negate this. It also appears that the effect of noise upon the endangered species of the area is being minimized. The 'ua'u are in their 1,000 known burrows between February and November of each year, not just during the April 20 to July 15 incubation

## **Kathy McDuff Individually and for Sierra Maui Club (cont.)**

period when the "mitigation" is being considered. If they are disturbed from their burrows prior to this time, there will be no incubation, and there will be no future birds. Construction of this telescope could and most probably will disturb one of the last two remaining major nesting colonies of the Hawai'ian petrel, which is on the brink of extinction. I repeat for emphasis because this is very important -- the summit of Haleakalā is home to one of only two major nesting colonies of the 'ua'u left on earth (which consists of less than 1,000 birds). Vibrations and noise from the construction of the ATST could cause nesting burrows to collapse. The huge dump trucks, the cement trucks that will be going up and down the historic roadway, and the excavation of the summit itself during the construction phase will also have a major adverse effect upon these birds.

### **5. THIS PROJECT IS NOT IN COMPLIANCE WITH STATE AND COUNTY LAW AND COMMUNITY PLANS AND PERMITTING SHOULD NOT BE GRANTED**

Your statement that the ATST project is consistent with the goals of state, county and community plans is incorrect. The Makawao-Pukalani-Kula Upcountry Community Plan states on Page 32 Paragraph 8, that no building may be built over 35' except for public use. Paragraph 8 is not an advisory statement, but an enforceable requirement. The Upcountry plan also states that a comprehensive Haleakalā summit master plan needs to be implemented in order to promote orderly and sensitive development, which is compatible with the natural and native Hawai'ian cultural environment of Haleakalā National Park.

Maui County regulations prohibit construction of a building 14 stories high anywhere in the County. The project is clearly not consistent with the goals of Maui County. Additionally, after conducting numerous studies and hearing public comments from people throughout the island over a three year period, the General Plan Advisory Committee (a twenty-five member citizen panel appointed by the either the Maui County Mayor or County Council to set out recommendations for the

## **Kathy McDuff Individually and for Sierra Maui Club (cont.)**

Maui County General Plan for the County of Maui for the next 20 years) adopted a county wide policy plan that includes language to “immediately provide and encourage laws to preserve and enhance the summit of Haleakalā with **no new buildings.**” [emphasis added] (Policy No. 5031) Finally, there is no comprehensive summit plan for Haleakalā that protects the mountain’s natural and cultural resources, which is required by Hawai’i state law. This telescope is not supported by the community plan for the area; it is not supported by the county regulations; it is not supported by Hawai’i State law; and it is not supported by the community at large. Construction of this project demonstrates a total lack of regard for state and county law, ignores established planning practices, and will have a chilling effect on the enforcement of zoning laws in the future.

### **6. THIS IS A VOLCANO – IT WILL ERUPT AGAIN IN THE FUTURE – WHY WASN’T THIS IMPORTANT FACT CONSIDERED IN THE EIS PROCESS?**

Described as “She-Who-Shapes-The-Sacred-Land” in ancient Hawai’ian chants, Pele is the goddess of fire and volcanoes. She is passionate, volatile and capricious. She was born of the female spirit Haumea (Hina) and the male spirit Kane-hoa-lani, who ascended from the supreme beings Papa and Wakea. Although she is currently residing in the Halema’uma’u crater of Kilauea, her previous home was here on Maui where she created sacred Haleakalā. It was on Maui that Pele’s body was torn apart and the fragments heaped up to form the hill called Ka’iwi-o’Pele (The bones of Pele) near Kauiki Hill on the right side of Hana Bay. She has strong ties to Maui and most certainly to her crater Haleakalā. Scientists call this sacred volcano “dormant” because her last eruption was in 1790. The term “dormant” simply means that a volcano is not currently erupting. The term itself does not provide any predictability of future activity. But note, the Soufrière Hills volcano on the Caribbean island of Montserrat was thought to be extinct before activity resumed in 1995. Similarly, Mount Vesuvius was considered extinct before it destroyed Pompeii in an eruption

## **Kathy McDuff Individually and for Sierra Maui Club (cont.)**

in 79 A.D. According to the USGS (United States Geological Survey) website, Haleakalā “has witnessed at least ten eruptions in the past 1,000 years, and numerous eruptions have occurred there in the past 10,000 years. Thus, Haleakalā's long eruptive history and recent activity indicate that the volcano will erupt in the future.” See [http://www.usgs.gov/monitoring/resources/factsheets/4133/e.shtml#Haleakalā](#) There is no mention in the SDEIS of a possible volcanic eruption as a natural hazard, even though that must be considered before you build on this sacred summit. There is a scientific system of classification known as Cladistics, which has utility in hazard assessment for sensitive facilities planned on or near known volcanoes. The SDEIS lacks this crucial evaluation. You must not ignore Pele, especially since you are blatantly disrespecting her and her creation by proposing to excavate and relocate her sacred bones on the summit during the construction phase of this telescope.

### **7. LONG TERM PERSONNEL WILL BE BROUGHT IN FROM THE MAINLAND AND THE FEW SHORT TERM JOBS THAT MIGHT BE GIVEN TO LOCALS WILL NOT OFFSET THE MAJOR ADVERSE LONG-TERM AND/OR PERMANENT EFFECTS TO MAUI**

Although it has been a common talk story for the local proponents of the project that this project will bring many jobs to Maui, the facts state otherwise. Your 4.12 section acknowledges that the 25-30 key technical personnel that will work on the project will be brought in from the mainland, and that any local employment would be minor and short term. I see nothing in this to benefit Maui in a way that would offset the huge negative effects to our environment, our culture, our 'āina, our historical sites, or our communities.

## **Kathy McDuff Individually and for Sierra Maui Club (cont.)**

### **8. THE VISITORS SURVEY IS SERIOUSLY FLAWED**

As noted in the SDEIS, Haleakalā National Park (HALE) has “indicated that [the visitors survey you included in the SDEIS] is significantly flawed and likely biased and there are significant technical errors in the instrument and related reporting.” HALE further asserted that “the conclusions are based on an insufficiently designed and administered survey.” See 3-46. I concur and maintain that this survey should not even be considered in the Final EIS. If you do insist on including it, however, then you must also include the potential impact of your proposal that was part of this survey to allow those interested in touring the ATST facility to do so, which apparently is up to 75% of the 1.7 million visitors that come to the Park each year, as set out in the survey. Where is the impact study on the effect these people touring the facility will have on the noise, on the land, on the Kānaka Maoli Practitioners trying to practice at the ahus, on the parking lot, on the traffic, etc. You cannot make a bold statement that most visitors would not “care” if the facility is built based upon information gained from this flawed survey. Furthermore, you should not be able to use such faulty reasoning as a basis to try to offset the clear major adverse long-term effect this project will have on the Maui visitor industry, which is already declining.

### **9. THE VIEW PLANES TO AND FROM SACRED HALEAKALA WILL BE IRRETRIEVABLY DAMAGED FOR THE LIFETIME OF THE TELESCOPE, WHICH WILL IRREPARABLY HARM THE RIGHTS OF NATIVE HAWAI’IAN PRACTITIONERS AS WELL AS MAUI RESIDENTS AND THE VISITOR INDUSTRY ON MAUI**

One million, seven hundred thousand visitors a year come to visit Haleakalā. They visit Pa Ka’oao (White Hill) and they visit Pu’u Ula’ula (Red Hill), as well as the crater itself. The proposed telescope would be clearly visible from the Pu’u Ula’ula Overlook as well as most places in Haleakalā National Park, including the roadway going up to the summit, beginning at the entry station. The

## **Kathy McDuff Individually and for Sierra Maui Club (cont.)**

three to five enormous cranes that will be used for constructing the massive building over a four year period will be visible from the crater itself. For Kānaka Maoli Practitioners practicing at the ahus, this enormous towering feature will even interfere with the view plane up to the stars at night -- how ironic since you claim that the telescope is consistent with Hawai'ian culture and honors Hawai'ian astronomers who navigated by the stars. Prehistoric Polynesian navigators knew the star Arcturus as Hokule'a, the "Star of Joy." Hokule'a is the Zenith Star of the Hawai'ian Islands today and is so important to the Native Hawai'ian culture that the voyaging canoe that was built to reconstruct the original Ancient Polynesians' journey to Hawai'i is also named Hokule'a. If this telescope is constructed, practitioners at the ahus who look up to Hokule'a as part of their tradition will have their view interfered with by the towering telescope.

The telescope will also obstruct the view plane of members of the community in many other places on the island. From Ma'alaea Harbor to the Hawai'ian Homelands to many other populated areas of Maui, the residents of Maui who look up to the summit of Haleakalā for their sunrise and sunset prayers will have a huge white 14 story structure stick up at the center of their view plane. As noted in the SDEIS, based upon the overwhelming testimony presented by the community, there is a necessity for people to have an unimpeded view plane from mountain to ocean, particularly in the context of ceremonial activities. This essential view plane will be irreparably harmed if the ATST is constructed.

In these tough economic times our visitor industry is suffering greatly, and how can we allow anything to be built that will have a "major adverse long term effect" (in the words of the SDEIS) on the visitors coming to our island. How can we allow anything to interfere with the view plane of one of the most sacred mountains on Earth? As acknowledged in the SDEIS, there is no mitigation possible for the loss of view plane. As noted above, the view plane for the mountain at La Palma

## Kathy McDuff Individually and for Sierra Maui Club (cont.)

was important enough to preserve – why can't the same be said of Haleakalā? It seems as though you have little or no respect for our sacred mountain, and this is shameful! Haleakalā should be treated with the respect it so rightly deserves. Mitigation should be practiced by the science industry by placing the project elsewhere.

### **10. YOU FAILED TO PROPERLY AND EFFECTIVELY COMPLY WITH THE 106 PROCESS WHICH IS FEDERALLY MANDATED FOR THIS PROJECT IN ORDER TO PROTECT HISTORICAL AND ARCHEOLOGICAL PROPERTIES**

The summit of Haleakalā is recognized as a very sacred place for the Kānaka Maoli. It is thought of as the Piko (navel), the center of Maui Nui O Kama (the greater Maui). The Hawaiians consider the lava, cinders, and stones to be the sacred bones of Pele.

As noted in the SDEIS, there are several reasons why the summit of Haleakalā is a cultural resource in and of itself. It is eligible for the National Register of Historic Places (NRHP) in several different categories. It is eligible as a "Traditional Cultural Property" (TCP) through consultation with State Historic Preservation Division (SHPD) under Criterion "A" for its association with the cultural landscape of Maui as reflected in the number of known uses, oral history, *mele* and legends surrounding Haleakalā. The attributes ascribed for Criterion A as noted in the SDEIS include

(1) its consideration by Kānaka Maoli and many people throughout the world as a place exhibiting spiritual power;

(2) its significance as a traditional cultural place because of practice – for those who live and visit here, the summit is a place of reflection and rejuvenation;

(3) the *mo'olelo* and *oli* surrounding the summit present a cluster of stories suggesting the significance of Haleakalā as a TCP;

(4) its reputation as a place of healing; and

## Kathy McDuff Individually and for Sierra Maui Club (cont.)

(5) the remarkable “experience of place” associated with the summit.

The summit is also eligible under Criterion “C” because it is an example of a resource type, a natural summit, a source for both traditional materials and sacred uses.

There are too many archeological sites and resources to list here (doesn’t that tell you a story in and of itself), but please note that the burial sites, petroglyphs, platforms, trail segments, temporary shelters, cairns, and other features also qualify the summit for importance under Criteria “A”, “D”, and “E”. How can you even consider desecrating such an historically sensitive property?

Due to the VAST historic nature of the summit of Haleakalā, section 106 requirements for protecting historic properties apply. ***These requirements have not been met on this project.*** The NSF is required to evaluate the property for significance, assess whether the project will have adverse effects on this historic property and determine whether the adverse effects can be addressed through avoidance, minimization and/or mitigation. As the personnel present at the meetings were repeatedly told during the 106 process, you can not mitigate the spirituality of the Kānaka Maoli. Avoidance is the only answer for this project. The summit of Haleakalā is sacred to the people of Hawai’i for many, many reasons that are interrelated to their Constitutionally protected spiritual and cultural practice, and this very important fact has been repeatedly ignored by the NSF. This premise is clear because repeatedly during the 106 process, after heartrending comments were offered in an attempt to help those present understand why any action on this land other than avoidance was contrary to Hawai’ian cultural beliefs, the response continually was “what can you propose that would mitigate that concern?” The Native Hawai’ian community clearly stated (again and again) that there is nothing that can mitigate the construction of this project on the sacred summit of Haleakalā.

## **Kathy McDuff Individually and for Sierra Maui Club (cont.)**

See, also reasons set out more fully in the Introduction and in Section 2 herein, as to why the 106 process as implemented thus far is not in compliance with federally required procedures that must be followed in order to protect historic properties.

### **11. THE SDEIS AND NSF FAILED TO PROPERLY CONSIDER THE HAWAI'IAN CEDED LAND ISSUE AND NATIVE HAWAI'IAN RIGHTS**

There is no clear title to the lands on which this project is proposed, because these lands originally belonged to the Hawai'ian Kingdom until they were illegally turned over to the United States during the 1898 annexation. The nearly 1.8 million acres of land that were originally turned over were then passed into state possession when Hawai'i officially became a U.S. state in 1959; however, proper ownership of this land has still never been fully addressed. As noted in the Congressional Apology Resolution of 1993, neither the Native Hawai'ian people of Hawai'i nor their sovereign government ever consented to or received compensation for the illegal appropriation of the lands that belonged to the Kingdom of Hawai'i. This resolution further acknowledges that the indigenous Hawai'ian people never directly relinquished their claims to their inherent sovereignty as a people or over their national land to the United States, either through their monarchy or through a plebiscite or referendum. The referendum recognizes categorically that the health and well-being of the Native Hawai'ian people is intrinsically tied to their deep feelings and attachment to the land and recognizes that "the Native Hawai'ian people are determined to preserve, develop and transmit to future generations their ancestral territory, and their cultural identity in accordance with their own spiritual and traditional beliefs, customs, practices, language and social instructions."

There is no such acknowledgment in your SDEIS, because you do not understand or appreciate all that is integrated into Native Hawai'ian culture and beliefs. There is no provision or discussion in the SDEIS of the potential impact of being evicted from the site after the ceded land

## **Kathy McDuff Individually and for Sierra Maui Club (cont.)**

issue is finally decided in the courts. This is a clear error and omission that could have a huge bearing on the project itself and is absolutely something that must be considered by the NSF before a decision is made regarding whether to fund this project or not.

### **CONCLUSION**

For numerous reasons, many of which have been noted herein and in my written comments to the DEIS in 2006, the only viable option for this project is to build it elsewhere. If you try to construct it on the sacred summit of Haleakalā, such action

- would illegally prohibit the exercise of Native Hawai'ian First Amendment rights
- would cause irreparable harm to a federally recognized and world-renown historic site
- would irreparably harm the Native Hawai'ian people of Hawai'i
- would permanently interfere with the survival of Hawai'ian cultural practices and beliefs
- could cause irreparable harm to federally protected endangered species
- could cause the visitor industry (an integral part of the Maui economy) to decline irreparably
- could irreparably harm an historic roadway
- could cause irreparable harm to archeological features intertwined with Hawai'ian culture and beliefs
- could end up covered by lava when the volcano next erupts
- could, after spending over \$160,000,000, be evicted from the site after the ceded lands issue is decided by the courts (which it will be).

The righteous (pono) way to handle this dilemma is to build the project at one of the other sites or in space, where it should have been built to begin with. Too much thought was given during this process to satisfying the needs of the scientists requesting the funding and too little thought was

## **Kathy McDuff Individually and for Sierra Maui Club (cont.)**

given to the needs, beliefs and way of life of the Hawaiʻian people. It is clear that no one from the NSF, the UH IfA, or the people preparing the DEIS gave serious consideration to the spiritual and cultural beliefs and needs of the Hawaiʻian people. If they had, they would have realized the totally devastating effect such a project would have on the Kānaka Maoli and, more importantly, on their living ancestor, the sacred mountain Haleakalā, on whose behalf I humbly submit these comments. Now that you are aware of the irreparable damage it will cause, please do the right thing.

Submitted with the sincere hope that this message will reach your heart as well as your mind.

Kathleen McDuff

## Steve and Ellie McGaughey

----- Original Message -----

From: "Stephen McGaughey" <semcg@xxxx>

To: <cfoltz@nsf.gov>

Cc: <charlie@kcenv.com>

Sent: Friday, June 19, 2009 5:02 AM

Subject: ATST SDEIS Comment

Allow me to begin by prefacing what I am about to say as not an attempt to change anyone's mind regarding this issue. Everyone has come to the hearings with their mind made up and whatever is spoken is really for those who are not in attendance and who need some understanding and guidance.

Let us ponder for a minute Hawaii's Demigod, Maui, who snared the sun and gave us Hale Akala, the House of the Sun. Indeed, he was truly Maui's first astronomer, utilizing the sun for his betterment and aggrandizement. Is it not appropriate to carry on his mythical work in today's world, fulfilling the namesake of Haleakala as truly the House where we study the Sun?

Let us now consider a man who lived in Italy in the sixteen hundreds, named Galileo Galilei who made great discoveries using a simple spyglass. He took that humble optical instrument that had been invented by someone else and turned it to the heavens, plainly seeing that the planets orbit around the sun and that some of those planets have moons that orbit around them. This was an obvious observation by today's standards. However, it was considered heretical by the religion of the day, which espoused that the earth was actually the center of the universe. The pope at the time could have had him excommunicated, even executed, but was astute enough to simply place him in house arrest and forbid him to write any more about his discoveries. Shall we allow religion to stifle discovery and learning today as it did then?

I am the son of a long line of religious leaders. Religion by its nature requires a house of worship. If Haleakala is a house of worship for those who practice the religion of their ancestors, the question I would like to pose is; where are the people who are paying homage to Madame Pele and the ancient ones and when are they up on the mountain top, worshiping and practicing the teachings of the Kapunas and Kahunas? If the top of the mountain is important as a sacred ancient place, as a house of worship, why are they not there practicing their rituals and participating in their religion?

Finally, at a recent public hearing in Wailuku, a fifteen-year-old student spoke about the fact they he represents the next generation poised to inherit these island lands of Hawaii with all its issues of sustainability. As I am of the older ones who will not be here to carry on, I must speak to him and his generation. This project, like so many other great educational and research endeavors, is a part of the University of Hawaii and is available to the new generation. This next generation is charged and challenged with participating in the learning and development that will truly bring sustainability and stability to the lives of everyone here in Hawaii and throughout the world. Simply become involved and join in, learn and achieve.

Steve and Ellie McGaughey

Member of the Haleakala Amateur Astronomers

## Comment - Maui Economic Development Board



May 29, 2009

Craig B. Foltz, Ph.D.  
Division of Astronomical Sciences  
National Science Foundation  
4201 Wilson Boulevard  
Arlington, Virginia 22230

RE: NHPA CONSULTATION MEETINGS

Dear Dr. Foltz,

We have been informed that the National Science Foundation (NSF) has formally invited all consulting parties to a meeting to discuss and begin preparation of a Memorandum of Agreement (MOA) to address the potential adverse effects from the proposed Advanced Technology Solar Telescope (ATST) project.

The Maui Economic Development Board (MEDB) focuses on sustainable, diversified growth of Maui County's employment base, while respecting our rich host culture and environment. For this reason, we are formally requesting Consulting Party status under the National Historic Preservation Act and its implementing regulation set forth by 36 CFR § 800 (Section 106).

According to the NSF, "because the only two sites that were determined to satisfy the specific scientific objectives of the Project are located on the summit of Haleakala, any adverse effects related to the proposed ATST Project being built on either of those locations cannot be avoided or minimized." Under Section 106 regulations, if a determination of adverse effect is made that cannot be avoided or minimized, the effects are mitigated through measures described in an MOA developed from mitigation proposals.

We understand that the NSF has received proposals from the Hawaii Community that aim to mitigate the impacts of the proposed development atop Haleakala. The proposals support the creation of programs for Native Hawaiian education in the areas of science and navigation, and the creation of jobs for local residents.

If an agreement can be reached on a community benefits package with the Native Hawaiian community to minimize potential adverse effects of the ATST Project, then MEDB would support its inclusion in an MOA and would be signatories on such an MOA.

Sincerely,



Jeanne Unemori Skog  
President & CEO

1305 N. Holopono Street, Suite 1  
Kihei, Maui, Hawai'i 96753

cc: Mr. M. Maberry

telephone: 1.808.875.2300  
facsimile: 1.808.879.0011  
www.medb.org

## Response - Maui Economic Development Board



**National Science Foundation**  
4201 Wilson Boulevard  
Arlington, Virginia 22230

June 16, 2009

Ms. Jeanne Unemori Skog  
President and CEO  
Maui Economic Development Board  
1305 N. Holopono St., Suite 1  
Kihei, Maui, Hawai'i 96753

Dear Ms. Skog

Thank you for your letter of May 29 regarding mitigation of the possible impacts of the construction of the Advanced Technology Solar Telescope and their potential mitigation. We will add you to the list of consulting parties.

Following the close of the comment period on June 22, 2009, we will be developing a Programmatic Agreement (PA), pursuant to Section 106 of the National Historic Preservation Act. The PA will be based on our many consultations with consulting parties over the last few years and it will detail the mitigation programs, including both on-site and off-site activities. We will send you a draft of the PA for your review and comment by the end of the month. MEDB would be welcome to be signatory to the final PA.

Thank you also for attending our recent Section 106 meetings on Maui and for contributing to the discussion.

Sincerely,

A handwritten signature in black ink, appearing to read "Craig B. Foltz".

Craig B. Foltz  
Acting Director  
Division of Astronomical Sciences

Cc: E. Gordon, Haleakala National Park  
Cari Kreshak, Haleakala National Park

## Maui Economic Development Board (cont.)

From: Sheila Fujikawa [mailto:sheila@medb.org]  
Sent: Monday, June 22, 2009 11:13 PM  
To: Foltz, Craig B.  
Cc: Jeanne Skog  
Subject: ATST Testimony

Aloha Dr. Foltz,

Attached you will find two letters of testimony on the ATST Project from Jeanne Unemori Skog, President and CEO of Maui Economic Development Board, Inc..

These letters were also faxed to your office.

Thank you.

*Sheila*

Sheila A. Fujikawa  
Executive Assistant  
Maui Economic Development Board, Inc.  
1305 North Holopono Street Suite 1  
Kihei, HI 96753  
(808)875.2336  
(808)879.0011 Fax

## Maui Economic Development Board (cont.)



June 22, 2009

Dr. Craig Foltz, Acting Director of Astronomy Division  
National Science Foundation

RE: EIS for ATST Project

Dear Dr. Foltz:

Since its inception the Maui Economic Development Board has maintained a mission of promoting clean economic alternatives to the visitor industry for Maui County, balanced with an equal concern for protecting cultural values of Hawaii and preserving the natural resources of the islands. As with any project that changes the landscape, the Advanced Technology Solar Telescope observatory project involves a unique challenge of balancing our community's needs and values.

ATST is a scientific program that promises to expand the base of knowledge about the source of energy and life on the Earth and that will provide increased professional and technical employment opportunities on Maui and in Hawaii. Its construction, operations and the continued need for support and maintenance of all the observatory facilities on Haleakala will be a major source of new short-term and long-term jobs. But, as already acknowledged by the National Science Foundation, the ATST will impact on a *wahi pana*, a sacred place to the Hawaiian culture and a source of Hawaiian cultural values and cultural knowledge. Both the original draft environmental impact statement and current supplemental draft environmental impact statement on the ATST detail the potential and probable effects of construction and operations of the observatory on the cultural and natural landscape within the Haleakala Observatory Site.

MEDB is included in the notification and consultation lists for the draft EIS documents and are familiar with the analysis. We have no corrections or amendments to offer on the supplemental draft EIS. We do however wish to emphasize MEDB's support for the project that we believe can provide significant long-term economic benefits. We as firmly believe that the cultural and environmental needs triggered by the project can and should be addressed through ongoing dialogue and consensus building with key stakeholders in the community—pre- and post- its construction and throughout its operation. This is the only way to ensure responsiveness on a continuing basis to cultural and environmental needs which may not have been identified in prior stages.

Additionally, there are numerous models of incorporating cultural and environmental values in the preparation of workforce in numerous fields. The ATST will offer increased professional and technical employment while it furthers growth of Science, Technology, Engineering and Math (STEM) education options through K-12 initiatives for example developed and offered by MEDB's Women in Technology program or through the University of Hawaii and its expanded affiliations in the fields of physics, mathematics, and astronomy. The skills fostered by projects like the ATST will contribute to the overall wellbeing of our residents as they seek to succeed in the 21<sup>st</sup> Century with cultural, environmental and economic needs intact.

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1305 N. Hoopono Street, Suite 1  
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Sincerely,

Jeanne Unemori Skog  
President and CEO

## Maui Economic Development Board (cont.)



June 22, 2009

Dr. Craig Foltz, Acting Director of Astronomy Division  
National Science Foundation

RE: Section 106 Recommendations for ATST Project

Dear Dr. Foltz:

We are writing to convey some recommendations under the Section 106 relating to the ATST project.

MEDB is prepared to assist in programs to mitigate the effects of ATST on cultural and natural resources. Toward that end, we would recommend that the National Science Foundation build on existing programs within the County of Maui and the State of Hawaii that are designed to integrate culture and science, such as the MEDB's nationally renowned Women in Technology programs for STEM education and workforce development.

MEDB has established its role in supporting the expanded educational component with internships and grants for Hawaii students who may be drawn to studies STEM disciplines including astronomy and optical sciences. Similarly, the business development component of MEDB which works under the banner of High Tech Maui builds awareness in prospects about the cultural and environmental values of Maui County and promotes measures to address these values as businesses establish roots or expand in our community.

MEDB also recommends the NSF consider support for programs in Maui County that would enhance opportunities for apprenticeships for local residents in construction, design and engineering related to the development of the observatory and the evolving ATST technology. This will capitalize on a unique, historic opportunity to build local capacity in these fields.

Sincerely,

Jeanne Unemori Skog  
President & CEO

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1305 N. Holopono Street, Suite 1  
Kihei, Maui, Hawaii 96753

telephone: 1.808.875.2300  
facsimile: 1.808.879.0011

[www.medb.org](http://www.medb.org)

**Comment /Response –  
Maui Hotel and Lodging Association**

From: Carol Reimann [mailto:creimann@mauihla.org]  
Sent: Friday, May 29, 2009 8:00 PM  
To: Blanco, Caroline M  
Subject: Solar Telescope on Maui

Aloha Caroline,

I would like my organization to be a consulting party in the NHPA Section 106 process as we believe that the potential cultural impact of the proposed project may be mitigated.

Thank you,  
Carol

Carol Reimann  
Executive Director  
Maui Hotel & Lodging Association  
1727 Wili Pa Loop, SuiteB  
Wailuku, HI 96793

Dear Ms. Reimann,

Thank you for your message requesting to be a consulting party in the Section 106 process. We will add your organization to the list of consulting parties.

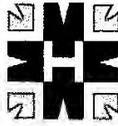
Thank you for your interest and we look forward to meeting you.

Best regards,

Caroline Blanco

Caroline M. Blanco  
Assistant General Counsel  
National Science Foundation

## Maui Hotel and Lodging Association (cont.)



*Maui Hotel & Lodging*  
ASSOCIATION

### **Position Statement** **SOLAR TELESCOPE**

The National Science Foundation's proposed solar telescope will enhance our island's offerings by providing yet another feather in Maui's cap – home of the world's largest optical solar telescope, providing the sharpest views of the sun and crucial to determining & predicting the sun's affect on the earth. It is an honor to be selected as "the best location to study the sun" out of over 70 sites considered throughout the world.

Additionally, the solar telescope will provide an opportunity for scientists to visit our island. Visiting scientists and conferences will occupy our hotels, dine and shop at our businesses.

Maui County's strength as a top tourism destination and successful business model depends upon our ability to showcase a diverse array of industries. Enhancing the science technology industry in our mix will complement our island's reputation for excellence.

# # # #

BOD approved 6/2/09

**Maui Native Hawaiian Chamber of Commerce**

*Hui Holomua*



P.O. Box 350  
Kahului, Maui, Hawaii 96733  
808.873.3364

June 04, 2009

**Caroline Blanco**  
**National Science Foundation**

Aloha Ms. Blanco,

Mike Maberry, assistant director of the Institute of Astronomy at the University of Hawaii and Mr. Clyde Sakamoto, Chancellor of the Maui Community College made a presentation to the Board of the Maui Native Hawaiian Chamber of Commerce (MNHCC) on Tuesday, June 02, 2009 regarding the National Science Foundation's (NSF) proposed telescope project on the top of Haleakala. As a result of the presentation, our board members recognized that potential cultural impacts may be mitigated with significant on-site measures, as well as an off-site community benefits package. The MNHCC board voted to register our organization as a "signatory" or "consulting party" and be included in the NHPA Section 106 process.

We respectfully request your acceptance of this letter to register our organization as a "Signatory" or "Consulting Party" in the NHPA Section 106 proceedings. I would appreciate receiving a response to indicate our organization is registered.

Mahalo Nui Loa,

A handwritten signature in black ink, appearing to read "Howard S. Kihune".

Howard S. Kihune  
President  
Maui Native Hawaiian Chamber of Commerce  
Ph: 808-661-3232  
Cell: 808-870-2381

## Maui Native Hawaiian Chamber of Commerce (cont.)

Aloha Sharon,

Thank you for confirming your receipt of my letter on behalf of the Maui Native Hawaiian Chamber of Commerce and also sending me the list of consulting parties. We would appreciate receiving any communication regarding the progress of the proposed telescope project on Haleakala.

Mahalo,  
Howard S. Kihune, Sr.  
President  
Maui Native Hawaiian Chamber of Commerce  
P O Box 350  
Kahului, HI 96733  
Ph: 808-661-3232  
Fax: 808-661-1921

From: kcesharon [mailto:kcesharon@hawaii.rr.com]  
Sent: Monday, June 22, 2009 3:23 PM  
To: hsklandtec@hawaii.rr.com  
Cc: Caroline Blanco; Liz Gordon; Cari\_Kreshak@nps.gov  
Subject: Receipt of your request to be a Consulting Party

Dear Mr. Kihune,  
On behalf of Caroline Blanco at the National Science Foundation, this e-mail acknowledges receipt of your letter requesting to be a consulting party for the proposed ATST Project. We have included the Maui Native Hawaiian Chamber of Commerce to the Consulting Party list (attached).

We also thank you for submitting a mitigation proposal and recognizing that "potential cultural impacts may be mitigated with significant on-site measures, as well as an off-site community benefits package."

Please visit the ATST website: <http://atst.nso.edu/nsf-env>. We appreciate your participation.

Sharon Loando-Monro  
KC Environmental, Inc.  
Planning Projects Manager

**Maui Native Hawaiian Chamber of Commerce (cont.)**

*Hui Holomua*



June 4, 2009

Craig Folz, ATST Program Manager National Science Foundation,  
Division of Astronomical Sciences  
4201 Wilson Boulevard, Rm 1045  
Arlington, VA 22230  
Email:

Re: Mitigation Proposals for the Advanced Technology Solar Telescope

Dear Sir:

The Maui Native Hawaiian Chamber of Commerce Board of Directors, having been apprised of the desire of the National Science Foundation to ascertain the feasibility of constructing another telescope on Haleakala on the island of Maui, Hawaii, would like to recommend what we believe are legitimate, reasonable, and persuasive mitigation steps that would, if adopted, fulfill not only the purpose of the telescope but also address past, present, and future needs of the Native Hawaiian people as relates to their 'aina and this wahi pana, sacred place.

We acknowledge the opposition to any further construction on Haleakala and the reasons therefore. We concur that there is a sacredness to Haleakala that isolated its use to only special persons anciently and understand that respect for the 'aina should continue till today. A 143 foot telescope is a substantial intrusion into this puu honua, sanctuary, and cannot be taken lightly.

We believe that meaningful mitigation can help in resolution of the disparate interests between the two primary sides. In considering mitigation Native Hawaiians must be able to assure a future for their people and their sovereignty as well as a deep respect for their past and a firm foundation for the continuity of their culture and identity.

Accordingly, we believe the following, if accepted, could lead to some agreement and strongly urge that these recommendations be adopted as part of the mitigation for the Advanced Technology Solar Telescope:

## Maui Native Hawaiian Chamber of Commerce (cont.)

1. Maui Community College has submitted a proposal for the Akeakamai I Ka La Hiki Ola program which recommends \$2 million per year from NSF sources to educate Native Hawaiian students from elementary through college utilizing MCC resources and expertise. This amount does not nearly compensate for the direct thrust into the Hawaiian na'au, the center of the Hawaiian psyche. The MCC proposal should be extended to not only cover ten years but continue for the life of the use of Haleakala for the telescope.
2. The MCC proposal should be modified further to provide a portion of the funding received by this mitigation for college and post graduate full scholarships to Native Hawaiian students statewide who are either entering or in a US colleges and who can demonstrate a high degree of academic success and a willingness to complement their education with Hawaiian studies. In this way Native Hawaiians could soon be available to enter the solar, astronomical, and science fields in Hawaii as may be agreed to for the scholarships. MCC could still continue to work with local native Hawaiian students on Maui and prepare them for the variety of fields of work that could be associated with the solar telescope including weather, environment, health, food supply, water resources, energy, exploration, communications, housing, transportation, manufacturing, and scientific knowledge to include not only astronomy but oceanography, physics, biology, and also Hawaiian culture.
3. Since it is our understanding that astronomy contracts do not result in profits to the UH but do guarantee a per cent of usage, approximately 5%, we recommend that an additional 2% usage time be guaranteed to Native Hawaiian scholars associated with this project via scholarships, employment, or other to be agreed upon qualifications.
4. Though the land upon which the telescope is to be built may not be within the kuleana, responsibility, of NSF, nevertheless, it is recommended that NSF, as an important step in reaching resolution in this matter, immediately request of the State of Hawaii, the University of Hawaii, and the Office of Hawaiian Affairs that they all initiate steps to transfer the land upon which the telescope is to be built to the Office of Hawaiian Affairs for future transfer to the new Native Hawaiian governing entity. Any

## Maui Native Hawaiian Chamber of Commerce (cont.)

agreements made between the UH and NSF regarding use of the telescope should be honored for the duration of the agreement. This does not appear to be a cost item to anyone but symbolically would be a noteworthy acknowledgement of the sincerity of NSF and UH and an extremely important gain for Hawaiians.

5. After termination of the contract period, ownership and control of the telescope should revert to the Hawaiian nation completely.
6. In light of the research to be done in Hawaii at the house of the sun on Haleakala, it is only fair that OHA and subsequently the successor Native Hawaiian governing entity be guaranteed a 10% interest in any and all income received directly or indirectly from the research which might result from use of Haleakala. Whether termed intellectual property rights or cultural trademarking or anything else, this knowledge would not be accessible but for the Haleakala site; therefore, it is recommended that the parties agree to secure future income from potential industries emanating out of this solar research and include same in all agreements to use the facility. Further that via patents, licensing, or other means, that OHA and its successor receive their share of any profits on behalf of the Hawaiian people.
7. Native Hawaiians should have an absolute right without charge to gather, worship, and renew their cultural ties to their ancestors as monitored by the land owner. In order to accommodate such persons, a facility or room with bathroom facilities for use by Native Hawaiian practitioners to meet and also prepare for worship or other activities should be built to either be included within the solar telescope building or in a separate structure. This room could also double as a museum with artifacts or a visitors' center with landowner control of its use. Also included should be an office for administrative and possibly security, custodian, caretaker or other use.
8. The observatory exterior should include a well thought out and culturally attractive representation via artwork such as carvings of Maui and the sun as well as any other appropriate scenes likely in the lower parts of the telescope building so as not to interfere with the operations of the telescope.

## Maui Native Hawaiian Chamber of Commerce (cont.)

The above are submitted in good faith as our recommendations for mitigation. We believe these should be adopted in the spirit of cooperation and understanding as a commitment to the future and our children and acknowledgement of our past and our ancestors.

Mahalo for your attention to this matter.

Sincerely,



Howard Kihune  
President, Maui Native Hawaiian Chamber of Commerce

## Dick Mayer

**To: Dr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045, Arlington VA 22230**

**June 22, 2009**

**From: Professor (Emeritus) Dick Mayer, Economics and Geography**

**RE: FED./STATE SUPPLEMENTAL D.E.I.S. -- ATST (Haleakala Solar Observatory)**

1. The views that I express below are my own and not necessarily those of any organization or association.
2. **SCOPING MEETINGS** There were problems with the scoping meetings: the public was not well informed about the actual height of the telescope facility and the attached service building. In fact, it appears that there was an actual attempt to mislead the public. The photos and sketches shown to the public were all aerial shots which gave the impression that the telescope was actually shorter than the top of the mountain. (The telescope actually will rise to a height about 100' above the highest natural point on the mountain!!) Furthermore, when asked the height of the telescope at the scoping meeting, the figure given by the ATST spokesperson was approximately 93 feet; the actual height is approximately 50 percent greater.

Because the public was mis-lead on the height, it was less able to comment accurately on the enormous visual impact of the planned facility. It was not until several weeks later that the Maui News reported accurately on the actual telescope height, too late for the scoping meetings.

3. **SITE SELECTION** It would seem that a space-based telescope would have many of the advantages which were found at Haleakala and would avoid the need for "adaptive optics". The Sup-DEIS does not adequately explain why the space-based telescope is not completely evaluated as one of the alternative sites. A space-based solar telescope should BE included in the Final EIS as an alternative site.
4. **SITE SELECTION** The Sup-DEIS has limited its evaluation only to the 18 acre site operated by the UH IfA. The Sup-DEIS then attempts to make a careful analysis

## Dick Mayer (cont.)

### **FEDERAL/STATE Sup-DEIS - ATST (Haleakala Solar Observatory) Dick Mayer P. 2**

between two almost similar sites, both in the 18 acre HO location. Consequently, a potentially superior site, perhaps in the saddle to the southwest of the 18 acre site, was only mentioned and certainly was not seriously evaluated. This alternative site could potentially avoid many of the visual problems of being located so close to the Haleakala National Park. The site also may avoid some of the problems with Hawaiian cultural sites. It was prematurely dismissed. Being located in the 18 acre site requires a CDUA permit, just as a site in the "saddle" would require a CDUA permit.

5. **HEAT AVOIDANCE CAUSING EXCESSIVE HEIGHT** Despite the fact that since 1996 there has been a 35' height limit in the Upcountry Community Plan district, the proposed telescope would violate this ordinance. It would be the tallest building in Maui County. The Sup-DEIS describes the telescope's "143 feet height" as being necessary to avoid being too close to the ground where there is considerable heat coming off of the dark lava rock.

In literature supplied at one of the scoping meetings it was mentioned that a potential solution to the considerable ground heat would be the installation of a white apron extending approximately 10 meters from the telescope's base. It is further stated that this white apron would provide numerous other benefits, such as containing spilt lubricating oil and collecting water runoff.

Unfortunately, this white apron was not discussed in the Sup-DEIS. If it had been included in the building design, evaluated and discussed, it might be possible to reduce the height of the telescope, maybe also the proposed illegally tall service building, and perhaps even the overall cost of the project. If the white apron were built, what would be the needed telescope height?

6. **SPIRITUAL AND CULTURAL" SIGNIFICANCE** I will limit my own comments about the "spiritual and cultural" significance of the Haleakala Summit site because so many others with far more knowledge will be commenting on this matter. However, I would encourage those who are evaluating the Final EIS, to consider

## Dick Mayer (cont.)

### FEDERAL/STATE Sup-DEIS - ATST (Haleakala Solar Observatory) Dick Mayer P. 3

their own personal reaction if this telescope was being proposed to be located on the Mall in Washington D.C. in front of the Lincoln Memorial, or perhaps at a site considered sacred to members of their own religion, such as on Calvary Hill in the city of Jerusalem, or besides the Wailing Wall also in Jerusalem, or in the city of Mecca. (Would these sites even be considered as potential locations for a grand scientific experiment that might benefit all of humankind? If the answer is "NO!", then why is Haleakala even being considered?)

7. **LAND OWNERSHIP** When discussing the ownership of these lands, the Sup-DEIS indicates that the University of Hawaii was given these lands by Gov. Quinn's Executive Order # 1987. The Sup-DEIS states that the U. H. is now the "fee owner" of these lands.

What the Sup-DEIS neglects to point out is that the Hawaii State Governor may not have had the right to give away these lands in 1961 since neither he nor the State of Hawaii owned the lands. The lands at the summit of Haleakala are "ceded lands" which have numerous implications, not the least of which is the need by users to pay a "fair-market" rent. The University of Hawaii pays only \$1 per year for the whole 18+ acres. Furthermore, the courts may rule someday that users of these lands may need to pay reparations to the Hawaiian Kingdom that was overthrown in January 1893 by United States naval forces.

8. **OFF-SITE CONNECTIONS AND CUMULATIVE EFFECTS** Several references are made in the Sup-DEIS to physical connections to off-site facilities. The references are to some kind of "base" for communication, to an off-site computer "server", and to a vague facility at an undetermined site where many of the telescope's workers will be employed. Although the Sup-DEIS refers to these locations, there is no description or evaluation of these off-site locations. In fact, the Sup-DEIS says that the details of the connectivity have not yet been determined. How then can the Sup-DEIS claim in the same section that there is "NO IMPACT"?

## Dick Mayer (cont.)

### **FEDERAL/STATE Sup-DEIS - ATST (Haleakala Solar Observatory) Dick Mayer P. 4**

Is the connectivity referring to the military's computer located in Kihei (South Maui)? To the Waiakoa Astronomy facility in Kula? To the new astronomy building constructed in Kula Malu in Pukalani? All of these locations? Or none of them?

Until the cumulative impacts of this project and its use of other sites, the EIS will be incomplete. For example, is the design and construction of the "military financed" Kihei-Upcountry Highway connecting the ATST telescope to the Kihei computer actually a portion of this project?

Without the often mentioned support sites (outside the 18 acre site) being located, described and evaluated, the section on and analysis of "**cumulative** impacts" is woefully incomplete.

9. **MILITARY RELATED COMPONENTS and SECURITY IMPLICATIONS** In several places within the Sup-DEIS, there are indications that there may be military connections to this project. For example, there is a discussion of communication links via a fiber optic cable. Does this mean that this telescope will be digitally tied to the military computer located in Kihei (South Maui)? There was also mention made that the telescope lenses will periodically be serviced by the Air Force's Mirror Coating Facility which is located at the Hawaii Observatory. Finally, the scientific results from the ATST's observation and analysis of the "solar mass ejections" and solar wind would be of great use to the United States' emerging "militarization of space". Is the ATST actually part of the federal government's military program?

The close ties of the ATST to the military will result in potential security concerns for the facility, the workers, the "connections" to other facilities, and one million plus tourists who visit the area. Security issues must be addressed in the Final EIS.

10. **SCOPING MEETING TRANSCRIPTS** The Final EIS should contain the complete, unedited, transcripts from each of the Sup-DEIS meetings held in 2009. During those meetings much valuable testimony was given by the public; a recorder was present and took down all the comments verbatim.

## Dick Mayer (cont.)

### FEDERAL/STATE Sup-DEIS - ATST (Haleakala Solar Observatory) Dick Mayer P. 5

**11. ELECTRICITY UPGRADES AND THE MAUI RESIDENTS** An upgrade to MECO's HO sub-station is mentioned. However, no mention is made as to who will pay for this upgrade. Will the burden fall on the general population of Maui who will see the capital cost of MECO rise, with a subsequent increase in resident's electric power rates?

**12. CUMULATIVE IMPACTS FROM OTHER NEW FEDERAL and UH ACTIVITIES**

There are other projects in addition to the ATST: Pan-STARRS; NASA Transportable Laser Ranging System; and the AEOS Mirror Coating Facility. Are there traffic concerns? Biological considerations? Cultural considerations? Disrupted view corridors? Etc.? Does each of them have a separate CDUA? If yes, how will the DLNR Board be able to consider cumulative impacts?

Since these are all on the same University of Hawaii leased site, Hawaii HRS 343 requires a cumulative impact review/analysis.

**13. HALEAKALA NATIONAL PARK IMPACTS** A major deficiency of the Sup-DEIS is the inadequate treatment of the effects of the ATST on the Haleakala National Park. The National Park Service will be contributing its own comments on the DEIS. However, I would like to reinforce their concerns. The Sup-DEIS has trivialized the impact of the ATST on the disruption to the view plane and the reduced quality of the tourist (and resident) experience.

The Red Hill lookout is the highest point on Haleakala. The proposed ATST site is a mere 1,500 feet from Red Hill where over one million tourists come each year to view one of the most beautiful and unique views on the planet. Even the astronauts who were planning to go to the moon came to this location because of its very special environment. Unfortunately, the Sup-DEIS grossly underestimates the impact of the "in-your-face" 143 feet high telescope and the adjacent service building. Maui County law in the form of the Upcountry Community Plan states as a Land Use Policy (P. 18), "*Recognize the value of open space, including agricultural lands and **view planes** to preserve the region's rural character.*"

## Dick Mayer (cont.)

### FEDERAL/STATE Sup-DEIS - ATST (Haleakala Solar Observatory) Dick Mayer P. 6

Furthermore, the Red Hill overlook is located within the 55 db noise contour emanating from the 7 years of the ATST construction. Although this is noise level revealed, it is in "exceedance of the state standard for maximum permissible daytime sound levels in class A zones". The Sup-DEIS describes this as being only disturbance. It is NOT!

And furthermore, there is the matter of the 250' crane and a number of smaller 100' cranes that will be utilized for many years during construction. These will be a further blight on the visual enjoyment of this very special place.

These visual and aural disturbances (individually and in combination) at the major viewing site in a United States National Park are unacceptable, and definitely a most significant environmental impact. The fact that the Sup-DEIS trivializes these impacts (in the form of its flawed visitor survey) seriously undermines the quality of the entire document. Over the course of 7 year construction period, over 7,000,000 visitors will be impacted.

14. **VISITOR SURVEY IS FLAWED** As noted in the Sup-DEIS (See 3-46), Haleakala National Park (HALE) has "indicated that [the visitors survey you included in the SDEIS] is significantly flawed and likely biased and there are significant technical errors in the instrument and related reporting." HALE further asserted that "the conclusions are based on an insufficiently designed and administered survey."

This survey should not even be considered in the Final EIS. If you do insist on including it, however, then you must also include the potential impact of your proposal that was part of this survey to allow those interested in touring the ATST facility to do so, which apparently is up to 75% of the 1.7 million visitors that come to the Park each year, as set out in the survey. Where is the impact study on the effect these people touring the facility will have on the noise, on the land, on the Kanaka Maoli Practitioners trying to practice at the ahus, on the parking lot, on the traffic, etc?

## Dick Mayer (cont.)

### FEDERAL/STATE Sup-DEIS - ATST (Haleakala Solar Observatory) Dick Mayer P. 7

You cannot make a bold statement that most visitors would not “care” if the facility is built based upon information gained from this flawed survey. Furthermore, you should not be able to use such faulty reasoning as a basis to try to offset the clear major adverse long-term effect this project will have on the Maui visitor industry, which is already declining.

15. **SUPER WHITE REFLECTIVE PAINT** The Sup-DEIS is silent on the type of paint to be used in coating the exterior of the telescope facility. However, it was made clear in previous meetings that a “super-bright” white paint was being utilized on the telescope’s exterior.

I could find no discussion in the Sup-DEIS of the impact of that white paint on the visibility of the telescope. In discussions during the scoping, it was pointed out that the white paint would be “extremely reflective”, much more so than the highly visible, neighboring AEOS telescope. Consequently, the visual impact of the 143 feet high ATST will be amplified by its reflected radiance. The final EIS must report on this undesired effect.

16. **ECONOMIC IMPACTS ON MAUI’S TOURIST INDUSTRY** It is expected that an EIS will examine carefully the economic impacts of a proposed project. The ATST Sup-DEIS is woefully lacking in economic analysis. It does not even describe the major basic economic activity on Maui, the industry which brings in most of the income and provides most of the jobs, namely tourism. Is there even a reference to tourism, tourist employment, and tourism dependency? NO!

If the tourism industry had been accurately considered in the Sup-DEIS, it would have indicated that Maui Island has for many years been considered the “Number One” tourist destination island in the whole world. (See last ten years of *Conde Nast* magazine’s selections.) Tourists come to Maui for both the special cultural experience as well as the incredible scenic beauty of the island. The summit of Haleakala is probably the most visited spot on the island, and at the summit lookout the ATST will be a direct assault on that tourist experience. There will be

## Dick Mayer (cont.)

### FEDERAL/STATE Sup-DEIS - ATST (Haleakala Solar Observatory) Dick Mayer P. 8

consequences: a serious erosion of the visual experience. This is not just some mere “subjective” observation, as the Sup-DEIS attempts to portray the view plane. It is why more than a million people each year come to see the views. It is why there is a substantial Haleakala summit tour business.

Moreover, the tranquility of the overlook will be engulfed by the nearby construction noise. And finally, and not insignificantly, tourist traffic up the mountain will be seriously impacted by the very heavy, slow-moving concrete trucks and other even heavier and wider trucks that will be unable to pull-over to allow a long line of tourist cars to pass.

All of these effects will impact the quality of Maui’s tourism industry. Consequently, there may be fewer tourists coming to Maui, less money being spent and fewer jobs available. It is inappropriate that the Sup-DEIS has totally neglected to even mention this, Maui’s major industry. I expect the Final EIS to comprehensively study the impact of the ATST on the tourist industry.

In this regard the (Upcountry) Makawao-Pukalani-Kula Community Plan states (P. 12), *“this Community Plan region is the home of significant resources, including water shed areas and the Haleakala National Park, which is significant in terms of its resource preservation, enhancement and protection values. From an economic standpoint, the National Park is viewed as an important component of the region’s economy.”*

17. **EXCAVATED SOIL** There seems to be some confusion as to what will happen with the excavated soil from the proposed site. It is suggested that it will be deposited at a nearby site. However, the site has been given two different functions: as a site for soil placement, and as the “construction staging” area. Which is it?
18. **RESIDENT AND COMMUNITY PREFERENCE FOR RURAL AMBIENCE** There is a strong feeling among residents in the surrounding community that this whole area

## Dick Mayer (cont.)

### **FEDERAL/STATE Sup-DEIS - ATST (Haleakala Solar Observatory) Dick Mayer P. 9**

should NOT be impacted by urban, large or industrial-type facilities. These feelings have been expressed in the vision of the Kula Community Association (which includes the ATST site within its community). The KCA vision statement reads as follows: *“The vision of the Kula Community Association is to preserve open space, support agriculture, maintain a rural residential atmosphere, and to work together as a community.”*

These sentiments also form a basis for the legally adopted and enforceable Maui County General Plan (of which the Upcountry Makawao-Pukalani-Kula Community Plan is a component). The Community Plan governs the use of land in the district which includes the summit of Haleakala and the ATST site.

It states as a problem (P. 11), *“LOSS OF RURAL CHARACTER. One of the primary attributes which make the Makawao-Pukalani-Kula region unique to the island is the rural and serene environment which defines Upcountry Maui’s character. The loss of this rural ambiance is of significant concern to the region’s residents.”*

Furthermore, as a Policy and Objective under Economic Activity, it states on page 17, *“Recognize the rural, open space character of the Upcountry region as an economic asset of the island.”*

Consequently the proposed ATST would violate Maui County law.

19. **MASTER PLAN FOR THE WHOLE SUMMIT AND FOR ALL THE ACTIVITIES** The (Upcountry) Makawao-Pukalani-Kula Community Plan which governs the use of land in the region that includes the ATST site, the whole UH IfA site, the Haleakala summit, and the Haleakala National Park indicates the direction for use of the environment. It states clearly on Page 24 as the Goal for the Environment,

*“ENVIRONMENT Goal Protection of Upcountry’s natural resources and environment as a means of preserving and enhancing the region’s unique beauty,*

## Dick Mayer (cont.)

### **FEDERAL/STATE Sup-DEIS - ATST (Haleakala Solar Observatory) Dick Mayer P. 10**

*serenity, ecology, and productivity, in order that future generations may enjoy and appreciate an environment of equal or higher quality.”*

To achieve this Goal, it specifies an Objective and Policy (P. 25), “*Encourage Federal, State and County cooperation in the preparation of a comprehensive Haleakala summit master plan to promote orderly and sensitive development which is compatible with the natural and native Hawaiian cultural environment of Haleakala National Park.*”

*In the year 2001 the Maui County Council passed Resolution 01-45 entitled, “Urging the State of Hawaii to Fund Master Planning for Haleakala”. Unfortunately, to-date the Master Plan is only for the 18 acre IfA site. There is an obvious need to plan not just the IfA 18 acres, but the whole summit region of Haleakala. Only in this way will the interaction among the various activities be known and the problems mitigated. This Supplement to the original DEIS has yet to grasp the multiple impacts of the ATST on other activities at the summit.*

20. **DRAFT MAUI ISLAND PLAN** After conducting numerous studies and hearing public comments from people throughout the island over a three year period, the General Plan Advisory Committee (a twenty-five member citizen panel appointed by the either the Maui County Mayor or County Council to set out recommendations for the Maui County General Plan for the County of Maui for the next 20 years) adopted a county wide policy plan that includes language to “immediately provide and encourage laws to preserve and enhance the summit of Haleakala with **no new buildings**.” [Emphasis added] (Policy No. 5031).

21. **35-FOOT HEIGHT LIMITATION THROUGHOUT THE REGION** The height and the scale of the proposed 143' ATST facility and the approximately 70' adjoining service building violate an important design guideline contained within the (Upcountry) Makawao-Pukalani-Kula Community Plan. In fact, the Sup-DEIS totally

## Dick Mayer (cont.)

### FEDERAL/STATE Sup-DEIS -ATST (Haleakala Solar Observatory) Dick Mayer P. 11

21. **35-FOOT HEIGHT LIMITATION THROUGHOUT THE REGION** The height and the scale of the proposed 143' ATST facility and the approximately 70' adjoining service building violate an important design guideline contained within the (Upcountry) Makawao-Pukalani-Kula Community Plan. In fact, the Sup-DEIS totally ignores this guideline, perhaps because its impact can NOT be mitigated by the proposed project. The guideline (Page 30) reads as follows, *"Enforce a two-story or 35-foot height limitation throughout the region, except for public/quasi-public uses such as auditoriums, gymnasiums, and fire stations."*

Since I was vice chairman of the Citizens Advisory Committee that recommended the restrictive guideline, I know that the guideline clearly applies to the ATST facility. Although it is a publically owned facility, it is not one used by the general public as do those in the examples given (auditoriums, gymnasiums, and fire stations).

**Since the Community Plan is a Maui County ordinance and because a CDUA permit requires that every application must conform to ALL State and County ordinances, the ATST would be ineligible to receive a CDUA permit from DLNR.** (NOTE: Neighboring HO telescopes, such as the 110' AEOS telescope were permitted before the adoption of the 35' maximum in the 1996 Community Plan.)

Mahalo for your consideration of these comments; I look forward to the appropriate revisions in the Final EIS.

Sincerely,

Prof. (Emeritus) Richard "Dick" Mayer

CC. Office of Environmental Quality Control, Hawai'i Dept. of Health  
Mr. Mike Mayberry, UH IfA  
Dr. Charles Fein, KC Environmental Inc.

Richard Mealey

Aloha

16 June 2009



Mr. Craig Foltz  
ATST Program Mgr.  
NSF  
FAX (703) 292-9034

Sir:

While reasonable people always make an effort to respect other's religious beliefs, I see three overriding points regarding placement of another telescope on Haleakala:

1. The proposed installation would be amid others already standing in a relatively miniscule area of the summit. Were this and the tri-optic and other telescopes scattered all over the mountain, objection could be rightly made that the visual majesty of the area was impaired.
2. Most people, even highly religious ones would admit that they can impute no sacred nature at all to inanimate rocks, mountains, streams or any other lifeless geographic features.
3. Even the slightest prospect of the benefits an increase in knowledge can bring the entire world must trump the preferences of a relatively infinitesimal group. Especially when that group itself also stands to benefit from any and every resultant discovery.

In fairness, I believe all objections by Hawaiians of religious persuasion should be fully heard and considered. They represent, after all, not only one of the kindest and finest cultures on earth, but represent the original inhabitants of Hawaii. I also believe, however that in a burgeoning world population rapidly outstripping the planet's resources, nothing can be of greater urgency than expanding our knowledge and technological abilities at every opportunity.

Cordially yours,

  
Richard Mealey

(36 years, anti I.C.B.M. radar tech. in Alaska, 10 years on Maui (and still thawing out)).

**PUBLIC COMMENTS**

Use this form if you wish to submit your comments or, if you prefer, your comments can be read by the Meeting Facilitator.

I prefer my comments to be read by the Meeting Facilitator.

check box

The National Science Foundation (NSF) has prepared a Supplemental Draft Environmental Impact Statement (SDEIS) for the proposed Advanced Technology Solar Telescope (ATST) Project. The SDEIS is available at all Maui public libraries and on the Internet at: <http://atst.nso.edu/>, click on ENV.

**Public Comment Period:** The NSF welcomes and invites Federal, State, and County agencies, and the public to participate in the **45-day comment period beginning May 8, 2009, and ending on June 22, 2009.**

ORIGINAL comments should be sent to the applicant:

Dr. Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045, Arlington, VA 22230  
Telephone: 703-292-4909, Fax: 703-292-9034, email: cfoltz@nsf.gov

COPIES of comments should also be sent to:

1. Dept. of Health, Office of Environmental Quality Control, REF: ATST  
235 South Beretania Street, Room 702, Honolulu, HI 96813 Fax: 808-586-4186
2. Mr. Mike Maberry, Associate Director, University of Hawai'i Institute for Astronomy  
34 Ohia Ku Street, Pukalani, HI 96768, Fax: 808-573-9557
3. Dr. Charlie Fein, KC Environmental, Inc.  
P. O. Box 1208, Makawao, HI 96768, Fax: 308-573-7837, email: charlie@kcenv.com

Comments:

Please Print Name: R. Miller

Where will the sewage go?

I've heard the building will operate for 4 sun cycles and therefore  $4 \times 70 \text{ yrs} = 280 \text{ yrs}$ .

I've also heard the building will be torn down in 50 yrs. Which is true?

# National Parks Conservation Association



National Parks Conservation Association®  
*Protecting Parks for Future Generations®*

## Pacific Regional Office:

1301 4th Street, Suite 810  
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June 22, 2009

Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Re: Comments for the Supplemental Draft Environmental Impact Statement for the proposed Advanced Technology Solar Telescope (ATST) on Haleakala, Maui.

Dear Mr. Foltz,

On behalf of our more than 340,000 members, the National Parks Conservation Association (NPCA) would like to thank you for the opportunity to comment on the Supplemental Draft Environmental Impact Statement (SDEIS) for the proposed Advanced Technology Solar Telescope (ATST) on Haleakala, Maui. NPCA is America's only private, non-profit advocacy organization dedicated to protecting and enhancing America's national parks for the enjoyment of our children and grandchildren. As the nation's largest membership organization dedicated solely to national parks, we represent a broad array of existing and potential park users. Our members care deeply for America's shared natural and cultural heritage that is preserved by units of the National Park System and other Park Service affiliated areas.

While we are pleased that the National Science Foundation has tried to address concerns from the previous DEIS we feel that more care needs to be taken to avoid or mitigate impacts to Haleakala National Park.

## I. Failure to comply with National Environmental Protection Act

The courts have determined that the scope of National Environmental Protection Act (NEPA) analysis must be appropriate to the scope of the proposed action.<sup>1</sup> The site selection discussion does not fully explain the analysis of how the Haleakala site became the final and only location for ATST. The existing analysis does not provide a full analysis of the final

<sup>1</sup> Kern v. U.S. Bureau of Land Management, 284 F.3d 1062, 1078 (9th Cir. 2002)

## Regional Offices:

Alaska  
Anchorage 907.273.6720

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San Diego 619.444.2000

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Washington 202.454.3330

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## National Parks Conservation Association (cont.)

three sites nor does it provide a clear justification and comparative analysis of “trade-offs” (i.e. impacts on adjacent resources) for this decision.

NEPA requires that an actual “range” of alternatives be considered, such that the Act will “preclude agencies from defining the objectives of their actions in terms so unreasonably narrow that they can be accomplished by only one alternative (i.e. the applicant’s proposed project).”<sup>2</sup>

This requirement prevents an EIS or EA from becoming “a foreordained formality.”<sup>3</sup> The SDEIS only examines one alternative in depth, the proposed action, and lists two other alternatives: a “No Action” alternative, required by law; and the same construction at a slightly different location within the Haleakala High Altitude Observatory Site.

NPCA recommends that the Final EIS includes a full range of alternatives that includes:

- Additional analysis of sites from the original list 72 for consideration as alternative sites.
- A more thorough analysis of each of the alternatives under consideration, in compliance with NEPA law.

### II. Failure to comply with the Endangered Species Act

The Endangered Species act states “a Federal agency shall consult with the Secretary on any prospective agency action at the request of, and in cooperation with, the prospective permit or license applicant if the applicant has reason to believe that an endangered species or a threatened species may be present in the area affected by his project and that implementation of such action will likely affect such species.”<sup>4</sup> The SDEIS fails to comply in several ways in addressing the evaluation and impacts of this project on threatened and endangered species in Haleakala.

This project has a potential direct effect on endangered ‘Ua‘u (Hawaiian Petrel) and Nene. Only monitoring the ‘Ua‘u throughout the project is not mitigation to lessen impacts. Affects to ‘Ua‘u are not negligible because of the USFWS mitigations outlined in the informal Section 7 consultation. Based on the description of the project and new project components added to the SDEIS Section 7 consultation with US Fish and Wildlife Service under the Endangered Species Act needs to be re-opened. The current SDEIS seems to point toward incidental take of endangered species as likely to happen and there have been enough changes to the project since inception that additional consultation is necessary. The SDEIS does not clearly state, as required in the informal Section 7 consultation, that if a Hawaiian petrel or Nene is “harmed or killed as a result of the ATST construction activities that the Service would be contacted immediately and that work action would cease until we have formally addressed the cause for the take”.

<sup>2</sup> Colorado Environmental Coalition v. Dornbeck, 185 F.3d 1162, 1174 (10th Cir. 1999), citing Simmons v. United States Corps of Engineers, 120 F.3d 664, 669 (7th Cir. 1997)

<sup>3</sup> City of New York v. Department of Transp., 715 F.2d 732, 743 (2nd Cir. 1983). See also, Davis v. Minner, 307 F.3d 1104 (10th Cir. 2002)

<sup>4</sup> Endangered Species Act of 1973, Public Law 93-205.



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A current survey is needed to determine if new burrows are found near the proposed construction site. The last map shown of nesting sites is dated 2005. Nighttime construction activities during the nesting season especially from the passage of larger trucks may cause nest abandonment (before, during and after incubation) and/or mortality of chicks resulting from nest abandonment.

The construction on the shoulder at the entrance station road occurs in endangered Nene habitat. This is a regular gathering spot for feeding. The potential for loss and impacts on the Nene, from this activity, need to be addressed. This is an activity that was not a proposed action when the Section 7 consultation was conducted.

NPCA recommends that the final EIS includes:

- Additional Section 7 consultation with USFWS is if night time driving is to occur through Haleakala National Park
- A survey for new Hawaiian Petrel burrows. If new burrows are found near the proposed construction site, additional Section 7 consultation with USFWS will be necessary.
- The summary of the Effects on Biological Resources needs to include information on Nene and bats
- A section 7 consultation with the USFWS for the entrance station road shoulder construction.

### III. Failure to adequately address Visitor Experience and Visual Resources

We feel the analysis in the Visual Resources and View Plane and the Visitor Use and Experience of SDEIS are incomplete and unsupported. We disagree with the conclusion that the effects on visitor use and experience is moderate. An important visitor experience is the viewing of sunset and sunrise. The direct and indirect impact this project will have on the visual resource needs to be addressed. More information is needed about the basis of the qualitative evaluation. An independent social science study is necessary to properly evaluate the qualitative range of acceptable, minimally acceptable, and unacceptable visual conditions for the summit area of Haleakala.

The DEIS states "The proposed ATST project would not hinder the Park's purpose "to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as would leave them unimpaired for the enjoyment of future generations," or prevent the NPS from continuing its conservation work to meet its guiding mission of preservation." This statement is not at all correct. The proposed project will have a significant impact on the management of the park. Their ability to conserve the natural and visual resources of the park would be severely hindered by the construction of this project. In fact on page 4-148 The DEIS even states "However considering noise, visual losses and air quality effects, when combined with the past and present actions at HIO, construction of the proposed ATST Project would result in major, adverse, and long-term effects on the experience of visitors to the Pu'u Ula'ula Overlook, Sliding sands Trailhead and HALI areas adjacent to HIO."

The ROI analyzed in Chapter 4 does not match the ROI for this topic in Chapter 3 (pages 3-45 to 3-47). ROI analyzed in Chapter 4 should be confined to Haleakala NP and the Skyline Drive Trail outside of



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Haleakala NP which are the primary visitor use and experience areas at the summit of Haleakala. This section does not analyze the impacts during construction and operations phase of the proposed project on the visitor experience. Visitors visit the summit area of the park for experiences like watching the sunrise, experiencing solitude and natural sounds, and enjoying natural views rather than ones of human development.

The conclusion that the proposed ATST would at the Mees Site have a moderate adverse and long-term effect and Reber Circle Site which would have a major, adverse and long-term effect on the visual resources and view plane from the Pu'u Ula'ula Overlook, Areas of TIALE Adjacent to HO, and Upper Park Road Corridor during the later stages of construction and operations phase does not make sense. There are no quantitative or qualitative differences between the two sites when you compare Figure 4-29 with Figure 4-30 and Figure 4-14 with Figure 4-34. Both sites will have a major, adverse and long-term effect in the visual resources and view plane.

The 2007 visitor survey is an inaccurate assessment. It is not a survey that is supported by the National Park Service. It was not conducted within the park nor is it an accurate sample of Park visitors. It fails to address key issues such as why people visit Haleakala National Park, viewsheds, wilderness and damage to cultural sites and values.

The conclusion that the proposed project would have a negligible, long-term effect on traffic subsection is not supported. Large, heavy and wide construction vehicles move slowly and impact visitor use and experience traffic more than other types of vehicles. The analysis of traffic on visitor use and experience should include not only impacts from the increase in vehicular traffic but the type of vehicles on the road.

The construction and operation of this project will have a significant impact on the visitor experience activities and resources of Haleakala National Park. There needs to be a complete and qualitative evaluation on the impacts to the visual resources, soundscapes and impacts from added construction traffic, including slow moving wide-loads to the visitor experience.

NPCA recommends that the Final EIS:

- Includes a social science study to properly evaluate the qualitative range of acceptable, minimally acceptable, and unacceptable visual conditions for the summit area of Haleakala. This would be achieved by surveying of a statistically valid sample of the people of Maui and the visiting public.
- Adds a detailed description of how quantitative evaluation values in the Visual Resources and View Plane section were determined and why they are used.
- Removes the information pertaining to the 2007 Visitor Survey due to irrelevant and inaccurate data.
- Includes an analysis of traffic on visitor use and experience that include not only impacts from the increase in vehicular traffic but the type of vehicles on the road.



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### IV. Failure to adequately address Cultural and Historic Resources

Haleakala National Park was created not only to protect the unique Hawaiian plants and animals but to preserve Hawaiian cultural values and the American story. The historic cultural landscapes and traditional practices are an important part of the preservation of Haleakala National Park.

The Haleakala Road has been determined to be eligible for listing as an historic cultural landscape. While the SDEIS does analyze the impacts to the park road corridor solely on the amount of traffic-related to the proposed ATST project the analysis is incomplete due to the lack of consideration on the impacts from construction vehicles exceeding legal load limits and wide loads that could increase the probability of accidental damage to the bridge.

The SDEIS states "On-going operations of the proposed ATST Project would have a major, adverse, and long-term effect on cultural resources; however, implementation of mitigation measures would reduce the effect intensity to a moderate adverse, long-term level." There is no analysis on how proposed mitigation measure would lessen the impact to the cultural resources in the park.

The analysis that the impacts to traditional cultural practices from noise within the park road corridor during ATST-related construction traffic would be negligible, adverse, and long-term is speculative.

NPCA recommends that the Final EIS:

- Complete analysis of impacts from construction traffic that exceed load limits on the Haleakala Road.
- Add analysis on how proposed mitigation measure would lessen the impact to the cultural resources in the park.

While NPCA views this SDEIS as one with multiple legal and environmental concerns, we also recognize that the NEPA process is a way for agencies to engage in a dialogue with the public about the scope, size, implementation, and ultimate shape of new projects such as the proposed ATST. We appreciate the ability to offer input to this planning process.

Sincerely,



Kari Kiser  
Senior Program Coordinator  
National Parks Conservation Association, Pacific Region



National Parks Conservation Association

**Native Hawaiian Legal Corporation  
on behalf of Kilakila 'O Haleakalā**



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June 5, 2009

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Dear officials,

**RE: SDEIS FOR ATST**

Thank you for the opportunity to comment on the National Science Foundation's Supplemental Draft Environmental Impact Statement for the proposed Advanced Technology Solar Telescope at Haleakalā. These comments are submitted on behalf of Kilakila 'O Haleakalā. Kilakila 'O Haleakalā requests a hard copy of the Final Environmental Impact Statement as well as a CD version when it is completed.

**CULTURAL IMPACT**

**Environmental Justice**

1. The adverse impact on Native Hawaiian traditional and customary practices is the defining environmental justice issue for this project. Curiously, the applicant completely ignores this issue in discussing the topic of environmental justice (pages 3-67 and section 4.12). The United States Environmental Protection Agency defines environmental justice as the "fair treatment for

*Services made possible with major funding from the Office of Hawaiian Affairs.*



Nilolo. Upright, straight, stately/zell and straight as a tree without branches; sharply peaked, as mountains. Fig., righteous, correct.

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people of all races, cultures, and incomes, regarding the development of environmental laws, regulations, and policies." This is premised on the belief that particular segments of society, such as Native Hawaiians, may sometimes bear a disproportionate amount of risk associated with environmental degradation. According to EPA's "Final Guidance For Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses" (April 1998):

In the case of activities potentially affecting Native Americans, potential impacts, both direct and indirect, can occur to sacred sites and/or other natural resources used for cultural purposes. For example, the loss of a sacred site, or other impacts to larger areas of religious and spiritual importance may be so absolute that religious use of the site abruptly ceases--a direct impact.

Native Hawaiians – a native people who are a minority in their own land – depend on the preservation of natural resources in order to perpetuate their culture. The SDEIS discloses that the area “is a very sacred place for the Kanaka Maoli (Native Hawaiian), past and present.” (p.3-7). The desecration of sacred sites interferes with cultural practices and unfairly targets the Native Hawaiian community. The ATST would, therefore, disproportionately affect – adversely – the Native Hawaiian population. This part of the EIS must be revised to highlight the environmental injustice of ATST.

### Magnitude of impact

2. The SDEIS identifies four levels of effects (major, moderate, minor and negligible), but fails to clearly explain the severity of the impact of the project on cultural resources. It breaks up different elements of the project, sometimes defining the impact, sometimes avoiding a description (or relying upon qualifying phrases), and sometimes referring to mitigation to some (but not all) the elements.

3. On the one hand, the SDEIS states on pages ES-33 and 4-10 that “the overwhelming evidence from a cultural and traditional standpoint points toward a major, adverse and long-term effect on some Native Hawaiian traditional cultural practices and beliefs.” *See also*, page 4-14. Similarly, on page 4-131, the SDEIS states, “the cumulative effects on cultural and historic resources of the proposed ATST Project combined with past, present and reasonably foreseeable future actions is considered major, adverse, and long-term. On the other hand, it also states that “the cumulative effects on cultural and historic resources of the proposed ATST Project combined with past, present and reasonably foreseeable future actions is considered moderate, adverse and long-term” (page ES-47); *see also* page 4-179. Clearly page ES-47 is in error. Cumulative impacts include the direct impacts and so could not possibly be less than “major.” Similarly, the impact on cultural practices is called “minor” on page ES-33.

4. The FEIS should fully and clearly disclose whether the following elements of the project would have a “major” or “moderate” adverse impact on cultural resources and activities:

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- the construction activities associated with building the ATST (including excavation, noise and visual);
- the existence of a 143-foot structure at Kolekole (visual);
- the noise generated from the operation of the ATST and associated activities; and
- the operation of the ATST, including maintenance, repairs and personnel turnover.

5. The SDEIS clearly states that the repairs and turnover in operations “would have a major, adverse, and long-term effect on cultural resources” (p. 4-9). It fails, however, to clearly state that the construction activities, the existence of the massive structure, and the noise generated by the operations would have a major adverse and long term adverse effect on cultural resources. This analysis is critical because, while the applicant alleges that “implementation of mitigation measures would reduce the effect intensity to a moderate adverse, long-term level for these types of adverse impacts to cultural resources,” these mitigation measures have absolutely nothing to do with the impact caused by, for example, the ATST’s massive presence.

6. The SDEIS on the one hand states that “the amount of noise and construction-related activities associated with the proposed ATST Project would have a major, adverse and short-term effect,” but then concludes, without any real discussion, that certain restrictions reduce the impacts to “minor” (p. 4-10). What analysis allows the applicant to reach this conclusion? Curiously, on page 4-10, the SDEIS suggests that noise-generating activities such as construction would be restricted from 30 minutes prior to sunset and 30 minutes after sunrise. On page 4-78, however, the SDEIS reveals that only those construction activities exceeding 83 dBA noise levels would be restricted. Thus, Native Hawaiians engaged in traditional and customary activities near the ATST would be subjected to noise levels of up to 82 dBA at sunrise and sunset. How does that change a major effect into a minor one?

**Mitigation**

7. How does providing “sense of place” training mitigate the pain and loss suffered by Native Hawaiian traditional and customary practitioners in any way, shape or form?

8. How does such training mitigate the visual impact? the noise? How is the cultural specialist going to make the project quieter, or make the buildings more invisible?

9. The Final Environmental Impact Statement must include a clear explanation as to how providing “sense of place” training to personnel could possibly mitigate damage to a sacred site.

10. It is entirely unclear how the mitigation measures actually will reduce the impact on traditional and cultural practices to minor effects rather than major (p. 4-14) – particularly when

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the mitigation measures do not mitigate the massive structure or the damage done to a sacred site.

11. Pursuant to federal law “mitigation” is defined as

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- (e) Compensating for the impact by replacing or providing substitute resources or environments.

40 CFR § 1508.20. State law uses the term in the same manner. HAR § 11-200-17( M). It appears, however, that the NSF has adopted a bizarre new definition of the term “mitigation”. The NSF fails to discuss how it could avoid these impacts, minimize the impacts, rectify the impacts (by restoring the affected environment), reduce the impacts, or compensate by providing substitute resources. Instead, NSF proposes spending money on items that have nothing to do with the cultural harm whatsoever. These educational “public benefits” do not qualify as mitigation.

**Who Should Compromise?**

12. On November 8, 2007, NSF Assistant General Counsel Caroline Blanco wrote in a letter to the Advisory Counsel [sic] for Historic Preservation that “there can be no minimization of the adverse effects that result from the location of the proposed ATST project.” She also wrote, “NSF takes the position that the anticipated adverse effects expressed by the Native Hawaiian community cannot be minimized.” In discussing alternative sites, the SDEIS makes it clear that certain scientific objectives cannot be compromised. Substantial and irrevocable reductions in scientific output are unacceptable. In fact, there are no elements in the actual ATST project that the NSF is willing to compromise on, including size, color, location, etc. Not one. Why then are substantial and irrevocable impacts to existing cultural practices of a native people acceptable? Why is it unacceptable for the NSF to compromise its objective – and yet acceptable to insist that Native Hawaiians compromise their practices and values and accept further desecration of their sacred religious sites in order to accommodate NSF’s demands to build a new facility on Maui?

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13. How does the NSF define arrogance?

**NOISE**

14. The suggestion that there “are no noise-sensitive human receptors at HO, such as . . . land uses where people generally expect and need a quiet environment” (pages ES-26 and 3-59) is absurd. Native Hawaiians who exercise traditional and customary practices at Haleakalā are, to use the bureaucratic term, “noise-sensitive human receptors.” Given the sanctity of Haleakalā, all new noise sources will adversely affect the natural soundscape and are inappropriate.

15. The assumption that only noise levels changes of above 20 dBA are “major” has absolutely no support in the scientific literature regarding noise. There must be some basis for using 20 dBA as a criterion (p. 4-99) – although it appears that the applicant has arbitrarily decided that the number 20 is a magic number (see the use of the magic number 20 in the discussion of visual effects on page 4-30).

16. In a natural setting like Haleakalā National Park, any industrial or mechanical noise is an unnatural intrusion and has a major adverse affect. The noise analysis ignores frequency, unnaturalness, intensity and duration of noise generation.

17. To say that the sound attenuation of industrial noises at 35 dBA is “the equivalent of leaves rustling or wind blowing through the grass” (p. 4-100) is insulting.

18. The discussion regarding the noise impacts of the operation of the ATST and its related facilities is inadequate. Simply because the noise levels would be below levels for Class A zoning districts does not mean that the facility would not generate new noise. How much noise will the buildings, the fans, the air conditioners, rotational tracking, generator etc. generate?

19. Noise should be anticipated during construction and decommissioning/deconstruction.

20. The real question that the FEIS must address is: how far away would a person have to be from the ATST facility to be sure that the person did not hear any (a) construction noise and (b) operational noise. This is the most important question for the FEIS to address regarding noise because, given the location, any such new noise source will have a major adverse effect.

**VISUAL IMPACTS**

21. The quantitative methodology is ridiculous. Unless one is very, very close to a structure, according to this methodology, the structure will only impact a small percentage of a view plane. To claim that a major scenic impact can only be from a structure that affects more than 20% of a viewplane renders virtually all construction impacts from any real distance non-major. Thus, a large crane on top of Mount Rushmore would not have a major scenic adverse impact. A house

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on the rim of the Grand Canyon would not have a major adverse scenic impact. Adding just one brush-stroke of fluorescent purple paint to the Mona Lisa would not have a major adverse impact. The reality is, a large man-made object that intrudes upon a natural landscape in the massive scale proposed by ATST cannot help but have a major adverse impact on views.

22. The applicant should instead employ the methodology articulated by the State of Hawai‘i Department of Land and Natural Resources in its decision *In re: HECO’s CDUA to Construct a 138-kV Transmission Line at Wa`ahila Ridge*, DLNR File No. OA-2801. The transmission towers at issue in that case did not occupy anywhere close to 20% of the viewshed, yet their impact was significant enough to warrant rejecting a conservation district use application.

23. The visual simulations do not fairly depict the visual blight that the structure will be on Haleakala. Just as photographs of the observatories on Mauna Kea do not accurately show the pimples that blight the mountain top, figures 4-5 – 4-16 do not capture what can be seen and what will be seen.

24. Even the IFA’s Long Range Development Plan does a better job of acknowledging the impact. It states:

The ATST will be a large facility compared to the current Mees Solar Observatory. The top of the telescope enclosure may be as much as 142 feet or more above ground level. If sited at either the present MSO location (Figure 8-9) or Reber Circle (Figure 8-7), the white telescope enclosure would be quite visible from the Red Hill Overlook and on cloud-free days it could be visible from South Maui and the Central Valley, although it would be blocked in some directions by the AEOS facility.

25. The ATST would impede the view plane from mountain to ocean, ruin the character of the natural surrounding and ruin essential vistas.

26. Tall cranes will be required during construction and decommissioning/deconstruction.

27. When the SDEIS states that the ATST “would not be fully visible” (p. 4-62) does that mean that the entire structure is not visible, or that it is not visible along the entire roadway? In either case, what difference does it make if it is not “fully visible”? If it is only a part of it is visible, or if it is only seen part of the drive, it still detracts from the quality of the area and is out of character of the natural surrounding.

**SECTION 4.1 ON “LAND USE” MAKES NO SENSE.**

28. Section 4.1 of the SDEIS is bizarre. It appears to analyze the ATST’s impact on “land use.” Grammatically and logically it is hard to understand how a project impacts “land use.” Projects impact people, the environment, infrastructure etc. They also change the use of land. The

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applicant has created a strawman by arguing that the ATST has no effect on land use. The application of the regulatory definition of “land use” in HAR § 13-5 further muddies the applicant’s “analysis.” The real questions for this section of the SDEIS should be: is the ATST compatible with existing land use designations, and will it affect existing land uses and existing activities? Section 4.1 utterly fails to engage in this analysis, however.

29. Curiously, the applicant ignores the BLNR’s criteria (except for a select two) for evaluating a CDUP found in HAR § 13-5-30. There is no doubt that the applicant’s proposal fails to satisfy these criteria and that it will not be able to obtain a CDUP.

**ALTERNATIVES**

30. The discussion in the two paragraphs above section 2.3.3 (page 2-7) is clearly inaccurate. The discussion dismisses the alternative of building a space-based telescope with a series of non-sequiturs and misleading statements. First, it is contradicted on page 1-11 where the SDEIS states that it is cost that precludes this possibility – not technological obstacles. Second, objectives 1, 2 and 3 – ostensibly the reason for rejecting sites at La Palma and Big Bear – could certainly be achieved by a space-based telescope. Third, scientific advances have already achieved the predictive power for coronal mass ejections that could jeopardize global communication. Fourth, the role of this telescope in reducing the “risk for human civilization” is ridiculous hyperbole. Finally, given that “the most highly variable parts of the Sun’s spectrum are found in the UV and X-ray region” (page 1-17) and given the fact that study of UV and X-ray wavelengths from a land-based station would be ineffective (given the atmosphere), would not a space-based telescope make more sense?

31. Is cost the reason that a space-based telescope was rejected, or are technological limits the reason it was not chosen?

32. Could a space-based telescope achieve all the scientific objectives?

33. If so, how much more would it cost?

34. The SDEIS presents evidence that locating the telescope at Haleakalā would be better than elsewhere (from the perspective of efficiency). The SDEIS can, in fairness, argue that Haleakala offers more “seeing” hours than other sites. Or it could argue that it “represents the best combination of [astronomical] factors” (Appendix J p. 1) But it cannot credibly argue that Haleakala is the “only” place where such a telescope can be located. It is absurd for the applicant to proclaim that there is a bright-line below which any other site would utterly fail to meet the “scientific objectives” of the project. The applicant is free to argue that Haleakalā offers more sunshine or more seeing hours. But the applicant cannot credibly claim that other sites would completely fail to achieve the scientific objectives. The applicant subjectively developed what it terms “unacceptable levels of hours for high quality observations” (p. 2-16).

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There is no objective reason why the telescope must have 480 annual hours of sky brightness less than 25 millionths of the brightness of the solar disk – and not one minute less. There is no objective reason why the telescope must have 200 annual hours of excellent seeing.

35. Since March 2008 emissions from Kilauea on Hawai‘i Island have increased dramatically. Combined with the numerous periods of no tradewinds, atmospheric conditions on Maui are no longer what they used to be. According to the USGS, since this latest eruption phase, Kilauea is currently producing up to 4,000 tons/day of SO<sub>2</sub>, -- far more than the 150 tons per day it used to produce. During its journey through the air, the SO<sub>2</sub> reacts with oxygen, sunlight, and water to form vog, a mixture of gas and tiny sulfuric acid aerosol droplets. This aerosol mixture appears as a dense haze that obscures Hawaiian scenery and ocean views. Has the applicant re-examined its data to see if Haleakala still meets all the criteria it needs for solar observation?

**WASTEWATER & HAZARDOUS WASTE**

36. The FEIS should disclose what impacts –if any – the current cesspool has on groundwater. If the FEIS is going to claim that replacement of it will provide minor – not negligible – benefits, it should fully disclose what the impacts of the current operation are.

37. If the aquifer is vulnerable to contamination from wastewater (as mentioned on page ES-23), then the threat posed by the existing cesspool operated by IFA should be fully described.

38. If wastewater is a threat, the FEIS should disclose why the ATST does not propose an even higher level of treatment prior to disposal.

39. Simply because a wastewater system meets State of Hawai‘i Department of Health regulatory standards does not mean that it will have no impact – especially when the aquifer is “highly vulnerable to contamination” (p. ES-23). The FEIS should fully discuss the impacts of existing and increased wastewater discharge.

40. The FEIS should more fully discuss the potential impacts of hazardous waste being disposed through the wastewater system or on the ground, including all the chemicals described on page 2-36. Given the September 11, 1999 spill incident (page ES-24), such accidents are entirely foreseeable. The FEIS should disclose the likely impacts from another accident. The fact that a response to a spill may meet legal requirements does not explain the impacts to the aquifer or the larger ecosystem.

**EXCAVATION**

41. At La Palma, excavation of 9,000 cubic yards was deemed “considerable” (p. 2-10). Is the removal of 4,650 cubic yards of soil and rock on Haleakala a considerable amount?

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42. How deep and wide would the pit be that would have to be created?

**ELECTRICITY**

43. Why are MECO’s existing rate-payers paying to study ways to reduce the peak proposed ATST Project electrical load (economizing strategies) and not NSF (pages ES-13 & ES-41)?

44. Who will pay for the upgrading of the new 2500 kVA substation: MECO ratepayers or ATST (page ES-40)?

**THE CONSERVATION DISTRICT**

The applicant makes a series of misleading statements regarding the conservation district.

45. On pages ES-15, 1-29 and 3-2, the applicant puts two facts together to create a misleading impression. It may in fact be true that the parcel of land at issue was set aside for astronomical research. It is true that the Haleakala High Altitude Observatories are in the conservation district. It is not accurate, however, to imply that (1) the purpose of the conservation district, or this part of the conservation district, is for astronomy or (2) this area has been designated for astronomical research pursuant to Act 187 or the conservation district rules. The executive order setting land aside has nothing to do with the regulatory restrictions on uses in the conservation district.

46. Similarly, on page 3-1, the applicant states: “During the past few years, the DLNR’s Office of Conservation and Coastal Lands (OCCL) has administered Conservation District Use Applications (CDUAs) for: open ocean aquaculture projects, telescopes on top of Haleakalā and Mauna Kea, major powerline projects on scenic ridges, telecommunication facility projects, single family residences, Parks; and Commercial Forest projects.” The applicant uses the vague term “administered.” Yes, OCCL has received applications for various projects. But the Board of Land and Natural Resources, in fact, rejected the application (the only application) for a major powerline project on a scenic ridge. It rejected the koa logging project proposed on Hawai’i Island. And the court overturned the BLNR’s approval of a CDUP for a telescope on Mauna Kea. The SDEIS, therefore, misleads by suggesting that in “administering” these applications, approval is routine.

47. The applicant’s explanation for how this project satisfies the objectives of the general subzone (p. 3-2) makes absolutely no sense.

48. Curiously, the applicant ignores the BLNR’s criteria (except for a select two) for evaluating a CDUP found in HAR § 13-5-30. There is no doubt that the applicant’s proposal fails to satisfy these criteria (let alone state constitutional mandates) and that it will not be able to obtain a CDUP.

**Native Hawaiian Legal Corporation  
on behalf of Kilakila ‘O Haleakalā (cont.)**

Craig Foltz, Ph.D.  
Office of Environmental Quality Control  
Mike Mayberry  
Charlie Fein, Ph.D.  
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**CUMULATIVE IMPACTS**

49. The applicant failed to discuss other EAs and EISes for projects in the area. These documents can demonstrate whether: (a) the applicant and other users of the area accurately predicted impacts; (b) the applicant and other users of the area followed through on prior promises; and (c) proposed mitigation was effective. This analysis is necessary to perform a credible analysis of the cumulative impacts of this project.

50. For example, in 1994, the IFA stated:

The proposed facility, approximately 120 feet above grade, would be the largest structure on the upper portions of Haleakala. However, it would be generally consistent with the existing structures, and it would not greatly alter the general appearance of the complex as seen from a distance. The proposed facilities would be clearly visible from the Pakaoao Visitor Center and Red Hill Overlook, where the height and mass of the proposed telescope dome enclosure would make it a strong visual element under certain conditions. The visual impact of the telescope dome would be mitigated by its reflective surface. This type of surface tends to take on the color of the sky, and does not stand out strongly. In addition, its proximity to the existing observatory structures that are readily recognizable as telescope housings would indicate the scientific purpose of the entire complex.

Despite IFA's assurances, the Air Force's large AECOS facility (a) is not consistent with the existing structures; (b) greatly altered the appearance of the complex; (c) was not mitigated by its reflective surface; and (d) stands out strongly.

51. There is no question that the cumulative visual impact of the ATST and past projects is major.

52. The March 1994 Final EA for the AECOS telescope notes that "at some later date, the 8-meter telescope and dome enclosure will be installed to replace the 3.67-meter telescope." Has this been done? If not, has this cumulative impact been assessed?

53. In March 1994, the IFA noted that the enormous AECOS facility would be built to address the Air Force's "requirements into the 21<sup>st</sup> century." An upgrade to a larger telescope is needed to retain MSSS's usefulness. The need for a better telescope is the same justification for this project a decade later. Given the IFA's constant refrain that it needs to keep up with the latest technology, when does it all end? When will what is built ever be enough to satisfy the IFA?

54. Why is there no discussion in the cumulative impacts section regarding the previous damage to cultural resources caused by development in the Haleakalā High Altitude Observatory Site?

**Native Hawaiian Legal Corporation  
on behalf of Kilakila ‘O Haleakalā (cont.)**

Craig Foltz, Ph.D.  
Office of Environmental Quality Control  
Mike Mayberry  
Charlie Fein, Ph.D.  
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The Air Force development removed rocks from the summit and destroyed an area that was used for worship.

55. If the ATST project will adversely affect the FAA RCAG facilities, as suggested on page 4-5, and if addressing “any potential issue involving a degradation of signal” will require other construction, then the FEIS must fully disclose this construction and the impacts. Could resolution of the issue include building bigger unsightly towers? Failure to thoroughly discuss this issue is a failure to properly disclose the cumulative impact (i.e., reasonably foreseeable future actions). The applicant may not segment this disclosure through a separate NEPA compliance document as it suggests that it will do on page 4-6.

**OPPORTUNITY COSTS**

56. How much money is this project slated to cost?

57. What projects are the NSF not funding (and what scientific questions are not being answered) by funding this project? Identify the projects that NSF could potentially (or would) fund if it decided to forego this project.

58. Clearly the money spent on this project would be an irreversible and irretrievable commitment of a resource that should be discussed in section 4.16.2.

**MITIGATION**

59. Is NSF committing to decommissioning/deconstruction – or just to considering it?

60. What authority would the “cultural specialist” have? Will s/he merely be able to provide advice that does not have to be followed?

61. If the ‘ua’u are present from February through October, why does the mitigation not include all those months? Is there any mitigation from noise when the ‘ua’u return to their nests in the evening (when apparently construction activities may continue) in February, March, August and September?

**OTHER**

62. The table summarizing the effects from the proposed ATST Project, which is promised on page ES-45, does not exist. Moreover, the four-sentence discussion in section 4.15 (Summary of Potential Effects of the Proposed ATST Project) of the SDEIS is incomplete and inadequate.

**Native Hawaiian Legal Corporation  
on behalf of Kilakila ‘O Haleakalā (cont.)**

Craig Foltz, Ph.D.  
Office of Environmental Quality Control  
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63. A map that shows the Crater Historic District, listed both on the State Inventory of Historic Places (SIHP 50-50-11-12-1739) as well as the National Register of Historic Places should be included in the FEIS.

64. How will the facility handle all the energy from the sun that is concentrated through the 4 meter array?

65. How much bicycle traffic is there at the project site (BMP 7 on p. 2-33)?

66. At various places, the DSEIS mentions that BMPs will be implemented. (see, e.g., pages ES-11, p. ES-54). The specific BMPs should be identified in detail in the mitigation section.

67. The conclusions of the ATST Survey are obviously flawed. By only asking whether participants “cared” if there was another telescope without directly asking how it would affect their experience, the survey provides no meaningful data.

68. The FEIS needs to address the impact that may be caused by the increasing number of tourists (as asserted by the applicant) who will want to tour the ATST facility on the tranquility of the area and on Native Hawaiian traditional and customary practices.

All these issues should be thoroughly addressed in the FEIS.

Sincerely,



David Kimo Frankel  
Camille K. Kalama  
Staff Attorneys

cc: Laura Thielen  
Senator Daniel Akaka  
Congressman Neil Abercrombie  
Congresswoman Mazie Hirono  
Haleakalā National Park Service Superintendent  
Sam Lemmo  
Pua Aiu

## Comment/Response - Sean O'Leary

From: olearyds@comcast.net [mailto:olearyds@xxxxxxx]  
Sent: Monday, June 08, 2009 11:22 AM  
To: Foltz, Craig B.  
Subject: ATST  
Craig Foltz  
ATST Program Manager  
National Science Foundation-Division of Astronomical Sciences  
Room 1045  
4201 Wilson Blvd.  
Arlington, VA 22230

Mr. Foltz,

While I am very excited at the prospect of the Advanced Technology Solar Telescope on Mt. Haleakela, Maui, Hawaii I understand that many are not. I can understand that the local Hawaiians view Mt. Haleakela as a sacred mountain and they feel an additional structure built there will mar the beauty of this mountain. I believe this is because they do not value the knowledge that will be gained by this instrument. If the proposed structure were for any purpose other than to gain knowledge I would agree with them. However, the pursuit of understand about our world and our universe is of great importance. This site is a uniquely qualified site on our planet. I would hope that they would come to understand that this purpose does not violate the Mountain but rather honors it as a pathway to knowledge about our world.

Sincerely,  
Sean O'Leary  
West Jordan, UT 84081

Dear Mr. O'Leary:

One of my colleagues pointed out the "yogurt" in my recent email to you. I suspect a rogue spell-checker inserted this without my noticing. Please accept my apology for the non-sequitur.

Thanks!

Craig Foltz

From: Foltz, Craig B.  
Sent: Fri 6/12/2009 11:42 AM  
To: 'olearyds@xxxxx'  
Cc: 'kcesharon'; Chan, Tony F.; Blanco, Caroline M; Gibson, Anthony J; 'Mike Maberry'  
Subject: RE: ATST

Dear Mr. O'Leary:

Thank you for your yogurt email and your thoughtful comments. They will be incorporated in the Final Environmental Impact Statement.

We will do our best to honor the mountain and its heritage should the telescope be constructed.

With best wishes,  
Craig Foltz

## Comment /Response – Shannon Paapanen

On May 12, 2009, at 4:39 PM, Shannon Paapanen wrote via email:

Dear Mr. Foltz:

I'm sure you guys have probably thought of this, but could you bury the telescope under the ground? The long lens part, so it doesn't have to stick up so high into the skyline?

Sincerely,  
Shannon Paapanen

From: "Craig B. Foltz" <cfoltz@nsf.gov>

Date: May 13, 2009 9:55:09 PM EDT

To: shannonpaapanen@

Subject: Re: Telescope on Haleakala - Is it an option to bury it?

Dear Shannon:

An interesting idea but the telescope needs to be well above the ground in order to avoid turbulence in the air near the ground. The sunlight heats the ground and the ground then heats the air which drives turbulence. This causes the images to blur. It's like looking over a campfire though that example is extreme.

In fact, the telescope is designed to be as short as possible and still function to its specifications.

Thanks for your interest.

With best wishes,  
Craig Foltz

On May 12, 2009, at 4:39 PM,

## Hilary Parker

-----Original Message-----

From: Hilary Parker  
To: Craig Foltz  
Sent: Jun 10, 2009 3:26 PM  
Subject: Comments on SDEIS

Aloha!

I am very much against the construction of ATST atop Haleakala. I am not against scientific advancement, but Haleakala, Maui is not the place for this project.

1. The short term (construction phase) impact on the island is big. Noise pollution, air pollution, traffic tie ups, road degeneration from Kahului TO the top of the mountain, decrease in tourists and locals using the crater for educational, cultural, spiritual and recreational endeavors. The actual digging atop the mountain is criminal. Once on a walk/talk with a park ranger, I learned why we are NEVER supposed to walk off the trail. (You park people know this.) Building a 143 foot structure is going to create havoc with and destroy very fragile ecosystems. I don't buy the sales pitch of the project creating employment. Even if some employment is created for LOCAL folks, it is short term. It is a sorry argument for resort/high end developments also.

2. The long term impact is difficult to predict. Visually, a structure of this size is an abomination; Upcountry has a 35 foot height limitation. The public was duped here. Why is Haleakala the only place being considered. I understand a space-based telescope would work better. There are questions that UH even has the right to use the land. Another salient point is the lack of information forthcoming on off-site connections. To what extent is or will be the military involved? How will what is up there affect the rest of Maui? The "community benefits package" is a merely a bribe. The designers/promoters of this project state that "the direct adverse effects to cultural, historic, and archeological resources CANNOT be avoided and/or minimized, ergo a "benefit package". Haleakala is a SACRED place. A structure and a use such as this is an insult to Hawaii.

Thank you for reading my comments,

Hilary Parker, retired GED teacher

Kula, HI 96790

## Mark Parsons

----- Original Message -----

Subject: ATST EIS

Date: Sun, 14 Jun 2009 11:18:05 -0600

From: Mark Parsons <markparsons@xxxx>

To: cfoltz@nsf.gov CC: charlie@kcenv.com

To whom it may concern, Every generation must use its knowledge and power to honor the aina. Ancient generations believed the Sun, land, and seas were gods. They honored these objects and in many places, actually worshipped them. Our ancient ancestors would be amazed at what we have learned in the past few hundred years. We learned how the Sun generates the warmth for our planet, we learned what lava is, and we learned what drives weather. These were all mysteries to the ancients. We also learned that the Sun, land, and seas are just a tiny part of an enormous universe. We learned this by looking far into the universe with telescopes. O

ur generation, too, must use its knowledge and power to honor the aina. We now have a chance to provide the best site on our planet for studying our most important neighbor, the Sun. This is an incredible honor for Maui. I believe the ancients, knowing what we know now, would agree.

The proposed project is environmentally benign; the telescope will not hurt the land or the sea or the air, and it would occupy a very small space on our beautiful island. As a Maui resident, I welcome the opportunity to provide a site for this new telescope.

Mark Parsons

Kihei, HI 96753

PS - There were no email addresses for the State Dept. of Health or Mike Maberry. Please forward, or send me the addresses and I will. Thanks!

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**From Dr. Charlie Fein: Already sent Mr. Parsons Mike and OEQC e-mail addresses.**

## Comment/Response – Frances Pitzer

----- Original Message -----

Subject: Please no more building on Haleakala

Date: Sat, 20 Jun 2009 00:48:38 -0400 (EDT)

From: Frances Pitzer <iam4joy@xxxxx>

To: charlie@kcenv.com

I oppose the ATST on Haleakala and urge the National Science Foundation and the University of Hawaii to halt the project. Christians would be appalled should someone attach billboards or some other item to their church temples!

WE ARE IN HAWAII, AND THE HAWAIIANS VIEW THEIR MOUNTAINS AS SPACE RESERVED FOR THE GODS. RESPECT THAT. YOU FOLKS KNOW THIS. PLEASE STOP.

Very few people, comparatively, on the mainland have reverence for the mountains.

Certainly there is another mountaintop located in an area which wouldn't be a visual slap in the face to those who have to look at it on the top of their "church" every day. Or, better yet, figure out ways to do what you desire WITHOUT having altered the surrounding environments.

Mahalo for your kokua

Frances Pitzer

Kihei, HI 96753

Response:

Thank you for your comments.

## Comment /Response – German Platero

From: German Platero [mailto:platero289@xxxx.com]

Sent: Friday, June 05, 2009 12:56 AM

To: Foltz, Craig B.

Subject:

Allow science a chance to further improve the quality of life by helping in getting a better understanding of the sun's behavior by allowing this project to continue.

Thanks

German Platero. (Salt Lake Astronomical Society)

## Rob Ratkowski

-----Original Message-----

From: Rob Ratkowski Photography [mailto:ratkwski@xxxx]

Sent: Tuesday, June 16, 2009 2:02 PM

To: Foltz, Craig B.

Subject: ATST Support

Aloha

I am in support and operation of the Advanced Technology Solar Telescope to be constructed and operated at Haleakala Observatories on Haleakala, Maui. I believe that we as a nation and a people need to further our understanding of our sun, the nearest star. The science ATST will produce and the inspiration it will provide to future solar astronomers, physicists and technologists is immense.

How can people not understand that this is 'today' and not the past and technology makes this state and our nation strong and provides leadership in science for others?? How can we deny our students this instrument??, it is a source of wonder and direction in life.

I have heard comments about how it will disgrace the summit area and how it will destroy the view. I have seen on almost every trip to the summit, visitors lined up being photographed with the Haleakala Observatory as the background. People want science, people want to see what the ATST will image and the solar science it will produce.

Please do not give up this project, we need to live in a modern, technologically savvy world. Spirit not only lives in plants, animals and earth but in the ATST. We need ATST to take us to those unknown discoveries and I want to be there when it happens.

With respectful Aloha

Rob Ratkowski

President Haleakala Amateur Astronomers

## Robert Rossman



Review of the ATST SEIS

**Robert W. Rossman**  
2740 Liholani Street, Unit 7  
Makawao, HI 96768

**rossman\_services@hotmail.com**  
**(808) 463-7584**

June 20, 2009

Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Dear Sir:

I am a retired planner and compliance specialist, with the bulk of my career having been spent with the US Forest Service. In addition, I was a practicing hydrologist for that agency with a strong background in science and engineering. Most of my responsibilities during the last 20 years of my career revolved around the preparation and defense of environmental impact statements and other forms of environmental planning documentation. I am applying this experience to the review of the ATST – SEIS, and urge your strong consideration of my comments which I believe to be substantive under the CEQ regulations.

Further, you should note that my interest in this not to advocate for or against the proposed action, but rather to contribute to a NEPA compliant and straightforward Final SEIS. It is my expectation that you will review and respond fairly to my comments in one of several ways, as provided in 40 CFR §1503.4.

Despite being fundamentally disposed towards scientific inquiry, especially that which aims to help deal with global climate issues, I must be clear about my position. At the outset, I am extremely disappointed in the SDEIS as currently published. It appears not to be compliant with CEQ, in part because it is not written in an understandable fashion (§1502.8). With this, and other shortcomings documented herein, I believe the document to be not worthy of the lofty image associated with the National Science Foundation and the University of Hawaii, of whom I certainly expect better. Nor, for that matter, is it worthy of the lofty ambitions and goals presented by the proponents, which deserve a fair and impartial assessment. Such an assessment MUST compare the benefits and the costs (including environmental impacts) of implementing the proposed action by evaluating a suitable range of alternatives.

It is my intention to focus mostly on what I believe to be procedural errors relative to the CEQ regulations, rather than factual details of analysis or writing style and word choices, although it appears that there is much to criticize there. In doing so, it is my hope that the FSEIS will be much improved and that the eventual decision will be well-informed by the analysis (as intended in NEPA).

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Robert W. Rossman

June 20, 2009

Page 1



**Comments on Preliminary Material in the Document**

CEQ regulations require an EIS to contain a cover sheet having explicit contents (see 40 CFR §1502.11). The cover sheet should be a single page showing the lead, responsible and cooperating agencies. The format requires a title conveying certain information. The page must clearly show the name, address and phone number of the person who can provide further information. On the page, an abstract of the document should appear, as well as unambiguous information to assist the public in providing timely comments. The document is deficient in meeting the provisions of §1502.11, and leaves the interested public to make assumptions about where, when, how, and to whom their comments should be submitted.

I managed to obtain explicit instructions that should have been included in the SDEIS from another involved party. These instructions appear to require that multiple copies of the comments need to be submitted to an additional three parties. I find this to be an inappropriate request, as an undue burden on the public. From the information I received, I am in doubt whether my timely comments addressed to Dr. Foltz will be considered if I do not provide copies to the several other parties. So, I feel constrained to comply with this burdensome request, and I object. For all actions I have seen or been a party to, the responsible agency provides a single point of contact for public comment, and then shares the comments among other parties as they see fit.

Regarding the summary on pages on ES-1 through 64: The regulations state that the required summary document normally not exceed 15 pages (40 CFR §1502.12). Not only is the ES excessively lengthy, but it appears not to meet the content requirements per regulation. Among these is the lack of an overt presentation of the issues raised by agencies and the public (i.e. areas of controversy). The short presentation at ES-6.0 (the end of the summary) – Unresolved Issues – does not suffice for that purpose. More explanation of this will be evident in my comments on Purpose and Need, below. Most successful NEPA documents present tables of alternatives’ features and environmental impacts in comparative form as part of the summary. I recommend this to you as a practice that assists the public in understanding the document.

As to the content of the summary, all of the following comments apply to it as well as to the body of the document. I would note further that the content of a number of sections in the summary does not match the content of conclusions under identical headings in the body. It is as if the summary was prepared on the basis of an earlier draft and not changed when the body of the document was subsequently edited or altered. The net effect of this does not serve to boost my confidence that the analysis in the SDEIS is aboveboard.



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**Comments on the Purpose and Need For Action**

Page 1-1 in the SDEIS. In restating a portion of the CEQ regulations at part 1502.1, a great deal is left unsaid. This and other provisions in the regulation require the EIS preparer to act according to the spirit of NEPA, to ensure that information be appropriate, accurate, and of high quality. The regulations enjoin the preparer to concentrate on the significant issues rather than amassing needless detail, because, in short, the purpose of the EIS and the process is to foster good decisions.

Chapter I is needlessly detailed, going far beyond the CEQ requirement to “briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives, including the proposed action.” Since the purpose and need section in effect is supposed to define the ‘decision space’ and set the scope of analysis, much of the material therein seems to be inapplicable. It reads more as a statement justifying why the range of alternatives is limited to Haleakala, and sells it by describing what the proposed action will do for Hawaii’s academic community.

Regarding the range of alternatives, the section boldly asserts that Haleakala is the only place in the world meeting the necessary criteria (as stated). This assertion narrows the scope of analysis to this: accept the proposed action, or do nothing. I maintain that the scope of analysis is therefore too narrow and precludes the consideration of other reasonable alternatives. The SDEIS purports to justify this view by citing the site selection process found in Appendix J. Upon reviewing that appendix, I find no compelling or persuasive evidence that Haleakala is the only site that will meet the criteria. Page J-4 winnows the list of 72 possible sites down to 6. It then expresses further goals/criteria by which the 6 were apparently judged. Then, as far as I can tell, the document falls silent in any comparison of the six relative to the goals/criteria, and how the extra years of data came out. The only comparison shows a graphic representation of Haleakala vs. LaPalma for the single criterion of ‘dust.’ The proponent leaps from this point to an assertion in the purpose and need that Haleakala is the only place that will suffice.

As a minimum, I would expect to see a comprehensive, tabular comparison of data from the six sites relative to the criteria. In addition, I would object to the criteria or goals being presented as rigid, inflexible absolutes in the purpose and need. I would instead expect them to be elements of the purpose and need to which alternatives might be addressed, by applying different priorities and emphases to meet overall goals with varying levels of success. As in most federal actions, where very little other than law and authority is absolute, the development of alternatives should be an optimization process that is open and transparent for the public to see. Further, the scope of analysis should be broadened to include a transparent evaluation of 3 to 6 potential sites, and variations on the site criteria to allow an effective display of the tradeoffs, including cost, between alternatives.

## Robert Rossman (cont.)



As it stands, the purpose and need section seems to be a statement of justification for selecting Haleakala (unsupported by data displayed in the analysis). It expresses as decision criteria inflexible rules that point inevitably to the construction of the project on that site, in only the prescribed fashion. The discussion mentions the current development of the ATST (page 1-12), accompanied by a significant amount of design work (for the Haleakala site) that may be found throughout the document and its appendices. An extraordinary amount of money has clearly been spent to date on this one alternative. This flies, flapping, into the face of CEQ regulations, and NEPA, that calls for fair consideration and disclosure prior to making a decision. It seems from the existing documentation, and the skewing of the discussion, that the decision has already been made. The CEQ regulations prohibit the commitment of resources that prejudice the selection of an alternative before making a final decision (40 CFR §1502.2(f)).

A thoughtful and well-crafted purpose and need section is critical because it defines the scope of analysis and the range of alternatives. It is not merely an introduction to the EIS. I note that there is much irrelevant and, frankly, biased material in the current draft of purpose and need. This serves to disguise the insufficiency of the statement as an appropriate structure for the analysis. At the same time, I find there is too little discussion of the issues that are raised by the proposal. Ordinarily, an agency will present the outcome of scoping in terms of issues that people and other agencies raise in relation to the proposal. Issues can and do affect the purpose and need discussion, as well as alternatives considered. Agencies are enjoined to present reasonable alternatives to the proposed action that address issues raised during the scoping phase. There is more discussion of sunspots, solar magnetic activity and the recent history of astronomy, et al (however interesting) than there is of how people responded to scoping and the proposed action. I submit that it is insufficient merely to make reference to an appendix for this important information, and should at least be summarized in terms of the significant issues for analysis. See 40 CFR §1501.7, in its entirety, as a guide to issue disclosure that should be presented in the purpose and need section.

### **Comments on Alternative Development and Description**

The foregoing discussion also applies to the treatment of alternatives in Section 2. Here is the essential point... the selection of Haleakala as the only site possible should be the outcome of the decision making process in an EIS, not a constraint from the beginning. The beginning of Section 2, sections 2.2 – 2.3, provides some comparative information among potential sites for the development. The proponent has the basis for an appropriate and compliant EIS in these sections. If alternatives were formulated on the basis of the several best potential locations, wherein the design criteria are held fairly static, the analysis of costs, benefits, environmental impacts, social and economic considerations, etc, would practically write itself. It appears that much of this analysis has already been done, but in a way that has avoided public involvement in, and scrutiny of, the process. Instead, interested and affected parties in Hawaii potentially have to live with a “decision” that has

## Robert Rossman (cont.)



been made elsewhere and out of the public's view. Again, this subverts the spirit of the law provided in NEPA.

Alternatively, so to speak, alternatives could have been developed by finding discretionary latitude in the design criteria and proposing different configurations. It is very difficult to believe that the criteria are so cut and dried that 5 feet, 10 feet or even twenty feet in height would have a make or break difference all the time. Or, that different color coating similarly would have a single make or break threshold. As to the latter, it appears that the proponent has applied selective financial criteria ruling out a more benign (to the viewer) color because it would be more expensive to maintain the proper temperature environment. It is precisely these alternative features, having different costs and benefits (including environmental impacts) and addressing different issues that should be evaluated in an EIS.

Having not done so, the proponents can be vulnerable to a charge of pre-decisional behavior and arbitrariness. Despite the scientific rhetoric that passes for description in the document, the alternatives, and the analyses thereof, are clearly set up to arrive at one, obvious decision. I call this the pursuit of the perfect alternative, which is self-defeating in a NEPA analysis. I am not persuaded by the document that the proposal is self-evident and that it is the only thing that can reasonably be done to meet the purpose and need for action – which, bottom line, is to study the sun.

If I were to propose to you a timber sale (loaded with opaque silvicultural jargon and terminology), stating that my objectives can be met only by clear cutting in certain places and harvesting certain amounts, or do nothing, it would be much like the alternatives' analysis in this document. If I dismissed other reasonable alternatives out of hand by saying they were too expensive, or just wouldn't work for our purposes, I would justifiably be accused of pre-decisional behavior. I would also be arbitrary and capricious. By not providing effective comparative analysis in an EIS, I would be asking you to take it on faith that: 1) my objectives are reasonable, 2) my science is sound, 3) my motives are true, and 4) that I've heard, considered and addressed all your concerns. I would also be out of compliance with NEPA.

The range of alternatives, set up by an arbitrarily narrow purpose and need, is insufficient to present (in an EIS) a reasonable range of choices to the public and the decision-maker. If that was the intent, the proponent has engaged in an action prohibited under the CEQ regulations. If not, the oversight can be corrected by developing some reasonable alternatives along the lines suggested above.

Description of the alternatives: the Mees Site Alternative is described in 22 pages of detailed text, tables, maps, and section drawings. The Reber Circle Site alternative is described in 5 pages, with numerous references to similarities with the Mees Site. The No

## Robert Rossman (cont.)



action alternative is one short paragraph. Apart from its brevity, this paragraph is notable for two things: 1) the alternative foregoes any future development at the two sites;<sup>1</sup> and 2) the remainder of the “description” is more a statement of opinion regarding the negative impact of this alternative in terms that make it appear to be highly undesirable. This is entirely inappropriate inasmuch as it is not a description at all. Worse, it shows a bias against selection of the No Action Alternative, which only affirms the notion of pre-decisional behavior by the proponent. In fact, it is a discussion I would expect to see in the record of decision rather than in the EIS. If the shoe were on the other foot, one might just describe the Mees Site in terms of how it would impact the crater rim, the national park, and the cultural and religious significance of the area. Clearly this would represent bias in the other direction. Hopefully, the point has been made and neutral terms for no action can be used to replace any impact discussion, or subjective comment on its worth, within the alternative description.

CEQ regulations at 40 CFR §1502.14 require a number of things that seem to be inadequate or absent from the current draft. I recommend the author review this section and comply with it. I have summarized the inadequacies in this paragraph. Not all alternatives are rigorously explored and objectively evaluated, nor has substantial treatment been given to all alternatives. Other reasonable alternatives have not been considered (see entire discussion above). Since there purportedly are no real alternatives to the proposal, and since no significant issues associated with the proposal are acknowledged or displayed, it is clear why no additional mitigation is presented in this section<sup>2</sup>. Although it is highly evident, the document does not state clearly which alternative is preferred. Most notably, Section 2 should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among the alternatives. This comparative and comprehensive treatment appears to be missing from the document. In fairness, I must note, this is probably due to the fact that there are only two alternatives, in effect<sup>3</sup>, and one is to do nothing.

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<sup>1</sup> If the two sites would forever be undeveloped within the Conservation District under ‘No Action,’ one wonders why the sites are available at all for construction of the ATST. Why would this be the case? Is it a discretionary item incorporated into the no action alternative to make it less palatable? Please explain.

<sup>2</sup> The descriptions of alternatives, at least in regard to the Mees Site, include best management practices and other activities scattered throughout that might be considered as mitigation. It is not stated, but we would presume that these features are actually part of the alternative actions were they to be implemented. In the alternative description I find no reference to the mitigation found in Section 4.18, which clearly is unconnected to both the alternatives and the analysis of impacts. Therefore, it is unclear how the proponent views this mitigation, and how, why, where, when, or even if, the mitigation would be invoked. If it is intended that this mitigation is part and parcel of the alternative, then it should clearly be stated as such in Section 2 where the alternative is described.

<sup>3</sup> One criticism of this document is that there are no tabular comparisons of the features of each alternative, nor a summary of the impacts associated with them. Such comparisons are required components of an EIS, particularly in chapter or section 2. It is therefore time consuming and tedious for a reader/reviewer to make comparisons by wading through verbiage and flipping pages back and forth. Despite this, it is readily apparent that the two action alternatives are nearly identical, so much so that they do not present a clear basis of



**Comments on the Affected Environment Section**

By its nature much of this section is subject matter, to most of which I am not prepared to make comments. My concerns, as stated at the outset, are procedural. So, a procedural note is warranted. Since you have not identified the significant issues associated with this project, that is, the issues “deserving of study” (40 CFR §1500.4, §1501.7, §1502.1, §1502.2, et al), one would assume that all the information provided in Section 3 is significant. As such, I would expect that it would all be relevant to the disclosure of impacts in Section 4 in terms of how it would be affected by the proposed action and alternatives to it.

I will allow myself to depart from my procedural focus to say this: the proposed action clearly affects Haleakala National Park and its visitors. It is incumbent on the proponent to acknowledge that, as a matter of law - by congressional action – the United States recognizes the unique, rare and vital resources of this national park. When the document author talks to the “unique and unprecedented suitability” of the site for a telescope, it is in part because the area is a protected, undeveloped, and unique national treasure. The analysis relating to impacts on the park should be set up clearly and comprehensively in Section 3 by discussing all of the park resources and values that could potentially be impacted by the proposed action. As it is, many of the park’s resources have not been identified as such or that they have been so dispersed through every section of the analysis as to be unrecognizable. This is important because impacts on park resources and values should be judged in light of NPS policies and standards, which may be different from those of other jurisdictional authorities.

It should be acknowledged that the proposal diminishes the value of that national treasure, or at least how people use and enjoy it. Therefore, any discussion of the national park, its visitors, its facilities, its resources, its wilderness, etc. in Section 3 should be presented seriously and with due respect. In its current form, this document appears to take the uniqueness of Haleakala National Park lightly, placing the (arguably) unique opportunity for a telescope above it. This smacks of arrogance and self-importance, which clearly is not an actionable offense, but it also is not an endearing quality in the document.

I refer to page 3-46 for an example. The use of quotation marks around the words ‘wilderness area’ here and elsewhere conveys a sense that the author is skeptical of, or undervalues the wilderness concept and its importance to the American people. I’m sure this was not intended, but it is likely to be perceived that way by many readers. As a wilderness and park user, that is the sense I get. The wilderness is an important component

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choice for the decision-maker. Inspection of the impact discussions and the text describing the Rebus Circle site reveals many references of similarity, nearly the same, identical or slightly modified from the Mees Site. The two alternatives are not substantially different. Further, there is no indication of the rationale for either site relative to the other, in response to issues that may have been raised during scoping. It appears that the proponents just needed to have another alternative so there would be three.

## Robert Rossman (cont.)



of the national park that manages it, and when they are impacted, it is by definition a significant impact. See 40 CFR §1508.27(b)(3), which includes wilderness as a specially designated area, and park lands.

On page 3-46, a 2007 survey of exiting HALE visitors is cited. There may be other surveys of park visitors that should also be reviewed and cited in a similar light; the most recent national visitor survey could be enlightening. The discussion of the 2000 survey on page 3-47 is notably deficient in regard to how people might react to the proposed action. Different and not so supportive conclusions might be arrived at from this survey, as I'm sure the NPS will point out. But, specifically relating to conclusions from the 2007 survey: please note that you are confusing HALE visitors with ATST visitors. They are not necessarily the same statistical group. The sampled visitors may have also been confused by the survey, and not understood that the ATST is not part of the park. I would also note that the criticism of the survey by NPS would, if true, invalidate its use and any conclusions derived from it. Your response in this paragraph is highly disingenuous because you have not disputed the HALE criticisms yet you continue to use the results of the survey as if they were valid. Any analysis representing itself as having scientific or statistical integrity would immediately strike a biased survey and the conclusions drawn from it.

Having reviewed the survey in question (Appendix N), I concur with the criticism of bias leveled by NPS. The survey poses whether the respondent would care if there was a new telescope 20 feet higher than the existing one. The question is also leading, with "information" about what the telescope would do, and that it would be open to the public (whereas the existing facility is not). The proposed new telescope would appear to be considerably<sup>4</sup> higher than the existing one; it would be highly reflective (it will glow in the sunlight) and visible, and all of 142 feet in height. It would also be an additive, cumulative impact along with the existing facility, rather than a replacement thereof. Misrepresenting the relative height of the impact and glossing over other possible factors, while pumping the perceived benefits, would seem to be sufficient reason to invalidate the survey "results." By not doing so, the author seems not to care about statistical or scientific integrity and would rather report those things which support the decision that has, in effect, been made. I recommend that, since the agency proponent desires to prove that the visiting public would not object to the action, it should be clear and straightforward about the survey, address critical comments point-by-point, and (if it is truly important to this demonstration) provide suitable design data regarding the relative height of the structures in the EIS analysis.

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<sup>4</sup> This is a fact that is somewhat difficult to find in the document, even when looking specifically for it. Also, is the height difference calculated from a common datum – say from sea level – or is it height above ground? What is the true difference in height? Is it the same difference in both the Mees and Reber Circle sites? With all the plans and schematics presented in the document and its appendices, I could not easily find a direct and objective comparison for the vertical impact. This seems strange, since it is a linchpin issue in the survey where you conclude that people will not object to the proposed structure. Please provide a clear demonstration in the FSEIS.



**Comments on the Environmental Consequences Section**

The heading “Summary of Environmental Consequences....” at Section 4.0 is confusing. A summary of consequences should have been presented in the summary (ES) as well as in Section 2. Section 4 should present the environmental consequences comprehensively and completely. With this in mind, I was looking for where the summary in Section 4 ended and where the comprehensive analyses started. Not finding a break, I determined that the heading is misleading and recommend changing it to “Environmental Consequences” per the format given in CEQ regulations (40 CFR §1502.10).

I note from the Volume I frontispiece letter by Dr. Foltz in the SDEIS that the document was prepared in part to comply with the NPS Director’s Order 12. Accordingly, I am reviewing this EIS in the light of park service policy as well as that provided in CEQ regulations. Meeting DO 12 direction requires a number of things: the assessment of required impact topics (listed in the order); the development of objective (where possible) impact thresholds for each topic; application of the best available, commonly-accepted impact assessment methodologies by qualified authorities; appropriate citations to and summaries of the methodologies in the document; comprehensive and objective discussions of impacts; concluding statements about impacts relative to impact thresholds; mitigation of impacts; and findings of cumulative impact and impairment for each alternative and each resource impact topic.

For the most part, I leave criticism of substantive portions of the analyses to subject matter experts from various other agencies and the knowledgeable public. There will be exceptions to this. Regarding the requirements of NPS’ DO 12, as well as commonly accepted norms of environmental analysis, I find the document insufficient – in general - for the following reasons so far as the proposed action may affect the national park.

- ❖ Required impact topics have not been treated per NPS DO 12.
- ❖ For most, if not all, of the impact topics the methodologies are generalized, incomplete, subjective, and devoid of supporting documentation. I would previously have bet my pension that NSF and its academic partners would be scrupulous at applying technologies for analysis in areas such as air quality (including visibility), noise (or sound), economics, water quality, wildlife habitat effectiveness, et al. Lacking the suitable collection and analysis of pertinent data in for such topics, proponents could find a myriad of valid, acceptable models whereby such impacts can be estimated. There is little documentation that effective and objective analyses have been employed to arrive at potential impacts. Authorities, experts, literature and other measures have not been cited, for the most part, to support the conclusions of impact.

## Robert Rossman (cont.)



- ❖ Like the methodology sections, impact thresholds are similarly vague, broad, subjective and unsupported by appropriate documentation. Who developed them? What are their credentials in that subject matter area? What literature or other basis was the source for the threshold set? What features of the impact assessment methodology provide data to which the threshold criteria are applied? Where is the data? Lacking support, the impact assessment criteria or thresholds appear to be arbitrary at best. They are full of undefined, subjective terms, and articulated in such a way as to allow the mere opinion of the author to dictate the impact conclusion.
- ❖ Impact discussions should be objective and to the point. They should express how and to what degree (magnitude, intensity and duration) the action would potentially affect the resource in question. They should present information about this in terms or metrics that are produced by the analysis method and are directly comparable to the impact criteria. Concluding statements, under individual headings, for each impact topic and each alternative should tie the impact disclosure in the discussion to the impact criteria. They should state the resultant level of impact and briefly summarize why it would occur.
- ❖ Where potential impacts are disclosed, there is no discussion of ways to avoid or mitigate the impact under separate heading. Scanning many of the analyses, it appears that mitigation is not consistently addressed, if it is addressed at all. See 40 CFR §15002.16(h).
- ❖ So far as impacts that could occur to the national park, there is no evidence of a finding that the proposed actions would or would not impair park resources and values. Since Section 3 has not elucidated on all the resources and values that are, in fact, associated with the park it is clear why the discussion is absent from Section 4 as well.

If the National Park Service is a cooperating agency, or a formal partner in analysis, and must make a determination on the permit required for access, it must find the analysis in this document to be adequate for the purpose or else they must prepare their own EIS. It is recommended that NPS be allowed to assist in the analysis, or that deference be given to their judgment on impacts that affect national park resource values.

To preface the remaining comments in this section, I note that the effects analysis is rife with procedural errors. Errors exist to the degree that I cannot possibly address them all in the time and space allotted. Therefore, please consider the following as examples of process errors that accrue to all, or most all, the analyses presented in this section. As another general observation, it appears that there is a great deal of material in Section 3 that is not used or referred to as a basis for impact assessment in Section 4. Either Section 3 contains extraneous information, e.g. not deserving of study per regulation, or Section 4 has neglected to analyze impacts to the requisite degree. A NEPA document is to concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail (40 CFR §1500.1(b), §1500.2(b)). Verbose descriptions of the affected

## Robert Rossman (cont.)



environment are themselves no measure of the adequacy of an EIS (40 DFR §1502.15). That said, there is much good information in Section 3 that could have been better used in developing solid and readable descriptions of consequences in Section 4.

### Section 4.3 Effects on Biological Resources

Page 4-16, thresholds of change: subjective terms are used in “defining” thresholds. Minor impacts... please define what ‘small’ effects are. If there is easy mitigation for ‘small’ effects, where is the mitigation presented? Moderate impacts... what amount of impact is ‘readily apparent?’ To whom are the impacts ‘readily apparent?’ What does ‘change’ mean? What does ‘relatively wide’ mean? Where is the mitigation that would ‘offset’ readily apparent impacts, and what does ‘offset’ mean? Does it mean replacement in kind? Does it mean that mitigation acres would equal acres impacted? Major impacts.... are also defined as ‘readily apparent’ but would be ‘substantial’ instead of ‘change.’ What would ‘substantial’ be? Where are the mitigation measures, successful or unsuccessful, that would ‘offset’ major impacts?

### Section 4.5 Effects on Visual Resources

The authors are commended for applying viewshed models to the analysis, and for including numerous photos and graphics to supplement the text. Even so, it appears that the visual impact is understated. All illustrations (pages 4-29 through 4-75) show the proposed facility as a white structure. However, because the structure is to be coated in a highly reflective material in order to maintain temperature control, it will be visible to a greater degree in sunny conditions than as indicated in the mock-ups. It will reflect the sunlight to the viewer’s eye and it will bring attention to itself by an unmistakable glow on the skyline. It does not appear that this phenomenon has been accounted for in the analysis.

Thresholds of change, page 4-30. As in the biological effects section, a number of subjective terms are used to allow the author some “flexibility” in the determination of impact level. Minor effects... where is visual quality defined? What does it really mean that an impact is ‘localized, detectable and small?’ By what standard does one judge if an impact is of ‘little consequence to the observer?’ What is ‘little consequence,’ who is ‘the observer,’ and how is this to be measured? These are value-laden terms that have no place in a set of objective criteria. Major effects... what is ‘obvious?’ What are ‘substantial consequences?’ Why is visitor use and experience only applicable in the definition of major impacts? What mitigation measures are being proposed to alleviate any of the visual concerns, regardless of impact level?

Below the table of impact intensity descriptions, a paragraph appears suddenly to apply some objectivity to levels of impact. Ignoring for the moment that the definitions in part (and rightly or wrongly) hinge upon who the observer is, and whether or not the impact is of consequence to her/him, this step attempts to put numbers on the indefinite quantifiers. First, why did the author not put the numbers directly in the definitions and avoid unnecessary verbiage? Secondly, It is not adequate simply to infer that ‘for the purposes of this EIS,’ these numbers are real (<1% for negligible, <10% for minor, <20% for moderate,

## Robert Rossman (cont.)



>20% for major). In fact, absent any source or authority that supports these levels, they must be considered arbitrary. There is nothing to tie the numbers to, nor is it evident that someone with expertise in visual resource analysis has provided them. Further, the scope of analysis for visual quality appears to be the entire area ("viewplane" or "viewshed") that can be seen by an observer. It is laughable on its face that a minor effect could consist of impacting up to 10 percent of the entire area visible to an observer. This is purported to be something of little consequence? I believe that few would agree, since the nature of the impact would have as much to do with whether it is "consequential" or not as its size. What if it was proposed to put up the Golden Arches, or a Wal-Mart?

Worse, a moderate effect is something that could affect up to 20% of everything one can see from a certain viewpoint. Again, depending upon the nature of the intrusion relative to the values and experiences of an observer (which you have inserted into the definitions), I submit that a visual impact of less than 1% in the viewzone (viewplane, viewshed) could be regarded by the observer as a major and unacceptable impact. This is a key criticism of incorporating value-laden concepts into what should be an objective definition of impact level.

### Section 4.10 Effects on Sound (Noise)

I preface my comments here to note that I have specific expertise in this area. In the more than three years before retirement, I held a position as chief planner in the National Park Service Natural Sounds (or Soundscape) Program. As such, I was involved in multiagency planning efforts (including those underway jointly between the FAA and the NPS). I was responsible, along with staff acousticians, for developing planning and impact assessment methodologies and standards for units of the National Park Service. NPS policy identifies the soundscape as a national park resource to be protected for its intrinsic value under the Park Service Organic Act. Several years ago, I gave a presentation to a national grouping of engineers in Washington D.C. about the NPS natural sounds program. I recall an NSF presence there. At that time and place, there was a strong consensus concern about how sound impacts are measured and considered across the range of agencies present. This concern and, especially, available technologies to deal with it have not found their way into this analysis.

My assessment of this section is that it is technically insufficient and wholly inadequate for effective analysis of noise impacts on the park, on park visitors, or otherwise on those within earshot. To come to this conclusion, I need only to have seen that there is no evidence of relevant data being collected, or of sound models being run. Ample models exist in the public arena with which to assess the impacts of sound using a variety of metrics. There is a great deal more to sound impact than decibel increases.

The impact assessment criteria on page 4-99 deals exclusively in dBA, described as change to "noise condition." Please define "noise condition." At the same time, the vague and imprecise terminology given in previous impact definitions also is included. The value-laden

## Robert Rossman (cont.)



term, impact of “little consequence” is also present. This is completely unacceptable, in any appropriate and effective analysis.

Regarding the change in decibel level analysis: apart from the fact that this assessment is loaded with undefined terms so as to be utterly opaque to the average reader, the dBA analysis makes no technical sense. We do not know if the analysis (for comparison to the impact intensity criteria – or “noise condition”) is based on average dBA, or a variety of other dBA metrics that can be cobbled up. It is not made clear whether the assessment in general is based on peak sound events or otherwise. If so, there is no presentation of the time sequencing of peak or near peak sound events generated by the proposed action. The table on page 4-102 (attenuation) is generalized information from an unnamed source which serves only to complicate the discussion. It does not substitute for effective analysis of conditions at the Haleakala rim. Figure 4-40 is entirely misleading, not to say grossly in error, since sound is both attenuated and propagated by features on the earth surface, as well as extant climatic conditions. Sound mapping, or the zone of impact, follows topographic contours and is influenced by the character of the ground surface (absence or presence of vegetation, water, rock). For example, the sound of a bulldozer will readily travel for a long distance down a rocky canyon. To suggest, as in the figure, that any dBA contour is represented by a perfect circle is patently incorrect. A further criticism of this figure would be that the so-called “non-impulse noise” and the “impulse noise” are treated as separate and unrelated events. In fact, they would be additive to a degree that remains unexplained in the analysis.

This brings me to a point at which I can submit that decibel level (average, peak, or whatever) does not suffice as the sole determinant of sound impacts. The generation of sound, and its impact on sound receptors, is dependent upon a variety of other metrics that can be (and have been) both measured and modeled. Along with a well-defined metric using A-weighted decibels as a unit of measure, it is also important to consider the acoustic frequency (measured in Hertz) of the sound, and the periodicity with which the sound occurs over time. Lower frequency sounds travel much further over the landscape, while higher frequency sounds (though attenuated more readily) are more often identified by listeners as being annoying. Sounds that occur frequently raise the average decibel level more than infrequent peak sounds. For impacts on national parks, the metrics of concern revolve around peak noise events and how often they occur. A summary metric that has value is that of ‘audibility’ which combines the overall impact in terms of both the acoustic frequency (in Hertz) and dBA. Evaluating the audibility of a sound impact over time, in consideration of an identified sound receptor at distance, is a valuable tool in noise impact assessment. Critical to the analysis is the identification of the natural ambient sound condition, to which the created sound of the activity is compared. Such an analysis is highly recommended, especially as it relates to impacts on the national park. It answers the questions of what activity-related sound could be heard by a human ear, when it is heard, how often it is heard, and how audible it would be.



Based on the foregoing, it should be evident that a suitable assessment of impacts on the sound environment is important to the related assessment of impacts on cultural and religious values, as well as park visitor experience. The soundscape of Haleakala National Park, particularly within the crater, is one of the most “quiet” sound environments measured. In such a ‘quiet’ ambient sound environment, created sound is all the more audible – hence a greater impact. The soundscape is most certainly a factor in the cultural and religious significance of the area. A meaningful description of sound impacts, as suggested here, can and should be considered as significant input to other areas of analysis in the document. To the extent that noise has been considered in other analyses (as stated in the summary of noise effects on page 4-105), those analyses are inadequate for all the reasons stated here. To recapitulate: the current assessment is based solely on an undefined dBA metric with a generalized attenuation matrix that likely does not apply to the special topography and vegetation at the crater rim. Other sound metrics, such as audibility and peak event temporal sequencing, should be applied for an adequate assessment of noise impacts on visitors or others who use the area for cultural and religious purposes.

Regarding the impacts of ‘noise’ on a variety of non-human species, as presented in the document (pages 4-16, et al): any use of dBA levels to arrive at impacts in this section is misguided without full explanation and display of relevant data. The A-weighted decibel measure (dBA) is a measure that is purposely ADJUSTED TO AVERAGE HUMAN HEARING. This is to make the measure suitable for detecting impacts on humans, and the acoustic community has in past years focused on dBA for this reason. It has been shown that other species hear a range of sounds significantly differently than humans owing to the frequency distribution they are biologically attuned to. It is patently not correct to apply a dBA metric to how sound might affect other species across the board. A fair analysis would use an unadjusted decibel metric, or it would collect sufficient data to adjust the decibel scale to the range of frequencies that a specific species hears and responds to.

Section 4.15 Summary of the Potential Effects of the Proposed ATST Project

The inclusion of this heading is mystifying. The underlying paragraph is even more so. The paragraph reads as if it is introducing the cumulative effects analysis, which begins later in Section 4.17.

CEQ regulations at 40 CFR §1502.16 prescribes a variety of required discussions that must be present to properly document environmental consequences. One such discussion that is usually set off by itself in the concluding portion of the consequences chapter has to do with ‘adverse environmental effects that cannot be avoided should the proposal be implemented.’ The topic heading is often phrased as ‘Summary of Unavoidable Adverse Impacts.’ Perhaps that was the intent with Section 4.15. Its content would be distilled from all the impact analyses pertaining to the action alternatives.



Section 4.16 Other Required Analyses

This topic heading is unnecessary. Besides the two subtopics presented here, there are in fact a number of other required analyses, including Cumulative Impacts and Environmental Justice. Both of these appear in separate sections with the same heading weight as 'Other Required Analyses.' In addition to these, it is suggested that there are other concluding analyses which have not been addressed in the current draft. These are: 1) energy requirements and conservation potential of various alternatives, and mitigation measures; 2) possible conflicts between the proposed action and the objectives of Federal, regional, State, and local land use plans, policies and controls for the area concerned; and 3) natural or depletable resource requirements and conservation potential of various alternatives, and mitigation. There may be other required analyses, depending upon NPS requirements (e.g. Impairment), or the NEPA implementation requirements of the proponent agency.

Cost-benefit Analysis

Due to the application of unstated cost criteria in the dismissal of potential alternatives or mitigation measures,<sup>5</sup> it is highly recommended that some form of cost-benefit analysis be applied. It would be of great interest to evaluate other alternative features by this mechanism. 40 CFR §1502.23 (Cost-benefit analysis) provides direction for such an analysis that, while not required, would clarify where and to what degree the final site selection and design is dependent upon cost considerations. Evaluating the costs could further shed light on actions that might mitigate other impacts at marginal cost. After all, the acceptance of impacts from the proposal does represent a cost (impact) to the resources and values of concern. Protection or alleviation of impacts in those areas might be worth a little more money in the larger scheme of things. It is not all about the telescope. At the very least, the opportunity costs associated with the proposal should be evaluated.

I would not exempt from this analysis the potential costs and benefits of the other 3 to 6 sites that were theoretically in the final running for the ATST, as compared to the proposed action. The interested and potentially affected public would, I'm certain, be very interested in such a display. I am therefore requesting that such an analysis be conducted and incorporated into the FSEIS.

Section 4.17 Cumulative Effects to the Affected Environment

In the third paragraph on page 4-121, a citation for CEQ (1997) is given. Finding this citation in the reference section, I see that it cites the federal register entry on environmental justice. I do not believe that this source is of much assistance in the development of a cumulative impact assessment. What may have been intended, but has escaped inclusion in the reference section, was a CEQ reference on Cumulative Impact Analysis. In the unlikely event that the authors are not aware of it, reference should be made to: *CEQ, Considering*

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<sup>5</sup> A notable example is the dismissal of paints that could mitigate the potential impact of the ATST on visual quality. The use of a highly reflective paint on the telescope dome was deemed necessary to hold down the cost of temperature control. Through the application of unstated cost criteria, I assume that being 'least cost,' mitigation of the visual impact was summarily dismissed without further analysis.

## Robert Rossman (cont.)



*Cumulative Effects Under the National Environmental Policy Act, 1997*. A more recent memo might also be of assistance: *CEQ, Guidance on the Consideration of Past Actions in Cumulative Effects Analysis, 2005*. Use of these references would inform and improve the analysis presented in the SDEIS. As it is, much effort has clearly been expended on this analysis and it is limited only by the deficiencies that may exist in the determination of direct and indirect effect, by resource, for the proposed action. If the proposed action impacts are suspect, then consideration of their combined effect with other past, present and reasonably foreseeable impacts would also be suspect.

### Index

No index is present in the SDEIS. By regulation, an index is required in an EIS unless there is some compelling reason not to have it (40 CFR §1502.10(j)).

### Glossary

Although a glossary is not required, it is standard practice to include one. Given the profundity and elevated scientific terminology in this document, as well as the glut of undefined terms and concepts, a glossary would be most helpful to any reader. I request that a comprehensive glossary be included in the FSEIS.

### Expertise and credentials of the analysts and document preparers

Section 9.0 tabulates the document preparers. I am interested in the extent to which Tetra Tech, Inc, as shown in the table actually participated in the writing of this draft document. Please respond by providing this information in the FSEIS. 40 CFR §1502.17 states that the EIS shall list the names, together with their qualifications, of the persons who were primarily responsible for preparing the document. While the table lists the names and their responsibilities, there is no indication of the qualifications that each individual brings to their area of responsibility. Please list in the FSEIS the expertise, experience, academic specialty, and professional discipline(s) for each preparer, in addition to the portion of the analysis he or she was responsible for.

End of Comments

## Robert Rossman (cont.)



In closing, I want to impress on the National Science Foundation and the University of Hawaii that the essential purpose of a NEPA document is to make a reasoned choice from a transparent and open process. This requires the development of reasonable alternatives to the proposed action so that there is a basis of comparison for making a choice. Inherent in this is that alternatives are developed in order to address significant public issues (regarding the proposed action), and to display the relative costs and benefits (including externalities, opportunity costs, and environmental impacts) associated with the proposed action. The purpose of a NEPA document is not to evaluate the impacts of an action that one has already decided to do, having *a priori* eliminated all other potential choices in order to justify it.

It is my hope that the comments provided herein are reviewed, strongly considered, and used to improve the Final SEIS and the eventual decision. I look forward to your response.

Sincerely,

Robert W. Rossman  
Planner, USFS and NPS Retired

Cc:

Charlie Fein, KC Environmental Inc.  
Mike Maberry, Associate Director University of Hawaii  
Dept of Health, Office of Environmental Quality Control  
Sarah Creachbaum, Superintendent, Haleakala National Park

Nancy Shearman



June 21

Craig Foltz

National Science Foundation

Please do not attempt to place that telescope on Haleakala. Show respect for the Native Hawaiians. At the first mention of "sacred", the National Science Foundation should have turned around and abandoned Haleakala. This is not a good place the the telescope in so many ways. Untold damage will be done to the mountain, please, don't even consider taking any chances. I don't believe the hype that has been put out about how much damage won't be done and how many Maui people you will hire. The truth is you won't know until you are done and then it's too late. The land is too sacred to be a pawn. You can bet that if a white god had stories attached to Haleakala, we wouldn't be having this discussion.

Please honor and show respect for our ancestors.



Nancy Shearman

## Stephen Roth

-----Original Message-----

From: stephenroth62@xxxx

Sent: Monday, June 15, 2009 4:21 AM

To: Foltz, Craig B.

Subject: Haleakala ATST SDEIS

Dr. Craig Foltz  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Dear Dr. Foltz,

I am an amateur astronomer and I am all FOR building a new telescope in Hawaii.

Thank you for considering my comments.

Sincerely,  
Stephen Roth

Los Angeles, CA 90041

cc:  
Department of Health Office of Environmental Quality Control

# Royal Order of Kamehameha I



## Royal Order of Kamehameha I

Heiau 'O Kahekili, Chapter 4

P.O. Box 1034, Wailuku, Maui 96793

June 02, 2009

Craig Foltz, PH.D., ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045, Arlington, VA 22230  
E-mail: [cfolts@nsf.gov](mailto:cfolts@nsf.gov)

Dear Dr. Foltz,

This letter is being submitted to you to again reinforce the position of the Royal Order of Kamehameha I, Heiau 'O Kahekili IV, Moku of Maui against the building of the Solar Telescope on our Sacred Mountain of Haleakala. As it was mentioned in a couple of the letters that was sent in to you and the other members, we have concerns about having more than one cultural plan for our Mountain. Under what oversight was the cultural plan done? Where is the complete plan for Haleakala? We have a major problem when the mountain that is all Ceded or Crown lands can be made to look like blight on the mountain with each organization operating on the Mountain having different cultural plans for different parts of the Mountain. This only shows that neither the National Science Foundation nor the others operating on the top of Haleakala has the consideration of the welfare of the Mountain as one of the priorities, this also would include the University of Hawaii who has not come to the for front in getting one plan to cover the whole mountain.

Again this letter reinforces our Statement that **the Royal Order of Kamehameha I, Heiau 'O Kahekili, Chapter IV is against the building of the Telescope on Haleakala because of the fact that our mountain is part of our cultural heritage and holds a significant part of our history. Also that the National Science Foundation has not addressed the fact that they will have or have develop a different Cultural plan for their building thus making about four (4) or five (5) different plans for Haleakala.**

As usual you can contact us thru our Kaka'olelo, Ali'i Sir George Kaho'ohanohano CK at the P.O. Box listed above or thru the following e-mail – [Kahekili@wisperhawaii.com](mailto:Kahekili@wisperhawaii.com) or Ali'i Kaho'ohanohano's personal e-mail – [Gkahoohano@aol.com](mailto:Gkahoohano@aol.com).

Ali'i 'Ai Moku, Ali'i Sir William Roback KGCK  
Heiau 'O Kahekili, Chapter IV, Royal Order of Kamehameha I.

Ali'i Sir George Kaho'ohanohano CK  
Kaka'olelo, Heiau 'O Kahekili IV

## Warren Shibuya

### 2009 Testimony Supporting Advanced Technology Solar Telescope Project

Aloha decision makers for National Science Foundation and National Solar Observatory. I urge your approving the proposed Advanced Technology Solar Telescope (ATST) Project for the Summit of Haleakala, situated on Island of Maui, Hawaii. The ATST Project could be approved considering the following historical facts and proposed mitigations.

I am not a lawyer, but through my readings, I conclude, Kanaka Maoli holdings of Haleakala Summit land is valid. This Sacred Land was illegally obtained from a rightful Sovereign Nation, during the reign of an internationally recognized Monarch. On January 17, 1893, the illegally imprisoned Queen Lili'uokalani was deposed by an illegal entity composed of non-Native US military, overzealous politicians and ambitious businessmen.

As predominant fact, the US government lacks any land documentation confirming federal and State Land Titles. US government cannot demonstrate proper transfer of Monarchy lands, either through a Title of Dominion, a mutually agreed foreign land transfer, or any treaty. The closest US Government owning (taking) of Sovereign lands of the Hawaii Nation was implied through a joint Congressional Resolution, lacking US Law or Statute status!

Proposed site of ATST Project is based on an Executive Order executed by a questionable US government appointed Governor to the Territory of Hawaii. Executive Order permits University of Hawaii Institute for Astronomy (UH IfA) use of 18.166 Summit acres for astronomy and scientific research.

King Kamehameha III supported and encouraged the infusion of Western science, English language and religions for public good. Use of Hawaiian Lands promoting Public Good and Benefit goals are employed practice today, despite the initial taking of a foreign Nation's lands resulted from illegal acts.

Today, Summit includes UH IfA and adjacent lands hosting the Haleakala National Park, roadway improvements and facilities. Kanaka Maoli are permitted using Sacred Lands to perform Cultural practices and worship at the Summit, where 'wao akua,' a level of Earth stratosphere resides all 40,000 Hawaiian Gods and Goddesses are believed to reside and Culturally guide Kanaka Maoli decisions relating to everyday living. Vehicles commute on Haleakala National Park roadways to access Park sites and UH IfA facilities, today's land housing astronomy and space surveillance facilities.

"Examination of the historic events will find evidence to support both arguments, albeit the evidence is largely writings by opposing sides expressing their version of the events."

"Eyewitnesses to history can have divergent views. Those who prevail in achieving power usually get to promote their version, but history has a way of proceeding, whatever interpretation might be placed on it." (Edwin Tanji, "Haku Mo'olelo," Maui News, 19 June 2009)

Legislating corrective actions today will be difficult, adversely impact land entitlements and transactions and complicate achieving justice on issues; solutions seem lacking of any equitable resolution. Absent resolving rightful ownership, I am hoping for temporarily shared land uses and all parties sharing in benefits through various mitigations, not limited to the following six requested mitigations.

First mitigation point. The UH IfA has been exceptionally sensitive and responsible land stewards for Kanaka Maoli, respectfully accommodating their Cultural and worshipping

## Warren Shibuya (cont.)

### 2009 Testimony Supporting Advanced Technology Solar Telescope Project

needs. The UH IfA removed unused towers, buildings, cesspools, fencing, antennas, microwave dishes, parking lots and hundreds of yards of cable resulting from earlier scientific projects and public communications. As requested, the UH IfA is taking steps renaming roadways to Hawaiian nomenclature. Incorporating landmark ATST Project's "Sunset Clause" is consistent with patiently co-existing in harmony, using Sacred Lands for respectful mutual practices and shared benefits.

The UH IfA recently received permission to remove historical Reber Circle, a concrete and rock platform used for 1950's radio telescope studies. After removing this platform, as an additional accommodation, the site may be restored with much of ATST surcharge as available to "a reasonable simulation" of pu'u (hill) landform appearance (Ref p39, Appendix F, Cultural Evaluation).

Following Cultural protocol E Malama Mau Ka La'a (Preserve the Sacredness) two ahus were constructed and dedicated. Hinala'anui, West facing ahu is Hina of immense Sacredness, July 17, 2005. The second ahu is Pa'ele Ku Ai I Ka Moku, East facing ahu refers to Pi'ilani's warriors, literally meaning to acquire the island (Ref pp43-45, Appendix F, Cultural Resource Evaluation).

Second mitigation is ATST's minimal size totaling 21,605 sqft footprint on Sacred grounds. Proposed ATST facilities would use less than 2.7% of the total 18.166 acres for UH IfA and use less than 50% as much land as the Maui Space Surveillance System (MSSS) facilities, the largest user on approximately 44,304 sqft. Co-locating proposed ATST facility adjacent to the Mees Observatory facility shares approximately 20% of the ATST Utility Building's generator, domestic water distribution system and possibly a small amount of chilled water and instrument utility systems. The footprint of ATST is small and comparatively smaller than the 57,000 sqft currently configured to manage UH IfA storm water.

The third group of mitigations are technology and site selection related. The visual height and color of ATST reflect today's technical limitations. Perhaps during proposed 50-year contract, technical reassessment could result in materials breakthroughs permitting higher cooling efficiencies and reduced thermal turbulence. Isolating ATST project at least 2,500 miles from populated cities and natural air pollutions adds to image clarity, minimal distortion, visual-acuity and limited vehicular traffic near telescope are strong values of the Maui's site.

The fourth mitigation is developing and constructing a Cultural and Solar Science Institute, similar to earlier proposed "E Malama Mau Ka La'a," *Preserve the Sacredness*. If initial submitter withdraws this proposal, I propose this mitigation, whereby NSF, NSO and international ATST users assist establishing an institute showcasing the Hawaiian Culture, Values and astronomy and global sailing skills section, flanked with building wings featuring Astronomy and Solar Science (ATST live, near real-time telescope data fed images). Architectural center features a statue of Demi God Maui capturing the Sun at Halekala Summit, surrounded with displays and interactive systems educating on Hawaiian Culture, Values, proud achievements, historical photographs of Hawaiian Monarchs and leaders and the "Ahupua'a" land managing concept. Value of the institute is two-fold:

- 1) Connects significance of the Sun with Demi-God Maui and today's Maui shared studying of our Sun, linking to Cultural practices and values and

## Warren Shibuya (cont.)

### 2009 Testimony Supporting Advanced Technology Solar Telescope Project

2) Permits educating residents and visitors on the Sun, dynamic forces impacting Earth and study of our Sun relating to Cosmology theories and Astronomy.

The fifth mitigation is providing educational aid promoting Science, Technology, Engineering and Mathematics (STEM) curriculum and staff, in addition to employing and providing on-the-job training and staff development trainings to Native and local employees. This ensures Maui and Hawaii students develop aspirations and have an opportunity working with leading edge research and learning and understanding the Sun and its energy impacts. I hope their opportunities with Sun studies leads to their contributing and benefiting from technology spin-offs.

The sixth and final mitigation relates to why Kanaka Maoli are staunchly opposed to this and other US agency proposed initiatives. Historically, the US government and their representatives lacked integrity, especially with Native residents. The Creek Indians who bravely and loyally supported General Jackson's army in defeating the British and Spaniards were ordered by President elected Jackson to give-up their Native Lands and "move to lands West of the Mississippi" after Native Lands comprising today's Mississippi, Alabama and Florida were federated into the US! Today, Natives see Jackson's image on US \$20 bill, an insulting example of US "double-crossing" and lack of respect for Natives!

Developing Kanaka Maoli trust with guaranteed sharing of Sun knowledge, good project jobs and keiki generational opportunities through firm documented contracts, continued demonstrated good will of the US government and international agencies, and locally managed escrow for employing and removing the ATST facilities per Sunset Clause. Fiscal interests earned or generated from the ATST-escrow account could fund various mentioned mitigation investments.

Mahalo to National Science Foundation, National Solar Observatory, University of Hawaii Institute for Astronomy and State of Hawaii for studying project impacts and minimizing Cultural and environmental impacts to constructing and operating the Advanced Technology Solar Telescope Project at the Summit of Haleakala.

Respectfully submitted,

Warren S. Shibuya            22 June 2009

Retired 2002, Space & Missile Systems Center

Maui County Volunteer: Vice Chairman, Board of Variance & Appeals (2004-2009); Member, General Plan Advisory Committee (2006-2009); Member Renewable Energy Working Group (2007-2009); Member, Maui Planning Commission (2009-2014); and helps Auwahi Restoration (restores high-elevation ancient native forests 2003-2009) and provides free designing of photovoltaic systems (convert radiant energy to electricity 2004-2009, systems producing power on four major islands).

## Elaine Wender

Craig Foltz, ATST Program Manager  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Rm 1045  
Arlington, Virginia 22230

RE: DEIS for proposed ATST project

Dear Mr. Foltz:

The desecration of the sacred summit area violates respect for the 'āina and common sense. The massive structure proposed for the summit of Haleakalā would also have enormous negative impacts on the experience of visiting the national park and well as the environment at the summit and elsewhere on the island. It will seriously compromise the visual beauty of the summit which both residents and visitors treasure. The noise involved in construction and operation would impact the essence of the the crater, which is silence. I have been hiking in Haleakalā crater for 37 years, and I shudder to think of encountering such an inappropriate edifice.

The proposed building would use require huge amounts of electricity which would put increased pressure on our power supply. Will the general population pay for the upgrades needed, and will this lead to increased electric rates? The traffic alone involved in hauling construction materials would seriously impact residents and visitors alike, as well as park operations. The visual impact would further deteriorate the view of the mountain from many parts of the island. The possible significant impact on native birds, particularly the 'ua'u, must also be considered.

The proposal violates many existing laws, including height limitations . The Haleakalā National Park road is a historic resource which is eligible for listing in the National Register of Historic Places. The proposed monstrosity would seriously impact the cultural landscape which has the park has worked so hard to preserve.

Sincerely,



Elaine S. Wender

## Comment /Response – Harriet Witt

-----Original Message-----

From: Harriet Witt [mailto:harriet@xxxx]

Sent: Sunday, May 31, 2009 4:36 AM

To: Foltz, Craig B.

Subject: proposed ATST on Maui

Dear Mr. Foltz,

For the first time in human history, the survival of life on this planet is not a given. Therefore, my support-or my non-support-of ATST hinges on this:

How will the data collected by ATST be translated into social policies that are life-sustaining? Without adequate translation, more scientific data serves only to fill up scholarly journals and advance scientists' careers.

I understand from JD Armstrong at the IfA that NSF will be putting money into EPO. On what basis will NSF determine how EPO money is spent? Will Maui citizens have any say in the determination?

I'd appreciate a timely reply, considering the draft EIS process.  
Thank you and aloha, Harriet Witt

June 6, 2009

Dear Ms. Witt:

Thank you for your message. I am sorry that I do not have much time to write since I am about to depart for Maui but I want to address your concerns, even if quickly.

The Sun is the primary driver of the Earth's climate. While we understand much of how the Sun works, there are many aspects of solar activity (sunspots, solar flares, etc.) that we do not understand. The ATST is specifically designed to study the root causes of such activity, that can and has had a significant impact on life on earth. Large solar flares have caused power outages, destroyed satellites, endangered space travelers, and disrupted phone services. In addition and more importantly, it appears that the level of solar activity has an impact on the terrestrial climate. Understanding all of the drivers of climate is extremely important as we try to disentangle the effects of anthropogenic greenhouse gases from other factors influencing the average temperature of the planet.

We are working with Maui Community College on EPO plans. My understanding, and this will be clarified in the next week or so, is that MCC will engage local groups in an advisory board to help guide the efforts.

Again, sorry to be perfunctory but I need to get ready to depart.  
With best wishes,  
Craig Foltz

## Comment /Response – Harriet Witt (cont.)

On Jun 1, 2009, at 10:58 PM, Harriet Witt wrote:

Dear Mr. Foltz,

Thank you for your response. I am not questioning the need for improving our understanding of the sun. I am very aware of the need.

My question is about what will become of the data collected. By what mechanisms will this data be translated into policies that improve our ability to live in harmony with our biosphere?

I'm glad to hear that you're working with MCC on the EPO plans. However, EPO activity on Maui is not a sure sign that the ATST will increase the sustainability of our island. EPO activity may just be a way of training more people to collect more data that ends up doing nothing but filling academic journals and advancing careers. I am eager to hear more about plans for EPO at MCC.

Thank you for your attention. Aloha, Harriet

On Jun 1, 2009, at 10:58 PM, Craig Foltz wrote:

Good morning, Harriet:

Thank you for your reply. A few comments follow:

The translation of the data into social policy is the job of the decision-makers in government and society at large. The data collected will be handled in the usual scientific fashion -- scholarly work will hopefully result in a new understanding of the influences of solar activity on civil life on earth. Yes, these will be published in academic journals but, given the attention being given to global warming, etc., the good ones will not languish there. One of the good aspects of working with NSF is that we have a very active legislative and public affairs branch that disseminates new discoveries to the public via the media, and the Congress. We also work closely with other agencies such as the National Research Council (the research branch of Congress) and hence the National Academy of Sciences. New results in such an important branch of research will not get buried in the canon.

As to the sustainability of Maui and the coupling to EPO, there are several connections. ATST will NOT discover new clean energy sources for Maui, nor will it solve the societal problems here. It will make significant contributions in two areas: economy and education. The ATST will inject millions of dollars into the Maui economy through jobs during construction and operation. These will be skilled jobs and, certainly those supporting operation will be sustained employment for a number (30-40) of Maui residents. Astronomy is a very 'clean' industry. Yes, the ATST will use electricity but it will not produce any hazardous waste, greenhouse gases, etc. A part of the EPO effort will build on a standing program that NSF has supported for nearly a decade to develop a technically-adept workforce on the islands built from island residents. The program has been

*(continued on next page)*

## Comment/Response - Harriet Witt (cont.)

designed to demonstrate to young people on the island that they can "bloom where they are planted" and do not need to go to the mainland to pursue technological careers. This program, the so-called Akamai workforce initiative, has been very successful to date and we have supported it over the years with several million dollars of NSF funds. The program also emphasizes that high-tech and Hawaiian traditions are not necessarily at odds with one another. This emphasis will be developed further in the next few years, led by Maui Community College.

On a similar note, curriculum development and outreach to K-12 schools through teacher training, etc. will be a part of the EPO activities. As you are clearly aware, at the heart of sustainability must be the understanding that we live in a truly complex and interdependent system with many and subtle interconnections. A key to understanding how to live gently on the planet is the understanding of the interconnections and how our activities on the small scale can affect the entire system. This is assisted by an attitude that technology is not in and of itself a bad thing. We do not need to train all of our youth to be scientists and engineers but we do need to instill the belief that science and technology are valid pursuits. I have always felt that astronomy plays an important role in this in that many (most?) young people marvel at the stars and the enormity of the universe. Hopefully the ATST EPO efforts will help to establish a technologically-cognizant population as well as contribute to a technologically-adept workforce.

Sorry to ramble on but I hope this helps. We are on Maui this week and part of next.

With best wishes,  
Craig Foltz

## Comment/Response - Harriet Witt (cont.)

-----Original Message-----

From: Harriet Witt [mailto:harriet@xxxxxxx]  
Sent: Wednesday, June 10, 2009 2:58 AM  
To: Blanco, Caroline M  
Cc: Kiope Raymond; Rich Lucas  
Subject: ATST ethical issues

Dear Caroline Blanco,

This morning during the break at the Haiku Community Center a Haleakala National Park employee who holds a important position there sought me out and said, "Thank you for speaking out. We at the Park do not support ATST, but we're under pressure to go along with it."

I am definitely not the first person on Maui to hear such a confession from a HNP employee. If ATST's supporters must resort to underhanded methods to get the scope built, then there is something seriously wrong here. I can't help but wonder about the possibility of military involvement. Astronomers have big eyes, and the military has big pockets. Astronomers have been co-opted by the military before. Is it possible that the ATST is military project that's throwing crumbs to the astronomers to keep them employed and therefore quiet? If this is what's happening, it wouldn't be the first time.

I trust, Ms. Blanco, that you will find out the truth here. If you can't, then it may be necessary to bring in investigative reporters.

Thank you for your cooperation. Aloha, Harriet

On Jun 10, 2009, at 12:35 PM, Blanco, Caroline M wrote:

Dear Ms. Witt,

Thank you for your recent comment. In your message, you ask, "Is it possible that the ATST is military project that's throwing crumbs to the astronomers to keep them employed and therefore quiet?" My response to your question is "no." The mission of the proposed ATST Project, as detailed in Section 2 of the SDEIS, is to scientifically study the sun.

Thank you, again, for your comments.

Best regards,  
Caroline M. Blanco  
Assistant General Counsel

From: Harriet Witt [mailto:harriet@xxxxx]  
Sent: Thu 6/11/2009 3:06 AM  
To: Blanco, Caroline M  
Subject: Re: ATST ethical issues

Dear Ms. Blanco,

If this is the case, then why are the people at Halealaka National Park afraid to express their opposition to ATST in public?

Aloha, Harriet

*(continued on next page)*

## Comment/Response - Harriet Witt (cont.)

On Jun 10, 2009, at 11:04 PM, Blanco, Caroline M wrote:

Dear Ms. Witt,

I apologize, but I am unable to answer your question because I have no direct knowledge or other information regarding your comment that people at Haleakala National Park are afraid to express their opposition to the proposed ATST project in public. I am copying Haleakala Park Superintendent Sarah Creachbaum on this message so that she is aware of your concern.

Best regards,  
Caroline M. Blanco

From: Harriet Witt [mailto:harriet@xxxxx]

Sent: Fri 6/12/2009 1:01 PM

To: Blanco, Caroline M

Cc: Kiope Raymond; Kathy McDuff

Subject: Re: ATST ethical issues

Dear Caroline Blanco,

Your copying my email to Sarah Creachbaum, Superintendent of Haleakala National Park, serves no purpose other than to divert me from making my point. My point is this: If the ATST is a worthwhile project it should be capable of standing on its own two feet. It should not require the coercive tactics that have been used to force Haleakala National Park go along with a project it regards as environmentally damaging. The fact that coercive tactics have been used is illegal. I don't know why coercive tactics have been used. However, I suspect--based on history--that the military wants ATST and is throwing crumbs to the astronomers to keep them employed and therefore silent about what the military is up to.

We, the public, deserve to know what's going on here. We appreciate your finding out.

Thank you and aloha, Harriet

## Comment/Response - Harriet Witt (cont.)

-----Original Message-----

From: Harriet Witt [mailto:harriet@xxxx]

Sent: Tuesday, June 09, 2009 9:28 PM

To: Blanco, Caroline M

Cc: Mike Maberry

Subject: ATST and scientists' arrogance

Dear Caroline Blanco,

Thank you for your question at the Haiku Community Center this morning. You asked about the effectiveness of training scientists to be sensitive to the place where they're working. In my experience, such training is useless until scientists recognize the personal discomfort that's concealed behind their arrogance. This discomfort is triggered by issues involving value, meaning and spirit. During the formative years of Western science, it was unsafe for scientists to speak of value, meaning or spirit because of the tyrannical intolerance of the Roman Catholic Church. (Galileo was imprisoned in 1633 and not pardoned until 1992. The only reason for the pardon is that a group of American scientists traveled to the Vatican on the 500th anniversary of Columbus proving that the Earth is round and requested that the Pope issue a pardon.)

None of us wants to feel uncomfortable; we all have ways of concealing our discomfort. Nevertheless, it's time for scientists to recognize discomfort around the issue of value, meaning and spirit so we can deal with the discomfort and move through it. Continuing to hide the discomfort behind arrogance is a failure to be transparent. If you, Ms. Blanco, can do anything to support transparency, it would be a real achievement. After all, the arrogance I've spoken of is certainly not limited to astronomers on Maui. This arrogance alienates many scientists from the public and often makes science seem irrelevant. It also scares many people away from wanting to learn science.

I'm attaching, below, a copy of an email I wrote to Craig Foltz on June 5.

"Dear Craig Foltz,

Thank you for your ear at the Cameron Center on June 3. Our conversation has helped me to see your position more clearly. As an award-winning science writer, I'm familiar with the back-story to the situation we're facing today. In the early 1600's the mathematician Rene Descartes seriously considered burning his papers for fear of what the Roman Catholic Church would do to him if they found his work. Fortunately for science, Descartes' had social connections that got him an audience with the Pope. Fortunately for science, the Pope was ready for dialog because the Church was starting to have public-relations problems after imprisoning Galileo and burning more than a million people at the stake. Descartes negotiated with the Pope on behalf of the handful of scientists working in Europe at the time, and the two men arrived at a handshake agreement. By the terms of this agreement, the Church would never speak of the material world; scientists would never speak of value, meaning or spirit. This agreement worked so well it became habitual. Like any habit, it grew so familiar it came to feel normal and natural-as if it were a property of reality. Today, after nearly 400 years of avoiding issues of value, meaning or spirit, scientists are working in a moral vacuum. Scientific decisions that impact our entire planet are often dictated by the selfish personal ambitions of individual scientists.

The Pope can't punish us for doing science anymore. However, we can punish ourselves-and our planet-if we don't heal the wound inflicted upon us by the deal that Descartes was forced to make with the Pope. To heal this wound we must feel this wound. We must recognize the tragic moral vacuum that's allowing the future of science to be envisioned by the blinding personal ambitions of individual scientists. Healing science's 400-year-old wound is not about religion; it's about nature. She can render extinct any species who upsets her balance. Our species has begun seriously upsetting her balance. With this in mind, I ask you to please spend a few hours alone in Haleakala Crater, away from Science City. Let yourself be humbled and inspired by nature. Then decide whether your career goals really do benefit us.

Mahalo and aloha, Harriet"

Ms. Blanco, I also encourage you to spend a few hours alone in Haleakala Crater, far from Science City. You can't help but be inspired by it; you may also begin to understand the situation here. Thank you for your time and attention-and especially for the quality of your attention. This shows in your face at the meetings!

Aloha, Harriet Witt

## Comment/Response - Harriet Witt (cont.)

-----Original Message-----

From: Harriet Witt [mailto:harriet@xxxx]  
Sent: Wednesday, June 10, 2009 12:47 PM  
To: Foltz, Craig B.  
Subject: ATST ethical issues

Dear Craig Foltz,

Here is a copy of an email I sent to Caroline Blanco yesterday.

This morning during the break at the Haiku Community Center a Haleakala National Park employee who holds a important position there sought me out and said, "Thank you for speaking out. We at the Park do not support ATST, but we're under pressure to go along with it." I am definitely not the first person on Maui to hear such a confession from a HNP employee. If ATST's supporters must resort to underhanded methods to get the scope built, then there is something seriously wrong here. I can't help but wonder about the possibility of military involvement. Astronomers have big eyes, and the military has big pockets. Astronomers have been co-opted by the military before. Is it possible that the ATST is military project that's throwing crumbs to the astronomers to keep them employed and therefore quiet? If this is what's happening, it wouldn't be the first time. I trust, Ms. Blanco, that you will find out the truth here. If you can't, then it may be necessary to bring in investigative reporters. Thank you for your cooperation. Aloha, Harriet

From: Foltz, Craig B.  
Sent: Fri 6/12/2009 7:16 AM  
To: 'Harriet Witt'  
Cc: Blanco, Caroline M  
Subject: RE: ATST ethical issues

Dear Harriet:

Conversations within HNP are not shared with me. Everyone is free to have their own opinion, of course. With respect to your concern about military use of ATST, I will offer the following. If the telescope is constructed, I will guarantee that you and others concerned with such uses can tour the facility and look in every nook and cranny for any potential weapons or surveillance systems. Sorry to be brief but I just returned to my office and am buried in emails.  
Craig Foltz

## Harriet Witt (cont.)

Dear Charlie Fein,

The environmental impact of the proposed ATST must be judged by its productivity in this environment: For the first time in human history the survival of our biosphere is not a given. Consequently (1) science-as-usual is not an option (2) neither the productivity nor the environmental impact of ATST can be assessed until these questions are answered:

How will we benefit from the ATST when only science-as-usual mechanisms are available for translating its data into social policies?

If ATST is so beneficial to life on this planet, then why does it not include any plan for bringing about such benefits?

How do we know this data won't just fill up scholarly journals and advance scientists' careers?

How will the dollars brought to Maui by the construction and operation of this scope help Mauians to generate sustainable ways of living?

What good is more scientific data if it doesn't improve our ability to survive on this fragile planet?

Why does the proposal for this scope not include plans for a science-and-sustainability center on Maui?

Why does the proposal for this scope not include plans for a museum of indigenous Polynesian astronomy and navigation on Maui? (These people were sustainable astronomers.)

How do we know the education and public outreach (EPO) to be provided by the National Science Foundation won't just train more students to collect more data that fills up more and advances more individuals' careers?

Why was pressure applied to Haleakala National Park to accept ATST when the Park does not regard it as acceptable?

(There is documentation of this pressure. If the ATST were a worthwhile project, it would be able to stand on its own merit. A worthwhile project

## Harriet Witt (cont.)

does not require the coercive tactics that have been used to force the Park go cooperate. The fact that coercive tactics have been used is illegal. In 1984 I stopped the National Forest Service from further desecration of the Chattahoochee National Forest by involving the media. I would prefer to stop further desecration of Haleakala without involving the media. But if I have to, I will. This kind of story appeals to the media.)

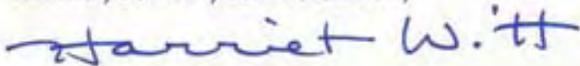
Why is it acceptable to place 14 stories of scientific instruments atop Haleakala when it would be unacceptable to place 14 stories of research instruments atop the National Cathedral—or atop any man-made house of worship? (Haleakala's worshippers come from all over the world, from all faiths, and from no faith because no faith is required to feel—or to benefit from—its natural power.)

What justifies using a globally sacred site as a trophy in the competition between "Team Dark-Sky Astronomy" and "Team Solar Astronomy?"

Haleakala is a nexus point in a network of indigenous observatories whose purpose was living in harmony with the environment. How can the further destruction of this network be justified before it has been researched?

I've been teaching astronomy for 29 years. I'm with the Speakers Bureau of the (North American) Astronomical League, and I'm an associate member of the century-old national honorary science research society, Sigma Xi. I'm also an award-winning science writer whose work has appeared in a variety of publications ranging from Sky & Telescope to Whole Earth Review.

Thank you for your attention,



Harriet Witt

## Ken Wrobel

5/26/09

Craig Foltz  
ATST Program Manager  
National Science Foundation  
Division of Astronomical Sciences  
4201 Wilson Blvd.  
Room 1045  
Arlington VA 22230

Aloha Mr. Foltz,

I am writing you to express my support for the ATST proposed for Haleakala, Maui. As a Maui resident of 25 years, I have found the projects located in "Science City" to be places of interest to both residents and visitors. Rather than an eyesore, I see them as objects that demonstrate our cultures need to learn and explore. Many an evening I've seen the last rays of sunlight reflecting off the domes of the observatories as the mountain turns a subtle pink color and was reminded of how far human knowledge has come. And as a Maui resident, I was proud the island I call home is part of this journey.

Also, I consider solar study to be very important. As we progress, we have become dependant on our satellites for not only communication, but GPS and other technologies that have become integral to our daily lives. Understanding space weather is crucial to protecting them. Of coarse our power grids are also at risk, and the greater our knowledge of solar activity, the better we will be able to both protect and enhance this crucial parts of our countries infrastructure.

Lastly, the creation of jobs is something that benefits all Mauians. The facility will not only provide jobs, but clean jobs that do not impact our fragile island environment. Technology is Maui's best hope for the future, and I welcome your facility to my wonderful island home.

Mahalo for your Consideration,



Ken Wrobel

Cc: Mike Maberry, Charlie Fein, DOH Office of Environmental Quality Control.

## E-mail Form Letters

From: fumperini@xxxx.com  
Sent: Monday, June 15, 2009 2:17 PM  
To: Foltz, Craig B.  
Subject: Haleakala ATST SDEIS

Dr. Craig Foltz  
National Science Foundation, Division of Astronomical Sciences  
4201 Wilson Boulevard, Room 1045  
Arlington, VA 22230

Dear Dr. Foltz,

I am writing to express serious concerns I have regarding the Supplemental Draft Environmental Impact Statement (SDEIS) for the Advanced Technology Solar Telescope (ATST) Haleakala High Altitude Observatory Site. This SDEIS does not adequately address the adverse effects this site might have on Haleakala National Park, which was created to protect the natural wonders of Hawaii and the rich cultural heritage of the American people. Careful consideration needs to be given to protecting this special place for our children and grandchildren to enjoy.

The current proposal threatens Haleakala National Park's famous scenery that makes the park so special. I feel the analysis in the Visual Resources and View Plane of the SDEIS needs to be improved so that it more carefully considers impacts on changing the vistas of the park. More information is needed about the basis of the qualitative evaluation. An independent social science study is necessary to properly evaluate the qualitative range of acceptable, minimally acceptable, and unacceptable visual conditions for the summit area of Haleakala. Without an independent study, I am concerned both proposed sites will have a major, long-term adverse impact on the viewscapes of Haleakala National Park, particularly from the Pu'u Ula'ula Overlook, the natural areas of Haleakala National Park adjacent to Haleakala Observatory, and the Upper Park Road Corridor.

Another concern I have about this SDEIS addresses Visitor Use and Experience. Haleakala's visitors travel from across our country and around the world, in part to visit the summit area of the park for experiences such as watching the sunrise, experiencing solitude and natural sounds, and enjoying natural views. The construction phase of this project would vastly change the experience of those who visit by changing the natural sounds and safe access to the park. I am also concerned with the DEIS's conclusion that the proposed project would have a "minor, beneficial, long-term effect on visitor experience if a tour of the proposed telescope is offered." Is a minor benefit worth this large of an impairment to the visitor experience? Currently the telescopes within the observatory site are not even open to the public. How can we even make sure that the public would even get long-term access onto privately owned property? I think more research needs to be included as to how the construction of this telescope will change the experience of visiting Haleakala.

The National Park System, including Haleakala, was created by Congress and the American people "to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such a manner and by the means as will leave them unimpaired for the enjoyment of future generations" (National Park Organic Act). It is our moral obligation as citizens, scientists, and Americans to prevent the impairment of Haleakala National Park, and to protect this special place not only as a testament to the American story, but as a refuge for our spirit.

Thank you for considering my comments.

Sincerely,  
Gary Hartsough  
Sacramento, CA 95819  
cc: Department of Health Office of Environmental Quality Control

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Janice Gloe	jeff wilson	Jessica Wodinsky	Joanne Harkins	John Swain	Judith Bennington
Janice Jordan	Jeffery Garcia	Jessie Root	Joanne Kelly	John Teevan	Judith Clayton
Janice Keiserman	Jeffrey Erwin	Jetta Hurst	Joanne Olsen	John Thomson	Judith Graham
Janice Mansfield	Jeffrey Hurwitz	Jewels Stratton	Joceline Tabacco	John Van De Venter	Judith Green
janice marshall	Jeffrey Seitelman	Jill Blaisdell	Jodi Swanson	John W. Houghton Jr.	judith Holmes
Janice Palma-Glennie	Jeffrey Sturm	Jill Bruno	joe and mary volpe	John Walton	Judith Lopez
Janice Roche	Jeffrey Womble	Jill Davine	Joe Anderson	John Witte	Judith Lotz
janiel giraldo	jeffry myers	Jill Friedlander	Joe Evans	John Zediker	Judith Prowell
Janis Carman	jen willis	Jill Linzee	Joe Myers	John Zimmermann	Judith Routledge
janna piper	Jena Hallmark	Jill Manske	Joe salazar	Johnny Su	Judith Schonebaum
Janna Tessman	jenn hast	Jill Ransom	joel chala	Joli Bennett	Judith Smith
Jasmine Walton	Jenn Steward	jill Timm	Joel Goldfarb	Jolie Depauw	Judith Vincent
Jason Bowman	jenna knickerbocker	Jim Boone	joel Hildebrandt	Jon Anderholm	judy carey
Jason Fish	Jenni Kerteston	Jim Earl	joel levitt	Jon Fish	Judy Dowell
Jason Havelka	Jennifer Afdahl	Jim Gear	Joel Mulder	Jon Jarvis	Judy Haggard

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Judy Spencer	Karen Garber	Kathleen Palmer	ken weeks	kristen greer	Laura Overmann
Judy Stufflebeam	Karen Hedwig Backman	Kathleen Russler	Ken Woolard	Kristen Osman	Laura Russell
Julaine Morley	Karen Heileson	Kathleen Siskron	Kenneth Avance	Kristen Swanson	Laura steger
Julene Freitas	Karen Jacques	kathleen Weaver	Kenneth Bauer	Kristi Hutchison	Laura Wynkoop
Jules/Renee Elias	Karen Jenne	Kathleen Wolfe	Kenneth Daponte	Kristi Vanderstock	Laure Dillon
Julia Cechvala	Karen Kite	Kathryn Boole	Kenneth Dawdy	Kristin Hurley	Laureen Kocsis
Julia Glover	Karen Malley	Kathryn Carroll	Kenneth Hardy	Kristin Noble	Laurel Temple
Julia Paulsen	Karen Mosser	Kathryn Chung	Kenneth Heikkila	Kristin Womack	Laurel Wyman
Julia Rutledge	Karen Mulhern	Kathryn Dillon	Kenneth Jones	Kristina Fukuda-Schmid	lauren achitoff
Julie Achterhoff	karen niechdowicz	Kathryn John	kenneth Miller	Kristina Thorpe	Lauren Ford
Julie Amato	Karen Olsen	Kathryn Peterson	Kenneth Mundy	kristina vandergriff	Lauren Graham
Julie Barrett Heffington	Karen P. Morris	Kathryn Plitt	Kent and Kay Hill	Kristine Andarmani	Lauren King
Julie Brents	KAREN POPE	Kathryn Warner	Kent Fredriksson	Kristine Dove	Lauren Martinson
Julie Brickell	Karen Scheuermann	Kathy Aftab	Kermit Cuff	Kurt Cruger	Lauren Murdock
Julie Collins	Karen Schwartz Decker	Kathy Brigger	Kerri Zemko-Kriz	kurt lieber	Lauren Wood
Julie du Bois	karen steele	Kathy Britt	Kerry Kovarik	Kurt Schwenk	Laurence Burris
Julie Ford	Karen Thompson	Kathy Browning	Kerry Logan	Kwame Alaf Kwayana	Laurie & Dave King
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Julie Knoop	Kari Peters	Kathy Lou Kronenberger	Kevin Kreiss	Kyndra Homuth	Laurie Carr
Julie Kozel	Karin Peck	Kathy Marshall	Kevin Lewis	L L Gunn	laurie elms
Julie Lam	Karine Tchakerian	kathy mesch	Kevin Moore	I tomko	Laurie Estrada
Julie O'Rielly	Karla Cummings	kathy Moore	Kevin Patterson	L. Alvin Hartman	Laura Maddock
Julie Owen	Karla Devine	Kathy Nolasco	Kevin Tom	L. Gordon	LaWana John
Julie Sanford	Karolyn Nartker	Kathy Scripps	Kiku Nitta	L. Jarvis	Lawrence Holliman
Julie Sebenoler	Karren Sisson	Kathy Sugarman	Kim Concillado	L. Lipton	lawrence johnson
Julie Slater	Karynn Merkel	Kathy Sweeney	Kim Groom	L.D.. pratt	Leah Roschke
Julie Smith	kat white	Kay Goeden	Kim Kaai	L.Susan Griffiths	Leah Stavish
Julie Stanley	Katayoon Zandvakili	Kayleene Miller	Kim Kendrick	Lacey Hicks	Leah Thornton
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Julie Warren	Kate Harper	Keith A. Scarmato	Kimberley Buckley	Lanette Hendren	Lee Eisenberg
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june gordon	Kate McDermott	Keith Houser	Kimberley Graham	Larry Irwin	Lee Pettenger
june stoelzel	Katharine Nelson	Keith Morris	Kimberly Anne Halizak	Larry La Caille	LEE ST. JOHN
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Justin Dunscombe	Katherine DonTigny	Kelly Etheridge	Kimberly Lewis	Laura Ackerman	Leno Sislin
K Goschen	Katherine Evans	Kelly Hairgrove	Kimberly McConkey	laura arntz	Lenore Sheridan
K Krupinski	Katherine Hales	kelly hutchinson	Kimberly Trujillo	Laura Brinson	Leo Smith
K W	Katherine Myskowski	Kelly Ireland	KIMBERLY VANDERPOOL	Laura Broyhill	leona gerichter
Kaaren Zvonik	Katherine Russell	Kelly Kramer	Kip Marlow	Laura Carpenter	Leonard Bruckman
kaitlyn McKee	Katherine Snow-Davis	Kelly Monk	kirk francis	Laura Chamberlain	Leonard Jaffee
kamal hassan	Kathleen Angulo	Kelly Rasmussen	Kirk Mills	Laura Cyr	Leonard McCarthy
Kani Chen	Kathleen Dwyer	Kelvin Walker	Kirsten Holmquist	Laura Evnin	LeRoy Gilbertson
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Karen Boyette	Kathleen Helmer	Ken Hedges	KL Matlock	Laura Herndon	Leslie Brunett
Karen Brandenburger	Kathleen Jones	Ken Jones	Klooster Connie	Laura Hilgers	Leslie Harbold
Karen Chinn	Kathleen Lawrence	Ken Lovejoy	Korina Drenon	Laura Leifer	Leslie Kornblatt
karen clarke	Kathleen Martin	Ken Maloney	Kristen Busold	laura nasca	leslie miranda

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leslie rabb	Lisa Northrup	Lucinda Wiley	Marc Rogers	Marianne Brettell-Vaughn	Mark West
Leslie Waltzer	Lisa Piner	Lucy Kenyon	Marc Silverman	Marianne Carello	marla katz
Leslie Wilson	lisa reynolds	Ludy Lim	MARCEL LIBERGE	Marianne Kooiman	Marla Miyashiro
Leslie Winston	Lisa Salazar	Luise Perenne	Marcella Hammond	Marianne McClure	marlene allen
Letitia Adams	Lisa Sanguinetti	Luna Gooding	Marci McCartney	Marianne Mills	Marlene Schmid
Li Starr	Lisa Semeraro-Castro	Lura Iriah	Marci Scileppi	Marianne Shaw	Marlene Sheridan
Liane Rawlings	Lisa Steele	Luranne Drager	Marcia Berman	Marianne Sippel	Marlies Lee
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Lilia Wood	Lisa Vandermay	Lyle Henry	Marcia Cooperman	Marie Lutz	Marsha Hawk
Lillian Beckett	Lisa Wilson	Lynda Aubrey	marcia flannery	Marie Mason	Marsha Lowry
Lillian Hanahan	Lisha Perini	Lynda Comerate	Marcia McDuffie	Marie Mathews	Martha Johnson
Lillian Marino	Liz Amsden	Lynda Mueller	Marcia Rogers	Mariko Apperson	Martha Knobler
Lily Yang	Liz Hamilton	Lyndy Schaefer	Marcie Mccarthy	Mariko Wall	Martha Perez
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Linda Blakesley	Llewellyn Ludlow	Lynn Averill	Margaret Broughton	Marilyn Katz	Martha Sparta
LINDA CAIN	Lois Patton	Lynn Camhi	Margaret Clark	Marilyn La Bollita	Marti Summers
Linda Carden	Lois Shubert	Lynn Feinerman	Margaret Davies	marilyn levine	Marti Wilmot
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Linda Jameson	lorca hart	Lynn Weatherford Bedri	Margaret M. Petkiewicz	Marina Diehl	Martin Marcus
linda kutil	Loretta Womack	Lynn Wilbur	Margaret Minnick	Mario Alarcon	Martita Emde
Linda Lawson	Lori Atkins	Lynnda Strong	Margaret Reynoso	Marion Barry	Marty Hertz
Linda Lyerly	Lori Cook	Lynne Banta	Margaret Smiddy	Maris Arnold	Marvin Gentz
Linda Partyka	Lori Higa	Lynne Eggers	Margaret Spak	Maris Bennett	Marvin Laurence
Linda Petrulias	Lori Ingram	Lynne Jeffries	Margaret Stella Banchemo	Marisa Elston	Mary A. Hughan-Rojeski
linda pinkowski	Lori Kegler	Lynne Landers	Margaret Thomas	Marisa Landsberg	Mary Able
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Linda Smith	lori stayton	M. Ross	Marge Tucker	Maritza Cabezas	Mary Ann Wilson
Linda Spellman	Lori Stefano	Madelaine Sutphin	Margie Borchers	Marjorie Barton	Mary Anne Joyce
Linda Swan	Lori Vest	Madeleine Sosin	Margie Nemicik-Cruz	Marjorie Moss	Mary Breitlow
Linda Trevillian	Lori Wessely	Madeline Shapiro	Margie Weimer	Marjorie Quon	Mary Clare Lanphear
linda victor	Iorna ross	Madeline Wright	Margo Carrera	Mark Allison	Mary Clarke
Lindsay Keilers	Lorraine Cass	Madison Hindman	Marguerite Shuster	Mark Bonney	Mary Daigle
Lindsay Mugglestone	lorraine gaines	Maggie Wise	Marguerite Winkel	Mark Golembiewski	Mary Denevan
Linsey Fredenburg	Lorraine Grauso-Herman	Maja silberberg	Maria Cardenas	Mark Holmgren	Mary Dobosz
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Lisa Gee	Louise Bowles	malia everette	Maria Skercevic	MARK SALAMON	mary jane anderson
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Lisa Hammermeister	Lowell Bushey	mandi houston	Maria Watkins	Mark Strauss	Mary Krieger
Lisa Humphreys	Luanne Alomair	Mapuana Peterson	Maria White	Mark Sutherland	Mary Lane
Lisa Lynch	Luci Ungar	Mara Price	Mariah Maraacle	Mark Tolson	Mary Louise Wegman
Lisa Nelson Colton	Lucinda Brisbane	Marc Beauchamp	Marian Cruz	Mark Watson	mary luminoso
LISA NORRIED	Lucinda Cox	Marc Gregory	Marian Hayes	Mark Weinberger	Mary McNeill

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Mary Proteau	Melissa Marote	Michael Picco	Michelle Vela	namita dalal	Nathaniel Perry
Mary Raines	Melissa McCool	Michael Poulsen	Michelle Williams	Nan Bongiovanni	Neal Oyama
mary rossi	Melissa Sage	Michael Quinn	Miguel Godinez	Nan Schweiger	Neil and Karen Erickson
Mary Schulz	melissa swinney	Michael Rifkind	miguel ramos	Nan Scott	Niall Carroll
Mary Westcott	melodie martin	Michael Rotcher	Mijanou Bauchau	Nan Singh-Bowman	NICHOLAS HATGIS
marya suzanne shapiro	melvin taylor	Michael Rubin	Mikail Barron	Nan St.Michael	Nicholle Tadeo
Maryanne Romanowski	Meredith Adami	Michael Sheffield	Mike & Kris Goldberg	nancie greer	Nicola Grobe
MARYELLEN REDISH	Merilyn Hand	Michael Sherman	Mike Cass	Nancy and Errol Rubin	Nicole Gaston-Fowler
Masakazu Konishi	Merry Brook Kotte	michael swerdlow	MIKE CLIPKA	Nancy Bakerink	Nicole Heslip
Matt Goldsmith	Meryle A Korn	Michael Thurman	Mike Conlan	Nancy Bomgardner	Nicole Jergovic
Matt Lafferty	mia kavantjas	Michael Todd	Mike Dorcy	Nancy Dasonville	Nicole Lilak
Matt Martorella	Mia Klein	Michael Tomczyszyn	Mike Kappus	Nancy Drewes	Nicole Westre
Matthew Aarsvold	Michael Afentoulis	MICHAEL TOOBERT	Mike MacDougall	Nancy Edmonson	Nik Kripalani
Matthew Cloner	Michael Akins	Michael W Evans	Mike Scott	Nancy Enz Lill	Nikki Hanson
Matthew Greene	michael Alda	Michael Wheelock	Milica Barjaktarovic	Nancy Fleming	Nina Hinkley
Matthew Sherman	Michael and Barbara Hill	Michael White	Millicent Cox	Nancy Freedland	Nina Smith
Matthew Swyers	Michael Angevine	Michael Whitt	Mimi Raiter	Nancy Graham	noah schlager
Matthew Wire	Michael Barrows	Michael Williams	Mindi Davis	Nancy Harter	Noelle Moyer
maureen cairns	Michael Blincoe	Michael Wollman	Mindi White	Nancy Hieronymus	Nolan Farkas
Maureen Hurley	michael brown	Michael Wylie	Miriam Gillow-Wiles	Nancy Hoffman	Noreen Weeden
Maureen Mcgee	Michael Bush	Michaela Niermann	Mirthia Romero	nancy hoy	Norma Corey
maureen powers	Michael C. Ford & Dr. Richard B. Marks	michele anderson	Misty Beutler	nancy johnson	Norma Odell
Maureen Russell	Michael Cipra	Michele Bachar	Misty Drake	Nancy Katz	Norma Parado
Maurice Robinson	Michael Cowser	Michele DeBacker	Misty Shemwell	Nancy Kelly	Norman Baker
Maurine Richards	Michael Denton	Michele Easel	Mitch Parkinen	Nancy Kissock	Normandie Hales
Max Kaehn	michael eichenholtz	Michele Jamison	Mitchell Friedman	Nancy Kramer	O. Bisogno Scotti
Maxane Goldstein	Michael Evans	Michele Krupinski	Mollie THOMAS	Nancy L. Reynolds	Odette Rickert
Maxann Kasdan	Michael Falettra	Michele Martin	Molly Brisbane-Ramirez	Nancy Lienthal	Oliver Medzihradsky
Maxine Mueller	Michael Ford	Michele mCFerran	Monica Gallicho	Nancy Miller	Orlene Coleman
Megan Brooker	MICHAEL FRANKS	Michele Nihipali	Monica Romero	Nancy Novak	Otto Hunt
Megan Cutler	Michael Franks	Michele Powers	monica swift	Nancy Patumanoan	P StAugust
Megan Hawk	Michael Gallup	Michele Samuelson	Monika Brauer	Nancy Sato	P. Johansen
Megan Hockwalt	Michael Greggs	michele vinz	Monty Wolfrum	Nancy Schnur	Paige Ziehler-Martin
Megan McCullough	Michael Harrington	Michele Walsh	Morgan Cole	Nancy Shannon	Pam Brown
Megan Michaels	Michael Hetz	Michelle Brenard	Moss Henry	Nancy Smith	Pamala Thomas
Megan Montes	Michael Karsh	Michelle Bresette	Mr and Mrs James Denison	Nancy Treffry	Pamela Adams
Meghan Dooney	Michael Kaufman	Michelle Brewer	Mr. & Mrs. D. B. Hardie	nancy walker	Pamela Beard
Meghan Lewis	Michael Kelly	Michelle Charles	Mr. Walter V. Hughes	Nancy Weinstein	Pamela Bond
mel freilicher	Michael Kemper	Michelle McCarthy	Ms. Joyce Wilson	Nani Barnes	Pamela Bradford
melanie graf	Michael Kloor	Michelle McLinden	Ms. Lilith	naoko mizuguchi	Pamela Check
Melanie Wolfe	Michael Kovacs	Michelle Mielke	Murray Cohen	Narek Vardanian	Pamela Conley
Melina Paris	Michael Kulakofsky	michelle mitchell	mushtaq syed	Natalia Wescott	Pamela Fletcher
Melinda Combs	Michael Levin	Michelle Morgan	MW Henderson	Natalie Hall	Pamela Galloway
Melinda Milam	Michael Lewis	Michelle Palladine	Myrna Cohen	natalie oshin	Pamela Green
Melinda Moros	Michael Mallett	Michelle Palmer	Myrna Goldman	Natalie Zarchin	Pamela Lau
Melissa Berasaluce	Michael Mauer	Michelle Pavcovich	Myrtle Cox	Natasha Goldie	Pamela Malmberg
Melissa Buchanan	Michael McBride	Michelle Setaro	Mytzi Rudolph	Nathan Althausser	Pamela Poland
Melissa Cardwell	Michael McGee	Michelle Smith	N. Davida Rabbino	Nathan Coopwood	Pamela Reckers
Melissa Gagliano	Michael Meagher	Michelle Thomas	Nadya Tichman	Nathaniel Childs	Pat Anton
melissa herring	Michael Mitsuda	Michelle Unger	Nam Pho-Berg	Nathaniel Christ	Pat Carter

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Pat CuvIELlo	Paul Borcherding	Philip Johnston	Raul Anorve	Richard Sheng	Robert Thomson
Pat Davis	Paul Brust	Philip Minehan	Ravin Carlson	Richard Stewart	Robert von Tobel
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Pat Healy	Paul Davies	Phillip Collins	Ray Ann Sullivan	Richard Swift	Robert Wheeler
Pat Larson	Paul Doane	Phillip Hoff	Ray Hoekstra	Richard Ten Eyck	Roberta Best
Pat Mayo	Paul Durieux	Phillip Joyner	Rayanne Kirk	Richard Valencia	Roberta Heist
Pat Powell	Paul Grove	Phillip King	Raye Harris	Richard Waibel	roberta newman
Patricia Alejandro	Paul Gullam	phoury chhun	Raymond Hutchinson	Richard Willets	Roberta Oliviero
Patricia Archuleta	Paul Hunrichs	Phyllis Greenleaf	Raymond Shaw	richard wojt	Roberta Parrish
Patricia Barbutti	Paul Johnson	Phyllis Murdoch	Rebecca Cassara	Rick Kemeseni	Roberta Vandehey
Patricia Bereczki	Paul McDermott	Phyllis Schoen	Rebecca Cook	Rick Lambert	Robin Fancher
Patricia Black	Paul Metzger	pierre asmar	Rebecca Goodrich	RICK MORALES	robin rabens
Patricia Blanchard	Paul Myhre	Pierre Grady	Rebecca Leuck	Rick Shreve	Robyn Beckman
Patricia Bolt	Paul Nelson	pinky jain pan	Rebecca McDonough	Rick Sparks	Robyn Rivers
Patricia Brockman	paul r moreno	Pistica Smudge	Rebecca Merkley	Rick Vaccaro	Rochelle Lafrinere
Patricia Clark	Paul Rossilli	Polly O'Malley	Rebecca Pois	Rick Wilson	Rod Rochambeau
Patricia Conn	Paul Torrence	Polly Osborn	Rebecca Seymour	RIKA ISHIBASHI	ROGER FOX
Patricia Fearey	Paula Cavagnaro	Polly Stonier	Rebecca Simpson	Rita Kiley	Roger Jacob Leonesio
Patricia Flores	Paula Huffman	Priscilla Allen	Rebecca Weinfeld	Rita Morrow	Roger Overholt
Patricia Lovejoy	Paula McCullough	psfsd weiner	Reggie Stiteler	Rita Reis	roger schmidt
Patricia McRae Baley	Paula Pine	R A Larson	Regina Uliana	Rita Santos-Oyama	Roger Smith
Patricia Merrill	Paula Shafransky	R Erwin	Rena Feng	Rita Valent	Rohana McLaughlin
Patricia Miller	Paula Taccogna	R L	Rena Lewis	Robbyn Jackson	Romola Georgia
Patricia Montijo	Paula Zerzan	R P	Rena Lani Anderson	Robert & Elizabeth Burns	Ron Kloberdanz
Patricia Morgan	Paulette Pallaoro	R Salido	Rene Garcia	Robert Bausch	Ron Martin
Patricia Nickles	Paulette Switzer-Tatum	R. Zierkzee	Renee klein	Robert Blumenthal	Ron Molina
patricia owen	pEGGY holmes	Rachael Alvarez-Jett	Renee T.	Robert Brosius Jr	Ron Quigley
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Patricia Quinn	Peggy Ranson	Rachel Hervey PHN	Rhett Lawrence	Robert Burch	Ron Thorne
Patricia Rain	Peggy Witsell	Rachel Sonnenblick	Rhodly Alden	Robert Cassinelli	Ronald Bogin
Patricia Reid	Penelope Johnstone	Rae Cohn	Rhona Baum	Robert Cleveland	Ronald Cali
Patricia Robinson	Penelope Sallberg	Rae Lisker	Ricardo Berg	Robert Davenport	Ronda Snider
Patricia Rodgers	Penny Short	Ralph Guerra IV	Rich Smith	Robert Hicks	Ronnel Corre
Patricia Scheuer	Pete Aniello	Ralph Hipps	Richaqrd Columbia	Robert Hinely	Rose Anton
Patricia Tucker-Dolan	Peter Bennett	Ralph Sanchez, L.Ac.,CNS.D. Hom.	Richard Blain	Robert Hingtgen	Rose Catania
Patricia Valdez	Peter Berg	RAMAPRIYA RUIZ	Richard Blakemore	Robert Ishii	Rose Engelfried
Patrick Aitchison	Peter Bodlaender	Ramona Menish	Richard Brabham	robert kennec	Rose Graybill
Patrick Kerwin	Peter Cooper	Rana Sabeh	Richard Corbat	Robert Kenney	ROSE LINCK
Patsy Martin	Peter Novak	Rand Guthrie	Richard Corral	Robert Kyllonen	Rose Marie Menard
Patsy Stratton	Peter Perez	Randa Solick	richard crawford	Robert Lamar	rose wedlund
Patt Doyle	Peter Reynolds	Randall Hartman	Richard Gibbons	Robert McCombs	Roseanne Hovey
Patti Wienke	Peter Stone	Randall McKinnon	Richard Hurlburt	Robert McNamara	rosemarie henley
Patty Bonney	Phaedra Kossow-Quinn	Randall Richardson	Richard Lovitt	Robert Nichols III	Rosemarie Neckelmann-Vaught
patty cornell	Phil Epstein	Randall Shannahan	Richard Moller	Robert Painter	Rosemary Graham-gardner
patty harrison	Phil Hanson	Randy Harrison	Richard Moore	Robert Paquette	Roslyn Jones
patty mccollim	Phil Lanni	Randy Kilmer	Richard Perkins	Robert Roberto	Rosy Morales
Patty Sparks	Phil Luttrell	Randy Montesano	Richard Quinones	Robert Sennett	Roxanne Martin
Paul and Joan Waller	Phil Raider	Randy Morris	Richard Rodriguez	robert spaccarotelli	Roxeanna Zaborac
Paul Bechtel	Phil Reser	RANKO BALOG	Richard Schulenberg	robert stirling	Roy Vanderleelie
Paul Belz	phil rocky	Ratka Mira Popovic	richard schwartz	Robert Sullivan	Royce m

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roz goldstein	Sandy Zelasko	sharon lacy	Sonja Aikens	Steven Cervine	Susan Roberts-Emery
Russell Blandino	Sanjiv Bajaj	Sharon Mattern	Sophe Stine	Steven Cook	susan rosen
Russell Grindle	sara carroll	Sharon Mullane	Sophie E. Miranda	Steven Hibshman	Susan Rowe
Russell Jacobson	Sara David-Feyh	Sharon Parshall	Sossity Chiricuzio	Steven Jacobs	susan shapiro
Russell Weisz	Sara Gonzalez	Sharon Sprouse	Spencer Selander	Steven Mauvais	Susan Shub
Ruta Radzins	Sara Hayes	sharon Valenzuela	Sr. Cindy Turner, OCV	Steven Standard	susan smith
Ruth Clifford	Sara Snyder	Sharon Zelman	stacey mayner	Steven Velasco	Susan Southwick
Ruth Furman	Sara Townsend	sharon zimbler	Stacey Smith	Steven Weigner	Susan Upton
Ruth Lorenz	Sara Turner	Sharri Kallonas	Stacey Yarrish	Steven Wright	Susan Watts-Rosenfeld
Ruth Olafsdottir	Sara W. Baker	Shary Crocker	Stacy Thompson	Stuart Smith	Susan Wechsler
Ruth-Ann Radcliff	Sarah Dixon	Shaun Barrentine	Stan Banos	Sudi McCollum	Susan Wells
Ryan Mickelson	Sarah Hafer	Shawn Clayton	Stan Shappell	Sue Gold	susan yamagata
s Baranowski	Sarah Kaplan	Shawn Hampton	Stanley M. Salomon	Sue Iri	Susan Zollinger
S Robert Lehr	sarah kerr	Shawn O'Donnell	Starbat Black	sue kirkpatrick	susanna sorin
S. Bellue	sarah luth	Shawna Neumeister	Stefanie Gandolfi	Sue Pierson	Susannah Kegler
S. Chapek	Sarah Mangum	Shea Craver	Stella Strand	sue silbert	Susanne Madden
S. Tyroler	Sarah Whistler	shea yzobel de hinde	Steph Truitt	sue slater	Suz Garcia
S.E. Hardy	Sarajane Hall	Sheila Barrand	Stephanie Bisceglia	sue smith	Suzanne a'Becket
sabine freudiger	Sandra Whitten	sheila curtin	Stephanie Houston	Sue Strom	Suzanne Geraci
Sadia Caceres	scott alan	Sheila Ganz	Stephanie Proctor	Sue Wood	Suzanne Hodges
Sakura Vesely	Scott Bowman	Sheila Silan	stephanie richards	Summer Lee	Suzanne Kaufmann
sal munoz	Scott Clements	Sheilagh Creighton	Stephanie Rufner	Susaan Aram	Suzanne Lee
sally abrams	Scott Crockett	Shelley Brady	Stephanie Terlson	Susan (Sun) Ibarra	Suzanne Lewis
Sally Gardner	Scott Mize	Shelley Dahlgren	Stephanie Wedgwood	susan ahlschwede	suzanne livingston
Salme Armijo	Scott Rubel	Shelley Sterrett	Stephanie Young	Susan Babcock	Suzanne Ludlum
Sam Child	Scott Tallman	shereen shuster	Stephanie Ziakas	Susan Bakke	Suzanne McHugh
Sam Diaz	Scott Warwick	Sheri Archey	Stephen and Nancy Petersen	Susan Bassin	Suzanne McNamee
Sam Sloneker	Sean Curtice	Sheri Randolph	stephen handler	Susan Bechtolt	Suzanne Pierce
Samantha Heatherly	SEAN GUFFEY	sheri reeves	Stephen Hutchinon	Susan Birkeland	Suzanne Ramirez
samantha turner	Sean McMullen	sheri edwards	Stephen Jessen	Susan Bohannon	suzi hokonson
Sammy Ehrnman	Sean Sardari, CPE	Sherrill Futrell	stephen johnson	susan bradford	Sylvia Baldwin
Sammy Low	Sedrick Nin	Sherry Breidenthal	Stephen Orsary	susan branch	Sylvia Black
Sampson Bowers	Seiji Miyasaki	Sherry Brown-Ryther	Stephen Ryle	Susan Buckley	Sylvia Cardella
Samuel Anderson	serge vrabec	Sherry Cordova	Stephen Tanga	Susan Ciaramella	Sylvia Hackett
Samuel Aronoff	shamna murphy	Sherry Marsh	Stephen Weitz	Susan Emblen-Richtsmeier	Sylvia Lawrence
Samuel Hergenrather	shana lauer	Shirley Harris	Stephen Young	susan folsom	sylvia Marie
Sandi Covell	Shanan Bjelland	Shirley Harris	Steve Balok	Susan Ghirardelli	Sylvia Moss
Sandra Applebaum	Shane Farnor	shirley ramstrom	Steve Green	susan gordon	Sylvia Schleimer
Sandra Clark	shannon abernathy	Shirley Shaw	Steve Iverson	SUSAN GUZMAN	T Loper
Sandra Cutter	SHANNON BUDDDES	Shirley Sykes	Steve Kreider	Susan Hanger	T. Sharpe
Sandra Gold	Shannon Fouts	Shirley White	Steve Mc Clelland	Susan Hathaway	Tamara Collard
Sandra Lord	Shannon Hillary	Shiu Hung	Steve Olson	Susan Hubbard	tamara roosa
Sandra Noah	Shannon Mortensen	Shoshanah McKnight	Steve Ongerth	susan kuhn	Tamara Tiffany
Sandra Palmquist	Shannon Nesbitt	Siddharth Mehrotra	steve rosin	Susan Kuhn	Tamela Roberson
Sandra Peterson	Shannon York	Signe Young	Steve Spangler	Susan L. Shoup	Tamhas Griffith
sandra scholey	SHARMAYNE BUSHNER	simone siebert	Steve Wagner	Susan McMullen	Tami Armitage
Sandy Hunrichs	Sharon Barbour	siria arteaga	Steve Wilson	Susan Morgan	Tammi Sweeney
Sandy Sanderson	Sharon Cox	Sissy Yates	Steven Aderhold	Susan Norman-Jones	Tammy Galaviz
sandy Valencour	Sharon Fetter	Sofia Blizard	Steven Anderson	Susan Rappoport	Tammy Scroggs
Sandy Weber	Sharon Kumpf	Sondra Huber	Steven Biggio	Susan Rhodes	Tania Fletcher

## Individuals who sent the identical e-mail form letter shown previously.

Tanya Baker	Thomas Carroll	Tom Nash	Vanessa Nixon Klein	Whitney Campbell
Tanya Meyer	Thomas Conroy	Tom Reidy	Vanja Ivanova-Hathcock	whitney hines
Tara Kamath	Thomas Kindle	tom rossi	Vasu Murti	whitney schutt
Tara Mulski	Thomas Ray	Tom Sanchez	Vera Lis	Wilfredo Salazar
Tari Parker	Thomas Rummel	Tom Sayre	Vera Topinka	William Ricciardi
Taryn Reed	Thomas Tizard	Tom Shinault	Veronica Kirchoff	Will George
Tasha Chenoweth	Thomas W Jenson	Tom Walsh	Vi Pham	Will Silva
Tasha Gustafson	Tia Triplett	Tom Wayson	Vic DeAngelo	William Botch
Tassilo von Koch	Tiffany Solorio	Tommy Bacorn	Vicente Moretti	William Bumgardner
Ted Fishman	Tim Barrington	Tone Butler	vicki kopinski	William Butler
Ted Kennel	Tim Durnell	Toni Russell	Vicki Lewis	William C. Briggs, Jr.
Ted Klump	Tim Kadrmias	Toni Wolfson	vicki maheu	William D. Rausch
Tedd Kawakami	Tim McGuire	Tony Costa	Vickie Rozell	William Dane
Tena Terry	tim moore	Tonya Cockrell	victor lawrence	William Fike
Teos Abadia	Tim Nistler	Toochis Morin	Victor Vuyas	william freshour
teresa ann garcia	Tim Stearns	Torunn Sivesind	Victorea Richeson	William Gerhart
Teresa Conahan	tim tarbell	Toula Siacotos	Victoria Trimble-Lowe	William Harris III
Teresa E Lawrence	tim weinfeld	Tracey Arnold	Vinayak Vinayak	William Henry
Teresa Edmonds	Timmi Sommer	Tracey Kleber	Vincent Alvarez	william kenison
Teresa Forsberg	Timothy Arrington	Traci Rodriguez	Vira Confectioner	William Lenoch
Teresa Goff-Lindsay	Timothy Devine	Tracy Fleming	Virginia Bennett	William M Seyfried Jr
Teresa Ramos	Timothy Farrell	Tracy McCowan	Virginia Foote	william mac bean
Terese Drummond	Timothy Kelly	Tracy van Staalduinen	Virginia Hadley	William Mc Guire
Teri Meadows	Timothy Lawnicki	Traffy DeSalvo	Virginia Sharkey	William Merz
Teri Sigler	Timothy Lippert	Travis Newhouse	Virginia Weller	William Messenger
Teri Travis	Timothy Taylor	Travis Wernet	Vivian Dowell	William Mitchell
Terry Barber	Tina Brown	Trevor Parker	vivian fahlgren	William Modesitt
Terry charbonneau	TINA JONES	Tricia Ebert	Viviann Choate	William Perren
terry goss	Tina Ladd	Tricia Thrasher	vonnie iams	William Roberson
Terry Larsen	Tina Rosa	Trifon Trifonopoulos	W Joyce Coger, Esq.	William Rogers RN (Ret.)
Terry Miller	tina wener	Trisha Bradford	Wally Wolfe	William Sanford
terry oda	tobbi kyle	Tristan Sophia	Walter Kloefkorn	William Scott
Terry Peterson	Toby Allphin	tristin eros	Walter Phelps	William Sneiderwine
Terry Poplawski	Toby McElravey	Trudy Williams	Wayne Kelly	William Webster
Tess Morgan	Toby Rane	Twik Simms	Wayne Luzon	Willow Hales
Theodore Kerhulas	Todd Feiler	Twila Friberg	Wayne Pollaccia	Winnie H
Theodoros Polychronis	Todd Lockwood	Twyla Meyer	Wayne Steffes	Wm. A. / Janet M. Corkran
Theresa Jaquess	Todd McGregor	Uriel Ulam	Wayne Ude	Wm. McCall
Theresa Lopez	Todd Provino	Ursula Noto	Weldon H Jackson	Woody Griggs
Theresa Rieve	Todd Ryan	V. Christenson	wendi abbott	Yelena Shabrova
Theresa Skager	Todd Sargent	V.R. Wallace	Wendy Firing	yen li Moore
theresa sullivan	Todd Snyder	Val Sanfilippo	Wendy Hambidge	ylene reyes
Therese & Thomas Ryan	Todd Watkins	Valentino Pellizzer	Wendy Hernandez	yoka brouwer
Therese DeBing	Tom and Karon Gilles	valerie bernard	Wendy Martin	Yoriko Nishi
Thomas - Tony Lawson - Gonzales	tom camara	Valerie Kadium	wendy weikel	Yuka Persico
thomas alexander	Tom Dadant	Valerie Rose	Wendy Wiseman	yvonne gensurowsky
Thomas Boughton	Tom Fitzsimmons	VALERIE VILCHES	Wendy Wittl	yvonne hyatt
thomas broad	Tom Johnson	Valerie Williams	Werner and Sally Kiepe	Yvonne Neal
thomas burt	Tom Kunhardt	Vance Lausmann	Wesly Moore	Yvonne Slater-Grigas
Thomas Carlino	Tom McCarter	Vanessa Farmer	White Bear	Zack Bradford
				Zack Lewis-Murphy
				Zandra Saez
				Zena Lamp

## E-mail Form Letters

**From:** "L. Ertel" <>  
**Date:** June 16, 2009 5:15:43 PM EDT  
**To:** cfoltz@nsf.gov  
**Subject:** Management Plan Required Before Building ATST on Haleakala

**The University of Hawaii knows better than to proceed with the proposal to build the Advanced Technology Solar Telescope (ATST) in the conservation district on Haleakala without a comprehensive management plan. After 10 years of litigation, Hawaii's state court ruled against the University because it tried to build a telescope in the conservation district of Mauna Kea without a management plan in place to protect the natural and cultural resources of that summit.**

**Just like with Mauna Kea, the University is proposing to construct a 14-story, 100-acre telescope on Haleakala without a management plan. Haleakala is already under serious stress from the several million people who visit the summit every year. A comprehensive management plan is essential to minimizing the harms from current activities on the summit, as well as new construction projects.**

**Please stop wasting public funds. Halt the proposal to build the ATST on Haleakala until a comprehensive, scientifically based, and culturally appropriate management plan is independently developed for the conservation district on the summit of Haleakala.**

**In the meantime, please also thoroughly assess the possibility of using alternative locations for the ATST, such as Big Bear Lake in California and La Palma in the Canary Islands.**

**Thank you very much,  
L. Ertel  
Aiea, HI 96701**

**Individuals who sent the identical e-mail form letter shown previously.**

Name	
Alana Bryant	Kaleo Buckley
Andrea Brower	Kapa Oliveria
Anna L. Subiono	L. Ertel
Anna Reycraft	L. Marina Cabanilla Maza
Annalia Russell	Laura Lee
Annjulie Vai	Leana Sims
Becky Robison	Marge White
Bill Smith	Margot Malia Lunch
Caren Diamond	Maryjane Genco
Christina Gauen	Matthew Koanui
Christine Kauahikaua	Michael Saiz
Corey Ann Lewin	Michelle Baydo
Dawn Boucher	Nadine Apo
Denise Lytle	Nancy Landon
Eden Peart	Philip Thomas
Eileen Harrington	Renee Kinimaka
Eileen Kwan-Castaneda	Robin Rabens
Eloise Engman	Rowena Vaca
Ephrosine Daniggelis	Royelen Lee-Boykie
Fithian Jones	Ru Carley
Fredericka Ebel	Sandra Morey
Gail Crabbe	Sara Hayes
James Patitucci	Scottlee McDougall
Jamie Oshiro	Stacey Moniz
Juju Juju	Yvonne Manipon

**Individuals who sent the identical e-mail form letter shown previously after the comment period deadline of June 22, 2009.**

Name
Donna CM Worden
Gerald Taber
Kealoha Yoshioka
Sabrina Baxter-Thrower

## E-mail Form Letters

**From:** "Jennifer Fong" <jennifer@t 1>  
**To:** <charlie@kcenv.com>  
**Sent:** Wednesday, June 17, 2009 12:43 PM  
**Subject:** ATST on Halekala is Religious Desecration

I am disappointed that the National Science Foundation and the University of Hawaii are again proceeding with a proposal to build a telescope on a sacred site. Public money should not be used to destroy the temples of Native Hawaiians, especially when there are alternative sites for this telescope that are not even being considered.

Science should be held to the highest ethical and moral standards. This includes engaging in scientific study without destroying rare habitats and desecrating ancient religions. Unfortunately, the proposal to build the Advanced Technology Solar Telescope (ATST) on Haleakala does not meet this standard. The supplemental draft environmental impact statement for the ATST states: "Construction and operation of the proposed ATST project ... would likely result in major, adverse and long-term impacts on the cultural resources" of Haleakala.

The 14-story ATST will be less than 100 feet from the important east-facing altar of Haleakala. The six years of construction and more than 50 years of operation of the ATST so close to this immensely sacred religious site would make it impossible for Native Hawaiian cultural and religious practitioners to offer respectful prayer to deities and ancestors.

Native Hawaiian cultural and religious practice has already suffered so much at the hands of poorly managed construction. Please do not let it suffer any more in the name of modern astronomy.

Mahalo for considering my testimony.

Jennifer Fong

South Pasadena, CA 91030

**Individuals who sent the identical e-mail form letter shown previously.**

<b>Name</b>
Akiemi Glenn
Amy Wrecking
Anthony Estrada
Berton Harrah
Carol Lee Averil
Curt Sumida
Daniel Greider
Daphne Gray
Dave Kisor
David Mulnix
Diana Fischer
Elisha Belmont
Jennifer Fong
Jenny Burnstad
Joseph Houlahan
Judith Waters
Kathie-Lynn Allen
Kimo Stowell
Kuapapakai Graff
Leimomi Wheeler
Lisa Bedinger
Maya Moiseyev
Pamela Punihaole
Ravi Grover
Rose Zellers
Ruth Osias
Sarah Thornton
Stephen Scribner
Steve Hirakami
Susan Bender
Testy Testerson
Wailua Lind
Waimea Williams

**Individuals who sent the identical e-mail form letter shown previously after the comment period deadline of June 22, 2009.**

<b>Name</b>
Katy Fogg
Lori Buchanan
Loui Cabebe
Maia Wageaner

## E-mail Form Letters

**From:** "Eileen Kwan-Castaneda" <castaneda\_@kcenv.com>  
**To:** <charlie@kcenv.com>  
**Sent:** Wednesday, June 17, 2009 12:46 PM  
**Subject:** In Opposition to Construction on Haleakala

I am writing in opposition to the construction of the Advanced Technology Solar Telescope (ATST) on Haleakala because it will harm long-standing Native Hawaiian cultural practices and essential habitat for the endangered Petrel.

No construction should be allowed on the sacred summit of Haleakala until a comprehensive, scientifically based, and culturally appropriate management plan is independently developed for the conservation district there. Currently, there is no plan to manage all of the visitors and vehicles that access Haleakala every year, including the more than 1.7 million visitors to the Haleakala National Park. As a result, the impacts of actions by individual entities, like the University of Hawaii Institute for Astronomy, are not considered and managed in the context of all the activities on the summit. Without a comprehensive plan for the summit area, inappropriate projects like the Advanced Technology Solar Telescope can be developed despite adverse impacts on the well-being of the whole summit.

I call on the National Science Foundation and the University of Hawaii to halt the ATST proposal until:

1. an independent, community-based plan for the management of the conservation district that protects the entire summit of Haleakala is completed and fully adopted by the State.
2. an environmental impact statement for the other two possible locations for the solar telescope (La Palma in the Canary Islands and Big Bear Lake in California) is completed.
3. all of the data already collected on solar magnetic activity is cataloged, studied, and assessed to determine whether the ATST is even necessary.

Thank you for this opportunity to provide comments.

Eileen Kwan-Castaneda

San Marcos, CA 92079

**Individuals who sent the identical e-mail form letter shown previously.**

Name	
Alison Hartle	Kawewehi Pundyke
Amara Karuna	Keoki Fukumitsu
Annalia Russell	Jon Spitz
Annjulie Vai	Kawika Au
April Esterly	Kelly LaRose
Babara Gach	Keoki Baclayon
Ben Tajon	Kevin Brown
Bobbi Lempert	Kristen Becher
Brenda Kwon	Linnea Heu
Bridget Mowalt	Lono Bray
Britany Edwards	Maggie Costigan
Carolyn Moore	Margaret Campbell
Cathy Robinson	Mark Cosslett
Chastity Cadaoas	Mary Detrick
Chaunnel "Pake" Salmon	Meghan Au
Claudia Herfurt	Nancy Davlantes
Dav Dinner	Nathaniel Diego
David Bishaw	Normand Dufresne
Dharma (Darlene) Wease	Odette Rickert
Douglas Phillips	Paul Moss
Eileen Kwan Castaneda	Phyliss and Lanny Younger
Gary Gunder	Rev. Susan Sanford
Glen Venezio	Robin Stetson
Harvey Tanaka	Satya Anubhuti
Janet Taylor	Shannon Doidge
Jeanette Evans	Shien-lu Stokesbary
Jeff Sacher	Sieglinde Gangl
Jessica Dela Cruz	Testy Testerson
Kanoe Kapu	Thomas Tizard
Katie Paul	Timothy Johnson
Katie Velasquez	Tina Horowitz
Kehaulani Kea	

**Individuals who sent the identical e-mail form letter shown previously after the comment period deadline of June 22, 2009.**

Name
Carolyn Lunel
Cynthia Simms
Jenna Sabogal
Tim Brause

## E-mail Form Letters

**From:** "Adele Henkel" <ahenkel11@hawaii.edu>  
**To:** <charlie@kcenv.com>  
**Sent:** Wednesday, June 17, 2009 1:37 PM  
**Subject:** Please Review Alternative Locations for Telescope Before Building on Haleakala

I am concerned about the lack of a serious review of alternative locations for the Advanced Technology Solar Telescope (ATST). The current DEIS only looks at two sites in the same place. What about reviewing the Big Bear Lake and La Palma locations, as well? Both would meet the science needs of the project and could be less harmful to indigenous cultures and species. Building this 14-story telescope on Haleakala will make it impossible to engage in important, unique Native Hawaiian cultural practices on this very sacred summit. Before proceeding any further, the National Science Foundation should make a meaningful review of all possible locations for this new telescope.

If after this review, Haleakala really is the best place to build this new telescope, then I strongly urge the National Science Foundation to delay proceeding with the project until a management plan is independently developed for the conservation district that encompasses the entire summit of Haleakala. The summit suffers under many different "users" that all have impacts on the natural and cultural resources of the area. A major colony of the highly endangered petrel could be harmed because of the failure to adequately protect this conservation district. Thus, a legitimate management plan must be implemented before any new major construction is allowed on Haleakala.

Thank you.

Adele Henkel  
↓  
Kailua Kona, HI 96745

**Individuals who sent the identical e-mail form letter shown previously.**

Name	
Adele Henkel	Kimo Kekahuna
Alison Yahna	Kitty Daniel
Andrew Binstock	Lanny Sinkin
Andy Ah Po	Lila Liebmann
Arlene Kato	Madeleine Migenes
Barbara West	Mark Alapaki Luke
Becky Moylan	Mary Dias
Brandy McDougall	Michael Swerdlow
Cha Smith	Miguel Godinez
Chelle Wright	Pam Daugherty
Cheryl Rosenfeld	Pamela Palencia
Christine Walters	Paul Massey
Cindy Lance	Paul Miller
Dawn Gohara	Peter Sanderson
Delton Johnson	Pohakamalalama Palmer
Diane Wong	Raynette Lopez
Donald Cooke	Richard Powers
Donna Cussac	Rose Cabanlit
Emily Baker	Scott Jarvis
Enoch Page	Sharlynn Paet
Fern Holland	Silvia Vance
Fiorrest Hurst	Skye Loe
Forest Shomer	Suzanna Ohoiner
Gregg Schulze	Suzanne Garrett
Gwen Morinaga-Kama	Testy Testerson
Janice Brencick	Thomas Ah Yee
Jennifer Ire	Toni A. Wolfson, RN
Karsten Zane	Valerie Loh
Katie Winchell	Wanda Brown
Kiiiana Haili	Warren Kundis

**Individuals who sent the identical e-mail form letter shown previously after the comment period deadline of June 22, 2009.**

Name
Denise Mederios
Elaine Belle-Glover
Katy Fogg
Keoki Baclayon
Pablo Yurkievich

## E-mail Form Letters

**From:** "Kerry Beck" <kerrybeck@ >  
**To:** <charlie@kcenv.com>  
**Sent:** Wednesday, June 17, 2009 12:38 PM  
**Subject:** Think Before Building on Haleakala

I oppose the ATST on Haleakala and urge the National Science Foundation and the University of Hawaii to halt the project because it will irreparably harm traditional Native Hawaiian practices on the temple-summit and it could harm important habitat for the endangered Petrel.

Before proceeding any further with this project, NSF and UH should at least:

1. ensure that all of the data already collected on solar magnetic activity is cataloged, studied, and assessed to determine whether the ATST is even necessary,
2. complete an environmental impact statement for the other two possible locations for the solar telescope that were identified by the expert advisory panel,
3. wait until an independent, community-based plan for the management of the conservation district that protects the entire summit of Haleakala is completed and fully adopted by the State.

Kerry Beck

Sebastopol, CA 95472

**Individuals who sent the identical e-mail form letter shown previously.**

<b>Name</b>	
Amiee Tomasello	Laura Marsh
Andrea Anixt	Leiana Lobre
Andrew Benson	Maha Conyers
Ann Egleston	Mahina Patterson
Barb Kay	Margaret Pilago
Bonnie Winkler	Marti Townsend
Bryan Matsumoto	Mike Hendrickson
Charles Lawson	NaniFay Pagnilawan
Dean Otsuki	Nina Puhipau
Dennis Lynch	Palani Vaughm, Jr.
Dita Ramler	Patricia Blair
Donnalee Sing	Pualani Baptista
Ehulani Kane	Randy Bautista
Emily Yeh	Royelen Lee-Boykie
Fairin Woods	Sandra Morey
Gina Covina	Sharon Torbert
James Long	Shary Crocker
Jeffrey Lagrimas	Sheila Ward
Katherine Wilder	Tasha Goldberg
Kerry Beck	Testy Testerson
Kimberly Dark	Toni A. Wolfson, RN
Keoki Fukumitsu	Wendy Raebeck

**Individuals who sent the identical e-mail form letter shown previously  
after the comment period deadline of June 22, 2009.**

<b>Name</b>
Esta Marshall
Olena Asuncion
Riki Pestana

## Petition "Enough is Enough"

### ENOUGH IS ENOUGH PETITION NO Advanced Technology Solar Telescope on Haleakala Summit

We the undersigned are opposed to the construction of the proposed Advanced Technology Solar Telescope (ATST) at the summit of Haleakala.

- The disturbance, alteration and removal of sacred national resources and possible cultural artifacts would be a desecration of Haleakala.
- The proposed development would have an adverse and devastating visual effect caused by the addition a 14 storied intrusive and culturally inappropriate structure.
- The impact of traffic on our roads for the 7 year construction period, high noise levels, effects to our air quality, drain on our energy grid, incomplete water and waste plan are unacceptable; in addition there will be loss of revenue to local businesses associated with tourist to Halealaka National Park.
- The National Science Foundation should not build this telescope on Haleakala summit.

Name (Printed)	Signature	Zip Code	<18
Chris McAd		9804	
GRANT SERBOVICH		20147	
C. Lattanzi		20147	
Josh Reznick		63705	
Andrew Thyssen		63105	
KAPULE EUSANK		<del>96761</del>	
Wili Wood		96761	
Corey LaBore		96761	
Emilio ALOA		96761	
	Doug Hizer	96761	
Ryan Grissom		96707	
Kristen Dopt		96707	
Blake Grissom	Blake Grissom	96707	
Sandra Dopt		96707	
Deron Frank		96761	
		97120	
Insulele Mand		31027	
MANUEL CHAVEZ		90803	
Catherine Mandia	Catherine Mandia	90803	

Please Email to [ahkada@aol.com](mailto:ahkada@aol.com) or Fax to 808 242-1161 ASAP (Comments due 6/22/2009)  
Please mail the original to: Clare Apana  
260 Haleakala Dr

**Petition "Enough is Enough" (cont.)**  
**Individuals who sent the identical Petition shown previously.**

Name (Printed)	Signature	Zip Code	<18
Mary Evanson		96768	
Mele Stokesberry		96788	
MARY SANTA MARIN		96793	
Lisa Yoshida		96768	
Barbara Nunes		96768	
Oscar J Souza		96708	
David Yoshida		96768	
Valerie Dettloff		96708	
Tyler Smith		96779	
Erika Smith		96779	
Katherine M. Verhaeghe		96708	
Robert L Fulcher		96708	
Cynthia Vandach		96708	
Inge Gruber	INGE GRUBER	96753	
LARRY GRAUL	Larry Graul	96753	
PAUL GARDNER		96793	
CLINTON GOUVEIA		96768	
Julia Webber		96768	
Shane Dubay		96768	

Name (Printed)	Signature	Zip Code	<18
Rebecca Shepherd		96703	Y
CHARLES MAXWELL SR			Y
Leon Bak Nomura		96708	Y
LEI'OHU RYDER		96790	Y
Vernon Kalanikau		96753	Y
<del>James</del> James Apawa		96753	Y
<del>John</del> John James		96793	Y
<del>Robert</del> Robert		96793	Y
Mly Echavez		96790	yes
Emily Severson		96768	Y
Adesina Ogunlese		96753	X
hika Bynum		96732	Yes
Charles Ledward		96732	yes
Susan Werner		96708	yes
George R Hanker		96753	yes
JACQUELINE PROUTY		96790	YES
FRANCIS D. HESSEY		96793	yes

**Petition "Enough is Enough" (cont.)**  
**Individuals who sent the identical Petition shown previously.**

Name (Printed)	Signature	Zip Code	>18
Thurston Kimo	Thurston Kimo	96821	YES
Sean McFadden	Sean McFadden	96821	YES
Rayen Vajesen Forrean	Rayen Forrean	96744	YES
KAIWI Crabb	Kaiwi Crabb	96821	YES
Kay G. Sisk	Kay G. Sisk	96797	YES
Allison Green	Allison Green	96731	YES
Ziley Fernandez	Ziley Fernandez	96815	YES
Helena Williams	Helena Williams	96825	YES
Ruth Oda	Ruth Oda	96815	YES
Rory Fernandez	Rory Fernandez	96815	YES
Ruby Oda	Ruby Oda	96815	YES
Lee Muroshige	Lee Muroshige	96734	YES
Tasha Muroshige	Tasha Muroshige	91289	YES
Rosa Fernandez	Rosa Fernandez	96821	YES
Kalvin Oda	Kalvin Oda	96817	YES
Wanda Fernandez	Wanda Fernandez	96825	YES
Ronnie Oda	Ronnie Oda	96815	YES
Rosalie Fernandez	Rosalie Fernandez	96821	YES
ALONIA WAIKI	Alonia Waike	96822	YES

Name (Printed)	Signature	Zip Code	<18
Boona Biniame	Boona Biniame	96790	
PETRA WEGGEL	Petra Weggel	96708	
J. Nakua	J. Nakua	96768	
JAMES BRENT	James Brent	96790	
DOROTHY GORDON	Dorothy Gordon	96790	

## Petition "Enough is Enough" (cont.)

### Enough is Enough Petition

We The undersigned concerned citizens support the preservation of the summit of Haleakala from further intrusion by the ATST solar telescope and buildings.

- We request that the Director of the NSF (National Science Foundation) not build the ATST(Advanced Tecnology Solar Telescope Project) on Haleakala Summit.
- We request that the DLNR(Department of Land and Natural Resources) and SHPD (State Historic Preservation Division) preserve Haleakala as a historical, cultural and sacred site from further intrusion. Cultural impacts cannot be mitigated!
- We find other impacts unacceptable: traffic on our roads for the 7 year construction period, high noise levels, drain on our energy grid, incomplete water and waste plan, obtrusive to view plane.

	Name (print)	Signature	Address or Zipcode	OVER 18	
				>18 yrs	email or phone#
1	Kellee Smith	<i>Kellee Smith</i>		<input checked="" type="checkbox"/>	
2	Ryan Wunsch	<i>Ryan Wunsch</i>		<input checked="" type="checkbox"/>	
3	Alison Wilson-Smyser	<i>Alison Wilson-Smyser</i>		<input checked="" type="checkbox"/>	
4	Billy Han	<i>Billy Han</i>		<input checked="" type="checkbox"/>	
5	David Sylva	<i>David Sylva</i>		<input checked="" type="checkbox"/>	
6	Kitty Wunsch	<i>Kitty Wunsch</i>		<input checked="" type="checkbox"/>	
7	William Wilson	<i>William Wilson</i>		<input checked="" type="checkbox"/>	
8					
9					

	Name (print)	Signature	Address or Zipcode	>18 yrs
1	Matt Lannis	<i>Matt Lannis</i>	96768	<input checked="" type="checkbox"/>
2				

**Petition "Enough is Enough" (cont.)**

**ENOUGH IS ENOUGH PETITION**

**NO Advanced Technology Solar Telescope  
on Haleakala Summit**

*We The undersigned concerned citizens support the preservation of Haleakala as a historical, cultural and sacred site from further intrusion.*

We are opposed to the construction of the proposed Advanced Technology Solar Telescope (ATST) at the summit of Haleakala.

- The disturbance, alteration and removal of sacred national resources and possible cultural artifacts would be a desecration of Haleakala.
- The proposed development would have an adverse and devastating visual effect caused by the addition a 14 storied intrusive and culturally inappropriate structure.
- The impact of traffic on our roads for the 7 year construction period, high noise levels, effects to our air quality, drain on our energy grid, incomplete water and waste plan are unacceptable; in addition there will be loss of revenue to local businesses associated with tourist to Halealaka National Park.
- The National Science Foundation should not build this telescope on Haleakala summit.

- Name (Printed)	Signature	Zip Code	Y/N
D Larson		96753	YES
Mama Kamaunu J. KAMAUNU		96793	yes
JOHN Naylor		96708	yes
Jessica Canty		96753	yes
Richard McCarty		96761	yes
BOB SILVA		96793	YES
Princess Selmanam		96761	YES
Janet		96784	yes
Daniel Kanahale		96753	yes
Festey Ampou		96732	YES
Kesauoku Kapu		96761	Y
Kathy McDuff		96708	Y
Kanika Kamaunu		96793	Y
Judy Mancini		96790	Y
Carmen Mateo		96792	Y
Kaleo Koa Kaeo		96790	yes
Kapunahoa Kaeo		96790	no
Marlene Puanani Robinson		96761	Y

Petition "Enough is Enough" (cont.)

**ENOUGH IS ENOUGH PETITION**  
**NO Advanced Technology Solar Telescope**  
**on Haleakala Summit**

Name (Printed)	Signature	Zip Code	<18
Caitlin Wells	Caitlin Wells	96768	
Laura Barr	Laura Barr	96790	
Charles Carletta	Charles Carletta	96788	
Mahealani Steiner	Mahealani Steiner	96708	
Kenneth Hoffmann	Kenneth Hoffmann	96708	
MELVIN HAYASHI	Melvin Hayashi	96768	
Gail Hayashi	Gail Hayashi	96768	
S.E. Bond	S.E. Bond	38677	
M. Mendolia	M. Mendolia	38677	
Cothran Lau	Cothran Lau	96817	
Shantia Kacheekee	Shantia Kacheekee	96768	
STUART FONDOR DEBANTA	Stuart Fondor DeBanta	96753	
THOMAS R BRAYTON	Thomas R Brayton	96761	
Anna Mae Shishi do	Anna Mae Shishi do	96769	

Name (Printed)	Signature	Zip Code	<18
Jim Nagamine	Jim Nagamine	96793	yes

Name (Printed)	Signature	Zip Code	<18
Cheryl Potters	Cheryl Potters	93940	
LANCE JABER	Lance Jaber	96793	
Roanna Kumbao Po	Roanna Kumbao Po	96793	
William Karcher Jr.	William Karcher Jr.	90792	
Christine F. ...	Christine F. ...	96753	
Leslie Kambhatt	Leslie Kambhatt	96784	
Diosa Hironaka	Diosa Hironaka	96761	
Caron Romero	Caron Romero	96768	
Brenda Rogers	Brenda Rogers	96768	
Mark Sheehan	Mark Sheehan	96708	
C. Palu	C. Palu	96768	

**Petition "Enough is Enough" (cont.)**  
**Individuals who sent the identical Petition shown previously.**

Name (Printed)	Signature	Zip Code	Age 18
JOM O'CONNOR	<i>Tom O'Connor</i>	96753	✓
Stacy O'Connor	<i>Stacy O'Connor</i>	96753	✓
KAWIKA GULICK	<i>Kawika Gulick</i>	96793	✓
Anita Saunders	<i>Anita Saunders</i>	96753	
BRUCE SAUNDERS	<i>Bruce Saunders</i>	96753	
Kevin [unclear]	<i>Kevin [unclear]</i>	96779	
GARETT MENDOZA	<i>Garrett Mendoza</i>	96732	✓
Kana Eaton	<i>Kana Eaton</i>	96793	✓
Vanessa Wilsey	<i>Vanessa Wilsey</i>	96793	
Julie Hoy	<i>Julie Hoy</i>	96733	✓
IPPO PUI	<i>Ippo Pui</i>	96793	18+
Ryan Boots	<i>Ryan Boots</i>	96793	18+
Melissa Rbert	<i>Melissa Rbert</i>	96708	18+
Glen Roberts	<i>Glen Roberts</i>	96708	18+
John Takakura	<i>John Takakura</i>	96779	✓
Jodiua Espunoli	<i>Jodiua Espunoli</i>	96793	28
Jennifer medeiros	<i>Jennifer medeiros</i>	96732	32
Roseline K. Frye	<i>Roseline K. Frye</i>	96732	54
Tahira Nid	<i>Tahira Nid</i>	96761	32
Dave [unclear]	<i>Dave [unclear]</i>	96768	58
<del>John [unclear]</del>	<del>John [unclear]</del>	96701	44
VAL DIEGUEZ	<i>Val Dieguez</i>	96708	62
RA-CARRADOCIA	<i>RA-CARRADOCIA</i>	96708	48
Janis Blair	<i>Janis Blair</i>	96708	60
Brigitte Simonsen	<i>Brigitte Simonsen</i>	96708	18+
Brian Sweeney	<i>Brian Sweeney</i>	96790	52

**Petition "Enough is Enough" (cont.)**  
**Individuals who sent the identical Petition shown previously.**

Name (Printed)	Signature	Zip Code	Age 18 yrs. old
Kāhōhimanu Dangy	Kāhōhimanu Dangy	96786	yes
Sierra Palting	Sierra Palting	96793	yes
MARK PARANWA	Mark Paraw	01560	yes
Marcia Paraw	Mark Paraw	01560	yes
James Kaneko	James Kaneko	96761	yes
Shannon Kaneko	Shannon Kaneko	96761	yes
Samuel Erickson	Samuel Erickson	96768	yes
Wiebke Erickson	W. Erickson	96761	yes
Dominic Carden	Dominic Carden	96768	yes
Sydney Carden	Sydney Carden	96768	yes
Charles Meszaros	Charles Meszaros	96701	yes
Ruth Meszaros	Ruth Meszaros	96701	yes
ERIC GINSBERG	Eric Ginsberg	96753	yes
Mauricio Sib S.	Mauricio Sib S.	96793	yes
DREW MARTIN	Drew Martin	96793	yes
Joan Martin	Joan Martin	96793	yes
Jamie Natividad	Jamie Natividad	96761	yes
Anthony Natividad	Anthony Natividad	96761	YES!
Ruben Natividad	Ruben Natividad	96793	yes
John is Pam Lilly	John is Pam Lilly	96753	yes
Richard Cebalino	Richard Cebalino	96793	yes
Everet Wonder	Everet Wonder	96761	yes
Manon Brown	Manon Brown	96753	yes
Lloyd Eschke	Lloyd Eschke	96732	yes
Kale Kahiwahiwahikanani Keane	Kale Kahiwahiwahikanani Keane	96779	yes
Linda Harrison	Linda Harrison	96779	yes

**Petition "Enough is Enough" (cont.)**  
**Individuals who sent the identical Petition shown previously.**

Name (Printed)	Signature	Zip Code	78
Chabek K.L. Awana	<i>Chabek K.L. Awana</i>	96732	yes.
MATTHEW SEMERAN	<i>Matthew Semeran</i>	96708	-
Nadine Netman-Semeran	<i>Nadine Netman-Semeran</i>	96708	-
Roxana Kuehl	<i>Roxana Kuehl</i>	96793	yes
Marta Alvarez	<i>Marta Alvarez</i>	96790	yes
Brett Shillig	<i>Brett Shillig</i>	96790	yes
Paul G. Vin	<i>Paul G. Vin</i>	96753	-
DIANNA DIFENNA	<i>Dianna Difenna</i>	96768	-
DAIN REBE	<i>Dain Rebe</i>	96768	-
TOD HILLMAN	<i>Tod Hillman</i>	90403	✓
also Bwini	<i>Bwini</i>	96793	✓
Zuki Hallevi	<i>Zuki Hallevi</i>	96708	✓
ARON SAKO	<i>Aron Sako</i>	92659	✓
WARREN HAYLES	<i>Warren Hayles</i>	96732	X
Quinn Paterson	<i>Quinn Paterson</i>	96753	X
JOE SANBORN	<i>Joe Sanborn</i>	96753	X
Arona Aie	<i>Arona Aie</i>	96753	X
Kelly Knayon	<i>Kelly Knayon</i>	96768	X
Wayne Li	<i>Wayne Li</i>	96768	no
Vanessa Doherty	<i>Vanessa Doherty</i>	96768	no
Marie Jensen	<i>Marie Jensen</i>	49735	✓
JUDSON McWANDLASS	<i>Judson McWandlass</i>	96793	X
Rona Anstett	<i>Rona Anstett</i>	96793	✓
Jody Bowman	<i>Jody Bowman</i>	96790	X
Matthew Hammond	<i>Matthew Hammond</i>	96790	X
CHARLES K. CRAMER	<i>Charles K. Cramer</i>	96708	X

**Petition “Enough is Enough” (cont.)**

**ENOUGH IS ENOUGH Petition**

We the undersigned are opposed to the construction of the proposed Advanced Technology Solar Telescope (ATST) at the summit of Haleakala.

- The disturbance, alteration and removal of sacred national resources and possible cultural artifacts would be a desecration of Haleakala.
- The proposed development would have an adverse and devastating visual effect caused by the addition a 14 storied intrusive and culturally inappropriate structure.
- The impact of traffic on our roads for the 7 year construction period, high noise levels, effects to our air quality, drain on our energy grid, incomplete water and waste plan are unacceptable; in addition there will be loss of revenue to local businesses associated with tourist to Halealaka National Park.
- The National Science Foundation should not build this telescope on Haleakala summit.

Name	Address		Email
Karen Chun			
Akiyo Murata			
Mitsuru Tajiri			
Michiko Kasai			
Takuma Yamamoto			

**Petition "Enough is Enough" (cont.)**  
**Individuals who sent the identical Petition shown previously.**

Joy Brann
yasamin alarab
dot buck
Ahlinn Yamane
Tami Ho
david yamane
Miwa Tamahana
Dennis Apana
martin allen
Pam Daoust
Rena Hayashi
Maury King
Kristin Hettermann
Linda Lanham
Linda Lanham
aisley sakamoto
Cheryl Held
Mel S Stark

Cindy Lance
Susan Bryan
Doug Ward
Lynda Davis
Leona A. Toler
Jaime Rosado
Steve Childs
James Lopez
Emily K. Baker
Robert J. Wolff, PhD
Aura Lane
paluszek
miriam PUmehana paisner
Beverly E. Lawler
Felecia Collins
Laura Marsh

Laura Marsh
Darlene Meiden
Camellia Ditch-Crosby
Bobbie Alicen
June Davis
Jeff Bagshaw
rebecca robison
Takahiko Sekiyama
Harriet Witt
Laura Bouxsein
Mari Ito
Naomi Anzai
Michael S. Howden
Gwen Morinaga-Kama
Ana Kama
Miki Kama

Roland H. Chang
Sharon Fairclo
Kathy McDuff
Richard Rodrigues
Gerald L. Taber
Colin McCormick

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Supplemental Draft EIS that, for a number of reasons, Big Bear doesn't work. One of the things they talk about is a criteria that they call seeing, and Big Bear fails in the category of seeing. And, yet, in July of 2007, in a publication of the Astronomical Society of the Pacific, they talked about Big Bear Lake. And they said, after talking about evaluation, seeing conditions from sunrise to sunset are a unique feature of the Big Bear Solar Observatory. And for those of you who don't know, the National Science Foundation sponsored and put money into the construction of now the second largest solar observatory in the world, built last year at Big Bear Lake. And, in fact, the New Jersey Institute of Technology, on May 20th of this year, had a glowing praise for that observatory and how well it works at that site The National Science Foundation had a similar article on May 20th. They pulled it from their website so that you can't read it.

There is, frankly, no good reason that this project, as worthy as it may be, must be built here. I can't assure you, but I can speculate that if it's not built here, that \$146 million will be spent on this project someplace else. And that's what we're inviting National Science Foundation to do.

3. It was noted that if the ATST were built at the La Palma test site, the telescope would need to be modified because of the impact it might have on a specific peak called Cumbrecita. The telescope could not be built there if it interfered with that particular view plane. So they looked at an alternate site further downhill. Shouldn't the same consideration be given to Haleakala, which is sacred as well as beautiful?
4. My name is Jeff Kuhn. I have been studying the sun since 1980 and moved here about 12 years ago to study the sun. I lived in lots of places, but I came here to do this. This telescope that you're talking about doesn't mean anything anywhere else. The people that studied where to put it looked all over the world, started with satellites. The only place in the world that this telescope can do what it can do is here on Haleakala. So if you're talking about telescopes, put it somewhere else, that's wrong. It doesn't do what it can do. I lived on a mountain in New Mexico, thinking that was once the best place for a solar observatory. It's not. It doesn't hold a candle to what Haleakala offers and our ability to see the sun. If you have been there, you know it. Go to Haleakala and hold your thumb up over the sun and look at the sky. It's a dark blue all the way to the edge of your thumb. There's no place else that we ever look where the sky is as dark as it is. And the fact is, is the sun doesn't stop at the edge of that disk that you see. It extends out into space and it touches us here on Earth. We don't understand those connections.
5. If Haleakala were selected, and is the best place, as they say, why do they have to take the place at the very, very summit, why couldn't they move the telescope over rather than just using that 18-acre site that the University of Hawaii has been managing? There are places at lower elevation. It wouldn't be intrusive into the environment. If they didn't even study that other site, they just confine themselves to 18 acres that could easily have gone to DLNR and said we need a Special Use Permit or CDUA to build outside the summit area, lower down on the slope.
6. I'm just wondering if this would go faster, or even if they would give it a second thought, to put that on Mount Rushmore.

**Response:**

1, 2, 3, 4, 5, 6. Some background information might be helpful: two proposals related to the proposed ATST Project were submitted by the NSO (an astronomy center operated by (AURA) to NSF for funding. The first of these two proposals was for research and design (R&D Proposal), which did not trigger NEPA compliance. The second proposal, submitted to NSF in January 2004, was to seek funding for construction of the proposed ATST Project; that proposal did trigger NEPA compliance. With that understanding in mind, an explanation of the requested information follows.

The effort to identify scientifically-viable sites began prior to the submittal of the R&D Proposal and continued after that proposal was considered and approved. The process for identifying scientifically-viable sites was extensive and began in 1998. In partnership with other entities in the scientific community, NSO was responsible for identifying sites that would meet the scientific criteria. That process began with an initial evaluation of 72 potential sites; those sites were evaluated based on a broad set of scientific and logistical criteria developed by the solar research community. *See* Vol. I, Section 2.2.1- Site Selection

Chronology, Vol. II-Appendices J(1)-Sites Evaluated for Scientific Criteria, pp. 1 to 4 and J(2)- Supplemental Discussion of the Constraints of Solar Science Development, pp. 1 to 5.

See Sections 2.2-Site Selection, 2.2.1-Site Selection Chronology, 2.3.1-Site Selection in Detail, and Vol. II, Appendix O-ATST SSWG Final Report.

The solar telescope located at Big Bear Lake referenced by Mr. Lucas is much smaller than the proposed ATST Project and has seeks to achieve different scientific objectives. A site that is scientifically viable for one telescope is not necessarily viable for a different telescope. That is true here – the telescope at Big Bear Lake is very different than the proposed ATST Project and, as described in Section 2.2, it was determined that Big Bear Lake was not a scientifically viable site for the proposed ATST Project.

**Meeting Transcripts and Comments and Responses**

**Received from:** 1. M. Helm, 06-04-09 2. Dick Mayer, 06-04-09

**Comment:**

1. I just need clarification as far as what the EIS will include, is that the first Draft EIS and then the supplemental cultural studies and other studies, and then these three, or are these three supposed to be the composite of everything? The reason I'm asking is to be sure that the testimony from Section 106 and public hearings, including the oral testimony that I have requested that be documented, not only on CD or whatever, but, also, in the written comments. So I'm just clarifying that those oral testimony from those past meetings were included in totality?
2. You spoke only about the Federal and I want to know, there's also a concurrent State thing, and I believe there's been some violations of it. Could you explain how it will be approved at the State level? Who makes the final decision? The State law requires all of the comments that were made earlier have to be responded to, each individual one. In this Draft EIS, there are no responses to many comments. And many of the comments made previously in the process were not -- were not even recorded at all in this document. Where will we see and why can't we comment as to whether those statements were accurate? And that's a violation of State law. They should have been mailed to each of us and put into the document.

I asked the question earlier about the State EIS. I don't believe that they didn't have to respond to each letter. I believe if you look at the State regulations, you do have to respond to all of those letters, people personally, and it has to be included in the document. And I would very much like to have seen what responses they had to the many comments that were put in three years ago when these hearings were held. We don't have that information here. I have the initial letters that I wrote. I wrote an eight-page-letter, it doesn't get responded to, wasn't even in the document. I suspect many other people's letters were not in the document. I think that's absolutely critical. I would advise you to look at your State attorney to find out what the laws are, not trust the comment by OEQC. The State's attorney needs to look at that.

**Response:**

1. This comment was raised and addressed at the SDEIS Public Meeting:  
This document is based originally on the Draft Environmental Impact Statement, but that document was modified based on the comments that were received. So this is really a new document that supersedes the DEIS. The document doesn't add onto the prior one; it replaces the prior one. And the final will replace this one. What will be in the Final Environmental Impact Statement will be any changes to the text of the analysis in what's now Volume I of the Supplemental Draft EIS. But the other volumes of the FEIS will include comments on the Draft EIS from years ago as well as comments on the SDEIS. Supporting studies will also be included in Volume II. So in that sense, it will be a composite of everything, the entire public process that's taken place, including the transcripts. It will be a final document that will include all of the comments.

2. This comment was raised and addressed at the SDEIS Public Meeting:  
 This is a joint State and Federal EIS. The State agency is the University of Hawai‘i, which is the approving agency for this document. The Governor makes the final decision. All of the comments received on the Draft EIS, as well as the Supplemental Draft EIS, will be responded to in the Final EIS. According to the OEQC it's perfectly legitimate with respect to the State process to include all the responses in the final document. It does not have to be in the Supplemental Draft EIS.

**Cultural, Historic, and Archeological Resources**

**Received from:**

- |                              |                                 |                                                           |
|------------------------------|---------------------------------|-----------------------------------------------------------|
| 1. W. Shibuya, 06-03-09      | 2. J. Ritter, 06-03-09          | 3. G. Aikala (comment read by another attendee), 06-03-09 |
| 4. F. Ampong, 06-03-09       | 5. M. Helm, 06-03-09            | 6. K. McDuff, 06-03-09                                    |
| 7. L. Ryder, 06-03-09        | 8. C. Apana, 06-03-09           | 9. R. Lucas, 06-03-09                                     |
| 10. V. Kalanikai, 06-03-09   | 11. M. Helm, 06-03-09, 06-04-09 | 12. J. Brent, 06-03-09                                    |
| 13. L. Almeida, 06-03-09     | 14. L. deNaie, 06-03-09         | 15. K. Maxwell, 06-04-09                                  |
| 16. M. Delos Reyes, 06-04-09 | 17. N. Kekahua, 06-04-09        | 18. C. Villalon, 06-04-09                                 |
| 19. W. Kanamu, 06-04-09      | 20. H. Alau, 06-04-09           | 21. K. Kaeo, 06-04-09                                     |
| 22. J. Mancini, 06-04-09     | 23. V. Kalanikai, 06-03-09      | 24. J. Ritter, 06-04-09                                   |
| 25. N. Kekahua, 06-04-09     |                                 |                                                           |

**Comment:**

1. Early native ancestors, konohikis and monarchs did not have the opportunity of learning and doing advanced scientific research. Let me remind you, King Kamehameha, III encouraged scientific knowledge be shared with people living in Hawaii Kingdom. He permitted using summit sites for scientific observatories and sharing of information. Unfortunately, scientific installations lacked proper respect for sacred Pu‘u Kolekole and wao akua, the level of Earth stratospheres where gods and goddesses above in this area are believed to culturally reside and culturally guide the people living today on Maui, as well as Hawaii. The ATST Project is building in extraordinary pono measures of respect, provide employment, learning opportunities. And after studying four sun cycles, remove the ATST facility and restore the pu‘u. As you know, the University of Hawaii Institute of Astronomy has actively cleared earlier studied rubble and restored the summit. Here's an example of what it was before. They have cleaned up, and here it is. This is not a untouched -- retouched photo. That's what happened. The footprint of this is much smaller than the existing facilities. So you're talking about a smaller, cleaner area. I think this is excellent, an outstanding responsibility and respect of this area.
2. I grew up on sacred Indian land. So I very much empathize with a lot of the opinions about representing the `aina, and always have. One of the great Native American traditions and one of the great Hawaiian native traditions is the study of the stars and teach your children about it. I will say that if we're studying the stars, it makes sense to study the very closest star, so that we can actually learn about our universe and where we come from. I think it's possible to do this while still respecting the cultural beliefs. Projects like this honor both our community's needs and respect beliefs. It's almost (inaudible) to me that we would do this without looking at things causing problems. We want to do this in a very clean and green way.
3. The ATST Project and other job-creating opportunities are needed. We are cognizant, however, of the concerns of our Native Hawaiian brethrens and persons concerned with the environment. Their views must be heard and appreciated for cultural and religious values and practices as well as the need to protect the environment. We also believe that the ATST Project can be built respecting these values with attention to mitigation actions.
4. I'm totally against the construction of this telescope. If this telescope is to be built on Haleakala, it's not a sustainable project. Socially, environmentally,

economically, it is not sustainable. It's very short-sighted. I'm not against science. I believe there were two alternative sites besides Haleakala. If the ATST telescopes are not built on this sacred mountain, it doesn't mean that humanity is going to lose it any which way or form. The Hawaiian community and the community at large, doesn't want this to be built here for various reasons. Take the project and build it at one of the other two sites.

Our ancestors, Kanaka Maoli, have lived in the middle of the Pacific for 3,000 years plus, without any help from outside cultures or outside civilizations. We lived a truly sustainable lifestyle. We studied the stars and we communed with the environment, and we became very good at it without any kind of modern tech nothing. That's part of the sustainability. It wasn't until the arrival of foreigners from 1778, and thereafter, that things got really messed up. Our environment is screwed up. It is an insult to me and every other Kanaka Maoli to continually hear this project that we are gonna be better off, our kupunas would have wanted it this way or that way.

5. I'm clearly for the avoidance of building this ATST on Haleakala. Our kupuna and the majority of Hawaiians, Native Hawaiians, and others who have been attending these meetings have clearly stated that they are against this and that it would cause a destruction of our sacred land. And I know our people need jobs. However, if we are going to really sustain our island and our people, we must look at what is the bottom line and what will we clearly preserve and protect, what is it that was the bottom line. There is no one cultural plan or plan for Haleakala that's going to protect it and that's gonna be sure that what is done is protecting our sacred site, basically. Please, do not desecrate our sacred island and our sacred mountain.
6. The Supplemental Draft EIS seems to suggest that educating Native Hawaiians in math and science and having sense of place training, that will somehow miraculously offset the adverse impact on Native Hawaiian practitioners who consider the summit of Haleakala to be sacred. These are good measures, but one doesn't offset the other. The future impact of Haleakala as a spiritual place will be irretrievably and irreversibly affected by significant and obtrusive structure. You cannot build on the sacred ground without desecrating it. You cannot mitigate spirituality.

You state in the EIS that a minimum of 250 truckloads, or 125,550 cubic feet, of sacred rock and native soil will be bulldozed up and relocated. Just digging at the lava rock, which is believed by many Native Hawaiians to be the bones of Pele is an affront to Hawaiian spirituality. No action is the only way to protect the sacred Hawaiian `aina. If this project is built, Native Hawaiian practitioners will be adversely affected their whole lives. They will not be able to practice their spirituality as it was meant to be in this sacred place, where their ancestors conducted and taught prayers, where they connected to Wakea and Papa, and where they wove the vortex connecting all of the heiaus of Maui, and even Hawaii, to this sacred summit where numerous gods and goddesses are said to reside. They will be unable to experience the full practice of their spirituality.

The rights of Native Hawaiian practitioners and the cultural rights of the sacred summit itself -- and this is a living entity -- should be given priority in making any decisions regarding site selection. The spiritual First Amendment rights of the Native Hawaiian people should trump any dust or sky brightness issues. It can be built elsewhere, such as in space or at La Palma, where the SDEIS states there are no adverse archeological or cultural issues there.

7. The mountain itself is an ancestor. It is part of my flesh and bones. The integrity of these islands, sense of place, sense of spirituality, sense of equality, fairness, sense of aloha is compromised with this proposed solar telescope. No hotel, no carpenters union, no astronomical -- astrology school can create the sense of place and spirituality carried in the bones of every life force on this planet. The proposal is going to sever the spiritual connections that many of us who practice and live free, from not only Haleakala's mountaintops, but the many other sacred sites worldwide on our beloved mother. Many are being compromised as we speak now. And so I invite you into the space of moving, moving it to another site. You cannot mitigate spirituality. You cannot mitigate the sense of spirituality in the next generations.
8. I am against this project. Is this really about looking at solar sunspots? What kind of a technology is that? Compared to people who can tune in to another

dimension in their ancestors. What kind of technology is that, to look at the sun, when you can out satellites, you have satellites in the sky already, and you can get that information from there. This is not keeping up with where we started from today, where our ancestors have taken us. So what makes you think infringing upon the view plane of Haleakala and the quiet serenity and the very essence of the mountain, and what it means to people who have used it for thousands of years -- how could your science be better than that? That is truly arrogant.

9. Haleakala is in the process right now of healing itself. The buildings there -- the last building that was built was in 1984. We're 25 years into this healing process. Nature will reclaim anything that man can do. But if we keep restarting with new building after new building after new building, it's like tearing the scab off of what Haleakala is doing in reclaiming it's spiritual center for the Hawaiian people. And we can't start that process over and go 25 years and then start it over and over again. This is part what I had to say about the lack of candor in the Supplemental Draft EIS. The cultural specialist who looked at this in 2003, who looked at it again in 2006, specifically with respect to the ATST Project, said to really mitigate the impacts that have happened to this site, there must be a stop to any more construction on this 18-acre site. This language doesn't appear anywhere in the Supplemental Draft EIS. To have this conversation, we have to have transparency and candor one from the other and I don't think we're getting this from National Science Foundation as it applies to this information.
10. In terms of Kamehameha, III, Kauikeaouli, my brother Warren has shared, that is not true. He learns from the books. We come from oral tradition, not from written tradition. And how I know this, I take care of Queen Kapiolani's burial site. It's not where you people think, that Michener had wrote, that she is at.

All our people, all our indigenous people were all scientists or astronomers. No one had even bothered to ask the Hawaiians, the indigenous people, about this knowledge of all things in the universe and on Earth. You know, you folks got to go build all this stuff to learn and figure out about the sun, what's out there. We already know what's out there. It's in due time when things will be revealed. Our destiny is to maintain the aloha spirit the best that we can here on these islands.

11. So that you would perhaps be able to connect with what we're saying as far as sacredness, if you can think of one place on Earth that you would protect by all means, it has very deep meaning to you and your family. I want you to just picture that for a bit and feel it. And then imagine how it is to have that attachment and then continually going through this process of hearing: yes, it is sacred and acknowledged in the EIS; it's acknowledged in legal documents that come to us, or correspondence; yes, we understand it's a cultural resource; but how can we have this built, how can we get this through.

I am for full avoidance of the building of this structure on our sacred mountain. And there are many opinions, other opinions. I understand that. Where I see the difference is having an opinion that may relate to your particular profession, your particular goal for what you think is important, versus affecting someone's identity, the identity of a people and the culture of a people. If somebody really revered that area, how is it that we have antennas here, telescopes here and everything? Some of the antennas are out of the telescope site, I understand that. However, it is a random desecration. If you could just experience and look at it as wounds, random wounds that nobody seemed to have great care about what in the world was going up on there. It is an insult to our people, and other non-Hawaiians who want to come up to Haleakala. When we say resources, it, to me, it's more than resources. It is our life, our identity. I know how much money was spent on this and I know how much you guys need to study, but how sacred places have you guys built on? Mauna Kea and where else? NSF needs to have the President know that this is a sacred site. You're building on Mauna Kea. Where else in this world are you folks building on that the people say this is a sacred site? We need to have the respect and we need to have you not do it here. We respect your studies. The part is, we're not talking about just studies. We're not talking about, oh, mitigation, let's say \$2 million for 10 years or whatever, \$20 million. Yes, it's saying it's gonna help Hawaiian students, but, really, it's a drop in a bucket when you look at how many millions have been mentioned that will be spent by the end of 2009, just for the development of this project.

12. This is a church to science. People who believe in science believe in it very strongly. Even the native cultures who incorporate astronomy -- to them, it probably meant something much deeper, much more religious. I see this as putting a church on top of somebody else's sacred ground. That makes me very uncomfortable. This, to me, just strikes me as another case of somebody taking their religious structure and putting it on somebody else's religious ground. If you're gonna do that, you should be honest about it, if that's what's happening, and should be open about it. I don't really see that taking place. I see it as people with different definitions somehow trying to justify in the name of science. If it can be built somewhere else where it's not gonna impact people's belief systems, I think that should be taken a look at very closely.
13. With relevance to environmental impact, this is that big 14-story impact -- it's not a small thing now. Hawaii is like the endangered species capital of the world. We're just losing all these things. And it's just like our mountain's being stolen from us. You don't see Hawaiians in the city, yeah, by a building, chanting or anything. We go to these very sacred places. See, what's cultural for us is environmental for us.
14. It is a temple. When I've had problems in my life, what I have done is gone to Haleakala, because it is a place where a human being can connect with a much greater force. Now, the question is, so if more telescopes and more business and everything goes up there, does that mean I can't connect with that force anymore? Well, no, I could physically still go to the crater, and I could still be in a receptive state, but my experience of being there is different the more that the natural part of it is changed.  
  
I'm not Hawaiian. I'm just an ordinary regular haole type of person. But there are many people who are not Hawaiian who feel that same sense of spiritual connection with this place. I mean, science is wonderful, the sky is beautiful, the things we learn from the stars and the planet is beautiful, wonderful. But a 14-story building up there? It is gonna change this place. And I feel like we need to acknowledge that. And is there a mitigation that can make that better? Well, you know, not from what I've read. So that's my mana`o as just a person who loves this place. I wish that this endeavor was taking place at another locale, because I think that our mountain needs to be left for the spirits. There's a reason that Hawaiians had the realms of the gods, because that's where gods were listening.
15. I told you "I don't trust you" is because what happened with AEOS. You know, this is -- all Maui is sacred. All Maui is spiritual. Haleakala happened to be more spiritual than other places. But when I say "spiritual," it's not only to Hawaiians. Now, for the construction workers, I do understand. But I tell you what, they gonna employ you to build this building, and once it's pau -- three weeks or a month ago, we went up there to do a blessing because AEOS had to work on the side of the building. And you know what? It was like Fort Knox. It was amazing. You didn't feel like you were in Hawaii. They put a scanner under my car. And this monstrosity gonna be up there forever, for life. They ain't gonna take it down. We asked them to tear the buildings down when they done. And it's 40, 50 years. I'm 72 years old, and I drew a line in the lava. If I personally have to go up there and block the trucks that are going to build this monstrosity, I will.
16. They have destroyed Mauna Kea and the top of Haleakala. I hate to see any more destruction. Because once it is there, it will be there forever. If they don't take it down, like they said they're gonna take it down after so many years -- which they're not -- and if it's up to us to take down, how are we gonna move all that crap from the mountain? Why put this beast on our mountain which is very sacred to us? We have visitors coming from New Zealand, (inaudible) and other Polynesian countries, they all migrate to Haleakala.
17. The laws you call law is not our law. And today, why we have differences and why you guys think we racist -- because we hate this. We hate continuing to take this crap that you guys shoving down our throat. I oppose this. I used to roam freely on it. I drove where I like. Now I gotta go through a gate, tell 'em, oh, you know what, I go cultural practice, (inaudible) my pule, to connect with the Akua. Be very careful what you decide on. You're accountable.

18. Tired of you force-feeding us. That's what it is, the force-feed. I get 300 years of ancestors on this island. My family kupuna couldn't enjoy this because of the dust on the lens from the other telescope. Oh, you guys cannot drive, you cannot bring kupuna. Because the dust go on top and we no can see. More restrictions now. You know how much goats get up there? I see one herd of 1,300 goats. That's a lot of meat. And talking about recession. You can feed a lot of people up there and eradicate 'em. I see goats stand up like man and eat the trees. Make us one safe trail without creating dust. Give us the opportunity to go up there and malama the place, not lock us out. You taking, you taking, you taking, and then you lock us out. How can we malama things that is real to us when we cannot even go touch 'em anymore. That's the problem you guys giving. We cannot even touch and engage anymore.
19. Akua gave the land to us. My family's been in Hawaii over 50 generations, I believe from the first canoe that came across Polynesia, 2,000 years ago. Why would he give to us? Because he knew that we were gonna malama the `aina. All day, I've been looking at Haleakala. Driving up here, I saw that thing shining up there that's not supposed to be there. I listen to the i`iwi, the apapane, the `amakihi, all the birds of the Hawaiian forest. I listen to the kupuna talking to me in the caves, old caves. And I hear voices from the past. They say come back, return to the land. You take care of the land, the land take care of you. Hawaiians only wanna be free. Hawaiians only wanna be free.
20. What has happened in that area is we have created an elite gated community for scientists. Try to go past that point and you see a roadblock. When I grew up, you could go up to the end of the road, which was at that time the FAA relay station, get to the top, turn around, walk down 900 feet, and be inside the Forest Reserve, and start hunting. Now, you can't even get there. The cultural issues are important. I'm not anti-science, but I am anti- when I don't think all the questions have been answered or all the issues have been looked at. So you need to look at greater ways on how you're gonna do this. I kinda disagree with this at the present stage right now. At the stage that we at, I can't agree and I can't support this.
21. I have a strong opposition to this project, as been stated many times before. We dance through this dance and the same music is being played over and over. The Hawaiians are always asked to come to the dance, but they never play our song. They play those kind of songs that don't speak for us. So we come, we share, we ask to dance. And no matter how many times we ask to dance, they never play our song. Play the band. They don't even know our songs. They don't even care to know our songs. But they invite us to the dance because that's all they need to do. See, we know the process. That's all they need to do, send out invitations, show up, Hawaiians, and they did their part. I've been coming to these kind of things for a long time. This is not the first time. You know we gonna fight and struggle. This is just part of the process. We have been here for 1,200 generations. And what allows us to be here for 1,200 more is to fight against these kinds of policies which looking to terminate us as a people. Because this is what this is about, erase our humanity, our history. That's the truth.  
  
You know, some have mentioned in the newspaper about Kalakaua. Understand history. When Kalakaua madethat statement, he wasn't talking about building some monstrosity on top Haleakala. Secondly, Kalakaua was speaking from a time when Hawaiians had control and decided for ourselves. This wasn't outside foreign settlers deciding for us what was good for us. That's the difference here.
22. Wise decisions would integrate social, economic environmental and ethical considerations into the decision-making process. Kanaka Maoli have passionately, eloquently and very clearly presented their position in opposition to this project. And project proponents genuinely believed that the negative impacts, which they acknowledge exist, can be mitigated to the satisfaction of Native Hawaiians.
23. So what I trying to get here is sustainability. The population that we have here on Maui right now, it was three-folds at that time. And I'm talking before Hawaiians got here, Kanaka Maoles, a time when the whole Pacific Ocean was one continent -- We live many years, 40,000 years plus, and we sustain ourself by malama the `aina, ahupua`a, water comes down from the mountain from Papa, go down to Mama, and it's a cycle Just as long everything here stay pono. And this is not just a Hawaiian thing. It's for all to reap this benefit.

24. And a couple points I think are important to make is all Hawaiians are astronomers. One of the great important and great Hawaiian traditions is to study the stars and to teach your children about it. And there are a lot of scientists who are doing this, too. I've heard a lot of people talk about respect for culture. I want you to know a little of our perspective as scientists. Being one with nature and understanding and being connected to nature, this is what astronomers do. It is a thing that we have in common. What you call a telescope -- is a heiau to us. What you do at a heiau is what I do at a laboratory. You may disagree, but these are the things that are sacred to me in my life and the things that are important to me. And I'm trying to understand the things that are important to you. I'd like for you to at least consider the fact that we may be more alike than you think on some of these views. I'm glad we're talking about this. It's a step towards achieving great science and, hopefully, science that is actually compatible with the cultural values here.
25. It seems like we, as Hawaiian people, come in conflict with others because of the system that has been imposed upon us through illegal occupation and through military force. And we as people always have this constant conflict with one another because we want to care for our family. I'm not caught up in the construction industry. I know all about that. I work my land, work my taro. And I understand the `aina. The `aina is not something that you look at it and say, okay, is it -- when you put something in like this, it's gonna stay. Who is it gonna educate? Who will learn from this? You think scientifically everything is okay, but what about the continual people who still go to their job? You not gonna sustain them for the rest of their life. There seems to be flawed. There's flaw in this. If we wanna to do something correctly, fix the flaw. You guys look at something that is material, that is something that you think that is important, oh, beautiful structure, building. Try go plant taro. Try make a tree go. Try incorporate different other food chain. Can you? That is important to me. Can I feed? When you no more job and everything gonna crash -- and it will crash, people. Why? You taking away the food source. When I say, the (Hawaiian) grow wild, naturally, ke Akua, in his hands, naturally. But you guys decide you gonna take that away. That's desecration at the highest level.

**Response:**

1 to 25. Thank you for your comments, which are noted. NSF acknowledges and appreciates the testimony of Native Hawaiians and others who have taken the time to come to meetings or provide written testimony to share their mana`o about Haleakalā, both as a spiritual, sacred place and also as a place where culture and science can co-exist. Section 5.0-Notification, Public Involvement, and Consulted Parties addresses the numerous consultation meetings, both informal and formal that have taken place since 2005. NSF acknowledges the spiritual and cultural significance of Haleakalā as a traditional cultural property (TCP) and has determined that the proposed ATST Project would have a major and adverse effect on this TCP. While many individuals spoke about the sacred and cultural significance of Haleakalā, and expressed their belief that spirituality cannot be mitigated and that construction of the proposed ATST project should be avoided, many others have, to the contrary, expressed their support for the proposed ATST Project and their belief that culture and science can co-exist. Still others have expressed their view that they are opposed to the construction of the proposed ATST Project, but believe that mitigation through an educational program focused on the intersection between traditional culture and science would help to reduce the adverse effects. All views have been received and will be considered before a final decision is made.

For additional information on how NSF has addressed impacts to cultural resources, please see the following sections of the FEIS:

Section 4.18-mitigation describes aspects to the strategy proposed by NSF and cooperating Native Hawaiian individuals to minimize or mitigate effects to what is acknowledged to be a Traditional Cultural Property (TCP).

Section 5.2 (The Section 106 Consultation Process Pursuant to the National Historic Preservation Act). As set forth in this Section, NSF, pursuant to Section 106 of the NHPA, which requires Federal agencies to take into account the effects of their undertakings on historic properties, NSF has been consulting with HALE, the Advisory Council on Historic Preservation (ACHP), the State Historic Preservation Division (SHPD), Native Hawaiian organizations and individuals, and other members of the public to find ways to resolve adverse effects from the proposed ATST Project. The result of these efforts is reflected in the draft

Programmatic Agreement, prepared pursuant to 36 CFR. 800.14(b), that is currently under review by the consulting parties. In that draft document, the removal of the proposed ATST facility after its operational lifetime, which would constitute a significant mitigation of its potential long-term impact, is proposed. Such decommissioning is taken into consideration as part of life-cycle project planning, and, in the case of facilities constructed with NSF’s financial assistance, it is determined on a case-by-case basis. With regard to the proposed ATST Project, if funding for construction is approved, NSF anticipates that the estimated lifetime of the telescope would be at least 45 years (spanning two, 22-year solar cycles) after it becomes operational. As a mitigation measure under Section 106 of the NHPA, and relating to other categories of impact as well, NSF would decommission, deconstruct, or divest itself of all interest in the proposed ATST Project at the end of its productive lifetime.

In addition, Preservation Plans are in place at HO. See Vol. II-Surveys and Assessments, Appendix B (2) Archaeological Recovery Plans: a. State of Hawai‘i, Department of Land and Natural Resources (DLNR) approval letter sent to Erik Fredericksen, Xamanek Researches, regarding Preservation Plan for Eleven Sites at Science City, from Peter Young, Chair, State Historic Preservation Officer, dated July 10, 2006, acknowledging that the Preservation Plan is acceptable.; and, b. Archaeological Preservation Plan for an 18-1-acre parcel known as “Science City”, Haleakalā Crater, Papa‘anui Ahupua‘a, Makawao District, Maui Island (TMK: 2-2-07: por. of 8).

The 2003 cultural resource evaluation conducted for the LRDP, offered a series of recommended rules to ensure preservation of cultural resources at HO. The IfA adopted the preservation recommendations in 2003, and maintains a program that includes “Sense of Place” training for everyone working at HO, coordination with and oversight by a cultural specialist for all construction projects, and set-aside areas for exclusive use by Kanaka Maoli to practice cultural and spiritual ceremonies. (CRE, 2003, p. 16).

It may be of interest for commenters to note that a Cultural Specialist would be engaged at the earliest stages of the planning process, monitor the construction process, and consult with and advise the on-site Project Manager with regard to any cultural or spiritual correction. That includes disposition of rock and soil, rehabilitation of disturbed areas, and the appropriate prayers at the beginning and end of work. Because NSF has found that the proposed ATST Project would affect cultural resources on this portion of the summit area, the Cultural Specialist must be a Kanaka Maoli, preferably a kupuna (elder) and if possible a kahu (clergyman) as well, and one who has personal knowledge of the spiritual and cultural significance and protocol of Haleakalā.

**Biological Resources and Endangered Species**

**Received from:** M. Martin, 06-04-09

**Comment:**

They say that the damage to wildlife will be mitigated. Now, on Maui, the wildlife in the Park is ground-nesting. And the excavation for the telescope will involve huge machines that will compact and beat on the soil. I live in Paia, in a small town. And a small road, bypass road was built not so long ago. And they had road construction compacters beating underneath the road, which was not a deep excavation. And the vibrations from the road compaction shook up my whole house and broke my water pipes in my house. Now, you can't tell me that the kind of compaction they're going to do up there is not going to affect the ground and affect the birds in the ground. It will. It will cause damage and they will be killed or driven away. And that cannot be mitigated.

**Response:**

A detailed analysis of noise has been added to the FEIS to further explain the types, duration, and distribution of noise that is anticipated from the proposed ATST Project. The comment assumes that both higher and not consistent noise levels near burrows will occur that will prevent non-nesting of pairs. The actual anticipated noise profiles at the distances to burrows do not fit the category of “higher” than what USFWS has stated to be potential disturbance level during the day; and at attenuating distances to the burrows, they are already largely within the 83 dBA range as measured at the burrows for all activities. Secondly, prior to nesting, bird pairs are only present at the burrows at night. No noise inducing nighttime construction would take place.

The predictive mortality for nēnē has been re-calculated by the USFWS biologist, based on the latest estimates of total number of vehicular round-trips during construction. In comments to HALE resource staff on the SDEIS on June 5, 2009, the USFWS stated the following: “In our March 28, 2007, informal consultation, we assessed the potential for a nēnē to be killed by an ATST-related vehicle. Our calculations were based on November 21, 2006, data which indicated an average of 1.26 nēnē killed by the average of 282,813 vehicles accessing Haleakalā National Park each year (includes day and night access). In our March 2007, Section 7 consultation we calculated that there would be a total of 66,294 ATST-related vehicle round-trips taken during the 31-year project period. By combining the average Hawaiian goose fatality rates due to vehicles driving the Haleakalā National Park Road and the ATST vehicle use data, we calculated that there would be a collision with 0.3 Hawaiian goose during the 31-year life of the project. Based on updated vehicle use data presented in the May 2009, SDEIS for the ATST, my rough calculations indicate there will be a total of approximately 82,015 vehicle round-trips during the 31-year project period (an average of approximately 2,646 round-trips per year). Recalculation of the nēnē collision rate, using the updated vehicle use information and the November 21, 2006, and fatality rates documented for all Park users, I calculate that there would be a collision with 0.365 nēnē during the 31-year life of the project. We believe ATST drivers will be less likely to collide with a nēnē than the average driver visiting the Park.”

With respect to truck traffic, in comments to the HALE resource staff on the SDEIS on June 5, 2009, the USFWS sought to clarify the intentions of the Service by repeating the same statements concerning truck traffic as in the 2007 Informal Consultation Document: According to the SDEIS, NSF will restrict the movement of wide loads to night periods (8 p.m. through 4 a.m.) to minimize project impacts to Park visitors. Over the course of the project, no more than 25 wide loads would be accessing the project site. The SDEIS indicated that no wide loads would be moved to the site during the April 20 through July 15 Hawaiian petrel incubation period. NSF’s restriction of wide load traffic during the Hawaiian petrel incubation period will minimize impacts of this aspect of the project to incubating Hawaiian petrels. (Our March 28, 2007, informal consultation addressed round-trip access of up to two heavy trucks per day during the incubation period.) Adult Hawaiian petrels may be visiting burrows at night to feed nestlings during late April, May, and June nestling period. During our informal consultation, NSF agreed no truck traffic would drive through the Park and no construction activities would occur prior to 6 a.m. or later than 8 p.m. during the late April, May, and June periods to avoid potential impact of this type of activity to the adults.

Transmission of vibration through various earth materials is quite variable. Therefore, it is important to have first-hand knowledge of the ground vibrations that would be induced by construction of the proposed ATST Project. Since actual levels of vibration could only be measured by conducting construction, in January and February of 2009 the ATST Project team was given an opportunity to study the effect of heavy equipment vibrations on the summit of Haleakalā. The assessment of sound attenuation was guided by instructions from USFWS, which requested readings from the entrance of burrows. Measurements of hundreds of actual vibrations were obtained from heavy equipment working to de-construct, demolish and restore an area on Kolekole cinder cone formerly used for broadcasting. The area is adjacent to HO and the same petrel colony at HO where ATST would be constructed, if approved. Hundreds of measurements of vibration from heavy construction vehicles and activities were obtained, including measurements at the closest burrow during activities, from as close as 110 feet to the colony. The highest level of vibration from ground excavation and demolition measured on the ground at the nearest burrow was 0.0138 in/sec., an order of magnitude less than the threshold established by USFWS. These measurements included severe earth moving activities, such as excavation, concrete ramming, and dropping of concrete blocks weighing tons from heights of eight feet. Measurements of ground movement at the nearest petrel burrow about 110-feet away were no higher than about a Peak Particle Velocity (PPV) of 0.0138 in/sec, during the most vibration-inducing activities. The USFWS has set a PPV threshold of 0.12 in/sec as a limit for vibration at the burrows, which is an order of magnitude higher than anticipated vibration from caisson emplacement, the highest-level vibration activity for ATST. The most recent earthquake on Haleakalā in October 2006 produced measured PPV vibrations of 3.4 in/sec., and no damage was done to burrows, nor was there any reported reduction in fledgling success that year. Analysis of the vibration data indicates that no construction activity for ATST would produce vibrations that would have negligible impact on the petrels, and they will be neither killed nor driven away. This study is provided in Vol. II, Appendix Q-Vibration Study.

Finally, according to follow-up informal consultation with USFWS during 2009, the minor changes to the project involving traffic and a small Park road modification at the entrance station, still do not result in more than a “not likely to adversely affect” determination. However, the proposed ATST Project would provide a biological monitor for both petrels and nēnē to assist HALE with mapping of burrows to ensure that any new burrows closer to construction than the ones currently occupied would be identified and appropriate measures would be taken under a management plan approved by DOFAW.

**Construction In General**

**Received from:** 1. J. Brent, 06-03-09 2. G. Aikala, 06-04-09

**Comment:**

1. I was very concerned about the impact in terms of construction equipment, noise, pollution. I live right near the entrance for Crater Road, going up. I work in Kula. I spend all my time up there. I don't really hear anything about that tonight, and I haven't read any of that from any of the press releases. I'm wondering why.
2. We had a MILA meeting, which is Maui International Labor Alliance meeting, with different trades today, which includes HGEA, the carpenters, operators, the laborers, the electricians. And we all sat down together. We talked with Mike, Jeremy, Jeff Barr and they assured us that responsible contractors, local contractors that we know of, will be building this building on our recommendations. They have a 18-acre reserve up in that area. And it's gonna be built within that area. I'm sure that they're gonna look at the different culture aspects on our side, also. And I sympathize with Charlie, because there are flora and certain things on that island that shouldn't be disturbed. And with kupunas like him and other well-educated Hawaiians that go up there, they can help out these guys to probably make it a little bit better.

**Response:**

1. The concerns expressed in the comment are about traffic on State Routes 377 and 378, which are the State-maintained portion of the Haleakalā access road. A discussion in Section 4.9 addresses concerns about traffic volume on those roads. In order to assess the potential impacts of construction, the most recent traffic count conducted on September 19 and 20, 2007 by the DOT reported total, two-way, 24-hour traffic of 1,439 vehicles and 1,562 vehicles respectively on State Road 378. On State Route 377, which leads to Route 378, the total, two-way, 24-hour traffic was reported to be 3,323 vehicles and 3,265 vehicles respectively (DOT, 2007). The traffic required for construction of the proposed ATST Project, as described in Section 2.4.3-Construction Activities, would be an average of about 10 vehicle round-trips per day, with a maximum of 20 round-trips depending on the activities in progress. Based on the above DOT statistics and proposed ATST Project predictions the maximum traffic increase would be about 1.2 percent  $(40/3265 \times 100)$  on Route 377 and 2.8 percent  $(40/1439 \times 100)$  on Route 378. The increase in road traffic would be small and limited largely to daytime, with the exception of up to 25 wide or heavy loads during a 7 year period. The noise from the largest of these vehicles would be well within the range of road noise from tour buses in national parks, as shown in the noise levels for ATST equipment and vehicles in Table 3 of Vol. II, Appendix M.
2. Thank you for your comments, which are noted.

<b>Infrastructure and Utilities: Electrical</b>
<b>Received from:</b> M. Martin, 06-04-09
<b>Comment:</b> Electricity on Maui is mostly produced by fossil fuel. And fossil fuel is a contributor to global warming. And global warming is a big problem for the whole world. Now, this telescope will draw lots of power, which it will get from Maui Electric, and the fossil fuel. It is shocking that no plan was made to get any energy from the sun itself. Isn't that the first thing we should be studying, is getting power from the sun?
<b>Response:</b> Members of the proposed ATST Project have contacted MECO on the anticipated electrical load and will continue to consult with MECO engineers should the Proposed Action be approved and plans become refined. See Section 2.4.4-Telescope Operation Activities ( <i>Utilities, Electricity</i> ) for a detailed discussion about electrical power for the Proposed Action that would be provided by connection to the MECO substation on HO.  Section 1.4-Project Summary provides details about the purpose, need, and primary objectives for the proposed ATST Project.

<b>Upcountry Community Plan</b>
<b>Received from:</b> D. Mayer, 06-04-09
<b>Comment:</b> Loss of rural character. This Upcountry Plan -- that many of you who live in the Upcountry District know that this area is known for its rural ambience, country-like atmosphere. This is a really major urban type facility. 143 foot tall, huge building, with lots of construction noise, up at the top of the mountain.
<b>Response:</b> If approved for construction, the proposed ATST Project would not be located in the Kula community. It would be located within HO on State Conservation District land. Sections 1.7.2-State Land Use Law, Chapter 205, Hawai'i Revised Statutes and 3.1-Land Use and Existing Activities state: "The existing State Land Use District for the proposed ATST Project is designated as Conservation District, General Subzone. The objective of the General Subzone is to designate open space where specific conservation uses may not be defined, but where urban use would be premature. During the past few years, the OCCL within the DLNR has administered CDUPs for numerous potential uses, among them astronomical facilities on Haleakalā. The proposed ATST Project would be located in the area of the Conservation District that has been set aside for astronomical research (HAR§13-5-25: Identified land uses in the General Subzone, which is applicable from R-3 Astronomy Facilities, (D-1) Astronomy facilities under an approved management plan); and many facilities conducting astronomy and advanced space surveillance already exist within HO." Please also note that the Sections pertaining to noise (Section 4.10) and viewshed (Section 4.5) impacts have been revised in response to comments on the SDEIS.

<b>Visual Resources and View Plane</b>		
<b>Received from:</b>		
1. K. McDuff, 06-03-09	2. G. Aikala, 06-04-09	3. S. Miller, 06-04-09
<b>Comment:</b>		
<p>1. In addition, the view planes of the Haleakala summit will be irretrievably damaged. This 143-foot structure will be clearly visible from the Red Hill Overlook, and the crane constructing this massive structure will be visible from the crater itself. There is no mitigation possible for the loss of this view plane. This is stated in the EIS.</p> <p>2. Yeah, it's going to be big. But when you come up to the top of that observatory area, `Ula`ula, you won't be able to see it except for probably down in Kahului. While we may have that terrible (inaudible) on top of Haleakala, you won't be able to see it, anyway.</p> <p>3. I'm totally against this project. It's gonna be just an eyesore, looking up at Haleakala. It's a spiritual place. I was blessed and I had the opportunity to run up there, you know, the Run to the Sun. And it's so awesome.</p>		
<b>Response:</b>		
<p>1, 2, 3. See Section 4.5-Visual Resources and View Planes, which has been revised in response to comments on the SDEIS. The combination of all the above viewshed assessments methods provides a comprehensive prediction of the potential visual effect the proposed ATST Project would have within the ROI. While ATST would be clearly visible as the largest structure within HO from the Pu`u Ula`ula (Red Hill) Overlook and from elsewhere in HALE, it would be less prominent from other locations on Maui. Distance, atmospheric transparency, terrain blocking, and other facilities in the foreground would reduce the visibility of the proposed ATST Project such that in some locations it would be difficult to distinguish between ATST and the other existing facilities at HO (Fig. 4-18 at Pukalani and Figs. 4-21 and 22 at Keonekai). At some locations, such as Wailuku and Kahikunui, the proposed ATST Project at the Mees site would be seen more directly, without as much terrain blocking or other intervening facilities. From Kaupo, the proposed ATST Project facility would not be visible</p>		
<b>Hazardous Materials</b>		
<b>Received from:</b> M. Helm, 06-03-09		
<b>Comment:</b>		
<p>If this ATST was built, one of my concerns is about this toxic waste. At other past meetings, we have learned that there are serious risks about this, as well as serious possible risks by having the ATST there. There were questions before about prior incidences at other telescopes or possibilities that may happen.</p>		
<b>Response:</b>		
<p>The disposal of the effluent and other waste materials from the mirror stripping process is specified in the ATST Hazardous Material and Hazardous Waste Management Program (Vol. II, Appendix D-ATST Hazardous Materials and Hazardous Waste Management Program, Section 11.6, p. 10). As described therein, the effluent is required to be captured and contained in special-purpose holding tanks, tested on site to determine pH and other potentially hazardous properties, and disposed of in accordance with local authorities. Criteria for determining hazardous waste, as well as procedures for storage, transport and disposal by a licensed hazardous waste contractor are also described in that document (Vol. II, Appendix D, Sections 5 and 7).</p>		

<b>Visitor Experience</b>			
<b>Received from:</b>	1. D. Mayer, 06-04-09	2. K. Maxwell, 06-04-09	3. J. Mancini, 06-04-09
<b>Comment:</b>			
<p>1. The National Park, several years ago, when this process went through, had some strong reservations. And I'm hoping, with our new superintendent, that those reservations will be kept in mind. Because Haleakala summit and Haleakala National Park are treasures, very, very significant treasures. And the most beautiful part of that park -- park is to be able to step at the top and view out to the crater. And if you stand at the top of that hill, Red Hill, what you'll have in your face is a 143-foot-tall monstrosity, just across the way, very close, right in the face of every one of the million tourists who go up there. Disrupting the view, the tranquility, because during the construction site, as the Environmental Impact Statement said, they're gonna have noise levels at 55 decibels at the site, at Red Hill. That will be very intrusive to the whole experience of people going up to the top of that mountain.</p> <p>It's gonna be the tallest building on the island, 143 feet high. Bigger than any hotel, bigger than the County building by about 50 or 60 feet. It will be painted with a super reflective white color because it's operating during the daytime, they wanna reflect the heat. If you think the white building on top of the mountain now shines brightly when you look from down below, or someplace else, this building -- this paint on this building will be far whiter and far more intrusive to the tourists going up to the mountain. What is our major industry? It's tourism. What will be the effect of having this ugly monstrosity sitting there in the most visited spot on the island by tourists? And we have to be thinking. We talked about the downturn in the economy, we have to recognize that this has an impact. Does the EIS adjust for this? No. And particularly with regard to the National Park, the Community Plan region is the home of significant resources, including watershed areas in the Haleakala National Park, significant in terms of its resources, preservation, enhancement, protection, values. From an economic standpoint, the National Park is viewed as an important component to the region's economy. What is the effect on the National Park, on the visitor experience of going up there?</p> <p>2. It's really important that the National Park not support this telescope because it already infringes on the route that tourists are taking, the natural resources of the Park, and the Park. And the Park, it was mandated to protect the natural resources, the cultural resources of Haleakala. So I encourage the superintendent please do not -- I know there's a lot of Federal pressure against you, but don't give in to them.</p> <p>3. I would like to ask the National Park Service to examine this issue from a broader perspective and to uphold their mission for all of us, not just some of us. Granting the necessary easement for a project of this magnitude diminishes the opportunity for an entire generation of young people on Maui to experience the natural wonders of Haleakala.</p>			
<b>Response:</b>			
<p>1, 2, 3. The only access to HO is on the road through HALE. The Code of Federal Regulations (CFR) 36 § 5.6 Commercial vehicles. (c) states: "The Superintendent shall issue permits for commercial vehicles used on park area roads when such use is necessary for access to private lands situated within or adjacent to the park area, to which access is otherwise not available."</p> <p>As Federal agencies, the NSF and HALE are working collaboratively to address and mitigate the affected environment associated with the proposed ATST Project, if approved for construction, which also includes portions of HALE, specifically, a 50-foot corridor along the Park road. The only access to HO is through HALE, for which the Park shall issue a Special Use Permit for access, if the proposed ATST Project is approved.</p> <p>For more information on the role of the NPS, please see Section 1.0-Introduction. The EIS was also prepared to evaluate the potential environmental impacts associated with issuing a NPS Special Use Permit (SUP), associated with construction and operation activities for the proposed ATST Project.</p>			

Please also see Section 3.0-Description of the Effected Environment. The affected environment of the Proposed ATST Project also includes portions of HALE. The primary area affected by the proposed ATST Project includes the Park road corridor, specifically, a 50-foot corridor along the Park road measured from the mid-point of the road extending out 25 feet on each side. The Park road corridor is included because a SUP is required by HALE to operate commercial vehicles within the Park.

For a discussion of mitigation measures designed to address HALE resources, see Section 4.18- Mitigation. The ATST Project is working collaboratively with HALE in establishing mitigation measures for use of the Park road during the project construction, if approved. These mitigation measures include load limits, wide loads, the entrance station, underground utilities, pre- and post-project documentation, and traffic controls.

<b>Cumulative Impacts</b>	
<b>Received from:</b>	
1. R. Lucas, 06-03-09	2. D. Mayer, 06-04-09
<b>Comment:</b>	
1. Numerous impacts have occurred on Kolekole, on summit of Haleakala due to buildings and ongoing activities. To really mitigate the impacts that have happened to this site, there must be a stop to any more construction on this 18.1-acre site.	
2. There are cumulative impacts. It's not just one telescope. It has interaction with all of the other facilities up there, the Pan-STARS, the -- the military operations, the present U.H. facilities. There must be a need -- there's a need to do a cumulative impact study for all of those projects.	
<b>Response:</b>	
Section 4.17-Cumulative Effects to the Affected Environment discusses what the total effects on each resource are when the effects of the proposed ATST Project, at either alternative site, are added to the effects resulting from past, present, and reasonably foreseeable future actions.	

Land Use			
<b>Received from:</b>			
1. J. Costa, 06-03-0	2. K. McDuff, 06-03-09	3. N. Kekahua, 06-04-09	4. K. Kaeo, 06-04-09
<b>Comment:</b>			
<p>1. I will not give consent to my inherent vested rights to that mountain. I've never given consent. My kupuna never gave consent. In this booklet here, on page -- on ES1.2, it says landownership. And it doesn't define who owns it. This is crown land. And the Supreme Court, March 30 of this year, stated these lands they cannot decide, the lands have to be decided through Hawaiian law. I'd like to find out where the Hawaiian law comes into effect into this booklet.</p> <p>U.H. is the recorded fee owner of the parcel identified as Tax Map Key 2-2-07-008. They do not own Haleakala. That is an account number. That is not the property itself. I'd like somewhere in the document to address the proper jurisdiction of ownership of this property which is crown land, not ceded. We never gave it up. Crown land is Kingdom land. Kingdom land can only be adjudicated through Kingdom law, Hawaiian law. United States Supreme Court made that decision this past year -- this year, in March. They -- they stated in their summary, "We have no authority to decide Hawaiian law." This volcano, our sacred Haleakala, comes under that jurisdiction. And I'd like someone to address that in this document. Somewhere in this document we need to find out the proper jurisdiction of this mountain so that we can move forward. Nothing else should be beside it or mitigated or discussed until we can find out the exact jurisdiction of this particular property.</p> <p>2. The Haleakala summit officially resides on ceded land. There's no clear title because these lands originally belonged to the Hawaiian Kingdom until they were turned over to the United States during the 1898 annexation. The nearly 1.8 million acres of land then passed into State possession when Hawaii officially became a U.S. state in 1959. However, proper ownership of this land has never been fully addressed. There's no discussion in the SDEIS of the potential impact of being evicted from the site after the ceded land issue is finally decided in the courts.</p> <p>3. State of Hawaii is who? How can State of Hawaii own land?</p> <p>4. The EIS didn't address the same questions I asked three years ago. I asked the question about title again. What is the title to the State of Hawaii who supposed manages this system through the University of Hawaii system. They don't have title to this place, we know that. What, that waiver on the Newlands Resolution? Is that the best they got? That's just part of the scam and the fraud. Hawaiian people, our Kanaka Maoli never gave consent to giving up that mountain, and I challenge that EIS to find where Hawaiians have ever given up consent to that mountain, to do what they wanna do up there. It doesn't exist. It's called taking. That's what this is about.</p>			
<b>Response:</b>			
<p>1, 2, 3, 4. Presented in the SDEIS in Sections 1.7.2-State Land Use Law, Chapter 205, Hawai'i Revised Statutes and 3.1-Land Use and Existing Activities state: "The existing State Land Use District for the proposed ATST Project is designated as Conservation District, General Subzone. The objective of the General Subzone is to designate open space where specific conservation uses may not be defined, but where urban use would be premature. During the past few years, the OCCL within the DLNR has administered CDUPs for numerous potential uses, among them astronomical facilities on Haleakalā. The proposed ATST Project would be located in the area of the Conservation District that has been set aside for astronomical research (HAR§13-5-25: Identified land uses in the General Subzone, which is applicable from R-3 Astronomy Facilities, (D-1) Astronomy facilities under an approved management plan); and many facilities conducting astronomy and advanced space surveillance already exist within HO."</p> <p>Presented in the Section 1.2-Land Ownership, it states: "In 1961, an Executive Order (EO) by State of Hawai'i Governor Quinn set aside 18,166 acres of land on</p>			

the summit of Haleakalā in a place known as Kolekole to be under the control and management of the IfA for scientific purposes. The site is known as HO and it is the only such property on Haleakalā specifically designated for such purposes.” UH is the recorded fee owner of the parcel identified as Tax Map Key (TMK) (2) 2-2-07-008.

**Management Plan**

**Received from:**  
 1. G. Aikala (comment read by another attendee), 06-03-09      2. L. deNaie, 06-03-09      3. D. Mayer, 06-04-09

**Comment:**

1. It is the policy of the Makawao-Pukalani-Kula Community Plan to encourage Federal, State and County cooperation in the preparation of a comprehensive Haleakala Summit Plan to promote orderly and sensitive development which is compatible with the natural and native Hawaiian cultural environment in Haleakala National Park. And that was a quote. We believe that the ATST Project would comply with these requirements. ES31, the ATST would have minor adverse long-term impacts on current land use designated as Conservation District. No mitigation is needed.
2. There are 25 people on this General Plan Advisory Committee, and a number of folks felt very strongly that enough is enough, and that we need a different process for looking at our places, not just like how they can be useful for material things, but how they have a spiritual presence, and how this spiritual presence is something that needs to be compatible with any other activities that take place there.
3. The Supplemental EIS totally ignored, except for one little short paragraph, the Upcountry Community Plan. It was cited three years ago as being significant here. And they trivialized the comment to it. And they should go through point by point by point, in a letter that I drafted to them. I want to see their response. There's a statement in there, in the Upcountry plan requiring a master plan for the whole summit. Charlie and I both were on that committee that wrote up this plan. And it was adopted by the County Council, it's law, it's part of our General Plan. It's enforceable. And so far, the Supplemental EIS has not addressed that plan at all. It was not addressed in your Supplemental EIS but there's a 35-foot height limit in Upcountry buildings.

As to the master plan for the summit, all they did was they looked at the 18 acres where the U.H. is located into the master plan. I think that sufficed for the plan for the whole top of the mountain. So far, that plan hasn't begun. We asked last time, three years ago, why not use some of those monies that you've got, 146 million plus, to do the master plan up there so that this project be integrated in with at National Park, if it can be integrated at all.

Since the Community Plan is Maui County ordinance and because the CDUA permit requires that every application must conform to all State and County ordinances, the ATST would be ineligible to receive a CDUA permit from the DLNR. That's very critical. They will not get a permit to build this thing because they're violating the Upcountry ordinance which is part of our General Plan.

**Response:**

1, 2, 3.: Haleakalā High Altitude Observatories (HO) site is located on 18.166 acres of State of Hawai‘i Conservation District land. The IfA will comply with Hawai‘i Administrative Rules (HAR) Chapter 13: Department of Land and Natural Resources (DLNR), Subtitle 1: Administration, Chapter 5: Conservation District. The Proposed Action conforms to the LRDP, which would serve as the IfA contribution to any summit master plan. There are more than 25 separate State, Federal and private entities with interests in the summit area of Haleakalā. IfA is the only one of these entities that has undertaken long-range planning for the property under its jurisdiction. The LRDP has specific protocols and measures that ensure orderly and sensitive development that is designed to be compatible with the intended land-use and purposes for the 18.166 acres of land under the stewardship of IfA.

The criteria in HAR 13-5-30 are derived from the DLNR. The CDUA/CDUP decision will be made by the BLNR, for which the Proposed ATST Project would

require a Board permit.

In accordance with HAR 13-5, Exhibit 3, the IfA is preparing a Management Plan (MP) for HO. The MP will consist of a general description of the land use, ownership, the resources on the property, constraints such as topography, geology, easements, etc., proposed land uses, environmental monitoring strategies, and reporting to the DLNR. The decommissioning and restoration of facilities within HO will also be included in the MP. The MP will be accompanied by a Programmatic Environmental Assessment (PEA). The LRDP and MP, along with the PEA, will comprehensively address planning, monitoring, and reporting for the 18.166 acres of HO and will comply fully with Exhibit 3 of HAR 13-5.

**Employment**

**Received from:**

- |                                                   |                                                           |                                                              |
|---------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------------|
| 1. S. Truitt, 06-03-09                            | 2. I. Lay, 06-03-09                                       | 3. J. Ritter, 06-03-09                                       |
| 4. G. Aikala (read by another attendee), 06-03-09 | 5. F. Ampong, 06-03-09                                    | 6. Maui Hotel and Lodging Association (C. Reimann), 06-03-09 |
| 7. Unidentified Speaker, 06-04-09                 | 8. G. Aikala, 06-04-09                                    | 9. M. Tolentino, 06-04-09                                    |
| 10. M. Martin, 06-04-09                           | 11. M. Delos Reyes, 06-04-09                              | 12. JD Armstrong, 06-04-09                                   |
| 13. C. Villalon, 06-04-09                         | 14. Hawai'i Operating Engineers<br>(P. Artates), 06-04-09 | 15. J. Ritter, 06-04-09                                      |
| 16. D. Mayer, 06-04-09                            | 17. J. Mancini, 06-04-09                                  | 18. H. Alau, 06-04-09                                        |

**Comment:**

1. I so often hear colleagues and neighbors talking about their students, the best and brightest students, that gather an education here or elsewhere, and then cannot come back to Maui to give to the community the benefit of their knowledge. Rather, they have to go somewhere else because the sites don't exist here for that kind of an employment. Technical employment here on the island, especially for our keiki and our progeny, that's extremely important.
2. I'm with the Carpenters Union here on Maui. I'd like to go over just some of the economic aspects of this project, what it means for us. We have 300 members and half of our members are unemployed right now. We know that this project won't bring everybody back to work, but those individuals that do go back to work will be able to get their families housing, have a house above their head, ensure they have food on their table, give them back their medical. It'll also help out with their getting clothes for school, getting their kids to school, gas, taking the little breaks in life, like taking your kids and your family out to dinner. These are all important economic aspects that we have to think about with this project. Taking that family out to dinner. This also helps pay for the waiter's family, helps out with the cook, helps out with the cleaning people. So this branches out. These projects that we have coming up, we have to take it seriously. Especially when it's a good project like this. And if there is some opposition, let's work it out. Let's see what we can do to work together to make this happen.
3. We are all faced with very dire economic times. Over \$140 million a year comes into the economy on Maui from green high-tech industries. We have the Governor saying we're going to cut 13 to 14 percent off of the State workers' salaries. How can we look at something that will bring hundreds of millions of dollars into the economy and just ignore this? When people from the Carpenters Union say half of their good friends and family are unemployed right now. This affects all of us very deeply. I greatly deeply respect both sides of this and I'm hoping that we can build some bridges on this for the benefit of everyone here.
4. The ATST Project is a welcome investment not only for the scientific and educational community, but to the local economy as well. Maui County's economic momentum brought about by construction has largely disappeared over the last two years. Construction is a primary driver for employment.

Today's Maui's unemployment rate is 8.1 percent, nearly double that of 2008, at 4.5. More than 6,450 civilians are unemployed today, compared with 3,600 unemployed in 2008. Clearly, there is an economic hardship in practically many communities on Maui. And it is projected to get worse before it gets better. The ATST Project and other job-creating opportunities are needed.

5. It is similar to what the plantations have told the people for the past 100 years. And that is that, oh, we need this to create jobs and we need this to benefit the community. But that's the part that I'm talking about that is very short-sighted. It will not. What we need is to get involved with projects that are sustainable for the community. The immediate concerns that we have right now is job losses, homelessness, and what-have-you. We need to take the monies that are being allocated and put it into areas that are gonna benefit the people today and now. What we need to look at is renovating buildings that we already have here, not putting up more buildings or more hotels or more developments.

Tourism is an unsustainable business. And if you focus on supporting tourism in the manner that it's being supported today, as it has for the past 50 years, you're not going to have anything in 10 or 20 years. It offends me that people are still coming up through the community and saying, well, you know, we need to include or we need to support this project because it will help bring people to the islands, that put them into the hotels and that will give jobs. But let's look at the solutions, the remedies for all the problems that we're facing today. Let's not put bandaid solution on a gaping wound.

6. We believe that the National Science Foundation's proposed solar telescope will enhance our island's offerings by providing yet another feather in Maui's cap; home of the world's largest optical solar telescope, providing the sharpest views of the sun, and crucial to determining and predicting the sun's effect on the entire globe. It is an honor to be selected as the best location to study the sun out of 70 sites considered throughout the entire world. Additionally, the solar telescope will provide an opportunity for scientists to visit our island. Visiting scientists and conferences will occupy our hotels, dine and shop at our businesses. Maui County's strength as a top tourist destination and successful business model depends on our ability to showcase our diverse related industries. Enhancing the science technology industry in our mix will complement our island's reputation for excellence.
7. If this is stimulus money, how many of the employees that will be slated for the project would be local residents And local contractors? for building and for permanent. It's stimulus money. It should stimulate local people, not another state.
8. We've got local guys that are losing their homes because there's no work. The economy is really bad. Everybody knows that.
9. I recently was laid off from Nordic PCL Construction. I hope this observatory to be built. Not because it's something new, but, mainly, because of the economy. A lot of us now are getting kids. And I'm sure a lot of people in here have kids and grand kids, that want to see them successful in life. I have two kids myself. I wanna be able to support those kids and wife. And I wanna, also, see them successful. But right now, to try to take care of your family with no financial stabilities is very hard. Right now, I'm in that that hole. And I have a hard time just myself supporting my kids. I hope it's local, because I want to see people that are locally born and raised on the island working here. So maybe at least they know what can be moved, what cannot be moved and what is sacred, what is not sacred. Hopefully, we think about the economy and our grand kids and kids and (inaudible).
10. My three siblings were unable to find jobs in Hawaii, and they moved to the mainland and have never come back. And this is hard on families, but it's not the first time that this has occurred for people who live in Hawaii. Maui's greatest need is not for a telescope, but for self-sufficiency and jobs here that last longer than a construction of a telescope, and for reduction of global warming.
11. I understand the economic stress that our people are under, but it is nationwide. We have become so Westernized, and we depend on the stores, the economy is so bad, what we need to do is go back to the land and start providing for our families.

12. We need to balance our economy. A tech economy will help so that we can dig ourselves out of problems and help each other. I talk to these tech companies and they say they want to hire local because, when we hire somebody from the mainland, they come out here and a few years later, they go back to the mainland. All of this land is sacred. Not just the summit. It's in everybody's best interest on here to educate local people to do these jobs, the companies want to hire local. That's the advice that I would give the NSF, is help develop the work community here so that we can hire local. The local engineers will stay, they'll do a good job. And we need this education for our local people.
13. They gonna do bachelor's degrees at MCC because the other technologies are saying, hey, we're gonna get some positions that gonna open up. You guys should do that for us. Tell MCC, we looking at these people, looking at these, (inaudible) bruddah, I get 'em you can come Maui. You guys gonna make 20, 40, 50 people work up there. I like see Kanaka. I like to see Kanaka learning. I tired of us looking for jobs and no can go and no can touch and no can learn. And I don't know. The Hawaiians, we different, man. You show us the way, we'll find it. We tired of being suppressed.
14. The best equipment operators that I see, and that I learned from, mentored me to understand about cultural rights, respecting the iwi. All Native Hawaiians that used to run this heavy equipment to build things that we live in today. In creating work, no matter why they built for, these Native Hawaiians built those because there was an expertise in what they know best, which is running heavy equipment. They had respect and they still do have respect, to some degree, of how to say keep your hand together, get iwi over there. And the generations that I see that is in place today, it's all about making money. Sometimes we losing the respect, then we need to revamp that and educate those that are in our industry. If we really look at the statistics of our industry of construction, the majority of 'em is Native Hawaiians. That's who they are. Because we get the respect for when to stop when we no need push any more bones. I represent a body of Native Hawaiians that is truly out of work, that are not making the criteria of paying the bills. Not all of us live in Hawaiian Home Lands. But what about the rest? What about the rest that did have that economical sprawl, that had one opportunity to get one loan and buy one home that is a Native Hawaiian? You gonna leave them out? Know what? When we leave them out, and there's things that we say about how we contradict about America, America is watching on the tube of who gonna (inaudible) here. It's a fact. They gonna watch every place that homes are being lost. And they gonna come here. And they gonna tell us exactly right, enough already, no build already, not in my back yard.
15. In these difficult economic times, when I look at the overall economy, and when I wonder how I'm gonna pay my mortgage, and I hear people from other unions saying how are they gonna pay their mortgages and their bills, and I think if the government is giving 27 billion to GM to keep them afloat, maybe we should do what we can to bring in 146 million or more just in the incentive funds here and -- and if that helps us build a 13-foot-wide telescope, terrific. Especially if it supports jobs at all levels, education, and what I consider some of man's ultimate achievements, understanding the nature of the universe. Eighty percent of the economy in Hawaii is based on tourism. And tourism is way down. Right now, \$140 million a year already comes in from the high-tech industry in Hawaii. I think that if -- if we can bring in some of this money to help with the severe problems we have here, this is a benefit to everyone. If we can do it in a way that can respect every ones beliefs. Now, it was mentioned that about why don't we try to do things for MCC. And I just wanted to let you know what some of the scientists are doing here at MCC. I personally serve on the board called ESET where we have been developing curriculum to have four-year tech programs here, so we can hire natives in technology jobs here. And I worked a lot of overtime to do some of these other things. I don't get paid to do it. I do it because I'm also trying to give back the help.
16. The \$146 million could be far better used to build something that people of Maui could use. The road from Maalaea out towards Lahaina. That single-lane road that causes accidents all the time. That's where those monies should go. That would come about much faster, with greater impact for the construction workers. It would provide jobs here. This telescope, 146 million is not all for jobs on Maui. That's for the optics and all the electronic equipment and all the computers and everything else that's all being built on the mainland. That's not 146 million going to our construction industry. But building a highway on Maui or building housing projects for all those who need affordable housing, or in the Hawaiian Home Lands, that will be doing something for the people of

Maui, that would be a much better use of the Federal (inaudible) funds.

17. There has been mention of the need for jobs by the construction industry, the need for another tourist destination and the need for educational opportunities in science for our students. We do need these things, but we also need a vision for the future. The jobs will end in a few short years. And the tourists won't actually have to come to the mountain because many will be able to see the facility from their hotel rooms. As far as the students are concerned, I'd like to make the argument for the need for different type of knowledge in this world of increasing conflict and uncertainty. This knowledge does not come from a book or any other kind of modern technology. It is entirely experiential and provides food and nurturance for the spirit and for the soul. What our children need are opportunities to develop a sense of wonder about the universe. And to have the experience of undisturbed nature that they see with their own eyes, touch with their own hands and feel with their own hearts. Before children can appreciate outer space, we need to instill in them a love for this space. What we adults can give them by example is a respect for other people and a sense of responsibility for this mountain that we all share.
17. I hear people saying, woah, we gonna hire people to work up there in these scientific environments. Show me one Hawaiian who's working up there. And I not talking about one Hawaiian who is one-tenth. I mean show me one that's half. None. Every person that works up in that place comes from somewhere else. But they all tell me, oh, I understand your culture, I understand where you're coming from. No, you don't. Because I always ask, what the hell does the `aina mean to you, land? Hawaiian, food. That's what `aina means; not land. Land and food, same thing.

**Response:**

1-17. If approved, the construction phase of the proposed ATST Project is anticipated to be approximately five years where, wherever possible, the local Maui workforce would be employed. When the construction phase has been completed, the proposed ATST Project estimates 50 to 55 new hires by the final year of commissioning. Of the approximately 55 personnel, 35 people would be working on Maui and therefore would slightly increase the local spending. Half of this number would be hired locally at the onset of the operational phase. After two or three years, the other half of staffing, originally hired or relocated from off-island sources, would be replaced by local hires, resulting in a long-term beneficial effect on local employment. (See Section 4.12.2-Evaluation of Potential Effects at the Preferred Mees Site.)

The largest employer at HO is currently Boeing LTS, who operates the Maui Space Surveillance Complex (MSSC). In the early 1960's, when the MSSC was first constructed, the local Maui workforce was utilized for construction; and, once it was completed, qualified individuals from the construction crews were hired to work within the facility. Many Maui residents have worked at and retired from this facility. In some cases, Maui- or Hawai'i-born individuals who resided on the mainland were able to relocate to Maui through employment opportunities at the facility. Some of these qualified individuals were either employed in fields suitable for open positions, students completing college, or men and women who had served in the military. Since the MSSC has been operating, there have been anywhere from around 30 to nearly 200 individuals employed at this facility, many of which are local residents who already live here (unpublished MSSC Human Resources data).

Section 1.4.3.2-ATST Education and Public Outreach provides details about Education and Outreach (E&O).

<b>Need for the Project</b>		
<b>Received from:</b>		
1. W. Shibuya, 06-03-09	2. J. Costa, 06-03-09	3. L. Almeida, 06-03-09
4. M. Martin, 06-04-09	5. M. Delos Reyes, 06-04-09	6. J. Kuhn, 06-04-09
7. B. Asuncion, 06-04-09	8. K. Kaeo, 06-04-09	
<b>Comment:</b>		
<p>1. I strongly urge your accepting the constructing and operating of the Proposed ATST Project on Maui. Moving sunspots and flares all coming in from 93 million miles to Earth is significant. I think we need to study it. We, our keikis and their keikis can take pride in having unique knowledge and being involved with leading edge research of the most important body in our solar system.</p> <p>2. I applaud every scientist that can come and find out all the different problems that we need to address, but there comes a time when you need to address it. So our kupuna knew enough to stop looking up at the sky because they learned everything that needed to be learned. And then they stopped because then they had to address what they learned, which was to take care of the land. So you can only go so far with something like this, then you gotta stop and do something with the information that you've gathered. You already know we have global warming. You already know we damaging the Earth. You already know we're going to run out of water, run out of oil, run out of coal. Run out. And while we living here, our children will not have a life anymore. Our kupuna knew when to stop and take care of seven generations after them. You gotta stop looking up and you gotta start looking at what is real, take care of the land.</p> <p>3. All of you in here, you are the present generation. I'm 15 years old and I'm speaking on behalf of the future generations. I really like don't see how this is gonna benefit us because, sure, we're gonna be building this. What happens when it's already built? Most of my generation right now, we're fighting to get through, we're struggling. Like everything is so expensive in Hawaii nowadays. I just don't see how this could help us and how it's gonna benefit the world. We can look at the sun all we want, but what happens when the world that we stand on just crumbles and falls with it? Right now, instead of focusing being green and making more, we should try and get everything good the way it is. Because right now, we're just doing the same thing over and over, expecting different results each time.</p> <p>4. The National Science Foundation mission is to promote the progress of science, to advance national health prosperity and welfare, and to secure the national defense. Now, I really think Maui is too small a place for -- to support all that for the rest of the country. This project does not meet the NSF mission. The progress of science should include other countries, not just the U.S. I noted that there were seven international affiliates in this study. The other reason this doesn't meet the mission is this does not advance health on Maui. We should support science programs in schools and colleges, and that we should enlist other countries to build the project, and we should not build it on Haleakala.</p> <p>5. Why study the sun? They have no control over it. It's gonna do what it's gonna do.</p> <p>6. I'm happy for my kids that the National Weather Service is telling me when a hurricane's coming. We save lives that way. The sun we can't control. But we can look at it and we can know what it does. And we've been looking at the sun very carefully. The Chinese started 2,000 years ago. The sun has a rhythm. It has a cycle. And those cycles aren't exact. It's not like the tone of a whistle. For the first time in 100 years, that whistle is interrupted. We've got the longest period of no sunspots in over 100 years. What's going on? You go back to the 1300s, and you find out that civilizations vanished because the climate changed. The Mogollon, the Anasazi, the Hohokam. They're not there. And they vanished in synchrony with the time when the sun got warmer. That was one of those periods when that rhythm of the sun was interrupted. We're here to study the sun, not for me, not for you, not for our perspective, but for the</p>		

perspective of our kids and our grand kids. And it matters. It's not just another telescope. It's not just another place. It's sacred. But the mating of this instrument and that place and these questions have importance for all of us for a long way into the future. There's no question that civilizations come and go in response to what the sun is doing. And there's also no question that we can't tell you, one year or two years or 10 years, whether or not the sun is a tenth of a percent or three-tenths of a percent brighter. Those seem like really tiny numbers, but those are numbers that completely control climate. We're hearing a lot about CO2 and global warming. There's no question that we're also affecting our climate. But let's not be so arrogant to believe that we're the only thing that affects what happens on this planet. The study of the sun and this instrument on Haleakala is a special match. It's not a random match. This process of trying to understand where to put a telescope and what it should look like goes back decades.

7. All the progress in medicine started as basic science. Because of the sun and the optics, they discovered that it comes in different rainbows. And then laser was invented. And from then, you know, retinal detachment is now used to seal back the retina. The glasses that we use, they're all from optics. It never just invented in order to hold, an eyeglass. And leprosy for a long time has been called a curse. And then with a microscope discovered that it was due to bacillus. And so treatment became observable. So what I'm saying is that we need this basic science. Where is it gonna lead? You never know.
8. Ghandi said one of the seven sins is science without humanity. But where is the humanity? Are we not humans? I asked that question many times. What is this for, ATST, what is it for, what's the humanity? And I asked Mr. Foltz that directly, the first time I met him, and his response to me was this: "Selfish personal research." That was his response.

When they talk about human family, they are not including the Hawaiians in this family. But people can come and talk as if, because they part of the settler population, part of the military force here, that somehow science excuses them. You think all science was good? Let's start with Columbus. Supposedly, a scientific expedition. How about the Nazis and their science on humanity? And you may choose to ignore that, but that's a fact. I'm not against science. In fact, I talked about this many times. I wish someone would come forward and explain to me, (inaudible). What the hell are they gonna to do up there? I've asked this many, many times. I wish there was some great purpose that they spoke to. If you told me, as a Hawaiian, you gonna feed 10 million people, you gonna save the lives of a million people, see, I can start to discuss that. As a Kanaka, I understand humanity. Because, in Hawaii, one of the most important cultural ideals is the saying (Hawaiian), life is the most sacred thing. If that's what this is about, speak to us about that. But the truth is they don't. The band don't even care. There's a difference between science as a tool and humanity as the goal. Just because someone claims to be a scientist and have scientific purpose don't mean it's for humanity.

**Response:**

1-8.: The importance of the Sun for determining the near-Earth space environment is unquestionably important to most western civilizations. The economic impact of our past failures to estimate solar storm radiation is several billion dollars. There is also no question that the Sun has affected global climate change -- that is, it is not a question of "if" the sun will change our climate, but "when".

Listed below are a few examples to demonstrate the vulnerability of our technology-dependent society (see *Astrobiology Magazine*, 07-06-03, <http://www.astrobio.net/news>):

1. In 1989, a solar storm tripped a protective switch at the Canadian Hydro-Québec power company. For nine hours, the entire province of Québec was without power. The problem nearly spread to the United States through an interconnected grid, officials said at the time.
2. In a 1997 solar storm, an AT&T Telestar 401 satellite used to broadcast television shows from networks to local affiliates was blacked out.
3. A more serious breakdown of communications occurred in May 1998, when a space storm disabled PanAmSat's Galaxy IV. Among the Galaxy IV casualties: automated teller machines, gas station credit card handling services, 80 percent of all pagers in the United States, news wire service feeds, CNN's airport network; and some airline weather tracking services.

Early southwestern civilizations like the Mogollon, Anasazi, and Hohokam vanished during a likely solar-induced warm period, which allowed historic Norse peoples to cultivate the western coast of Greenland. The failure of the Nordic culture can then be traced to the beginnings of the cool period that we now call the Maunder Minimum or “Little Ice Age” in Europe. All of these climate events are related to dramatic changes in the solar activity which we are still unable to predict. Past civilizations have come and gone with the rhythm of the Sun. While we cannot change the Sun, or by analogy a hurricane storm, we surely need to know when a storm or solar change comes. As we appreciate the technology of satellites that warn of impending storms, a mountaintop facility such as the proposed ATST Project that teaches us how to predict solar activity is necessary.

Section 1.4-Project Summary provides details about the purpose, need and primary objectives for the proposed ATST Project.

**Military-Related Component and Security Implications**

**Received from:**

1. J. Costa, 06-03-09                      2. W. Kanamu, 06-04-09                      3. D. Mayer, 06-04-09                      4. K. Maxwell, 06-04-09

**Comment:**

1. My father is 73 years and he's seeing all of this development and all of this everything, he said he's tired of having a target on his back. And I think what's gonna happen with this is create more attention to a peaceful place than had -- that was in treaties of commerce and peace. And it's creating an environment of war and injury.
2. Pearl Harbor was like a magnet sitting in the ocean drawing in all those -- all those bombs, yeah. Thousands of people died. We gonna study the sun. What else does this do? We're just like magnets in the ocean, attracting missiles from all foreign lands. In the middle of the deep blue sea, just set your sights on me. Do you want any more? We cannot give you anymore. Is there going to be war? Right now, we're worried about the missiles from Korea. Where you think is going to be the most strategic -- where you think they gonna be aiming at? Right here.
3. There are security concerns that weren't covered. This telescope is going to be tied to the military in several ways. The military folks on top of the mountain are gonna be grinding the lenses for this facility. They'll have the facility, I presume, down to the tele -- down to the computer center, down in Kihei. That military aspect and security concerns are something that should have been addressed in the document. And I didn't see that.
4. About three years ago I asked this colonel from AEOS, the Air Force. "If we're to be attacked, are we the number one or number two target?" And he told me, because of the national defense, he couldn't answer that question.

**Response:** There is no military component in the purpose and mission of the proposed ATST Project.

<b>Funding</b>		
<b>Received from:</b>		
1. Mr. Lucas, 06-03-09	2. Ms. Helm, 06-03-09	3. J. Mancini, 06-04-09
<b>Comment:</b>		
1. Have there been stimulus funds designated for this specific project, or is there just the \$2 million in stimulus funds that was designated for the "promotion of astronomy in Hawaii?" Is there stimulus money for this project specifically? In what amount?		
2. How were funds appropriated for the project when the project was not approved yet? How much money has been allotted to be spent for the whole planning process of this ATST?		
3. Some of the guiding principles of the Park Service state that partnerships will collaborate with federal, state, tribal and local governments, private organizations and businesses, to work toward common goals, and that effective management would instill a performance management philosophy that fosters creativity, focuses on results, and requires accountability at all levels. And, yet, Federal stimulus money has been set aside for a project that otherwise could have been allocated for jobs with minimal environmental impact to maintain the park itself or to improve delapidated schools in our state, not just on Maui.		
<b>Response:</b>		
1, 3. This comment was raised and addressed at the SDEIS Public Meeting: There are specific stimulus funds with ATST. The way the stimulus funds work for the National Science Foundation, we were given \$400 million for a major research facility construction, which this falls under. The designation by the National Science Foundation to put aside money, stimulus money, for ATST is \$146 million.		
2, 3. This comment was raised and addressed at the SDEIS Public Meeting: There's been no decision to spend those funds. Funds can be allocated, but not spent. If there's a no decision, the money will go somewhere else. I want to make sure folks understand that no decision will be made at all until this NEPA process is completed, until the National Historic Preservation Act process is completed. Then will the decision go before the decision-makers, but not until these processes are completed. About 23 and-a-half million dollars will have been spent through this fiscal year since 2001.		
<b>Decision</b>		
<b>Received from:</b>		
1. Mr. Ampong, 06-03-09	2. M. Helm, 06-03-09	3. K. Maxwell, 06-04-09
4. J. Mancini, 06-04-09	5. T. Bailey, 06-04-09	6. K. Kaeo, 06-04-09
<b>Comment:</b>		
1. The decision for the approval of this project for Haleakala, is there a date when the project will be or will not be approved to move forward? And who makes that decision specifically? My concern is if the general public can get as close and as accurate of a date that we're looking at to get a record of a decision. The individuals who will actually be making the decision to approve or disapprove the project, are they here tonight and were they involved at any of the other subsequent meetings? He's not hearing the testimonies? You know, if he's gonna make a decision, it would be nice if he's here.		
2. I find that this particular project is being mentioned as something that is going to benefit Hawaiians, it's gonna have educational benefits for us. And when		

you look at long-range and you look at how much has been spent just in this planning process. And although we have been told again and again that a decision has not been made to approve this ATST, there is increasing pressure on getting this through and finding some kind of mitigation that would allow for the approval of this project.

3. Could you clarify - after the EIS is complete, who makes the determination yea or nay? Who made him God to do this determination? Isn't this Hawaii? Isn't this our mountain? How come he makes the determination?
4. Is it correct to assume that the Board of Regents would have no jurisdiction over this project?
5. But I had to come up here and get some clarification questions. I am 50 percent Hawaiian, I've worked for Haleakala National Park for 20 -- almost 20 years. I'm in the Resource Management Division. And I've done it as a Native Hawaiian, cultural resource management. I have seen in the Federal system, this process that we go through isn't enough. That board meeting that's gonna be happening in August, that makes the recommendation to the Director who has say on this project -- there needs to be a Native Hawaiian in that board that's making these recommendations other than just the testimony or consultation. Because the Native Hawaiian that truly is connected can make sure he knows all these issues that our Hawaiian people are bringing up are heard and discussed and brought up, and not just glanced over in a EIS. They need to have, in that board, as they're filtering out what's appropriate, inappropriate, whatever project we have here, whether we have supporters or non-supporters, it has to work for everybody. But we're not gonna get equal representation if we do not have a Native Hawaiian sitting at that board. We cannot just keep moving forward and not be there at the recommendation table, other than just testimony.
6. Those in power may have the gun and may have the power to do what they want, but they don't have the authority. Look at the decision process. 5,000 thousand miles away, somebody gonna decide for us what's good for us, our humanity. That's not humanity; that's supremacy. That's nothing more than supremacy when someone else, 5,000 miles away, can tell us what's good for us and ignore our voices, ignore our history, ignore who we are.

**Response:**

1. This comment was raised and addressed at the SDEIS Public Meeting:  
After the Final Environmental Impact Statement is completed, the regulations require that there be a 30-day cooling off period. So comments can again be submitted at that time. There is no date that is 100 percent certain when a decision will be made, but it is on an expedited review because it's partially considered on the Recovery Act Funds, part of the stimulus package. It will happen soon, but certainly will be after the 30-days period. To give you a certain answer is really not right to do. It wouldn't be right for the agency to do that. We'll have to see what the public has to say. The SDEIS public comment period closes on June 22nd. After that would be the issuance of the Final Environmental Impact Statement. It's hard to say exactly when that will come out, but it looks like we may try to aim for end of July or so, middle of July, depending on how quickly we can assemble comments responsibly. Then there will be a National Science Board review and then there would be a decision by the Director. The third or fourth quarter of calendar '09 is the best estimate right now.  
  
No, he's not here. The final decision-maker is the Director of the National Science Foundation. He's a presidential appointee in charge of the National Science Foundation. We have been keeping him regularly advised of this whole process, the NEPA process, National Historic Preservation process, the scientific merit review process. He has been to the site. He is very much aware and very involved in what is going on. We have the testimonies available on the website and they're available for everybody to see, including the Director.
2. This comment was raised and addressed at the SDEIS Public Meeting:  
It goes to the National Science Board first. And the target date, it's not by all means set in stone, but it is a target date, August 5th and 6th. They will look at

it and make a recommendation to the Director as to whether or not they think the Director of the National Science Foundation (Dr. Arden L. Bement, Jr.) should go ahead and [approve the project]. According to the U.S. Government system, he's appointed by the President and he's in the seat that makes the decision about this project.

3, 4. This comment was raised and addressed at the SDEIS Public Meeting:  
If the project moves forward, it would require a lease from the University of Hawaii, and that would be approved by the Board of Regents.

5, 6. Thank you for your comments, which are noted.

**Environmental Justice**

**Received from:**

Kilakila o Haleakala (K. Raymond), 06-04-09

**Comment:**

I'd like to speak on cultural impact only, and specifically environmental justice. The adverse impact on Native Hawaiian traditional and customary practices is the defining environmental justice issue for this project. Curiously, the applicant completely ignores this issue in discussing the topic of environmental justice. The United States Environmental Protection Agency defines environmental justice as the, "Fair treatment for people of all races, cultures and incomes regarding the development of environmental laws, regulations and policies." This is premised on the belief that particular segments of society, such as Native Hawaiians, may sometimes bear a disproportionate amount of risk associated with environmental degradation. According to the EPA's final guidance for incorporating environmental justice concerns, in the EPA's NEPA compliance analysis of April 1998, it says, "In the case of activities potentially affecting Native Americans, potential impacts, both direct and indirect, can occur to sacred sites and/or other natural resources used for cultural purposes. For example, the loss of a sacred site or other impacts to larger areas of religious and spiritual importance may be so absolute that the religious use of the site abruptly ceases, a direct impact. Native Hawaiians and native people who are a minority in their own land depend on the preservation of natural resources in order to perpetuate their own culture." The SDEIS discloses that the "area" is a very sacred place for the Kanaka Maoli, Native Hawaiian, past and present. The desecration of sacred sites interferes with cultural practices and unfairly targets the Native Hawaiian community. The ATST would, therefore, disproportionately affect adversely the Native Hawaiian population. This part of the EIS must be revised to highlight the environmental injustice of the ATST.

**Response:**

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," provides that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." The comment seems to raise concerns about impacts to cultural resources and, in particular, to Haleakalā as a Traditional Cultural Property. These concerns have already been analyzed under Section 4.2 (Cultural, Historic, and Archeological Resources). A typical environmental justice review under NEPA looks at whether the proposed project will have a disproportionate impact on an adjacent community of minorities or residents below the poverty line, as compared to other affected populations. It is noted that there is no minority population that resides adjacent to the project site.

## **APPENDIX C**

### **TRANSCRIPTS - SDEIS PUBLIC COMMENT HEARINGS**

**(1) Cameron Center, Kahului, HI, June 3, 2009**

**(2) Mayor Hannibal Tavares Community Center, Pukalani, HI, June 4, 2009**

ADVANCED TECHNOLOGY SOLAR TELESCOPE (ATST)

JUNE 3, 2009

PUBLIC COMMENT HEARING

Held at the Cameron Center Auditorium, 95 Mahalani  
Street, Kahului, Maui, Hawaii, commencing at 5:10 p.m.

Reported by:  
Tonya McDade  
Hawaii Certified Shorthand Reporter #447  
Registered Professional Reporter  
Certified Realtime Reporter  
Certified Broadcast Captioner

IWADO COURT REPORTERS (808) 244-9300

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<p>1 ATTENDANCE</p> <p>2 Dee Dee Letts, Meeting Facilitator</p> <p>3 Craig Foltz, Ph.D., ATST Program Manager</p> <p>4 Caroline M. Blanco, Assistant General Counsel-</p> <p>5 Environment, Federal Preservation Officer</p> <p>6 Jeremy Wagner, ATST Project Manager</p> <p>7 Jeff Barr, R.A., ATST Project Architect</p> <p>8 Sarah Creachbaum, Superintendent, Haleakala National</p> <p>9 Park</p> <p>10 Cari Kreshak, Pacific Islands Cultural Resource Program</p> <p>11 Manager</p> <p>12 Dr. Charlie Fein, K.C. Environmental</p> <p>13 Mike Maberry, Associate Director, University of Hawaii</p> <p>14 Institute for Astronomy</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	<p>1 taping is allowed. If you are going to testify and you</p> <p>2 don't want to be taped, you can make a request. But</p> <p>3 that's about the best we can do on that. So I just</p> <p>4 wanted to be clear.</p> <p>5 Before we get started, if we could just kind</p> <p>6 of take a moment to kind of put our day behind us,</p> <p>7 collect ourselves and get ready to participate this</p> <p>8 evening.</p> <p>9 (Silence.)</p> <p>10 FACILITATOR: Okay. As I said, my name's Dee</p> <p>11 Dee. I'm the Facilitator. So my job tonight is really</p> <p>12 just to make sure that everybody gets a chance to speak,</p> <p>13 that comments are heard fairly and recorded fairly, and</p> <p>14 that we have an orderly process as we go through the</p> <p>15 evening.</p> <p>16 There are a few things that I need to do to</p> <p>17 start off with.</p> <p>18 One is, we do have a court reporter, Tonya</p> <p>19 McDade. And so Tonya will be taking a transcript this</p> <p>20 evening. So please speak up when you make your</p> <p>21 comments. Part of the reason for the sign-in sheets is</p> <p>22 I will give those to her so she can spell your name</p> <p>23 correctly and all of that. So please speak up for her.</p> <p>24 Restrooms, if anybody doesn't know, out this</p> <p>25 door, around the corner. Very essential part of the</p>
Page 3	Page 5
<p>1 JUNE 3, 2009</p> <p>2 TRANSCRIPT OF PROCEEDINGS</p> <p>3 ***</p> <p>4 FACILITATOR: We're going to go ahead and get</p> <p>5 started. My name is Dee Dee Letts, and I'm going to be</p> <p>6 the Facilitator this evening. I've worked on Maui</p> <p>7 before, but I do reside on Oahu, a little ahupua'a</p> <p>8 called Kaaawa. So I'm a visitor here this evening. So</p> <p>9 thank you all for coming and being here.</p> <p>10 A couple of things before we start. One is,</p> <p>11 we are -- we do have somebody videotaping. So I would</p> <p>12 like to ask them to introduce themselves and the purpose</p> <p>13 for the video, just so people know.</p> <p>14 MS. PRINCE: I'm Melissa Prince. And I have</p> <p>15 been following this story since -- for a few years now.</p> <p>16 And I'm a community video producer. I used to turn in</p> <p>17 shows at Akaku: Maui Community Television. And my</p> <p>18 purpose here is to just bring transparency to government</p> <p>19 activities that affect the community.</p> <p>20 FACILITATOR: Thank you so much.</p> <p>21 MS. PRINCE: And I should let you know that</p> <p>22 some of these clips might end up on You Tube where I</p> <p>23 have a channel. And it's to help people who cannot make</p> <p>24 it to the meeting to see at least some of the meeting.</p> <p>25 FACILITATOR: So this is a public meeting,</p>	<p>1 evening.</p> <p>2 There are a few things that I would like to go</p> <p>3 over before we start. Let's see. Which side do I start</p> <p>4 on? One is, just quickly let everybody know what the</p> <p>5 agenda is gonna be this evening. We're kind of doing</p> <p>6 the meeting overview now. We're gonna have a quick</p> <p>7 10-minute project overview by Craig. Then we're gonna</p> <p>8 have a very quick overview on the NEPA process by</p> <p>9 Caroline. Then I'm going to take a short amount of time</p> <p>10 to just ask people if they have any questions on the</p> <p>11 material that was presented that they don't understand.</p> <p>12 We call it clarifying questions. Sometimes presenters</p> <p>13 are so wrapped up in their material that they aren't</p> <p>14 really clear about what they're presenting, and they use</p> <p>15 initials. So just give you a chance to say, hey, what</p> <p>16 does this mean, those kinds of questions, so that when</p> <p>17 we start the public comment period, everybody has the</p> <p>18 information from the presentations that they need. Then</p> <p>19 we're gonna move right into public comment.</p> <p>20 We do have to be out of this room by a certain</p> <p>21 time, but, as you can see, we have a little over two</p> <p>22 hours for public comment. We are asking people to limit</p> <p>23 their comments to three minutes so that everybody that</p> <p>24 wants to speak gets a chance. And then if we have time</p> <p>25 and somebody wants to talk a second time, that's fine.</p>

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1 I will give you another three minutes. But just kind of  
 2 as a courtesy, for people waiting to speak, if we could  
 3 limit that first testimony to about three minutes. And  
 4 then, time permitting, we'll come back and catch more  
 5 comments. So I hope that's okay with folks. We do have  
 6 -- I always forget which side I put things on. Not on  
 7 that side.  
 8 DR. FOLTZ: That's not it.  
 9 FACILITATOR: That's not it. I've lost my  
 10 paper. Okay.  
 11 Some guidelines for the meeting this evening.  
 12 One is courtesy. I know these issues are often emotion  
 13 -- emotional. They're very close to people's hearts and  
 14 minds. But I do ask that people be courteous to each  
 15 other while we're in this meeting.  
 16 Okay to disagree. I think that the most  
 17 creative solutions to problems come out of honestly  
 18 putting disagreements on the table and working through  
 19 disagreements. So I welcome the disagreements. I just  
 20 ask that you be courteous when you put your  
 21 disagreements on the table.  
 22 The other one we kind of covered, in timing, I  
 23 call it sharing the 02, just kind of making sure that  
 24 the oxygen in the room is shared and everybody gets a  
 25 chance to talk and participate.

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1 The other one I put up here is a little  
 2 harder. Most of us, since small kid time, have been  
 3 taught to listen for what we don't agree with and go  
 4 from there. I kind of like to challenge groups to  
 5 listen for any small gem or anything you do agree with  
 6 so we can get that out and start to build on that.  
 7 The other is just honor our time constraints  
 8 this evening so everybody gets a chance to talk.  
 9 There were sheets to fill out if you wanted to  
 10 make public comment. If you change your mind halfway  
 11 through and wanna make public comment, just grab one,  
 12 they're on the sides, wave 'em at me. And I'll come,  
 13 pick 'em up, no problem. It's just so we have a record  
 14 of who speaks.  
 15 There are a number of handouts around. And I  
 16 wanna make sure everybody knows what there is for  
 17 handouts, so everybody gets everything. One is the  
 18 sheet to sign up to speak. And then, very important,  
 19 there's a whole sheet of contact information for all the  
 20 people connected with the project as well as the two  
 21 websites.  
 22 All the comments from this evening will be  
 23 posted on the website. So you'll be able to see those.  
 24 And if you can't make tomorrow night's meeting, you'll  
 25 be able to see the comments from tomorrow night, also.

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1 So be sure you get this sheet.  
 2 Another one is my favorite because, if you're  
 3 anything like me, as soon as the meeting is over, you're  
 4 gonna have your best thought of the whole night. And we  
 5 don't wanna lose it. So there's a comment sheet you can  
 6 mail back in, or, if you just don't want to speak  
 7 tonight and you'd just like to make your comment in  
 8 writing, you can drop this off outside. So those sheets  
 9 are also available for people.  
 10 One of the things that a couple of you  
 11 commented on as I was talking with some of you outside  
 12 is that -- and as our videographer said, this process  
 13 has been going on for a while. So one of the things  
 14 that we tried to do, just to kind of refresh folks'  
 15 memory, is go back through the record and come up with  
 16 the key areas that were brought up in the Draft EIS  
 17 process that resulted in this Supplemental Draft EIS  
 18 that were addressed through the documents, and just to  
 19 let people know the kind of areas that the current  
 20 document addresses differently than the previous  
 21 document. So we just tried to put a list together so  
 22 people had an idea of where we are starting from. So I  
 23 hope that's helpful. It's also printed out with more  
 24 detail under the major categories. So please pick one  
 25 of those up, also, along the side as a handout.

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1 There is a fact sheet on ATST also available  
 2 along the side of the room. Okay. There's a timeline,  
 3 where the process is going from here and -- and where  
 4 it's been. So -- and where will be the next  
 5 opportunities to participate in the process. So please  
 6 pick that up.  
 7 I think I'm almost done, folks.  
 8 Last is the May newsletter from the National  
 9 Park Service concerning the project, that have  
 10 information in it, also, and contact numbers. So please  
 11 also pick that up this evening.  
 12 I think that is the end of my list of  
 13 handouts.  
 14 The purpose of tonight's meeting is to collect  
 15 public comments on the Supplemental Draft EIS. I said  
 16 there was a Draft EIS that probably many of you in this  
 17 room have commented on. That EIS has since been -- I  
 18 think if you look at the timeline, they did more studies  
 19 that started in 2006, and it's finally back out to you.  
 20 So this supplement draft has been a couple of years in  
 21 the making with studies based on comments that came in  
 22 on the Draft EIS. So that's why it's kind of been a  
 23 long time since we've all been here together.  
 24 Okay. Are there any questions on what we're  
 25 doing here this evening as far as the agenda and the

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1 process? Okay. Yeah.  
 2 MR. LUCAS: I'm sorry. I may have missed  
 3 this. How long are we allowed for verbal comments, to  
 4 speak?  
 5 FACILITATOR: I'm asking, as a courtesy to  
 6 people waiting to speak, that you limit your first round  
 7 of three minutes. And then, if we have time left over,  
 8 we'll give you more time.  
 9 MR. LUCAS: Okay. Thank you.  
 10 FACILITATOR: Just let me know you need more  
 11 time, and I'll put you on the back of the list. Okay?  
 12 MR. LUCAS: I've been on the back of the list  
 13 before.  
 14 FACILITATOR: I hope you're on the front of  
 15 the list tonight. Okay? Okay.  
 16 I would like to introduce Craig, who is going  
 17 to give us an overview of the project. Oh, there you  
 18 are. I'm looking all over and you're right there.  
 19 DR. FOLTZ: Hi. I'm Craig Foltz. I'm the  
 20 Acting Director of the Division of Astronomical Sciences  
 21 with the National Science Foundation. And I've also  
 22 been the Program Officer for this project since I  
 23 arrived at the end of 2003. The Program Officer  
 24 oversees the process that the proposal goes through for  
 25 funding.

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1 Before I go any further, I want to thank you  
 2 all for coming. I want to thank you in advance for  
 3 input that you will provide. I can assure you that  
 4 every comment that is made will be addressed in the  
 5 Final EIS and will be carried forward to the Director of  
 6 the NSF as part -- as input in his decision-making as to  
 7 whether we proceed to construction.  
 8 The project that we're talking about is the  
 9 Advanced Technology Solar Telescope. I'm sure everyone  
 10 in the room knows about it. I'm not going to talk much  
 11 about it other than to say it is a project that, if  
 12 constructed -- and it has not been approved for  
 13 construction, it has not been funded for construction  
 14 yet -- that's important -- would be the world's flagship  
 15 observing facility for ground-based solar research.  
 16 I want to talk a little bit about our  
 17 relationship, NSF's relationship, with the project,  
 18 because it's a little unusual and it's not -- typically,  
 19 people don't understand it. And it's just because it's  
 20 a little bit unusual. NSF is a federal agency, we're  
 21 funded by your taxpayer dollars, but we are not a  
 22 proactive agency in the sense that, for example, the  
 23 Department of Defense or the Department of Energy or  
 24 NASA is. We, at NSF, most of our staff -- or many of  
 25 our staff are scientists. But as -- as scientists, we

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1 do not sit around and think, hey, wouldn't it be great  
 2 for us to build this big telescope and put it on top of  
 3 Haleakala. That's not the way it works.  
 4 We are a reactive agency that responds to the  
 5 members of the scientific community. By that, I mean  
 6 researchers, faculty, graduate students, postdoctoral  
 7 fellows all across the United States, who come to us  
 8 with proposals which they have developed for facilities  
 9 or projects or research that they need to do. And  
 10 through a process of review that engages other members  
 11 of the community -- well, we won't call it peer review,  
 12 let's call it merit review. The -- a decision is  
 13 arrived at as to whether a specific project or facility  
 14 or construction or piece of equipment should be funded.  
 15 This is a very unusual project for NSF. It is  
 16 a very large project for NSF. It costs a lot of money.  
 17 And, as such, the development of the -- of the proposal  
 18 and the review process that has gone through has been  
 19 going on, arguably, since 2001. We -- this is not --  
 20 one hears about this often as NSF's ATST. It is the  
 21 solar physics community ATST. We will fund it if the  
 22 decision is made to fund it.  
 23 But the design, the scientific drivers, the  
 24 need was established by a much broader base of  
 25 continuum. And the headquarters for that project has

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1 been the National Solar Observatory, which is a national  
 2 facility available to all scientists internationally to  
 3 study the sun.  
 4 And while I'm talking about that, let me  
 5 introduce a few people from the project and from the  
 6 NSF.  
 7 First of all, my colleague at the NSF,  
 8 Caroline Blanco, who will talk to you in a moment, who  
 9 is Assistant General Counsel in the Office of General.  
 10 Jeremy Wagoner is the program -- the project's  
 11 Project Manager. He is an employee of the National  
 12 Solar Observatory.  
 13 Jeff Barr is the Project Architect.  
 14 There are a few more people out around here,  
 15 but those are the people I think that might participate  
 16 in this discussion.  
 17 So where was I?  
 18 MS. BLANCO: AURA.  
 19 DR. FOLTZ: AURA, yes.  
 20 So the relationship -- the way that this  
 21 project would be funded is we would provide funding to  
 22 the National Solar Observatory to construct this  
 23 project. They would be overseen with great scrutiny.  
 24 They would be periodically reviewed.  
 25 It is our responsibility to spend taxpayer

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1 money wisely. We take that -- that role very seriously.  
 2 However, the National Solar Observatory cannot  
 3 receive -- they are not a legal entity. And so the way  
 4 that the -- the National Science Foundation works is to  
 5 fund these facilities through management organizations.  
 6 I'm just explaining this because you'll see  
 7 these acronyms. You'll, undoubtedly, see them in the  
 8 supplemental draft and they're on some of the material  
 9 you've gotten tonight.  
 10 The organization that actually runs the  
 11 National Solar Observatory, the organization to which we  
 12 provide funding, is called AURA. It is an acronym, the  
 13 Association of Universities for Research and Astronomy.  
 14 So there's sort of a threefold process.  
 15 There's the NSF, which provides money to AURA, which  
 16 operates, maintains and develops the National Solar  
 17 Observatory. So when we talk about the project, we're  
 18 talking about the project which is an extended group of  
 19 scientists. And the leadership for the project is the  
 20 National Solar Observatory.  
 21 Why am I here? I'm here because the process  
 22 that we're going through, that Caroline will tell you  
 23 more about, the National Environmental Policy Act, makes  
 24 the federal agency that would be doing the funding  
 25 responsible for carrying out the requirements in the

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1 Act. So that's where we are.  
 2 Again, I want to thank you very much for  
 3 participating. And thank you in advance for your  
 4 comments.  
 5 And at this point, I'll turn it over to  
 6 Caroline.  
 7 MS. BLANCO: Okay. Thank you, Craig.  
 8 As Craig mentioned, I'm the Assistant General  
 9 Counsel with the National Science Foundation responsible  
 10 for environmental matters.  
 11 And, first of all, I'd also like to thank you  
 12 for coming out here and participating in this very  
 13 important public process.  
 14 NEPA is -- as you may know, it's a public  
 15 process. And that is very important because all of the  
 16 information received tonight and throughout the entire  
 17 process will be factored into the decision. That's the  
 18 purpose of the Act. And that's how we hope to fulfill  
 19 the requirements as well. So we welcome your comments  
 20 we hope you participate, and look forward to hearing  
 21 what you have to say.  
 22 I'd also like to just mention a few things  
 23 about both the NEPA process where we -- where we do --  
 24 where we come to this point. And, also, the role of the  
 25 National Park Service. I just want to mention a few --

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1 few brief things about that. But it might be helpful to  
 2 start out how we got to this point.  
 3 As Dee Dee mentioned before, we had issued a  
 4 Draft Environmental Impact Statement back in October of  
 5 2006. And after receiving public comments, there were  
 6 significant comments about cultural resource concerns  
 7 and other types of concerns. And we learned, also, that  
 8 a Special Use Permit was required by the National Park  
 9 Service to traverse the National Park Service road to  
 10 get to the top of Haleakala High Altitude Observatory.  
 11 So we conducted several more studies and we entered into  
 12 discussions with the Haleakala National Park.  
 13 And there was new information that came about  
 14 through this process. And we thought it would be best  
 15 to issue a Supplemental Draft EIS to put the public on  
 16 notice of these changes and to provide another  
 17 opportunity to have people comment.  
 18 And so that's why we are at this stage. And,  
 19 again, we welcome your participation in this process.  
 20 The National Park Service, the Haleakala  
 21 National Park unit, will be considering issuing a  
 22 Special Use Permit as part of the National Park Service  
 23 regulations. And what they would look at is being able  
 24 to use commercial vehicles -- or to allow commercial  
 25 vehicles to traverse the National Park road to reach

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1 Haleakala High Altitude Observatory.  
 2 So, tonight, we are joined with Sarah  
 3 Creachbaum, who's the superintendent of the National  
 4 Park, Haleakala National Park.  
 5 MS. CREACHBAUM: Hello, everybody.  
 6 MS. BLANCO: And Cari Kreshak who's also here,  
 7 Cultural Resource Specialist, and (inaudible) as well  
 8 from Haleakala National Park. So glad you're here to  
 9 join us.  
 10 And that's where we're at. After we're -- the  
 11 comment period goes until June 22nd. So please feel  
 12 free -- if, after tonight, there's something else that  
 13 you might want us to know about, please, by all means,  
 14 submit your comments to us. We welcome them. And the  
 15 end of the comment period is June 22nd.  
 16 And after that, we'll be compiling all of the  
 17 comments, considering them, developing responses to  
 18 those comments. And we'll ultimately be issuing a Final  
 19 Environmental Impact Statement. All of that will be  
 20 completed before a decision is made. That's what's  
 21 required under the law. That's what we plan to do. So  
 22 that will -- that will be the first step before the  
 23 decision is even considered.  
 24 Also, just to let you know, we are having  
 25 consultation meetings along with the National Park

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1 Service next Monday, Tuesday and Wednesday, June 8th,  
 2 9th and 10th. Those are Section 106 under National  
 3 Historic Preservation Act consultation meetings. And we  
 4 would welcome your participation in those meetings as  
 5 well.  
 6 Thank you again.  
 7 FACILITATOR: Is there anything in either of  
 8 the presentations that wasn't clear to people as far as  
 9 the presentation piece went? If not, we'll move right  
 10 into public comments.  
 11 Again, if you could limit to three minutes  
 12 first time around. And if we have more time, definitely  
 13 just tell me you want a second three minutes. And that  
 14 will be fine. I'll try and give you a  
 15 one-minute-and-30-second heads up so your three-minute  
 16 end doesn't come as a huge surprise, which is always  
 17 disconcerting to me when that happens. So I'll try and  
 18 give you a little warning.  
 19 The other thing I'm gonna do, besides the  
 20 court reporter, is I'll be trying to catch your key  
 21 points up here on news print. So I want to check back  
 22 in with you and make sure I got it right. So do take a  
 23 look at it and make sure I've accurately got the key  
 24 points of your comments.  
 25 MR. AMPONG: Dee Dee, I've -- I've got a

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1 question.  
 2 FACILITATOR: Okay. Clarifying question?  
 3 MR. AMPONG: Yes.  
 4 FACILITATOR: Okay.  
 5 MR. AMPONG: The decision for the approval of  
 6 this project for Haleakala, when does -- is there a date  
 7 when the project will be or will not be approved to move  
 8 forward? And who makes that decision specifically?  
 9 FACILITATOR: Okay. I can have Caroline  
 10 answer that, but, also, if you look at your timeline,  
 11 there's a Federal Record of Decision which I think  
 12 you're looking at where in 2009?  
 13 MS. BLANCO: What happens is after the Final  
 14 Environmental Impact Statement is completed, the  
 15 regulations for the Act require that there be a 30-day  
 16 cooling off period. So comments can again be submitted  
 17 at that time. But a record of decision cannot be issued  
 18 until 30 days after the issuance of the Final  
 19 Environmental Impact Statement.  
 20 There is no date that is for 100 percent  
 21 certain when a decision will be made, but it is on an  
 22 expedited review because it's partially considered on  
 23 the Recovery Act Funds, part of the stimulus package.  
 24 So that -- it just means it will happen soon, but  
 25 certainly we will have at least 30 days that we must

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1 wait.  
 2 MR. AMPONG: I understand that. But I think  
 3 my concern is if the general public can get a -- as  
 4 close and as accurate of a date that we're looking at to  
 5 get a record of a decision -- because once that's done,  
 6 it's a done deal, you know, as far as the public's  
 7 concerned. So, in my mind, I'm looking, okay -- how --  
 8 you know, I've been involved, also, with comments in the  
 9 last couple years with this project. So we're back here  
 10 doing it again. And I'm looking, okay, when is that  
 11 date. What -- you know, I'm looking at -- can you tell  
 12 us right now, you know, will it be in September of '09,  
 13 would it be October '09? I know there's that 30-day  
 14 period, that cooling off period, but give us an idea,  
 15 so, you know, as we come up and express ourselves, we --  
 16 FACILITATOR: Let her get as close as she can.  
 17 Pull out the crystal ball, Caroline.  
 18 MS. BLANCO: Part of the problem is, too, that  
 19 do have this public comment period, too. So to give you  
 20 a certain answer is really not -- not right to do. It  
 21 wouldn't be right for the agency to do that. We'll have  
 22 to see what the public has to say. And that public  
 23 comment period closes on June 22nd. There would also  
 24 be, after that, the issuance under the Final  
 25 Environmental Impact Statement. It's hard to say

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1 exactly when that will come out, but it looks like we  
 2 may try to aim for end of July or so, middle of July.  
 3 Depends on how quickly we can assemble comments  
 4 responsibly. And then there will be a National Science  
 5 Board review and then there would be a decision by the  
 6 Director. So that's about as close as I can tell you at  
 7 this moment.  
 8 FACILITATOR: So probably the last quarter of  
 9 this calendar year, you're kind of heading toward there?  
 10 MS. BLANCO: Probably earlier than the last  
 11 quarter.  
 12 FACILITATOR: Okay.  
 13 MS. BLANCO: But, again, it depends on what  
 14 the comments say because the comments may impact what  
 15 happens.  
 16 MR. AMPONG: Right. So --  
 17 FACILITATOR: So the third or fourth quarter  
 18 of '09, calendar '09, is about the best you can give us  
 19 right now?  
 20 MS. BLANCO: I think, to be fair in terms of  
 21 giving the respect to the comment period, yes.  
 22 FACILITATOR: Okay. Clarifying question?  
 23 MR. LUCAS: Yes. I wanted to clarify a  
 24 comment you made regarding stimulus funds. Have there  
 25 been stimulus funds designated for this specific

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1 project, or is there just the \$2 million in stimulus  
 2 funds that was designated for the "promotion of  
 3 astronomy in Hawaii?" Is there stimulus money for this  
 4 project specifically?  
 5 MS. BLANCO: Yes. Maybe, Craig, you could  
 6 answer that more specifically. My expertise is not in  
 7 the funding aspect of it. So I wouldn't want to lead  
 8 you astray. But there are stimulus funds that are  
 9 intended to be spent on projects. And we wouldn't spend  
 10 them, obviously, until there's been this process  
 11 completed, the NHPA process is completed, and if there's  
 12 a decision to move forward.  
 13 MR. LUCAS: Okay. So who's gonna answer my  
 14 question?  
 15 UNIDENTIFIED SPEAKER: There are two --  
 16 FACILITATOR: The question is, is it stimulus  
 17 funds that have been specifically dedicated to this  
 18 project or is this project looking at buying into the  
 19 general stimulus funds that are out there?  
 20 MR. LUCAS: Well, no. The stimulus funds have  
 21 been designated. I just want to know -- since the  
 22 reference was made to the fact that there are stimulus  
 23 funds for this, I want to know if it's just -- if you're  
 24 referring to just the general money for the promotion of  
 25 astronomy or if there are specific stimulus funds for

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1 this project.  
 2 MS. BLANCO: No. There are specific stimulus  
 3 funds with ATST.  
 4 MR. LUCAS: In what amount?  
 5 MS. BLANCO: I'm trying to recall.  
 6 MR. GIBSON: I'm Tony Gibson. I can answer  
 7 that.  
 8 MR. LUCAS: Yeah.  
 9 MR. GIBSON: The way the stimulus funds work  
 10 for the National Science Foundation, we were given \$400  
 11 million for a major research facility construction,  
 12 which this falls under. The designation by the National  
 13 Science Foundation to put aside money, stimulus money,  
 14 for ATST is \$146 million.  
 15 MR. LUCAS: That's essentially the full budget  
 16 for this project?  
 17 MR. GIBSON: It is not. We don't know exactly  
 18 what the full budget is, but it's not -- it's more than  
 19 \$146 million.  
 20 FACILITATOR: So you have \$146 million set  
 21 aside for the project right now, that is not the full  
 22 budget?  
 23 MR. GIBSON: Of Recovery Act money, yes.  
 24 FACILITATOR: Of Recovery Act money, okay.  
 25 MR. GIBSON: That have been identified, yes.

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1 FACILITATOR: Okay.  
 2 MS. HELM: I have a question.  
 3 FACILITATOR: As long as it's a clarifying  
 4 question and not a substantive question, because we're  
 5 going to take comments in a minute. Go ahead.  
 6 MS. HELM: Okay. I'm just curious as to how  
 7 funds were appropriated for the project when the project  
 8 was not approved yet.  
 9 MS. BLANCO: Do you want me to --  
 10 FACILITATOR: It's a fair question. It's a  
 11 clarifier.  
 12 MS. BLANCO: Funds can be made available, but  
 13 they aren't determined to be spent yet. There's been no  
 14 decision to spend those funds. So something could be  
 15 allocated, but not spent. Not -- there's been no  
 16 decision to spend those funds, no decision.  
 17 FACILITATOR: So if there's a no decision, the  
 18 money will go somewhere else?  
 19 MS. BLANCO: I assume so. Yes.  
 20 DR. FOLTZ: Yes.  
 21 MS. BLANCO: Absolutely. And, again, no  
 22 decision will be made at all -- I want to make sure  
 23 folks understand that no decision will be made at all  
 24 until this NEPA process is completed, until the National  
 25 Historic Preservation Act process is completed. Then

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1 will the decision go before the decision-makers, but not  
 2 -- not until these processes are completed.  
 3 FACILITATOR: Okay.  
 4 MS. HELM: I'm sorry. I just have another  
 5 question. And you can let me know if it's substantive  
 6 or clarification.  
 7 FACILITATOR: I will. Go ahead.  
 8 MS. HELM: My question is -- or maybe Craig --  
 9 for Craig -- how much money has been allotted to be  
 10 spent for the whole planning process of this ATST?  
 11 Because I know there's a large amount of money that has  
 12 already been allotted.  
 13 DR. FOLTZ: Since I --  
 14 MS. HELM: And I just want clarification.  
 15 DR. FOLTZ: That's fine. I can answer that.  
 16 It's not a point of clarification, but I'm happy to  
 17 answer it. About 23 and-a-half million dollars will  
 18 have been spent through this fiscal year since 2001.  
 19 MS. HELM: Thank you.  
 20 FACILITATOR: Okay.  
 21 MR. AMPONG: One more?  
 22 FACILITATOR: One more, okay.  
 23 MR. AMPONG: The individuals who will actually  
 24 be making the decision to approve or disapprove the  
 25 project, are they here tonight and were they involved at

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1 any of the other subsequent meetings?  
 2 FACILITATOR: Yes. Are the decision-makers in  
 3 the room tonight?  
 4 MS. BLANCO: No. The decision -- the final  
 5 decision-maker is the Director of the National Science  
 6 Foundation. He's a presidential appointee. And he is  
 7 in charge of the National Science Foundation. We have  
 8 been keeping him regularly advised of this whole  
 9 process, the NEPA process, National Historic  
 10 Preservation process, the scientific merit review  
 11 process. He is very much aware of this. He has been to  
 12 the site. He has taken a tour of it. He is very much  
 13 aware and very involved in what is going on.  
 14 MR. AMPONG: But he's -- he's not hearing the  
 15 testimonies.  
 16 MS. BLANCO: We have them available on the  
 17 website. And is he well aware of what is going on. We  
 18 have briefed him on it. And they're available for  
 19 everybody to see, including the Director. We have  
 20 written extensively on the procedures.  
 21 FACILITATOR: No, he is not here. He is not  
 22 here, unfortunately.  
 23 MR. AMPONG: Yeah, I appreciate -- I  
 24 appreciate what you saying. My point being that, you  
 25 know, if he's gonna make a decision, it would be nice if

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1 he's here.  
 2 FACILITATOR: Okay. Okay. First commenter,  
 3 Warren Shibuya. Okay. Make them from your seat,  
 4 wherever you want, Warren. I'm just going to give you a  
 5 one-minute warning and a 30-second warning.  
 6 MR. SHIBUYA: All right. Aloha, National  
 7 Science Foundation, National Solar Observatory,  
 8 University of Hawaii Institute for Astronomy, the  
 9 Haleakala National Park, the Maui Community College  
 10 staff and students, and residents of Maui and Hawaii  
 11 State. I am Warren Shibuya. I speak for myself and  
 12 strongly urge your accepting the constructing and  
 13 operating of the Proposed ATST Project on Maui.  
 14 Maui's and Hawaii's residents have an  
 15 unprecedented opportunity to benefit firsthand from  
 16 high-technology studies of our sun. We, our keikis and  
 17 their keikis can take pride in having unique knowledge  
 18 and being involved with leading edge research of the  
 19 most important body in our solar system.  
 20 This technical facility, with sophisticated  
 21 instruments and computer systems, unfortunately, cannot  
 22 be miniaturized into a satellite. The ATST Project is a  
 23 one-of-a-kind scientific daylight operating observatory.  
 24 The technical information obtained from ATST Project  
 25 will benefit world's mankind.

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1 We'll able to compare the sun cycle  
 2 activities, such as sunspots that are moving; the solar  
 3 flares, electromagnetic forces that are ejected into  
 4 space; and, most importantly, how these forces impact  
 5 Earth's climate, animal, plant and orbiting satellite  
 6 lives and space borne astronauts, plus explain the  
 7 Aurora Borealis phenomena.  
 8 The ATST-gleaned knowledge may produce  
 9 opportunities for improving plant Earth's quality of  
 10 life for all mankind and Maui island environments.  
 11 Proposed ATST is a onetime opportunity to  
 12 understand the electromagnetic forces and the radiant  
 13 energies we get daily.  
 14 FACILITATOR: You've got a minute, Warren.  
 15 MR. SHIBUYA: Moving sunspots and flares all  
 16 coming in from 93 million miles to Earth is significant.  
 17 And I think we need to study it.  
 18 Early native ancestors, konohikis and monarchs  
 19 did not have the opportunity of learning and doing  
 20 advanced scientific research. Let me remind you, King  
 21 Kamehameha, III encouraged scientific knowledge be  
 22 shared with people living in Hawaii Kingdom.  
 23 FACILITATOR: I'm going to have to ask you to  
 24 start to wrap up, Warren. You're past your three  
 25 minutes.

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1 MR. SHIBUYA: Oh. I thought you were going to  
 2 give me a one-minute warning.  
 3 FACILITATOR: I did. He was on a roll. He  
 4 didn't hear me.  
 5 MR. SHIBUYA: Okay.  
 6 FACILITATOR: Thirty seconds to wrap it up,  
 7 Warren.  
 8 MR. SHIBUYA: He permitted using summit sites  
 9 for scientific observatories and sharing of information.  
 10 I'll probably need time later on.  
 11 FACILITATOR: Okay. I'll put you back.  
 12 Sorry, I got to treat everybody the same.  
 13 Stan Truitt. Hi, Stan.  
 14 MR. TRUITT: Hi. Aloha, everybody. I'm Stan  
 15 Truitt, a amateur astronomer and person interested in  
 16 science and the Maui community in general. I, too,  
 17 support and encourage the ATST Project, its  
 18 construction, its operation and its eventual removal  
 19 from the site. I don't mean this year, I don't mean  
 20 this century, but I mean to -- at some time, technology  
 21 and other things will have moved on. And instead of the  
 22 construction that will occur due to this remaining on  
 23 the mountain, that it be appropriately covered and/or  
 24 removed eventually, so that the persons that have  
 25 concern about a permanent effect on the mountain and on

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1 the community, that that will eventually go away. Just  
 2 as all things that man makes will go away, even the  
 3 pyramids.  
 4 It is a prime site for solar astronomy. It is  
 5 the best characterized of all the solar sites that I'm  
 6 aware of. And I pay a lot of attention to that. It's a  
 7 gem of a world resource and one that we cannot squander  
 8 by just leaving it up there undeveloped. It is  
 9 something that mankind needs, that our children and  
 10 grandchildren need, and that the scientific community  
 11 needs.  
 12 There's -- one of the things here that I said  
 13 that has to do with the Maui economy, employment and  
 14 education. I so often hear colleagues and neighbors  
 15 talking about their students, the best and brightest  
 16 students, that gather an education here or elsewhere,  
 17 and then cannot come back to Maui to give to the  
 18 community the benefit of their knowledge. Rather, they  
 19 have to go somewhere else because the sites don't exist  
 20 here for that kind of an employment. Technical  
 21 employment here on the island, especially for our keiki  
 22 and our progeny, that's extremely important.  
 23 And I would like for you all to consider that  
 24 it is a good thing for mankind and a good thing for Maui  
 25 for this world resource to be developed.

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1 Thanks.  
 2 FACILITATOR: Thank you. Okay. Ivan Lay.  
 3 MR. LAY: Aloha. Good afternoon, everyone.  
 4 My name is Ivan Lay. I'm with the Carpenters Union here  
 5 on Maui.  
 6 I'd like to go over just some of the economic  
 7 aspects of this project, what it means for us. Our  
 8 confirmation to you right now, half of our members are  
 9 unemployed right now. Not only is this our members,  
 10 this is their families, too. Different times, three --  
 11 we have 300 members. We know that this project won't  
 12 bring everybody back to work, but those individuals that  
 13 do go back to work will be able to get their families  
 14 housing, have a house above their head, ensure they have  
 15 food on their table, give them back their medical.  
 16 It'll also help out with their getting clothes for  
 17 school, getting their kids to school, gas, taking the  
 18 little breaks in life, like taking your kids and your  
 19 family out to dinner. These are all important economic  
 20 aspects that we have to think about with this project.  
 21 Taking that family out to dinner. This also  
 22 helps pay for the wait -- the waiter's family, helps out  
 23 with the cook, helps out with the cleaning people. So  
 24 the -- this branches out.  
 25 These projects that we have coming up, we have

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1 to take it seriously. Especially when it's a good  
 2 project like this. And if there is some opposition,  
 3 let's work it out. Let's see what we can do to work  
 4 together to make this happen. We're on Maui. We're a  
 5 family. Let's be ohana and make this happen. Okay?  
 6 That's all I have to say.  
 7 FACILITATOR: Thank you.  
 8 Joe Ritter.  
 9 MR. RITTER: Thank you for the opportunity to  
 10 address all of you. This kind of reminds me of the  
 11 ancient original democratic thing where everybody would  
 12 walk on the hill in Athens and have real democracy, all  
 13 meet and speak their piece. I think this is wonderful.  
 14 I haven't written an eloquent statement like  
 15 all these people, but I -- I just jotted down a few  
 16 thoughts that I wanted to share with you.  
 17 I deeply respect the diverse opinions and  
 18 strong feelings on -- on both sides of this issue. I'm  
 19 hoping that, with these meetings, not only will  
 20 everything get out, but to help build a bridge on some  
 21 of these things.  
 22 My background, in brief. I grew up on sacred  
 23 Indian land. Of course, all land is sacred to the  
 24 Native Americans. So I very much empathize with a lot  
 25 of the opinions about representing the `aina, and always

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1 have. In fact, I work in the green industry doing  
 2 science with things that I'm very careful not to do.  
 3 Won't go into that very much.  
 4 A couple of very brief comments. One of the  
 5 great Native American traditions and one of the great  
 6 Hawaiian native traditions is the study of the stars and  
 7 teach your children about it. Among other things,  
 8 besides research, I'm an educator. And we study the  
 9 stars. Feel very deeply about this and feel that we are  
 10 very deeply honoring this tradition in each teaching our  
 11 children about the stars.  
 12 We are all faced with very dire economic  
 13 times. Over \$140 million a year comes into the economy  
 14 on Maui from green high-tech industries. And we have  
 15 things like the Governor saying we're going to cut 13 to  
 16 14 percent off of the State workers' salaries, how can  
 17 we look at something that will bring hundreds of  
 18 millions of dollars into the economy and just ignore  
 19 this? When people from the Carpenters Union say half of  
 20 their good friends and -- and family and ohana are  
 21 unemployed right now. And this affects all of us very  
 22 deeply.  
 23 I'm --  
 24 FACILITATOR: About a minute.  
 25 MR. RITTER: I'm a scientist. So I won't talk

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1 about the great knowledge that we can get from this.  
 2 But I will say that if we're studying the stars, it  
 3 makes sense to study the very closest star, so that we  
 4 can actually do this -- so that we can actually learn  
 5 about our universe and where we come from. I think it's  
 6 possible to do this while still respecting the cultural  
 7 beliefs. Projects like this honor both our community's  
 8 needs and respect beliefs.  
 9 And to go ahead and build this telescope with  
 10 a 13-foot-wide mirror to do unprecedented science and  
 11 contribute to the economy, and knowledge, one of the  
 12 greatest pursuits of humanity and mankind, and it's  
 13 almost (inaudible) to me that we would do this without  
 14 looking at things not causing problems -- sorry --  
 15 causing problems. We want to do this in a very clean  
 16 and green way.  
 17 And I really appreciate the opportunity to  
 18 tell you my beliefs on this. I greatly deeply respect  
 19 both sides of this. And I'm hoping that we can build  
 20 some bridges on this for the benefit of everyone here.  
 21 FACILITATOR: You need to wrap up.  
 22 MR. RITTER: Thank you.  
 23 FACILITATOR: George Aikala or Aikala. I  
 24 can't read the handwriting.  
 25 UNIDENTIFIED SPEAKER: He had to leave.

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1 FACILITATOR: He had to leave, okay.  
 2 I have his statement that he asked me to read.  
 3 Time me. I'll try and do it quick so I get through in  
 4 three minutes. But he did ask me to read it.  
 5 The Advanced Technology Solar Telescope is a  
 6 scientific project by the National Science Foundation  
 7 within the University of Hawaii Institute of Astronomy,  
 8 Haleakala High Altitude Observatory, site of the summit  
 9 of Haleakala County of Maui.  
 10 These are proposals by the National Solar  
 11 Observatory. It is proposed that the construction  
 12 include an observatory facility, including a telescope,  
 13 world's largest optical solar telescope, its piers and  
 14 rotating platforms, telescope enclosures, support  
 15 building, parking facilities, and modifications to the  
 16 existing facility. If approved, it is estimated that  
 17 the site will be fully operational by 2017, with the  
 18 estimated construction schedule about seven years.  
 19 The ATST Project is a welcome investment not  
 20 only for the scientific and educational community, but  
 21 to the local economy as well. It is no secret that the  
 22 entire State's economy is depressed. And being Maui  
 23 County's economic momentum brought about by construction  
 24 has largely disappeared over the last two years.  
 25 Construction is a primary driver for employment.

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1 Today's Maui's unemployment rate is 8.1 percent, nearly  
 2 double that of 2008, at 4.5. More than 6,450 civilians  
 3 are unemployed today, compared with 3,600 unemployed in  
 4 2008. Clearly, there is an economic hardship in  
 5 practically many communities on Maui. And it is  
 6 projected to get worse before it gets better. The ATST  
 7 Project and other job-creating opportunities are needed.  
 8 We are cognizant, however, of the concerns of  
 9 our Native Hawaiian brethrens and persons concerned with  
 10 the environment. Their views must be heard and  
 11 appreciated for cultural and religious values and  
 12 practices as well as the need to protect the  
 13 environment. We also believe that the ATST Project can  
 14 be built respecting these values with attention to  
 15 mitigation actions.  
 16 The National Solar Observatory is developing a  
 17 management plan to ensure implementation of mitigation  
 18 measures with the associated ATST project. Mitigation  
 19 measures would include a cultural specialist to provide  
 20 oversight for construction activities and training.  
 21 Furthermore, a variety of best management practices  
 22 would be implemented during construction to prevent  
 23 damage to the natural environment.  
 24 The Proposed ATST Project would be located in  
 25 an area of the Conservation District that has been set

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1 aside for astronomical research. The objective of the  
 2 Conservation District is to conserve, protect and  
 3 preserve the natural resources of the State through  
 4 appropriate management and use in order to promote their  
 5 long-term sustainability and the public health, safety  
 6 and welfare.  
 7 Additionally, it is the policy of the  
 8 Makawao-Pukalani-Kula Community Plan to encourage  
 9 Federal, State and County cooperation in the preparation  
 10 of a comprehensive Haleakala Summit Plan to promote  
 11 orderly and sensitive development which is compatible  
 12 with the natural and native Hawaiian cultural  
 13 environment in Haleakala National Park. And that was a  
 14 quote.  
 15 We believe that the ATST Project would comply  
 16 with these requirements. ES31, the ATST would have  
 17 minor adverse long-term impacts on current land use  
 18 designated as Conservation District. No mitigation is  
 19 needed.  
 20 Thank you. He did ask me to read it; not just  
 21 enter it. Okay, George.  
 22 Foster Ampong. Did I pronounce that right?  
 23 MR. AMPONG: Yeah.  
 24 FACILITATOR: Thank you.  
 25 MR. AMPONG: Aloha. My name is Foster Ampong.

<p style="text-align: right;">Page 38</p> <p>1 I'm gonna be the first, right now, to say that I'm  2 totally against the construction of this telescope.  3 I testified a year ago and a couple years ago,  4 so I know I got three minutes in the first round. So I  5 will try to be real quick.  6 FACILITATOR: Mahalo.  7 MR. AMPONG: In short, if this telescope is to  8 be built on Haleakala, it's not a sustainable project.  9 Okay. Socially, environmentally, economically, it is  10 not sustainable. It's very short-sighted.  11 With all due respect to the previous speakers,  12 our kupunas -- and just for the record, I am Kanaka  13 Maoli, I'm Hawaii national. My lineage goes back  14 thousands of years here on this island, Molokai, the Big  15 Island. Okay. So I will get that out of the way. So  16 I'm gonna be talking to you and expressing myself from  17 the first person. You know, I didn't read this. I  18 didn't go to school, get degrees. I lived it and I'm  19 living it today.  20 So my points are this:  21 One: I'm not against science. I never was.  22 Like my kupunas, I believe that science is such a  23 valuable and important part of our existence.  24 I made this point a year ago. And when I  25 asked the question, these other alternative sites -- and</p>	<p style="text-align: right;">Page 40</p> <p>1 concerns that we have right now is job losses,  2 homelessness -- people can't bill -- pay their bills so  3 they're losing homes to foreclosure and what-have-you.  4 We need to take the monies that are being allocated and  5 put it into areas that are gonna benefit the people  6 today and now.  7 You know, for instance, carpenters. What we  8 need to look at is renovating buildings that we already  9 have here, not putting up more buildings or more hotels  10 or more developments. Because we're shooting ourselves  11 in the foot again.  12 We already shot ourselves economically, as a  13 society, in the left foot. We only got one more foot  14 left. So now we looking at shooting the other foot.  15 So please, you know -- I'm very passionate,  16 I'm very definitive about this -- no to this. It's not  17 sustainable. And our kupunas would say, you know what,  18 don't do it because we'll kill ourselves.  19 Thank you.  20 FACILITATOR: Foster, you want another three  21 minutes?  22 MR. AMPONG: Yeah, I do.  23 FACILITATOR: Okay. You got 'em.  24 MR. AMPONG: Seriously?  25 FACILITATOR: No, at the end.</p>
<p style="text-align: right;">Page 39</p> <p>1 I believe there were two more besides Haleakala -- would  2 be objectives, and the goals that this telescope were to  3 pursue, could they have been reached and are they  4 obtainable at these alternative sites. And the answer  5 was yes.  6 So, for the record, I'd like to make this very  7 clear, that Haleakala -- if the ATST telescopes are not  8 built on this sacred mountain, it doesn't mean that  9 humanity is going to lose it any which way or form.  10 And. I said this lecture and I'll say this again.  11 Because a majority of the community, the Hawaiian  12 community and the community at large, doesn't want this  13 to be built for various reasons, take the project, build  14 it at one of the other two sites. Okay.  15 And the other part I really wanted to -- to  16 address is the mention of the -- the economic tie into  17 businesses, job opportunities and what-have-you. You  18 know, this is similar to what the plantations have told  19 the people for the past 100 years. And that is that,  20 oh, we need this to create jobs and we need this to  21 benefit the community. But that's the part that I'm  22 talking about that is very short-sighted. It's not --  23 it will not.  24 What we need is to get involved with projects  25 that are sustainable for the community. The immediate</p>	<p style="text-align: right;">Page 41</p> <p>1 (Court reporter requests to pause proceedings  2 momentarily; off the record.)  3 FACILITATOR: Carol.  4 MS. REIMANN: Hi.  5 FACILITATOR: Hi, Carol. Reimann?  6 MS. REIMANN: Reimann.  7 FACILITATOR: Reimann, okay.  8 MS. REIMANN: Good evening, everyone. My  9 name's Carol Reimann. And I represent the Maui Hotel  10 and Lodging Association.  11 We believe that the National Science  12 Foundation's proposed solar telescope will enhance our  13 island's offerings by providing yet another feather in  14 Maui's cap; home of the world's largest optical solar  15 telescope, providing the sharpest views of the sun, and  16 crucial to determining and predicting the sun's effect  17 on the entire globe. It is an honor to be selected as  18 the best location to study the sun out of 70 sites  19 considered throughout the entire world.  20 Additionally, the solar telescope will provide  21 an opportunity for scientists to visit our island.  22 Visiting scientists and conferences will occupy our  23 hotels, dine and shop at our businesses. Maui County's  24 strength as a top tourist destination and successful  25 business model depends on our ability to showcase our</p>

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1 diverse related industries. Enhancing the science  
 2 technology industry in our mix will complement our  
 3 island's reputation for excellence.  
 4 Thank you.  
 5 FACILITATOR: Okay. Mikahala Helm. Mikahala.  
 6 Excuse me. Those of you are watching while she's coming  
 7 up already know I can't spell in any language.  
 8 MS. HELM: Aloha kakou. My name is Mikahala  
 9 Helm. And we've been on this journey for several years,  
 10 many of the people who are in this room.  
 11 And I'm here to say that I have been born and  
 12 raised on this Island of Maui. I come from Kuau. I am  
 13 Hawaiian. And I'm clearly for the avoidance of building  
 14 this ATST on Haleakala.  
 15 Our kupuna and the majority of Hawaiians,  
 16 Native Hawaiians, and others who have been attending  
 17 these meetings rather -- whether it's public testimony  
 18 community meetings or Section 106, have clearly stated  
 19 that they are against this and that it would cause a  
 20 destruction of our sacred land.  
 21 And I realize -- I'm an educator, and I truly  
 22 appreciate our people, youth and adult reentry students,  
 23 being able to learn, improve their lives and improve our  
 24 community. However, I find that this particular project  
 25 is being mentioned as something that is going to benefit

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1 Hawaiians, it's gonna have educational benefits for us.  
 2 And when you look at long-range and you look at how much  
 3 has been spent as -- that's why I asked the question of  
 4 Craig, how much has been spent already in millions just  
 5 in this planning process. And although we have been  
 6 told again and again that a decision not have -- has not  
 7 been made to approve this ATST, there is increasing  
 8 pressure on getting this through and finding some kind  
 9 of mitigation that would allow for the approval of this  
 10 project.  
 11 Clearly, we love Maui. Clearly, we love  
 12 Hawaii. And if you look at --  
 13 FACILITATOR: One minute.  
 14 MS. HELM: -- what is important to us here --  
 15 we talk about tourism. And I know our people need jobs.  
 16 However, if we are going to really sustain our island  
 17 and our people, we must look at what is the bottom line  
 18 and what will we clearly preserve and protect, what is  
 19 it that was the bottom line. There is no one cultural  
 20 plan or plan for Haleakala that's going to protect it  
 21 and that's gonna be sure that what is done is protecting  
 22 our sacred site, basically. And so --  
 23 FACILITATOR: You've got 30 seconds.  
 24 MS. HELM: So, clearly, again, I reiterate, I  
 25 am for avoidance of this particular project.

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1 I respect all of you and your love for  
 2 science, but I'm clearly against this. As we have been  
 3 taught that we have kuleana as Hawaiians, I've been  
 4 taught by my kupuna and other kupuna that have now  
 5 passed that have taught us, do not desecrate our sacred  
 6 island and our sacred mountain, and do not desecrate,  
 7 please, Haleakala.  
 8 FACILITATOR: Richard Lucas.  
 9 MR. LUCAS: Aloha. My name Richard Lucas. I  
 10 live in Haiku.  
 11 Let me -- let me just start by telling you  
 12 what my position is on this. I will just read it.  
 13 Numerous impacts have occurred on Kolekole, on summit of  
 14 Haleakala due to buildings and ongoing activities. To  
 15 really mitigate the impacts that have happened to this  
 16 site, there must be a stop to any more construction on  
 17 this 18.1-acre site.  
 18 This is an impressive document, 18 pounds. We  
 19 got it in the mail. But I am concerned about the  
 20 Supplemental Draft EIS and what I consider a lack of  
 21 transparency and a lack of candor in this document.  
 22 Example one: We are told in the Supplemental  
 23 Draft EIS that this is the site, this is the only site  
 24 that will work. If it's not built here, it's not going  
 25 to be built. And, yet, in October of 2004, NASA, one of

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1 your partners in this project, issued a press release  
 2 talking about the project and going forward with it. In  
 3 it, a gentleman by the name of Thomas Remoulade, with  
 4 the National Solar Observatory, the leading group with  
 5 the project, said, each of the candidate sites has a  
 6 unique combination of atmospheric conditions and other  
 7 factors that would make it an outstanding location for  
 8 the ATST. Each of the sites. That was in 2004.  
 9 So what changed between 2004 and where we are  
 10 today?  
 11 Well, part of what changed is the fact that,  
 12 in 2006, the National Science Foundation made a decision  
 13 that this was the site they were gonna have. And that  
 14 was it. And as a result of that decision, they started  
 15 redesigning this telescope, this observatory, for this  
 16 site.  
 17 So they come to us today and say, well, this  
 18 will only work here. Well, of course, it will only work  
 19 here, because the change of the design for this site.  
 20 That information is contained in a 2006 publication  
 21 called "Ground-based and Airborne Telescopes,  
 22 Proceedings of the SPIE." So they changed the design.  
 23 Now they come and say this is the only site that will  
 24 work.  
 25 What about the other sites? One of the

<p style="text-align: right;">Page 46</p> <p>1 sites --</p> <p>2 FACILITATOR: You got a minute.</p> <p>3 MR. LUCAS: Okay. One of the sites is Big</p> <p>4 Bear, in California. We are told in the Supplemental</p> <p>5 Draft EIS that, for a number of reasons, Big Bear</p> <p>6 doesn't work. And one of the things they talk about is</p> <p>7 a criteria that they call seeing. And they're telling</p> <p>8 us that Big Bear fails in the category of seeing. And,</p> <p>9 yet, in July of 2007, in a publication of the</p> <p>10 Astronomical Society of the Pacific, they talked about</p> <p>11 Big Bear Lake. And they said, after talking about --</p> <p>12 FACILITATOR: 30 seconds.</p> <p>13 MR. LUCAS: -- evaluation, seeing conditions</p> <p>14 from sunrise to sunset are a unique feature of the Big</p> <p>15 Bear Solar Observatory. And for those of you who don't</p> <p>16 know, the National Science Foundation sponsored and put</p> <p>17 money into the construction of now the second largest</p> <p>18 solar observatory in the world, built last year at Big</p> <p>19 Bear Lake. And, in fact, the New Jersey Institute of</p> <p>20 Technology, on May 20th of this year, had a glowing</p> <p>21 praise for that observatory --</p> <p>22 FACILITATOR: Okay.</p> <p>23 MR. LUCAS: -- and how well it works at that</p> <p>24 site.</p> <p>25 The National Science Foundation had a similar</p>	<p style="text-align: right;">Page 48</p> <p>1 spirituality.</p> <p>2 You state in the EIS that a minimum of 250</p> <p>3 truckloads, or 125,550 cubic feet, of sacred rock and</p> <p>4 native soil will be bulldozed up and relocated. Just</p> <p>5 digging at the lava rock, which is believed by many</p> <p>6 Native Hawaiians to be the bones of Pele is an affront</p> <p>7 to Hawaiian spirituality.</p> <p>8 The Temple Mount in Jerusalem, where Solomon's</p> <p>9 Temple is located, is considered one of the most sacred</p> <p>10 sites in the world. You cannot dig there, you cannot</p> <p>11 take soil from there. Why? Because it's sacred to the</p> <p>12 Muslims, to the Christians, to the world.</p> <p>13 The same is true of Haleakala. It is sacred</p> <p>14 as well. And any digging, much less removing and</p> <p>15 relocating, of the soil and rock is desecration.</p> <p>16 Hawaiian practitioners see life and spirit in</p> <p>17 every rock and every grain of sand and every tangible</p> <p>18 natural object.</p> <p>19 No action is the only way to protect the</p> <p>20 sacred Hawaiian `aina. If this project is built, Native</p> <p>21 Hawaiian practitioners will be adversely affected their</p> <p>22 whole lives. They will not be able to practice their</p> <p>23 spirituality as it was meant to be in this sacred place,</p> <p>24 where their ancestors conducted and taught prayers,</p> <p>25 where they connected to Wakea and Papa, and where they</p>
<p style="text-align: right;">Page 47</p> <p>1 article on May 20th. They pulled it from their website</p> <p>2 so that you can't read it.</p> <p>3 FACILITATOR: I need to ask you to wrap up.</p> <p>4 Do you want me to put you back on for another three</p> <p>5 minutes?</p> <p>6 MR. LUCAS: Put me back on.</p> <p>7 FACILITATOR: Okay, you got it. Okay.</p> <p>8 Kathy McDuff.</p> <p>9 MS. McDUFF: I'm going to need an extra two</p> <p>10 minutes.</p> <p>11 FACILITATOR: You've timed it, so you'll have</p> <p>12 to come back for two. So I'll you on the back list</p> <p>13 already. Thank you for letting me know.</p> <p>14 MS. McDUFF: Aloha. Your Supplemental Draft</p> <p>15 EIS seems to suggest that educating Native Hawaiians in</p> <p>16 math and science and having sense of place training,</p> <p>17 that will somehow miraculously offset the adverse impact</p> <p>18 on Native Hawaiian practitioners who consider the summit</p> <p>19 of Haleakala to be sacred. These are good measures, but</p> <p>20 one doesn't offset the other. There -- as noted in the</p> <p>21 supplemental mitigation proposal, the future impact of</p> <p>22 Haleakala as a spiritual place will be irretrievably and</p> <p>23 irreversibly affected by significant and obtrusive</p> <p>24 structure. You cannot build on the sacred ground</p> <p>25 without desecrating it. You cannot mitigate</p>	<p style="text-align: right;">Page 49</p> <p>1 wove the vortex connecting all of the heiaus of Maui,</p> <p>2 and even Hawaii, to this sacred summit where numerous</p> <p>3 gods and goddesses are said to reside. They will be</p> <p>4 unable to practice the way their ancestors practiced</p> <p>5 because the web will be further broken down by</p> <p>6 construction as well as the operation of this huge</p> <p>7 structure. They will be unable to experience the full</p> <p>8 practice of their spirituality.</p> <p>9 FACILITATOR: You've got a minute.</p> <p>10 MS. McDUFF: In addition, the view planes of</p> <p>11 the Haleakala summit will be irretrievably damaged.</p> <p>12 This 143-foot structure will be clearly visible from the</p> <p>13 Red Hill Overlook, and the crane constructing this</p> <p>14 massive structure will be visible from the crater</p> <p>15 itself. There is no mitigation possible for the loss of</p> <p>16 this view plane. You stated that in the EIS. Not for</p> <p>17 the ahus where the Native Hawaiian practitioners pray,</p> <p>18 nor for the people who come to the Visitors Center, nor</p> <p>19 for the Native Hawaiians who look up to the summit of</p> <p>20 Haleakala for their sunrise and sunset prayers. Now a</p> <p>21 huge 14-story structure will stick at the center of their</p> <p>22 view plane.</p> <p>23 It was noted that if the ATST were built at</p> <p>24 the La Palma test site, the telescope would need to be</p> <p>25 modified because of the impact it might have on a</p>

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1 specific peak called Cumbrecita. The telescope could  
 2 not be built there if it interfered with that particular  
 3 view plane. So they looked at an alternate site further  
 4 downhill. Shouldn't the same consideration be given to  
 5 Haleakala, which is sacred as well as beautiful?  
 6 I'll finish up with the few minutes.  
 7 FACILITATOR: Okay. Thank you. I'm glad you  
 8 cut that instead of me having to cut that.  
 9 Lei'ohu Ryder. Hi.  
 10 MS. RYDER: Hi. Greetings, everyone. I'm  
 11 here to speak about the mountain itself.  
 12 It is an ancestor. It is part of my flesh and  
 13 bones. The integrity of these islands, sense of place,  
 14 sense of spirituality, sense of equality, fairness,  
 15 sense of aloha is compromised with this proposed solar  
 16 telescope.  
 17 For eons, the ancient ones have practiced  
 18 their spirituality, long before you and I ever ventured  
 19 here to these islands on our wa`as, our wa`as of the  
 20 sun. We, as those natives that encompass these -- the  
 21 bones of this land, have compromised over and over,  
 22 giving way to the broken promises around spiritual  
 23 integrity, cultural resources. If we look at our  
 24 islands and the illusion that it has been built on  
 25 influenced by the colonizer as a human chess game,

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1 desecrating the spirit and the essence of the ha, the  
 2 breath of maui ola, Maui's life, then you will know  
 3 what is pono and what is true in the backbone of time in  
 4 the (Hawaiian).  
 5 No hotel, no carpenters union, no  
 6 astronomical -- astrology school can create the sense of  
 7 place and spirituality carried in the bones of every  
 8 life force on this planet. And that includes Native  
 9 Hawaiians.  
 10 Haleakala's desecration with the -- the rape  
 11 of this `aina, the proposal is going to sever the  
 12 spiritual connections that many of us who practice and  
 13 live free, from not only Haleakala's mountaintops, but  
 14 the many other sacred sites worldwide on our beloved  
 15 mother. Many are being compromised as we speak now.  
 16 FACILITATOR: You've got 30 seconds.  
 17 MS. RYDER: And so I invite you into the space  
 18 of moving, moving it to another site. Avoid this.  
 19 You cannot mitigate spirituality. You cannot  
 20 mitigate the sense of spirituality in the next  
 21 generations.  
 22 FACILITATOR: Do you want me to put you back  
 23 on the --  
 24 MS. RYDER: No.  
 25 FACILITATOR: I will.

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1 MS. RYDER: Next week.  
 2 FACILITATOR: -- the space of moving  
 3 another -- another site. Okay. Joyclynn Costa.  
 4 MS. COSTA: Hello. My name is Joyclynn Costa.  
 5 Somebody gotta speak for the ones who cannot. And these  
 6 are the people who have passed. So you need to know  
 7 what they have to say, too. They were scientists, great  
 8 scientists, astronomers, agriculturalists, but they knew  
 9 when to stop looking up at the sky that was falling and  
 10 do something about it.  
 11 I applaud every scientist that can come and  
 12 find out all the different problems that we need to  
 13 address, but there comes a time when you need to address  
 14 it.  
 15 Can you write the word "sustainability" on the  
 16 bottom there?  
 17 FACILITATOR: Of course I can. I might even  
 18 spell it right.  
 19 MS. COSTA: So our kupuna knew enough to stop  
 20 looking up at the sky because they learned everything  
 21 that needed to be learned. Whether you think that we  
 22 needed to learn any more, they learned everything they  
 23 needed to know. And then they stopped because then they  
 24 had to address what they learned, which was to take care  
 25 of the land. So you can only go so far with something

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1 like this, then you gotta stop, and you gotta do  
 2 something with the information that you're -- that  
 3 you've gathered. Because you can look up and watch the  
 4 sky fall, when are you gonna do something about it? You  
 5 already know we have global warming. You already know  
 6 we damaging the Earth. You already know we're going to  
 7 run out of water, run out of oil, run out of coal. Run  
 8 out. And while we living here, our children will not  
 9 have a life anymore.  
 10 Our kupuna knew when to stop and take care of  
 11 seven generations --  
 12 FACILITATOR: You've got a minute.  
 13 MS. COSTA: -- after them.  
 14 Sustainability. Can you bring that back down?  
 15 FACILITATOR: I can bring it back down. I ran  
 16 out of room, you gave me so much to write.  
 17 MS. COSTA: Put a line where the "T" is,  
 18 between the "T" and the "A." Put a line between the "A"  
 19 and the "B." What you got is the word "aina." We don't  
 20 have to go any farther than that. That's what our  
 21 kupuna found out after they star gazed.  
 22 You gotta stop looking up and you gotta start  
 23 looking at what is real, take care of the land.  
 24 FACILITATOR: 30 seconds.  
 25 MS. COSTA: Take care of the land.

<p style="text-align: right;">Page 54</p> <p>1 I will not give consent to my inherent vested 2 rights to that mountain. I've never given consent. My 3 kupuna never gave consent.</p> <p>4 In this booklet here, on page -- on ES1.2, it 5 says landownership. And it doesn't define who owns it. 6 This is crown land. And the Supreme Court, March 30 -- 7 March of this year, stated these lands they cannot 8 decide, the lands have to be decided through Hawaiian 9 law. I'd like to find out where the Hawaiian law comes 10 into effect into this booklet.</p> <p>11 FACILITATOR: You want to be put back on to 12 talk further?</p> <p>13 MS. COSTA: Yes, please.</p> <p>14 FACILITATOR: Okay. That's the list I'm back 15 to. And here are -- let me just quickly -- people that 16 I didn't get down to speak again, but let me know if you 17 want to. Lei'ohu Ryder.</p> <p>18 UNIDENTIFIED SPEAKER: She's gone.</p> <p>19 FACILITATOR: She's gone, okay.</p> <p>20 Mikahala --</p> <p>21 MS. HELM: Yes.</p> <p>22 FACILITATOR: -- did you wanna talk again 23 later? I'm just checking with everybody because I 24 didn't ask everybody when they were up here.</p> <p>25 MS. HELM: Maybe later. Thank you.</p>	<p style="text-align: right;">Page 56</p> <p>1 reminding everybody that King Kamehameha, III encouraged 2 scientific knowledge to be pursued, shared with the 3 people living in Hawaii Kingdom. He permitted using the 4 summit sites for scientific observatories and sharing of 5 information. Unfortunately, scientific installations 6 lacked proper respect for sacred Pu`u Kolekole and wao 7 akua, the level of Earth stratospheres where gods and 8 goddesses above in this area are believed to culturally 9 reside and culturally guide the people living today on 10 Maui, as well as Hawaii.</p> <p>11 The ATST Project is building in extraordinary 12 pono measures of respect, provide employment, learning 13 opportunities. And after studying four sun cycles, 14 remove the ATST facility and restore the pu`u. As you 15 know, the University of Hawaii Institute of Astronomy 16 has actively cleared earlier studied rubble and restored 17 the summit.</p> <p>18 Here's an example of what it was before. They 19 have cleaned up, and here it is. This is not a 20 untouched -- retouched photo. That's what happened. 21 The footprint of this is much smaller than the existing 22 facilities. So you're talking about a smaller, cleaner 23 area.</p> <p>24 Yes, it is taller. Technology does not allow 25 for it to be miniaturized at this point in time. But</p>
<p style="text-align: right;">Page 55</p> <p>1 FACILITATOR: Okay. Carol?</p> <p>2 UNIDENTIFIED SPEAKER: She's gone.</p> <p>3 FACILITATOR: She's gone, okay. Joe?</p> <p>4 MR. RITTER: Yes.</p> <p>5 FACILITATOR: Did you want to talk again?</p> <p>6 MR. RITTER: Yes, please.</p> <p>7 FACILITATOR: I forgot to ask everybody. 8 Ivan? No. Okay. 9 Stan, did you want more time? Okay. 10 Warren, another three minutes to finish your 11 eloquent statement you were making and I so rudely 12 interrupted?</p> <p>13 MR. SHIBUYA: Could I have somebody help me 14 with this? I'm going to borrow this picture.</p> <p>15 FACILITATOR: Oh. You want somebody to hold 16 up a picture?</p> <p>17 MR. SHIBUYA: A couple of them.</p> <p>18 FACILITATOR: Okay. We're going to go another 19 three minutes, and then, if we still have time, we'll go 20 again. And when we finish this second round of three 21 minutes, I'll ask if anybody else has comments they 22 would like to make. Or if you do have comments you 23 would like to make, grab a sheet so we have your 24 information.</p> <p>25 MR. SHIBUYA: I just want to start off</p>	<p style="text-align: right;">Page 57</p> <p>1 after we study it, perhaps we can miniaturize it, if the 2 study -- further studies need to be done.</p> <p>3 So I would say this has many benefits. Not 4 only for scientists, not only for myself, not only for 5 the keikis, but it is all for the world, entire world, 6 that we are looking and studying. This is the kind of 7 activity. They are willing. And they have stated they 8 are going to do this. I think this is excellent, an 9 outstanding responsibility and respect of this area.</p> <p>10 Thank you.</p> <p>11 FACILITATOR: Thank you.</p> <p>12 Those of you waiting to speak a second time, I 13 have someone that hasn't spoken yet. Is it okay if I 14 take them first? Okay. Clare Apana.</p> <p>15 MS. APANA: First of all, I'd like to go on 16 record saying that I do not favor -- I am against this 17 project. And I think it's really unfortunate that this 18 project cannot stand on its own merit, it has to go into 19 the labor unions and the tourist industry. Can it not 20 stand on its own merit?</p> <p>21 And I think it's because -- what are we 22 talking about? Is this really about looking at solar 23 sunspots? What kind of a technology is that? Compared 24 to people who can tune in to -- themselves to another 25 dimension in their ancestors. What kind of technology</p>

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1 is that, to look at the sun, when you can -- you send  
 2 out satellites, you have satellites in the sky already,  
 3 and you can get that information from there. What we're  
 4 talking about is you would trade what has been, for  
 5 hundreds, thousands of years, a science for this new  
 6 science. And what benefit would that be? If people  
 7 could learn what we learned in our own culture, we'd be  
 8 way far ahead. Now, that's science.

9 This is not keeping up with where we started  
 10 from today, where our ancestors have taken us. And it's  
 11 taken them thousands of years. So what makes you think  
 12 that going and infringing upon the view plane of  
 13 Haleakala and the quiet serenity and the very essence of  
 14 the mountain, and what it means to people who have used  
 15 it for thousands of years -- how could your science be  
 16 better than that? That is truly arrogant. And I have  
 17 to say it's ridiculous. It is ridiculous.

18 So thank you very much.

19 FACILITATOR: Levi Almeida. Welcome.

20 MR. ALMEIDA: Thank you.

21 FACILITATOR: Thanks for coming.

22 MR. ALMEIDA: Aloha. My name is Levi Almeida.  
 23 I'm 15 years old. I attend Kamehameha Schools Maui.  
 24 And all of you guys in here, you guys are the  
 25 present generation, yeah. You guys are the ones now.

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1 And I'm speaking on behalf of the future generations.  
 2 And I just want -- I just wanted to put out  
 3 there, you know, our ancestors got here from Tahiti all  
 4 the way to Hawaii just by looking. We didn't need a  
 5 telescope to do such a thing.

6 But I'll just -- I just wanna say that I  
 7 really like don't see how this is gonna benefit us  
 8 because, sure, we're gonna be building this. What  
 9 happens when it's already built? We're all gonna have  
 10 to go back to where we came from in the first place.

11 And are we going to get Hawaiian-storic here?  
 12 The truth is that, you know what, like most of  
 13 my generation right now, we're fighting to get through,  
 14 we're struggling. Like everything is so expensive in  
 15 Hawaii nowadays. I don't -- I just don't see how this  
 16 could help us and how it's gonna benefit the world.

17 I mean, we can -- we can look at the sun all  
 18 we want, but what happens when the world that we stand  
 19 on just crumbles and falls with it?

20 So I think we have to think about each other,  
 21 because lot of people are struggling right now. I mean,  
 22 don't be so -- think about each other first. You know,  
 23 like get everyone together, get -- like our  
 24 environment's crumbling, too. It's fall -- it's falling  
 25 apart. I mean, right now, we should be -- instead of

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1 focusing being green and making more, we should -- we  
 2 should try and get everything good the way it is.

3 Because right now, like we're in like a really  
 4 dangerous position right now, like. It's like what the  
 5 definition of chaos is, right, in the sand. We're just  
 6 doing the same thing over and over, expecting different  
 7 results each time. You know, we have to start with  
 8 ourselves to change it. So why not start right now?

9 Thank you.  
 10 (Applause.)

11 FACILITATOR: Foster, your long wait is over.

12 MR. AMPONG: Thank you.

13 I wanna thank you, Levi, for saying that.

14 He brings up a good point. And, basically,  
 15 I'm gonna articulate it a little different, but it's of  
 16 the same message.

17 Our ancestors, Kanaka Maoli, have lived in the  
 18 middle of the Pacific for 3,000 years plus, okay,  
 19 without any help from outside cultures or outside  
 20 civilizations. We lived a truly sustainable lifestyle.  
 21 We achieved sustainable living in every definition of  
 22 the word, essence and in spirit.

23 It wasn't until the arrival of foreigners from  
 24 1778, and thereafter, that things got really messed up.  
 25 I mean, as Levi eloquently articulated, you know what,

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1 our environment is screwed up, period. So please keep  
 2 that in mind. Okay. And, again, I'm touching on  
 3 sustainability.

4 I need to address the -- the testifiers from  
 5 the Hotel Association, the labor unions, the gentleman  
 6 that talked about our kupuna, Kauikeaouli Kamehameha,  
 7 III. Please, please -- and I mean this with all  
 8 compassion and sincerity -- it is an insult to me and  
 9 every other Kanaka Maoli to continually hear this  
 10 projection that we are gonna be better off, our kupunas  
 11 would have wanted it this way or that way.

12 Yes, we studied the stars and we -- and we --  
 13 we communed with the environment. And we became very  
 14 good at it without any kind of modern tech nothing.  
 15 That's part of the sustainability.

16 Tourism is an unsustainable business. And  
 17 when are people gonna get it through their head that if  
 18 you focus on supporting tourism in the manner that it's  
 19 being supported today, as it has for the past 50 years,  
 20 you're not going to have anything in 10 or 20 years?

21 And, you know, it offends me that people are  
 22 still coming up through the community and saying, well,  
 23 you know, we need to include or we need to support this  
 24 project because it will help bring people to the  
 25 islands, that put them into the hotels and that will

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1 give jobs. It's insulting.  
2 It's the same thing with the unions, you know  
3 what I mean. Yes, I support unions. When they came  
4 out, they were necessary and they were needed.  
5 But let's look at the solutions, the remedies  
6 for all the problems that we're facing today. Let's not  
7 put bandaid solution -- bandaids on, you know, a gaping  
8 wound. It's not gonna help.  
9 And I want to be very real and respectful.  
10 I'm not against, you know, people trying to make a  
11 living, people trying to support their families. I'm  
12 struggling like everyone else. But you know what, I  
13 have principles.  
14 I know you all have principles. Most of you  
15 who claim to be Americans are proud to be Americans.  
16 You have a foundation called the U.S. Constitution that  
17 is being tracked today from one end of the coast to the  
18 other end of the coast.  
19 It's -- it's -- look at this -- this project.  
20 Okay. As we've said here tonight, it can be done  
21 elsewhere, you know, at Bear Lake. So take it over  
22 there, build it over there.  
23 Thank you. I'm done.  
24 FACILITATOR: You don't want another three  
25 minutes?

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1 MR. AMPONG: No.  
2 FACILITATOR: You're sure? You're sure you're  
3 sure? Okay.  
4 Richard.  
5 MR. LUCAS: Thank you.  
6 I just wanted to go back to where I started.  
7 FACILITATOR: Okay.  
8 MR. LUCAS: To really mitigate impacts that  
9 happen to this site there must be a stop to any more  
10 construction on this 18 acres. You wanna honor Warren  
11 and the others who have spoken to behalf of the science.  
12 And I respect their passion. I respect their dedication  
13 to the science. The one thing that Warren said that  
14 really stuck with me, was he made reference to the  
15 deconstruction of the ATST, if it's built. Because that  
16 really talks to us about this place.  
17 Haleakala is in the process right now of  
18 healing itself. The buildings there -- the last  
19 building that was built was in 1984. We're 25 years  
20 into this healing process. Nature will reclaim anything  
21 that man can do. But if we keep restarting with new  
22 building after new building after new building, it's  
23 like tearing the scab off of what Haleakala is doing in  
24 reclaiming it's spiritual center for the Hawaiian  
25 people. And we can't start that process over and go 25

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1 years and then start it over and over again. We are in  
2 this healing phase. And we have to continue in this  
3 healing phase.  
4 There is, frankly, no good reason that this  
5 project, as worthy as it may be, must be built here.  
6 We're only being told that it must be built here because  
7 there are 146 million dollar bills that are telling us  
8 that it must be built here. And I can assure you -- no,  
9 I can't assure you, but I can speculate that if it's not  
10 built here, that \$146 million will be spent on this  
11 project someplace else. And that's what we're inviting  
12 National Science Foundation to do.  
13 I started off by reading quote -- this is part  
14 what I had to say about the lack of candor in the  
15 Supplemental Draft EIS. Because in that Supplemental  
16 Draft EIS, I counted at least eight references to a  
17 report that was done in March 2003.  
18 FACILITATOR: One minute.  
19 MR. LUCAS: That report was done by CKM  
20 Cultural Resources. It was a cultural specialist that's  
21 been hired by the ATST, by the NSF, for the ATST  
22 Project. They issued a report to K.C. Environmental,  
23 who is the same company that's preparing the  
24 Supplemental Draft EIS for the National Science  
25 Foundation. And, yet, in all of those references --

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1 FACILITATOR: You have 30 seconds.  
2 MR. LUCAS: -- all of those references, the  
3 language that I read to you that said to really mitigate  
4 the impacts that have happened to this site there must  
5 be a stop to any more construction on this 18-acre site,  
6 that's in the report, that's never repeated in the  
7 Supplemental Draft EIS. What you need to know, that the  
8 cultural specialist who looked at this in 2003, who  
9 looked at it again in 2006, specifically with respect to  
10 the ATST Project, said we have to stop building on the  
11 summit. That's what needs to be done to mitigate. The  
12 only possible mitigation is avoidance. This doesn't  
13 appear -- this language doesn't appear anywhere in the  
14 Supplemental Draft EIS. To have this conversation, we  
15 have to have transparency and candor one from the other.  
16 FACILITATOR: Okay, Rich.  
17 MR. LUCAS: And I don't think we're getting  
18 this from National Science Foundation as it applies to  
19 this information.  
20 Thank you.  
21 FACILITATOR: Richard, do you want another  
22 three minutes?  
23 MR. LUCAS: No.  
24 FACILITATOR: Okay. Thank you.  
25 (Applause.)

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1 FACILITATOR: Kathy McDuff.  
 2 MS. McDUFF: The Haleakala summit officially  
 3 resides on ceded land. There's no clear title because  
 4 these lands originally belonged to the Hawaiian Kingdom  
 5 until they were turned over to the United States during  
 6 the 1898 annexation. The nearly 1.8 million acres of  
 7 land then passed into State possession when Hawaii  
 8 officially became a U.S. state in 1959. However, proper  
 9 ownership of this land has never been fully addressed.  
 10 There's no discussion in the SDEIS of the potential  
 11 impact of being evicted from the site after the ceded  
 12 land issue is finally decided in the courts.  
 13 To remind you of a major, major point, is that  
 14 you cannot build on sacred ground without desecrating  
 15 and you cannot mitigate spirituality. The summit of  
 16 Haleakala is considered a sacred site around the world.  
 17 The rights of Native Hawaiian practitioners and the  
 18 cultural rights of the sacred summit itself -- and this  
 19 is a living entity -- should be given priority in making  
 20 any decisions regarding site selection. The spiritual  
 21 First Amendment rights of the Native Hawaiian people  
 22 should trump any dust or sky brightness issues.  
 23 Haleakala is only the preferred site for the  
 24 ATST. It is not the only site, as the supplemental DEIS  
 25 refers. It can be built elsewhere, such as in space or

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1 at La Palma, where the SDEIS states there are no adverse  
 2 archeological or cultural issues there.  
 3 If we keep building on this site, the  
 4 significant impacts to it will never go away. Allow  
 5 this sacred ground to be returned to its natural state  
 6 as quickly as possible and stop further desecration now.  
 7 The prior damage can, hopefully, be remedied; if it  
 8 continues, it cannot.  
 9 You did not consider Machu Picchu or Mount  
 10 Zion as plausible sites for the facility. And rightly  
 11 so. Haleakala is just as sacred.  
 12 (Applause.)  
 13 FACILITATOR: Joyclynn Costa.  
 14 MS. COSTA: I just wanted to read the ES1.22,  
 15 in 1961, an executive order by Governor Quinn set aside  
 16 18,166 acres of land on the summit of Haleakala in the  
 17 place known as Kolekole to be under the control and  
 18 management of the U.H. Institute of Astronomy for  
 19 science purposes. The site is known as HO and is the  
 20 only such property on Haleakala specifically designated  
 21 for such purposes. U.H. is the recorded fee owner of  
 22 the parcel identified as Tax Map Key 2-2-07-008. They  
 23 own a tax account. They do not own Haleakala. It says,  
 24 the fee owner owns the parcel identified as Tax Map Key  
 25 2-2-07-008. That is an account number. That is not the

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1 property itself. The property itself is crown land.  
 2 Crown land is Kingdom land. Kingdom land can only be  
 3 adjudicated through Kingdom law, Hawaiian law.  
 4 United States Supreme Court made that decision  
 5 this past year -- this year, in March. They -- they  
 6 stated in their summary, "We have no authority to decide  
 7 Hawaiian law."  
 8 This volcano, our sacred Haleakala, comes  
 9 under that jurisdiction. And I'd like someone to  
 10 address that in this document. Somewhere in this  
 11 document we need to find out the proper jurisdiction of  
 12 this mountain so that we can move forward. Nothing else  
 13 should be beside it or mitigated or discussed until we  
 14 can find out the exact jurisdiction of this particular  
 15 property.  
 16 We were never annexed. We are not a state.  
 17 It is -- things that was decided on foreign soil has  
 18 nothing to do with Hawaii. My kupuna signed the  
 19 anti-annexation, who was the only people that could make  
 20 that proper decision and lawful decision. So you cannot  
 21 make decisions for China, so how could you make  
 22 decisions for the Kingdom of Hawaii?  
 23 But I'd like somewhere in the document to  
 24 address the proper jurisdiction of ownership of this  
 25 property which is crown land, not ceded. We never gave

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1 it up.  
 2 FACILITATOR: All right.  
 3 MS. COSTA: Thank you.  
 4 (Applause.)  
 5 FACILITATOR: Okay. Joe Ritter.  
 6 MR. RITTER: Aloha kakou.  
 7 That was really interesting. I've not  
 8 considered stuff like that. I will have to think about  
 9 it. I don't know those legal issues.  
 10 I will tell you a couple things that I do  
 11 know. I do know that all Hawaiians who came here were  
 12 astronomers. I do know that all the Hawaiians that  
 13 navigated here were astronomers. Without astronomy, you  
 14 wouldn't be here now, any of us. This would not be our  
 15 land we all share.  
 16 I think somebody should address these  
 17 questions about other sites. The other sites, the data  
 18 shows, they are not as good. I'm not going to go  
 19 fishing in a stream when I can get something from the  
 20 ocean to eat. The facts are very clear on that.  
 21 I'm not going to address all of the myriad  
 22 benefits, education and economy, retention of people  
 23 here. But this is actually an environmental impact  
 24 statement hearing. And I was interested to hear what  
 25 people had to say about that. I've not heard any strong

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1 environmental impacts. Cultural ones, which we must  
 2 respect. I have not heard any strong environmental  
 3 impacts voiced here tonight. I certainly think, if  
 4 those are brought up, they should be addressed to every  
 5 ones mutual satisfaction.  
 6 We're often forgotten out here in the middle  
 7 of the ocean. When I see \$27 billion go to GM, I surely  
 8 think that \$146 billion -- million or more spent here  
 9 supporting education and science and jobs is a wonderful  
 10 thing.  
 11 I'm very respectful of other beliefs, but I'm  
 12 very proud to stand up and say I think this could be a  
 13 wonderful thing for all of us.  
 14 Thank you.  
 15 (Applause.)  
 16 FACILITATOR: That's all the folks that have  
 17 signed up to testify. Do I have anyone else that would  
 18 like three minutes to talk? Please. And then I'll come  
 19 back to you.  
 20 MR. KALANIKAI: Aloha. My name is Vernon  
 21 Kalanikai. I just kind of wanted to come and check this  
 22 thing out here tonight.  
 23 And it has some pros and cons. And some  
 24 things just came to me that I will share with you right  
 25 now.

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1 In terms of Kamehameha, III, Kauikeaouli, my  
 2 brother Warren has shared, that is not true. He learns  
 3 from the books. We come from oral tradition, not from  
 4 written tradition. And how I know this, I received  
 5 kuleana last year to take care of my kupuna and my tutu  
 6 at a place that I will not reveal to you right now  
 7 because it's only for certain of us to know. I take  
 8 care of Queen Kapiolani's burial site. And it's not  
 9 where you people think, that Michener had wrote, that  
 10 she is at.  
 11 What I'm trying to get here is that this is  
 12 our connection with our spirituality. We connect with  
 13 the `aina, we malama the `aina, the `aina give you back.  
 14 So what Warren had to say about Kamehameha,  
 15 III, that is not true.  
 16 All our people, all our indigenous people were  
 17 all scientists or astronomers, how you guys wanna label  
 18 that, and still is. No one had even bothered to ask the  
 19 Hawaiians, the indigenous people, about this knowledge  
 20 of all things in the universe and on Earth that we live  
 21 on here today.  
 22 How we know these things is here. Not from  
 23 here and not from here. Everything is here. Peace,  
 24 unconditional love and oneness. This is how we  
 25 communicate with our ancestors. It's not here and not

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1 here.  
 2 You know, you folks got to go build all this  
 3 stuff to learn and figure out about the sun, what's out  
 4 there. We already know what's out there. It's in due  
 5 time when things will be revealed. If we wanted to,  
 6 this can be all gone tomorrow, if we wanted to. But  
 7 that's not our destiny.  
 8 Our destiny is to maintain the aloha spirit  
 9 the best that we can here on these islands. You're not  
 10 gonna find this aloha spirit anyplace else. Maybe with  
 11 our brothers, our cousins, the Tibetan monks.  
 12 You know, we traveled many times through time.  
 13 And we were the first pyramid builders. Science write  
 14 volcano blow up, and here we have. That's what science  
 15 write. That's what Michener write.  
 16 So what I trying to get here is  
 17 sustainability. The population that we have here on  
 18 Maui right now, it was three-folds at that time. And  
 19 I'm talking before Hawaiians got here, Kanaka Maoles, a  
 20 time when the whole Pacific Ocean was one continent --  
 21 FACILITATOR: About 30 seconds.  
 22 MR. KALANIKAI: -- continents. We live many  
 23 years, 40,000 years plus, and we sustain ourself by  
 24 malama the `aina, ahupua`a, water comes down from the  
 25 mountain from Papa, go down to Mama, and it's a cycle.

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1 Just as long everything here stay pono. And this is not  
 2 just a Hawaiian thing. It's for all to reap this  
 3 benefit.  
 4 Mahalo.  
 5 FACILITATOR: Mahalo.  
 6 (Applause.)  
 7 FACILITATOR: She beat your hand up, Foster.  
 8 Excuse me?  
 9 MS. HELM: Mahalo for that.  
 10 I just wanted to ask each of you, just so that  
 11 you would perhaps be able to connect with what we're  
 12 saying as far as sacredness, if you can think of one  
 13 place on Earth that you would protect by all means, and  
 14 not want to see anything happen to it, it has very deep  
 15 meaning to you, to your family. I want you to just  
 16 picture that for a bit and feel it. And then imagine  
 17 how it is to have that attachment and that relationship  
 18 to Haleakala, and then continually going through this  
 19 process of hearing, yes, it is sacred. It's  
 20 acknowledged in the EIS, it's acknowledged in legal  
 21 documents that come to us, or correspondence, yes, we  
 22 understand it's a cultural resource, and how can we have  
 23 this built, how can we get this through.  
 24 And so I just wanted to say that because I ask  
 25 each of you to think of it, what are you -- what means

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1 so much to you that you think you can relate to what we  
 2 are saying.  
 3 It is a definite assault to something -- to  
 4 our `aina that is so deep, it's just part of our being.  
 5 It's just part of our being. The breath that we take,  
 6 when we wake up in the morning, we are driving down to  
 7 work, we look up and we see Haleakala, that is the part  
 8 of the connection. It's a continuous cycle. And this  
 9 cycle is critical to us. It's critical to our culture.  
 10 It's critical to our kupuna.  
 11 I know you -- you ask a question about, okay,  
 12 what about comments about the EIS. And I do have  
 13 concerns, too. If this ATST was built, one of my  
 14 concerns -- and I will just stick to that one for a  
 15 tonight -- and it is about this toxic -- toxic waste.  
 16 At some of the meetings we've had in the past -- and  
 17 it's mentioned in -- in the Draft EIS, it mentions about  
 18 toxic waste. We're not going into depth this evening  
 19 about what will result after the ATST, if it were built,  
 20 what kind of toxic waste are we talking about and how it  
 21 will be disposed. We, at other past meetings, have  
 22 learned that there is -- there are risks, serious risks  
 23 about this, as well as serious possible risks by having  
 24 the ATST there.  
 25 Craig? Where's Craig? I don't know, Craig,

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1 but we talked about -- there were questions before about  
 2 prior incidences at other telescopes or possibilities  
 3 that may happen. And so that's part of my serious  
 4 concerns, also.  
 5 FACILITATOR: Well, Foster, will you wrap us  
 6 up tonight?  
 7 MR. AMPONG: I wanna thank you for bringing up  
 8 their concern about the environment. And I'm going to  
 9 say that I suspect you're referring to the land, the  
 10 `aina. And I want to know -- and you don't have to  
 11 answer me directly yet -- you know, what your definition  
 12 of environment is.  
 13 But let me explain to you and everyone else  
 14 here what the definition of environment is to Kanaka  
 15 Maoli, to the Hawaiian people, all the people that  
 16 you've heard that came up here and expressed themselves  
 17 about the `aina, about the spirituality, about their  
 18 concerns. For us, the environment includes not only the  
 19 land, the dirt, the pohaku, the rocks, the environment  
 20 consists of the ohana, the family. The (Hawaiian), the  
 21 people that lived and worked on it. The environment  
 22 also includes our mana`o, our thoughts, our ohana or  
 23 spirit. The environment is part of our puwai, our  
 24 heart, our psychology. All of these put together,  
 25 that's all part of the environment. And, again, it's

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1 all part of a sustainable concept, sustainable living.  
 2 Okay. That, also, is part of the environment.  
 3 But when you say that, you know, you didn't  
 4 hear much articulation about the environment, I have to  
 5 say I totally disagree, with all due respect.  
 6 Everything that we presented here is about the  
 7 environment. Because Haleakala, like Maui and the  
 8 entire punu honua, the entire planet, that is my church.  
 9 Not a house in the corner on a block. You know, not a  
 10 synagog, not -- that's not a church to me. My church is  
 11 everything. When I get up, when I go to sleep, when I  
 12 laugh, when I cry, when I run, when I fall, you know,  
 13 when I go to the ocean, when I holoholo, when I work my  
 14 kalo, my lo`i kalo. All of this, me, my hands, my lima,  
 15 my feet, everything, all that is all part of the  
 16 environment. So it affects every single one of these  
 17 things that I'm talking to you about. So when we come  
 18 forward in this EIS, we are the environment. To exclude  
 19 that for any part of our existence today, and you are  
 20 not living a sustainable life.  
 21 And make no mistake. There's a difference  
 22 between corporate sustainability and true living  
 23 sustainability.  
 24 And as I said earlier, the only society here  
 25 in these islands that I know achieved a true

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1 sustainability has been the Hawaiian people. Nobody  
 2 else has done it. Everything else that's being talked  
 3 about, in the corporate sector, in the State and County,  
 4 that's all corporate sustainability. They will exclude  
 5 a whole bunch of people and say, well, this is what we  
 6 need.  
 7 Okay. Thank you.  
 8 FACILITATOR: Thank you.  
 9 Is there anyone that hasn't made a comment  
 10 that would like to make a comment? Yes, sir. Yeah.  
 11 MR. BRENT: I'm nobody special, not affiliated  
 12 with anybody.  
 13 FACILITATOR: You're here, you're special.  
 14 MR. BRENT: I know people in the Park very  
 15 closely. But I'm actually here just as a resident. I  
 16 was very concerned about the impact in terms of  
 17 construction equipment, noise, pollution. I live right  
 18 near the entrance for Crater Road, going up. I work in  
 19 Kula. I spend all my time up there. I don't really  
 20 hear anything about that tonight, and I haven't read any  
 21 of that from any of the press releases. I'm wondering  
 22 why.  
 23 What I heard tonight was a lot of stuff about  
 24 definitions. I think culture is part of environment. I  
 25 think it's supposed to be in any kind of environmental

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1 survey, also called a survey of the cultural impacts as  
 2 well. So I didn't see that as really being opposed to  
 3 an environmental meeting like this.  
 4 One other thing about definitions that I  
 5 thought was strange is I see this as a church, really,  
 6 myself. This is a church to science. People who  
 7 believe in science believe in it very strongly. Even  
 8 the Hawaiians who incorporated -- or native cultures who  
 9 incorporate astronomy -- that's one of my words, not one  
 10 of theirs -- to them, it probably meant something much  
 11 deeper, much more religious. I see this as putting a  
 12 church on top of somebody else's sacred ground. That  
 13 makes me very uncomfortable.  
 14 I am an invader. I have no delusions about  
 15 that. I was not born -- my family does not come from  
 16 Hawaii. Comes from, mostly, Ireland, which is another  
 17 country that was invaded and taken over. This, to me,  
 18 just strikes me as another case of somebody taking their  
 19 religious structure and putting it on somebody else's  
 20 religious ground. If you're gonna do that, you should  
 21 be honest about it, if that's what's happening, and  
 22 should be open about it.  
 23 I don't think -- I don't really see that  
 24 taking place. I see it as people with different  
 25 definitions somehow trying to justify in the name of

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1 science.  
 2 If it can be built somewhere else where it's  
 3 not gonna impact people's belief systems, I think that  
 4 should be taken a look at very closely.  
 5 So thank you.  
 6 (Applause.)  
 7 MR. BRENT: My name is James Brent.  
 8 FACILITATOR: Sorry about that. Okay. Is  
 9 there anyone else that hasn't spoken that would like to  
 10 make a comment this evening?  
 11 MR. ALMEIDA: May I say something more?  
 12 FACILITATOR: Sure. Everybody else got a  
 13 second three minutes.  
 14 MR. ALMEIDA: With relevance to environmental  
 15 impact, you see that, okay, this is impact. This is our  
 16 mountain. This is that big 14-story impact. That's  
 17 pretty -- it's not -- it's not a small thing now.  
 18 Yes, we did -- we did sell out our culture.  
 19 But with our culture -- for us, the environment is our  
 20 culture. You can almost say the Hawaiians are nature.  
 21 We're one of -- we're an integral part of it. And all  
 22 -- all things are connected.  
 23 I mean, Hawaii is like the endangered species  
 24 capital of the world. We're just -- we're just losing  
 25 all these things. And it's just like our mountain's

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1 being stolen from us. You don't see Hawaiians in the  
 2 city, yeah, by a building, chanting or anything. We go  
 3 to these very sacred places. So all -- see, for us, all  
 4 things are connected. See, what's cultural for us is  
 5 environmental for us.  
 6 And I just wanted to say that ua mau ke ea o  
 7 ka aina I ka pono, the life of the land is perpetuated  
 8 in righteousness.  
 9 (Applause.)  
 10 FACILITATOR: Okay. I want to thank everybody  
 11 for coming, for kind of letting me cut you off and move  
 12 you around in some culturally, probably, fairly  
 13 inappropriate ways. But you let me do that. And I  
 14 think we got a lot of real good information in a very  
 15 talk story kind of way. And I wanna thank everybody for  
 16 that.  
 17 And please pick up the handouts. They do have  
 18 the website that has the whole document with all the  
 19 construction, et cetera, for those of you that haven't  
 20 taken a look at it. They also have everybody's contact  
 21 phone numbers. And they wouldn't put their phone  
 22 numbers out if they didn't appreciate dialogue. So  
 23 please make sure you pick up those handouts on the way  
 24 out.  
 25 And drive safely on your way home.

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1 Thank you very much for coming.  
 2 We'll be hanging around until 8:00 in case  
 3 somebody comes late. So if you want to stay and talk  
 4 with anybody, feel free.  
 5 (Recess, 6:58 p.m. to 7:11 p.m.)  
 6 FACILITATOR: As we said at the beginning,  
 7 comment periods are three minutes, but I can give a  
 8 second three minutes afterwards. So I guess you can  
 9 have you second three minutes if you really want that  
 10 much, but I'm going to cut you off at that point.  
 11 MS. deNAIE: Aloha. My name is Lucienne  
 12 deNaie. And I'm here to testify as an individual.  
 13 Although, I have to say that part of what I want to  
 14 share is the experience of serving on our General Plan  
 15 Advisory Committee.  
 16 And we talked, in the process of coming up  
 17 with policies for our General Plan, about the issue of  
 18 more facilities on Haleakala. And I have to say there  
 19 are 25 people on this General Plan Advisory Committee,  
 20 and a number of folks felt very strongly that, you know,  
 21 kind of enough is enough and that we -- we need a  
 22 different process for looking at our places from just --  
 23 not just like how they can be useful for material  
 24 things, but how they have a spiritual presence, and how  
 25 this spiritual presence is something that needs to be

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1 compatible with any other activities that take place  
 2 there.  
 3 And I've spent many, many happy hours in the  
 4 Haleakala area. I've hiked through the entire crater  
 5 many, many times over the last 30 years. I've hiked  
 6 Skyline Trail many, many times. I've hiked all around  
 7 there, you know, off road, little supply trails. I  
 8 volunteered for what you call service outings where you  
 9 got taken to remote places.  
 10 And it is a temple. I mean, when I've had  
 11 problems in my life, what I have done is gone to  
 12 Haleakala, because it is a place where a human being can  
 13 connect with a much greater force.  
 14 Now, the question is, so if more telescopes  
 15 and more busyness and everything goes up there, does  
 16 that mean I can't connect with that force anymore?  
 17 Well, no, I could physically still go to the crater, and  
 18 I could still be in a receptive state, but my experience  
 19 of being there is different the more that the natural  
 20 part of it is changed.  
 21 And, you know, I'm not Hawaiian. I'm just an  
 22 ordinary regular haole type of person. But there are  
 23 many people who are not Hawaiian who feel that same  
 24 sense of spiritual connection with this place. And I  
 25 know no one intends to hurt that or do anything wrong.

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1 I mean, science is wonderful, the sky is beautiful, the  
 2 things we learn from the stars and the planet is  
 3 beautiful, wonderful. I have the Astronomy Picture of  
 4 the Day on my web browser. It's the first thing I see  
 5 every day. I love the cosmic things. But there are --  
 6 a 14-story building up there? It just is gonna change  
 7 this place. And I feel like we need to acknowledge  
 8 that.  
 9 And is there a mitigation that can make that  
 10 better? Well, you know, not from what I've read.  
 11 So that's my mana`o as just a person who loves  
 12 this place and has gone there for many, many years, for  
 13 all of the years that I have been here on Maui, all of  
 14 the 30 years. Half my life I have been here. And it is  
 15 -- it is my temple, it is my church. Just like folks  
 16 who actually, you know, understand more about its  
 17 history and more about its spiritual, you know, legacy,  
 18 I just feel something incredible there. And that summit  
 19 is where you feel it. You feel it all over at the  
 20 summit. It's like you just step out into a world.  
 21 So thank you for hearing my comments. And I  
 22 wish that this endeavor was taking place at another  
 23 locale, because I think that our mountain needs to be  
 24 left for the spirits. There's a reason that Hawaiians  
 25 had the realms of the gods, because that's where gods

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1 were listening.  
 2 Thank you.  
 3 (Applause.)  
 4 FACILITATOR: Okay. Resume your chatter.  
 5 MS. COSTA: Can I make one comment for the  
 6 record?  
 7 FACILITATOR: Okay. Wait a minute. One more  
 8 quick comment. Go ahead, quick.  
 9 MS. COSTA: I just wanted to make a quick  
 10 comment, something my father said to me. He is 73 years  
 11 old. He says -- as the process going and as he's seeing  
 12 all of this development and all of this everything, he  
 13 said he's tired of having a target on his back. And I  
 14 think what's gonna happen with this is create more  
 15 attention to a peaceful place than had -- that was in  
 16 treaties of commerce and peace. And it's creating an  
 17 environment of war and injury. And with this  
 18 monstrosity sitting on our temple, it will be a direct  
 19 injury to our culture.  
 20 FACILITATOR: Okay. Now resume your chatter  
 21 (Recess, 7:17 p.m.)  
 22 (Hearing adjourned, 8:00 p.m.)  
 23  
 24  
 25

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1 CERTIFICATE  
 2  
 3  
 4  
 5  
 6  
 7 I, TONYA MCDADE, a Court Reporter of the State  
 8 of Hawaii, do hereby certify that the proceedings  
 9 contained herein were taken by me in machine shorthand  
 10 and thereafter was reduced to print by means of  
 11 computer-aided transcription; that the foregoing  
 12 represents, to the best of my ability, a true and  
 13 accurate transcript of the proceedings had in the  
 14 foregoing matter.  
 15 I further certify that I am not an attorney  
 16 for any of the parties hereto, nor in any way concerned  
 17 with the cause.  
 18  
 19 DATED this 29th day of June, 2009.  
 20  
 21  
 22  
 23  
 24  
 25

  
  
 Tonya McDade, RPR, CRR, CBC  
 Certified Shorthand Reporter #447  
 Registered Professional Reporter  
 Certified Realtime Reporter  
 Certified Broadcast Captioner

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ADVANCED TECHNOLOGY SOLAR TELESCOPE (ATST)

JUNE 4, 2009

PUBLIC COMMENT HEARING

Held at the Pukalani Community Center, Pukalani, Maui,  
Hawaii, commencing at 7:16 p.m.

Reported by:  
Tonya McDade  
Hawaii Certified Shorthand Reporter #447  
Registered Professional Reporter  
Certified Realtime Reporter  
Certified Broadcast Captioner

IWADO COURT REPORTERS (808) 244-9300

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1 ATTENDANCE  
 2 Dee Dee Letts, Meeting Facilitator  
 3 Craig Foltz, Ph.D., ATST Program Manager  
 4 Caroline M. Blanco, Assistant General Counsel-  
 5 Environment, Federal Preservation Officer  
 6 Jeremy Wagner, ATST Project Manager  
 7 Jeff Barr, R.A., ATST Project Architect  
 8 Sarah Creachbaum, Superintendent, Haleakala National  
 9 Park  
 10 Cari Kreshak, Pacific Islands Cultural Resource Program  
 11 Manager  
 12 Dr. Charlie Fein, K.C. Environmental  
 13 Mike Maberry, Associate Director, University of Hawaii  
 14 Institute for Astronomy  
 15  
 16  
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1 FACILITATOR: Mahalo.  
 2 We're gonna take a few minutes to go over the  
 3 agenda, how the meeting's gonna flow tonight and just a  
 4 couple of other items.  
 5 There are cookies and water in the back. The  
 6 restrooms, for those of you that don't know, are outside  
 7 and down the hallway.  
 8 As I said, my name is Dee Dee. And my job as  
 9 Facilitator is to just make sure that everybody gets a  
 10 chance to make the comments that they want to make this  
 11 evening, that the meeting progresses in a civil manner.  
 12 We have a couple of, as Kahu referred to,  
 13 meeting guidelines. One is, it's an emotional issue. I  
 14 expect that there's gonna be a lot of emotion this  
 15 evening. And that's okay. And differences of opinion  
 16 are fine. I just expect you to be courteous to each  
 17 other. It's about the project and the mountain, not  
 18 necessarily about the people. So I do ask for courtesy.  
 19 Again, it's okay to disagree. I have been in  
 20 this field of mediation and dispute resolution for about  
 21 30 years. And the most creative answers, in my opinion,  
 22 come out of working through honest disagreements.  
 23 The other one is share the O2, as I say, which  
 24 is kind of share the oxygen. Tonight is a public  
 25 hearing on the Supplemental Draft EIS.

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1 JUNE 4, 2009  
 2 TRANSCRIPT OF PROCEEDINGS  
 3 \*\*\*  
 4 FACILITATOR: Can we go ahead and get started?  
 5 Aloha. I'd like to welcome you all this  
 6 evening.  
 7 I see faces that were with us last night.  
 8 Welcome back. Your stamina is to be applauded.  
 9 My name is Dee Dee Letts. And I'm going to be  
 10 the Facilitator this evening. And I'll get more into  
 11 that in a minute. But I'd like to welcome Kahu Maxwell,  
 12 and ask him if he'll give an opening pule for us.  
 13 KAHU MAXWELL: Sure. You don't have a mike?  
 14 FACILITATOR: No.  
 15 KAHU MAXWELL: Aloha kakou. Could you all  
 16 join hands, please? (Hawaiian.) Heavenly Father, as we  
 17 gather here this evening, we ask and pray to give us the  
 18 wisdom and the foresight to speak about this very  
 19 spiritual place, Haleakala, and what it contains. We  
 20 ask and pray that you give us, individually, this wisdom  
 21 to be aware of what our kupuna left to us. We ask that  
 22 we are civil with each other and that we -- protect us  
 23 as we leave for our individual homes. We ask this in  
 24 your name. (Hawaiian.) Amen.  
 25 MEMBERS OF PUBLIC: Amen.

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1 We are limiting comments to three minutes.  
 2 However, we are here until 10:00. And if we get through  
 3 all the comments and somebody wants another three  
 4 minutes, I'm very willing to give you a second three  
 5 minutes. But first time around, as a courtesy to those  
 6 waiting to make comments, I would ask that you try and  
 7 keep your comments to three minutes. And then I'll ask  
 8 you at the end if you want a second three minutes. And  
 9 we'll work it that way. And I hope everybody is okay  
 10 with that.  
 11 The other one I usually use at a meeting is, a  
 12 lot of times, when we come to these meetings and through  
 13 our lives, we're kind of trained to listen to what we  
 14 don't agree with. I like to challenge groups to listen  
 15 for what they do agree with. So we can work from there.  
 16 The last one is kind of honor those time  
 17 constraints. We do have the building until 10:00, but  
 18 we will have to close at 10:00 because we need time to  
 19 put away all the chairs and do all of that logistical  
 20 stuff.  
 21 The way the meeting's gonna flow tonight,  
 22 we're in the opening welcome and the overview, we're  
 23 gonna have a very short project overview by Craig, and  
 24 then we're gonna have a short overview of the NEPA  
 25 process. You can see about 10 minutes on both of those.

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1 At the end of that, I will be asking if there are  
 2 questions about the presentations, things that were  
 3 confusing or need to be clarified. The purpose of  
 4 tonight as a public hearing is for public comments. So  
 5 if your questions are substantive, I will turn them into  
 6 comments. I just warn you of that ahead of time.  
 7 That's the purpose of tonight's meeting. But I will ask  
 8 for clarifying questions because sometimes people talk  
 9 in alphabet soup, and it doesn't work real well for  
 10 everybody. So those are the kinds of questions I'm  
 11 looking for there.

12 The bulk of the meeting -- this was time for  
 13 last night, so ignore the times -- but about two hours  
 14 of the meeting is dedicated to public comment. I hope  
 15 everybody is okay with that and how it's gonna go.

16 There are handouts. We didn't put them  
 17 outside because the wind was blowing, and we didn't want  
 18 to contribute to litter problems.

19 If you do want to speak, I ask that you fill  
 20 this out. I have several. You can fill it out any time  
 21 during the meeting and just kind of wave it at me. And  
 22 I will come get it and pick it up from you.

23 We also have a court reporter, Tonya, who is  
 24 with us this evening. There will be a transcript of the  
 25 meeting. And it will be posted on the website, as well

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1 as the gist of your comments that I take up here will be  
 2 transcribed and put on the website.

3 MR. MAYER: What's the sign-up list outside,  
 4 is that in addition to this or instead of?

5 FACILITATOR: The sign-up was just to show you  
 6 came to the meeting. If you wanna speak, we're asking  
 7 you to sign up on one of these.

8 MR. MAYER: Thank you.

9 FACILITATOR: I just happen to have one here.

10 The handouts that we invite you to pick up  
 11 consist of a National Park Service newsletter about the  
 12 project. And these are around the side of the room.  
 13 There's a fact sheet on the telescope.

14 And as Kahu Maxwell noted, this project has  
 15 been going on for a while. So we wanted to pull  
 16 together all the areas which came out in the original  
 17 Draft EIS comment period that resulted in the  
 18 Supplemental Draft EIS that you should find addressed in  
 19 that document, which is on the websites that are noted  
 20 in your handout. You can access the entire document on  
 21 the website that are in the handouts.

22 We also have a public comment sheet. This  
 23 is -- because if you're anything like me, you'll have  
 24 your best thought once I end the meeting. And we don't  
 25 wanna lose it. So please write it down and get it back

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1 to us. The comment period is open until June 22nd.  
 2 You also have a sheet with contact  
 3 information. This has the contact information for  
 4 everybody you'll be hearing from this evening, and other  
 5 folks that are connected with the project, as well as  
 6 those two websites where you can access the document and  
 7 see the comments from both meetings.

8 The last handout we have is a history of  
 9 development on Haleakala. So you can pick that up.  
 10 This comes right out of the Supplemental Draft EIS.  
 11 So those are the handouts that are on this  
 12 table and that table back there. So please feel free to  
 13 pick those up before you leave this evening.

14 I think I've talked enough. I want to  
 15 introduce Craig Foltz. You probably all recognize him  
 16 from the picture in the paper this morning on the front  
 17 page. Craig.

18 DR. FOLTZ: Thank you. Thanks, Dee Dee.  
 19 (Applause.)

20 DR. FOLTZ: Oh, no. Please don't.

21 My name is Craig Foltz. I'm the Acting  
 22 Director of the Division of Astronomical Sciences at the  
 23 National Science Foundation. We're located just across  
 24 the river from Washington, D.C. I've also been the  
 25 Program Manager for this project since I arrived at the

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1 NSF in 2003.

2 I wanna thank you all for coming, first of  
 3 all. And I want to assure you that the comments that  
 4 are made today will all become part of the Final  
 5 Environmental Impact Statement on which will form the  
 6 basis on which a decision is made as to whether to  
 7 proceed with the project.

8 I want to emphasize at this point the project  
 9 is not funded. The decision to fund the project has not  
 10 yet been made. So what we're here for tonight is to  
 11 hear your comments on the Supplemental Draft  
 12 Environmental Impact Statement. Many of you in the room  
 13 have made many comments on earlier versions.

14 And my colleague, Caroline Blanco, from the  
 15 Office of General Counsel at the National Science  
 16 Foundation, will explain the process and how we got  
 17 here.

18 Just briefly, let me just introduce people  
 19 from the project. If the project team could stand up.  
 20 Jeremy Wagner is the Project Manager in the back. Jeff  
 21 Barr has been the project's Architect. Rex Hunter is  
 22 the go-to guy for everything on the project. Jennifer  
 23 Dietzler is the -- help. You're the Executive Assistant  
 24 to the project.

25 I want to explain a few things because it's

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1 very -- I know it's confusing. And after being at the  
 2 NSF for six years, I think I understand how the NSF  
 3 works. The NSF is the National Science Foundation. The  
 4 National Science Foundation is a Federal agency whose  
 5 job it is to fund science, engineering, technology,  
 6 mathematics, research and education. It is our job to  
 7 give away money.  
 8 FACILITATOR: Does anybody wanna put their  
 9 hand out now?  
 10 DR. FOLTZ: It is not our job to determine the  
 11 direction for U.S. science, technology, engineering and  
 12 mathematics. We do not plan in the same way that NASA  
 13 plans or the way that DOD plans, or the way the  
 14 Department of Energy plans, where the agency says, you  
 15 know, it would be really -- with some community input,  
 16 it would be really good for us to build this sort of  
 17 facility.  
 18 What the -- and in that sense, the NSF is what  
 19 I call a reactive agency. That the direction that we --  
 20 the science that we fund, the direction that science  
 21 goes, is determined by the scientists in what we would  
 22 call the U.S. scientific community. And we respond to  
 23 proposals. Okay.  
 24 So in the case of this project, which,  
 25 arguably, began in the early nineties in terms of its

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1 development, it was a grass roots project borne out of  
 2 the -- actually, international solar physics community.  
 3 I'm not a solar physicist; I'm an astronomer, nighttime  
 4 astronomer. This working during the day bothers me.  
 5 But who propose to the National Science Foundation for  
 6 funds to develop a design for a next generation solar  
 7 telescope. And then as that design proceeded, they  
 8 proposed to us to fund the construction.  
 9 We are considering that proposal. It has been  
 10 reviewed by -- merit reviewed by many, many panels and  
 11 groups. So our job is to fund it.  
 12 Now, why are we here today? Because we're the  
 13 Federal agency, we are responsible for the compliance  
 14 with the environmental and historical statutes. And I  
 15 look to my counsel here who nods her head.  
 16 So this is referred to in many places as the  
 17 NSF's Advanced Technology Solar Telescope. That is a  
 18 bit of a stretch. How this will be funded is -- I'm  
 19 just gonna explain this quickly because you may hear  
 20 this, or certainly see it. We, as a Federal agency,  
 21 because of our Organic Act, the way the NSF was  
 22 established, the law that made the NSF, we can't fund --  
 23 we cannot run our own facilities. We can't run our  
 24 observatories. We can't run our physics labs. And so  
 25 what we do is we fund those facilities through either

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1 universities or a consortium of universities or a  
 2 nonprofit corporation.  
 3 And so in the case of the National Solar  
 4 Observatory, which is really the lead observatory, the  
 5 place where the project is headquartered, although it  
 6 involves scientists from many, many universities and  
 7 laboratories, we fund the National Solar Observatory  
 8 through a nonprofit corporation called AURA, A-U-R-A  
 9 the Association of Universities for Research and  
 10 Astronomy. So, basically, what we'd do, if we fund the  
 11 project, would be to make an award to AURA who would  
 12 fund it through the National Solar Observatory.  
 13 That's really all I want to say. I do want to  
 14 thank you. I do want to assure you that your comments  
 15 will all be taken seriously.  
 16 What?  
 17 Oh, the project. I think, you know, you -- I  
 18 think most of you understand the project. If you looked  
 19 in the Supplemental Draft -- if you've thoroughly read  
 20 the Supplemental Draft Environmental Impact Statement  
 21 you're ready to become sort of a junior solar physicist.  
 22 The project is for a four-meter solar telescope. It  
 23 would be -- if built, it would be the largest solar  
 24 telescope ever built. It will -- it is being designed  
 25 specifically to understand the root of solar activity,

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1 those phenomenon that cause sunspots and solar flares  
 2 and associated dynamic phenomena which actually can and  
 3 do have an impact on life on Earth.  
 4 Sufficient?  
 5 I introduce my colleague, Caroline Blanco.  
 6 Excuse me.  
 7 MS. BLANCO: Thank you, Craig.  
 8 And I, too, wish to thank everybody for  
 9 joining us tonight. And we really look forward to  
 10 hearing your comments and will take them into  
 11 consideration. They'll be responded to in the Final  
 12 Environmental Impact Statement. We regularly brief the  
 13 Director of the National Science Foundation on this  
 14 project, who is the ultimate decision-maker here. And  
 15 so we will make sure he is aware of all of your comments  
 16 and so that he could factor them in to render his  
 17 decision.  
 18 I'd like to talk a little bit about how we got  
 19 here to the Supplemental Draft Environmental Impact  
 20 Statement stage. For some of you, you may recall back,  
 21 in around October of 2006, a draft environmental impact  
 22 statement was prepared. And this was done pursuant to  
 23 the National Environmental Policy Act, which considers  
 24 environmental impacts, which include impacts on cultural  
 25 resources, from Federal agencies' proposed projects.

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1 And so we are required by law to take a hard look at all  
 2 of the environmental impacts associated with the  
 3 project.  
 4 And so, originally, what came out was the  
 5 Draft Environmental Impact Statement. We received  
 6 comments on it, several significant comments. And so,  
 7 during the last couple of years, what we've done is  
 8 we've gone ahead and done some additional cultural  
 9 resources studies, because those seemed to be the  
 10 biggest concern of most people. And we also went ahead  
 11 and did some additional studies as well in other areas,  
 12 arthropod, other types of studies and so forth.  
 13 In addition, one major change was that the  
 14 National Park Service had said we needed to get a  
 15 Special Use Permit -- or AURA would, if the project is  
 16 funded. And so that would be pursuant to their  
 17 regulations. They would be required to have a supplier  
 18 of -- we would be required to apply for a permit to  
 19 operate commercial vehicles up the Park road. And  
 20 especially since that's the only access to the high  
 21 altitude observatory on Haleakala.  
 22 And so we partnered with the Park Service.  
 23 We've been working together. Listening closely,  
 24 hopefully, to their comments and concerns about the  
 25 project. And have worked with them both in the context

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1 of this process and, also, the process pursuant to the  
 2 National Historic Preservation Act.  
 3 We'll be having consultation meetings with  
 4 those consulting parties next week, Monday, Tuesday, and  
 5 Wednesday as well. And look forward to hearing your  
 6 comments on that as well.  
 7 So this document, these three volumes, and  
 8 it's also on the website, as Dee Dee mentioned, that  
 9 includes all of the comments that were -- that were --  
 10 or that incorporates what was a result of this -- of the  
 11 Draft Environmental Impact Statement.  
 12 And, also, just to introduce Sarah Creachbaum,  
 13 the Superintendent of Haleakala National Park here, and  
 14 Cari Kreshak, Cultural Resources. There she is. And  
 15 thank you for joining us.  
 16 And the road ahead from here is, once we  
 17 receive all of the comments, both today, from yesterday,  
 18 and next week, and written comments, again, that will be  
 19 received through June 22nd, we'll incorporate them all  
 20 into a Final Environmental Impact Statement. And then  
 21 there will be a 30-day cooling off period, a minimum of  
 22 that, before a decision will be made.  
 23 And so that is, basically, the process. And  
 24 thank you again for coming tonight.  
 25 FACILITATOR: Okay. Hang on a sec. I'm gonna

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1 take clarifying questions, but since Caroline referred  
 2 to the meetings next week, if you want to know times and  
 3 place, they are on the second page of the National Park  
 4 newsletter that's out on the table for everybody.  
 5 Okay. Clarifying questions, yeah.  
 6 MS. HELM: Caroline, I just wanted to ask you,  
 7 we looked at this -- last night it was mentioned that  
 8 the projected date to publish the EIS was the end of  
 9 July.  
 10 MS. BLANCO: Yes.  
 11 MS. HELM: This year.  
 12 MS. BLANCO: What happens at the National  
 13 Science Foundation is there's really a two-step process.  
 14 The ultimate decision-maker is the Director of the  
 15 National Science Foundation. That's Dr. Arden L.  
 16 Bement, Jr. And before that happens, it goes before the  
 17 National Science Board, which is a group of, I think,  
 18 24. I think that's right.  
 19 DR. FOLTZ: Yeah. I think it's --  
 20 MS. BLANCO: Presidential employees --  
 21 presidential appointments -- I'm sorry -- appointees.  
 22 And they take a look at the policy aspects and so forth  
 23 of the project, the science of it and so forth. And  
 24 then make a recommendation to the National Science  
 25 Director -- Foundation Director. And so the board meets

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1 periodically through the year, quarterly, roughly. And  
 2 so the next date would be August 5th, 6th or so before  
 3 it goes before the National Science Board. That's a  
 4 target date to have a look at it. The EIS has to be  
 5 completed by then. The Section 106 process has to be  
 6 done under the National Historic Preservation Act. So  
 7 that's what we are aiming toward.  
 8 Of course, if comments come up during the  
 9 course of this, these proceedings, or during the public  
 10 comment period, the 106, that would require us to look  
 11 at another aspect of this, we would do so. But that's  
 12 the target date for now.  
 13 MS. HELM: So -- I'm sorry -- if the EIS is  
 14 published at the end of July -- and what I understand  
 15 that you said that, by law, there's a 30-day comment  
 16 period after that.  
 17 MS. BLANCO: They could come -- we would  
 18 receive comments on the Final EIS, but a record of  
 19 decision, which would be the decision document, couldn't  
 20 be issued by law, the laws, the regulations that  
 21 implement the statute that brought us here tonight, the  
 22 National Environmental Policy Act. They require that  
 23 there's a 30-day cooling off period between the issuance  
 24 date of the Final Environmental Impact Statement, which  
 25 would be somewhere around mid to late July or so, at the

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1 earliest. And then 30 days from then the decision, at  
 2 the earliest, could be made. It could be made after  
 3 that, but certainly not earlier than that.  
 4 MS. HELM: But I thought you said the board  
 5 meets in -- around August 6th, which is within the  
 6 30-day period.  
 7 MS. BLANCO: They're not the final  
 8 decision-maker.  
 9 MS. HELM: Uh-huh.  
 10 MS. BLANCO: The Director is.  
 11 MS. HELM: Okay. So I just need clarification  
 12 as far as what the EIS will include, is that the first  
 13 Draft EIS and then the supplemental cultural studies and  
 14 other studies, and then these three, or are these three  
 15 supposed to be the composite of everything?  
 16 MS. BLANCO: Okay. Maybe this would help to  
 17 explain a bit. There was the Draft Environmental Impact  
 18 Statement a couple of years ago. Comments were raised  
 19 that we thought were significant. We tried to address  
 20 them as best as possible. And so that required us to  
 21 put out to the public, to let everyone know what was  
 22 said and what has changed. And that resulted in the  
 23 publication of this, the Supplemental Draft EIS.  
 24 We're now soliciting comments on this  
 25 document. And that's why we're here tonight. And once

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1 we receive all of those comments on the document, and  
 2 that public comment period has been closed, June 22nd,  
 3 then we will take all of those comments and revise this  
 4 document, as appropriate, and turn it into a Final  
 5 Environmental Impact Statement. That would be a new  
 6 document that would be issued.  
 7 Everything will be posted on the website.  
 8 MS. HELM: I'm sorry. So this is supposed to  
 9 be a composite including the first Draft EIS?  
 10 MS. BLANCO: It is -- it is a new document  
 11 unto itself. And what it is, it's based originally on  
 12 the Draft Environmental Impact Statement, but that  
 13 document was modified based on the comments that were  
 14 received. So this is really a new document that  
 15 supersedes.  
 16 FACILITATOR: The document doesn't add onto  
 17 the prior one; it replaces the prior one.  
 18 MS. BLANCO: Yes.  
 19 FACILITATOR: And the final one will replace  
 20 this one.  
 21 MS. BLANCO: If you were to do track changes  
 22 of the two documents, they would be like night and day.  
 23 MS. HELM: No, no. The reason I'm asking is  
 24 to be sure that the testimony from Section 106 and  
 25 public hearings, including the oral testimony that I

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1 have requested that be documented, not only on CD or  
 2 whatever, but, also, in the written comments. So I'm  
 3 just clarifying --  
 4 MS. BLANCO: Yes.  
 5 MS. HELM: -- that those oral testimony from  
 6 those past meetings were included in totality?  
 7 MS. BLANCO: Yes. Those -- yes. Absolutely.  
 8 I'm glad you raised that.  
 9 What will be in the Final Environmental Impact  
 10 Statement will be any changes to the text of the  
 11 analysis in what's now Volume 1. The Supplemental Draft  
 12 EIS, that would be changed. But the appendices, the  
 13 other two volumes, Volumes 2 and 3, those will include  
 14 comments from the Draft EIS from years ago. Those will  
 15 include our responses to those draft -- or to those  
 16 comments on the Draft EIS, as well as responses to the  
 17 comments made on the Supplemental Draft EIS. So in that  
 18 sense, it will be a composite of everything, the entire  
 19 public process that's taken place, including the  
 20 transcripts.  
 21 MS. HELM: Including oral testimony?  
 22 MS. BLANCO: Yeah. It will be a final  
 23 document that will include all of the comments.  
 24 MS. HELM: Thank you.  
 25 FACILITATOR: Okay. A couple more clarifying

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1 questions because I want to get to comments, so people  
 2 have a chance.  
 3 Kahu.  
 4 KAHU MAXWELL: Me first or Dick?  
 5 MR. MAYER: No.  
 6 FACILITATOR: Jump in.  
 7 KAHU MAXWELL: Could you clarify what you said  
 8 after the EIS is complete, who makes the determination  
 9 yea or nay? Can you clarify that?  
 10 MS. BLANCO: Sure. It goes to the National  
 11 Science Board first. And the target date, it's not by  
 12 all means set in stone, but it is a target date, August  
 13 5th and 6th. They will look at it and make a  
 14 recommendation to the Director as to whether or not they  
 15 think the Director should go ahead and --  
 16 KAHU MAXWELL: And who is he?  
 17 MS. BLANCO: The Director of the National  
 18 Science Foundation is Dr. Arden L. Bement, Jr.  
 19 KAHU MAXWELL: Who made him God to do this  
 20 determination? Isn't -- wait. Let me -- let me finish.  
 21 And it's a question. Isn't this Hawaii? Isn't this our  
 22 mountain? How come he makes the determination?  
 23 MS. BLANCO: I'll turn the question over to  
 24 Dee Dee.  
 25 FACILITATOR: I can't really answer. I don't

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1 think he's been made God. But according to the U.S.  
 2 Government system, he's appointed by the President and  
 3 he's in the seat that makes the decision about this  
 4 project. That's the way it is. You don't like the  
 5 answer, but --  
 6 KAHU MAXWELL: And that's his qualification?  
 7 FACILITATOR: That's the only answer I have.  
 8 That's the clarification.  
 9 KAHU MAXWELL: That's his qualification?  
 10 FACILITATOR: Yeah, that's the qualification.  
 11 He's appointed by the President and he sits in the  
 12 chair. That's his qualification. Okay.  
 13 Clarifying questions, again.  
 14 MR. MAYER: Yes. You explained the Federal  
 15 NEPA thing; you said nothing about the State. Is this  
 16 all for the State 343 document?  
 17 MS. BLANCO: Where is Mike Maberry? Or  
 18 Charlie Fein perhaps can answer that question.  
 19 DR. FEIN: Yes.  
 20 MS. BLANCO: This is -- this is definitely  
 21 part of the Federal process. This is part of the  
 22 Federal requirement.  
 23 MR. MAYER: You spoke only about the Federal.  
 24 And I want to know, there's also a concurrent State  
 25 thing. And I believe there's been some violations of

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1 it. And that's why I wanted clarifications.  
 2 MS. BLANCO: He would like to know if this  
 3 meeting serves as the State process as well?  
 4 DR. FEIN: Yes, it is. It's part of the  
 5 Chapter 343 process, the EIS, as it says right in the  
 6 front of the --  
 7 MR. MAYER: Can you come up?  
 8 DR. FEIN: Yeah. As it says in the front of  
 9 the document, this is the joint State and Federal EIS.  
 10 MR. MAYER: Okay. Could you explain the same  
 11 that she explained as to how it will be approved at the  
 12 State level?  
 13 FACILITATOR: Who approves it?  
 14 MR. MAYER: Who approves it in the process?  
 15 DR. FEIN: The -- the State agency is the  
 16 University of Hawaii, is the approving agency for this  
 17 document.  
 18 MR. MAYER: So they make the final decision,  
 19 or is it the Governor?  
 20 DR. FEIN: It's, actually, the Governor. Is  
 21 that --  
 22 MR. MAYER: That's what I thought.  
 23 KAHU MAXWELL: Is it IFA, Dick?  
 24 FACILITATOR: Is it the Governor that  
 25 approves? The Governor approves for the State?

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1 DR. FEIN: Yes.  
 2 FACILITATOR: Okay.  
 3 MR. MAYER: The question -- the question I had  
 4 was, in the State law, it's different than the Federal  
 5 law. The State law requires all of the comments that  
 6 were made earlier have to be responded to, each  
 7 individual one, one by one by one. In this Draft EIS,  
 8 there are no responses to many comments. And many of  
 9 the comments made previously in the process were not --  
 10 were not even recorded at all in this document.  
 11 Where will we see and why can't we comment as  
 12 to whether those statements were accurate? We're --  
 13 we're not given the -- the material that came from that  
 14 previous process to be able to comment even on it  
 15 tonight. And that's -- that's a violation of State law.  
 16 FACILITATOR: Okay. So the comment is where  
 17 will we see the responses required under State law.  
 18 MR. MAYER: They should have been mailed to  
 19 each of us and put into the document.  
 20 MS. BLANCO: Dee Dee, I can answer, perhaps,  
 21 one aspect of that.  
 22 FACILITATOR: Okay.  
 23 MS. BLANCO: That all of the comments -- as I  
 24 had mentioned earlier, all of the comments received on  
 25 the Draft EIS, as well as the Supplemental Draft EIS,

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1 will be responded to in the Final EIS. So everything  
 2 will be responded to.  
 3 MR. MAYER: And we will have no chance to  
 4 comment on them at that point?  
 5 MS. BLANCO: We will accept comments --  
 6 MR. MAYER: Or even see them?  
 7 MS. BLANCO: -- afterward. And comments can  
 8 be incorporated or responded to in a record of decision  
 9 ultimately. But that's -- that's how the process works.  
 10 MR. MAYER: Because that's not how the State  
 11 process works.  
 12 FACILITATOR: So we have questions that we  
 13 can't clear up tonight, but I want to put on the comment  
 14 list because people want an answer to how -- if it's a  
 15 joint document, how they feel the State differs from the  
 16 Federal.  
 17 MR. MAYER: Yes.  
 18 FACILITATOR: As being met?  
 19 MR. MAYER: Correct.  
 20 FACILITATOR: So we need to keep that on the  
 21 list and try to get some clarification on that.  
 22 MR. MAYER: Thank you.  
 23 FACILITATOR: It doesn't seem like it's here  
 24 this evening.  
 25 Another clarifying question?

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<p>1 UNIDENTIFIED SPEAKER: Yes. I wanted to make</p> <p>2 sure that I had heard correctly last evening that \$143</p> <p>3 million of Federal stimulus money has been set aside for</p> <p>4 this project, if the decision is made to fund.</p> <p>5 DR. FOLTZ: That's correct. Well, slightly</p> <p>6 correct. 146 million.</p> <p>7 UNIDENTIFIED SPEAKER: 146 million.</p> <p>8 FACILITATOR: Okay. So the answer to that is</p> <p>9 yes.</p> <p>10 Okay. Any other clarifying questions before</p> <p>11 we get into comments?</p> <p>12 KAHU MAXWELL: Yeah. When will these</p> <p>13 questions be answered?</p> <p>14 FACILITATOR: The clarifying questions, this</p> <p>15 one, when can we get an answer from the State that this</p> <p>16 document has followed State law?</p> <p>17 MS. BLANCO: All comments will be responded to</p> <p>18 in the Final Environmental Impact Statement.</p> <p>19 FACILITATOR: Usually, in a State document, I</p> <p>20 think Kahu's point is --</p> <p>21 DR. FEIN: Yeah, we can answer that.</p> <p>22 FACILITATOR: And your point is that --</p> <p>23 DR. FEIN: Yeah.</p> <p>24 FACILITATOR: -- you get a personal letter</p> <p>25 responding directly to your --</p>	<p>1 permanent.</p> <p>2 FACILITATOR: Okay.</p> <p>3 KAHU MAXWELL: For building and -- and -- and</p> <p>4 to work there after it's built.</p> <p>5 FACILITATOR: Okay.</p> <p>6 UNIDENTIFIED SPEAKER: It seems like that</p> <p>7 question was specific to the stimulus package. How much</p> <p>8 money, do I understand you correctly?</p> <p>9 UNIDENTIFIED SPEAKER: Yeah, it's stimulus</p> <p>10 money. It should stimulate local people, not another</p> <p>11 state.</p> <p>12 FACILITATOR: Okay. Thank you for catching</p> <p>13 that, because I do type these up and put 'em on the</p> <p>14 website so people have 'em.</p> <p>15 Okay. If we can move into comments. Okay.</p> <p>16 The longer we go here, the less time we have for</p> <p>17 comments, but go -- if it's a clarifying question, go</p> <p>18 ahead.</p> <p>19 MR. MANCINI: Is it correct to assume that the</p> <p>20 Board of Regents, then, would have no jurisdiction over</p> <p>21 this project?</p> <p>22 FACILITATOR: Okay. Does the Board of Regents</p> <p>23 have any jurisdiction over this project? Okay. We may</p> <p>24 have to get that answer later.</p> <p>25 MR. MANCINI: The Board of Regents has to</p>
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<p>1 DR. FEIN: Not according to the OEQC. We</p> <p>2 checked with OEQC, and it's perfectly legitimate with</p> <p>3 respect to the State process to include all the</p> <p>4 responses in the final document.</p> <p>5 MR. MAYER: Wouldn't have to be in the</p> <p>6 supplement?</p> <p>7 DR. FEIN: No. It does not have to be in the</p> <p>8 supplement. We called and asked that specific question.</p> <p>9 MR. MAYER: Thank you.</p> <p>10 FACILITATOR: So OEQC has been consulted and</p> <p>11 that is the answer. Okay. So we got that one answered</p> <p>12 now.</p> <p>13 Clarifying question? Is it a question,</p> <p>14 clarifying question, in the back?</p> <p>15 UNIDENTIFIED SPEAKER: Yeah. Thank you. If</p> <p>16 this is stimulus money, how many of the employees that</p> <p>17 will be slated for the project would be local residents?</p> <p>18 FACILITATOR: Okay. So I think we're getting</p> <p>19 into comments, folks. Because I don't think that's --</p> <p>20 so we want to know --</p> <p>21 UNIDENTIFIED SPEAKER: And local contractors.</p> <p>22 FACILITATOR: -- how many local jobs and</p> <p>23 contractors --</p> <p>24 UNIDENTIFIED SPEAKER: Yeah.</p> <p>25 KAHU MAXWELL: -- for building and for</p>	<p>1 approve this project.</p> <p>2 FACILITATOR: Has to, okay.</p> <p>3 MR. MABERRY: They have to approve the lease</p> <p>4 The Board of Regents would have to approve any lease.</p> <p>5 KAHU MAXWELL: Was that the lease? Did you</p> <p>6 say the lease?</p> <p>7 MR. MABERRY: If -- if the project moves</p> <p>8 forward, it would require a lease from the University of</p> <p>9 Hawaii. And that would be approved by the Board of</p> <p>10 Regents.</p> <p>11 FACILITATOR: Okay. So the Board of Regents</p> <p>12 would approve the lease. I'm doing my best to get</p> <p>13 answers to these, if I can.</p> <p>14 Okay. I have one more clarifying question.</p> <p>15 No?</p> <p>16 Okay. Let's move to comments. I'm going to</p> <p>17 take Kahu Maxwell first.</p> <p>18 KAHU MAXWELL: Oh, yeah, you get to help me</p> <p>19 up.</p> <p>20 FACILITATOR: And we are -- for those of you</p> <p>21 that came late, we're trying to keep comments to three</p> <p>22 minutes. And if you need a second three minutes, I will</p> <p>23 bring you up at the end. It's kind of a courtesy thing</p> <p>24 for people waiting to speak.</p> <p>25 KAHU MAXWELL: Aloha, everybody.</p>

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1 MEMBERS OF PUBLIC: Aloha.  
 2 KAHU MAXWELL: I've been involved with  
 3 Haleakala for a very long time. It's very frustrating  
 4 to come here again and to see the same thing happening  
 5 over again.  
 6 The reason I -- I told you "I don't trust you"  
 7 is because what happened with AEOS. When we -- when we  
 8 set aside -- we thought of helping AEOS, the big  
 9 monstrosity that you see up there now. We worked with  
 10 them, we worked with the Air Force, trying to show them  
 11 all the cultural differences that they have up there,  
 12 what they should pay attention to, what they should not.  
 13 And they promised us everything. Promised us that they  
 14 would not take one rock from that site and remove it.  
 15 I was sick for about two months. And the  
 16 construction worker stopped me at the 8,000 foot level  
 17 as I was going up. And his truck had turned over with a  
 18 five-ton rock in it. And he was crying. He says,  
 19 "Uncle Charlie, they made me do this. This is the last  
 20 of 120 tons that we taking down the mountain." 120  
 21 tons.  
 22 I called Charlie Fein. Where is Charlie? I  
 23 called Charlie Fein. He told me, "Oh, I don't know  
 24 where the rocks went." I said, "What?" "I don't know  
 25 where the rocks went."

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1 Finally, he told me it was at Puunene crusher  
 2 being crushed. Myself, Papa Kalakea went immediately  
 3 down there -- with the Air Force, they came from the  
 4 mainland -- and we pule, we did a pule at that rock.  
 5 But believe it or not, it could not go back to the top  
 6 of the crater because of environmental purposes. We  
 7 took it back to the National Park for them to use within  
 8 the -- within the crater.  
 9 You know, this is -- all Maui is sacred. All  
 10 Maui is spiritual. I mean, that's where it's at.  
 11 Haleakala happened to be more spiritual than other  
 12 places. But when I say "spiritual," it's not only to  
 13 Hawaiians.  
 14 Everybody, I tell you a story. I took  
 15 Professor Ueshiba, he founded aikido. He went up when I  
 16 was -- in 1965, when I just became a police officer, he  
 17 went up to the observatory. And in Japanese, he was  
 18 talking to somebody in the crater. And I asked 'em,  
 19 "What is he saying?" "He is talking to a Hawaiian lady  
 20 in there."  
 21 So that goes to show you that whenever anybody  
 22 goes up to the crater, you have that closeness to the  
 23 lord. It's the sacredness of that.  
 24 Now, for the construction workers -- thanks,  
 25 bruddah, for your sign, bruddah, I do understand. We've

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1 been on your side many times. But I tell you what, they  
 2 gonna employ you to build this building, and once it's  
 3 pau -- three weeks or a month ago, we went up there to  
 4 do a blessing because AEOS had to work on the side of  
 5 the building. And you know what? It was like Fort  
 6 Knox. It was amazing. You didn't feel like you were in  
 7 Hawaii. They put a scanner under my car. And it just  
 8 was unreal. The blessing was terrific, but that was not  
 9 even Haleakala, not even Hawaii.  
 10 So we gonna put in this other monstrosity up  
 11 there. And it's a monstrosity that's gonna be built up  
 12 there.  
 13 FACILITATOR: Can you wrap up?  
 14 KAHU MAXWELL: I can conclude --  
 15 FACILITATOR: Okay.  
 16 KAHU MAXWELL: -- in one minute.  
 17 FACILITATOR: Okay.  
 18 KAHU MAXWELL: And this monstrosity gonna be  
 19 up there forever, for life. They ain't gonna take it  
 20 down. We asked them to tear the buildings down when  
 21 they done. And it's 40, 50 years.  
 22 But it's sacred. It's a spiritual place for  
 23 many people, not only Hawaiians. So when we talk about  
 24 spirituality, that's where we get it from. We go up to  
 25 Haleakala. And you know what? I'm 72 years old, and I

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1 drew a line in the lava. If I personally have to go up  
 2 there and block the trucks that are going to build this  
 3 monstrosity, I will.  
 4 FACILITATOR: George Aikala.  
 5 MR. AIKALA: Yeah. Dee Dee, can I withdraw my  
 6 testimony for tonight?  
 7 FACILITATOR: Okay.  
 8 MR. AIKALA: For a later date?  
 9 FACILITATOR: Sure. Let me know if you wanna  
 10 speak later.  
 11 MR. AIKALA: But I would like to comment to  
 12 the gentleman back there that asked about, what do you  
 13 call, the responsible contractors here in Hawaii. We'll  
 14 be employed to build this monstrosity.  
 15 We had a MILA meeting, which is Maui  
 16 International Labor Alliance meeting, with different  
 17 trades today, which includes HGEA, the carpenters,  
 18 operators, the laborers, the electricians. And we all  
 19 sat down together. We talked with Mike -- Mike was  
 20 there, Jeremy was there, Jeff Barr was there, there's  
 21 the -- what do you call -- the architect. And they  
 22 assured us -- but, of course, this was done before in  
 23 the past. They assured us that responsible contractors,  
 24 local contractors that we know of, will be building this  
 25 building on our recommendations. This is from the

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1 trades. So this is what we looking for right now.  
 2 Originally, my testimony tonight was because  
 3 of the fact of the work for the -- for our young, what  
 4 do you call, local members here on the island, because  
 5 there's nothing out there. We've got local -- local  
 6 guys that are losing their homes because there's no  
 7 work. The economy is really bad. Everybody knows that.  
 8 I'm not here in a selfish way, because I want  
 9 to see some monstrosity up at Haleakala, but they do  
 10 have a 18-acre reserve up in that area. And it's gonna  
 11 be built within that area, also.  
 12 I'm sure that they're gonna look at the  
 13 different culture aspects on our side, also.  
 14 And I sympathize with Charlie, because there  
 15 are flora and certain things on that island that  
 16 shouldn't be disturbed.  
 17 And with kupunas like him, (Hawaiian) like  
 18 him, and other, what you call, well-educated Hawaiians  
 19 that go up there, they can help out these guys to  
 20 probably make it a little bit better.  
 21 But, yeah, it's going to be big. But when you  
 22 come up to the top of that observatory area, `Ula`ula,  
 23 you won't be able to see it except for probably down in  
 24 Kahului. While we may have that terrible (inaudible) on  
 25 top of Haleakala, you won't be able to see it, anyway.

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1 But this -- this opens up an opportunity for  
 2 the scientific field here on the islands and, also, in  
 3 the education field. Monies will be brought back to,  
 4 what do you call, educate, believe it or not, our  
 5 Hawaiians, so that they can become astronomers,  
 6 astrologists, you know, and become scientists. It would  
 7 be really nice to see. And, originally, they had money  
 8 on the side for this purpose and this purpose only. And  
 9 it's for Hawaiians.  
 10 I'm sorry if you don't have Hawaiian in you.  
 11 You probably won't be part of that system. But this is  
 12 what they're, what do you call, setting aside to do for  
 13 us here on the islands.  
 14 FACILITATOR: George, can I ask --  
 15 MR. AIKALA: I do have a lot of respect for  
 16 Haleakala. And I was born and raised here, so I know  
 17 what it's all about.  
 18 I just wanted to comment on what the bruddah  
 19 said about responsible contractors.  
 20 Thank you again.  
 21 FACILITATOR: Thank you. Michael Tolentino.  
 22 MR. TOLENTINO: Good evening. I'm a  
 23 apprentice in Hawaii Labors Training Program. I  
 24 recently was laid off from Nordic PCL Construction. And  
 25 I hope this tower -- this observatory to be built. Not

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1 because it's something new, but, mainly, because of the  
 2 economy. And a lot of us young kids -- I'm 23 now --  
 3 are getting kids. And I'm sure a lot of people in here  
 4 have kids and grand kids, that want to see them  
 5 successful in life.  
 6 A lot of us have rent to pay. We also have  
 7 bills to pay. And like George was saying, a lot of  
 8 people are losing their houses because there is no jobs  
 9 out there. The economy is going down.  
 10 And for me, I have two kids myself. I wanna  
 11 be able to support those kids, along with my wife. And  
 12 I wanna, also, see them successful. And I wanna raise  
 13 them up as well as I was brought up with my father.  
 14 Yes, I was born on the islands, over here in  
 15 Paukukalo. I never left the islands, never lived in the  
 16 mainland. I have been here all my life. And I respect  
 17 the land. I respect what's around. And if I do, do  
 18 something wrong, I ain't -- I ain't ashamed to be  
 19 corrected. We all learn from our mistakes.  
 20 But right now, the environment is so down that  
 21 to have -- to have -- how do I put this? To have -- try  
 22 to take care of your family with no financial  
 23 stabilities is very hard. Right now, I'm in that --  
 24 that hole. And I have a hard time myself with the --  
 25 with my wife not working. She's in maternity leave. I

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1 have a hard time just myself supporting my kids, let  
 2 alone trying to support myself.  
 3 And for this to bring -- to be -- how do I  
 4 say -- to give the okay for it is gonna bring jobs. And  
 5 like the guy back there said, is it gonna be local.  
 6 Yes, I hope it's local, because I want to see people  
 7 that are locally born and raised on the island working  
 8 here. So maybe at least they know what can be moved,  
 9 what cannot be moved and --  
 10 FACILITATOR: May I ask you to wrap up?  
 11 MR. TOLENTINO: Oh, yes. And what -- what --  
 12 what is sacred, what is not sacred. It's an island to  
 13 where we were all born, we've been raised -- well, most  
 14 of us were -- and we all love the island. And like she  
 15 said, she wants me to wrap up. And, hopefully, we think  
 16 about -- about the economy and our grand kids and kids  
 17 and (inaudible).  
 18 And thank you for listening to me tonight.  
 19 FACILITATOR: Thank you. Kiope Raymond.  
 20 MR. RAYMOND: Aloha kakou.  
 21 MEMBERS OF PUBLIC: Aloha.  
 22 MR. RAYMOND: My name is Kiope Raymond. I'm  
 23 the President of Kilakila o Haleakala. And I'm  
 24 representing them tonight.  
 25 I'm going to read just the first of what we

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<p>1 believe are 67 substantive concerns we have with the 2 supplemental statement.</p> <p>3 Thank you for the opportunity to comment on 4 the National Science Foundation's Supplemental Draft 5 Environmental Impact Statement for the Proposed Advanced 6 Technology Telescope at Haleakala. These comments are 7 submitted on behalf of Kilakila o Haleakala. Kilakila o 8 Haleakala requests a hard copy of the Final 9 Environmental Impact Statement as well as a CD version 10 when it is completed.</p> <p>11 Tonight, I'd like to speak on cultural impact 12 only. And specifically environmental justice.</p> <p>13 The adverse impact on Native Hawaiian 14 traditional and customary practices is the defining 15 environmental justice issue for this project. 16 Curiously, the applicant completely ignores this issue 17 in discussing the topic of environmental justice.</p> <p>18 And when I submit my written testimony before 19 the end of the public comment period, those pages will 20 be noted.</p> <p>21 The United States Environmental Protection 22 Agency defines environmental justice as the, "Fair 23 treatment for people of all races, cultures and incomes 24 regarding the development of environmental laws, 25 regulations and policies." This is premised on the</p>	<p>1 As I said, I'd like to just offer that one for 2 the evening.</p> <p>3 We know -- we, Kilakila o Haleakala, 4 understand that this is the -- these are the NEPA 5 hearings, and we will be submitting comments before the 6 22nd.</p> <p>7 FACILITATOR: Thank you. 8 Martha Martin.</p> <p>9 MS. MARTIN: My name is Martha Martin. And 10 thank you for having this meeting and allowing us to 11 speak. I was born in Honolulu and lived there for 20 12 years. And I've lived on Maui for 46 years. And I am 13 not of Hawaiian race, but I love Hawaii and this is 14 where I want to live.</p> <p>15 My three siblings were unable to find jobs in 16 Hawaii, and they moved to the mainland and have never 17 come back. And this is hard on families, but it's not 18 the first time that this has occurred for people who 19 live in Hawaii.</p> <p>20 Now, Haleakala -- Maui -- Haleakala was formed 21 between one and 12 million years ago. It took a very 22 long time to evolve to what it is today. Western 23 contact has been in the last few hundred years. And I 24 don't think Western contact has been kind to Hawaii. 25 Maui's greatest need is not for a telescope,</p>
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<p>1 belief that particular segments of society, such as 2 Native Hawaiians, may sometimes bear a disproportionate 3 amount of risk associated with environmental 4 degradation. According to the EPA's final guidance for 5 incorporating environmental justice concerns, in the 6 EPA's NEPA compliance analysis of April 1998, it says, 7 "In the case of activities potentially affecting Native 8 Americans, potential impacts, both direct and indirect, 9 can occur to sacred sites and/or other natural resources 10 used for cultural purposes. For example, the loss of a 11 sacred site or other impacts to larger areas of 12 religious and spiritual importance may be so absolute 13 that the religious use of the site abruptly ceases, a 14 direct impact. Native Hawaiians and native people who 15 are a minority in their own land depend on the 16 preservation of natural resources in order to perpetuate 17 their own culture." The SDEIS discloses that the "area" 18 is a very sacred place for the Kanaka Maoli, Native 19 Hawaiian, past and present. The desecration of sacred 20 sites interferes with cultural practices and unfairly 21 targets the Native Hawaiian community. The ATST would, 22 therefore, disproportionately affect adversely the 23 Native Hawaiian population. This part of the EIS must 24 be revised to highlight the environmental injustice of 25 the ATST.</p>	<p>1 but for self-sufficiency and jobs here that last longer 2 than a construction of a telescope, and for reduction of 3 global warming.</p> <p>4 The National Science Foundation mission is to 5 promote the progress of science, to advance national 6 health prosperity and welfare, and to secure the 7 national defense. Now, I really think Maui is too small 8 a place for -- to support all that for the rest of the 9 country.</p> <p>10 This project does not meet the NSF mission. 11 The progress of science should include other countries, 12 not just the U.S. I noted that there were seven 13 international affiliates in this study. And I -- I 14 think that national defense will be most secure when we 15 show other countries that they are not threatened by 16 invasion and war, and that we share the progress of 17 science with the whole world. And this is a perfect 18 chance for the telescope to serve that purpose.</p> <p>19 Now, the -- the -- the other reasons this 20 doesn't meet the mission is this does not advance health 21 on Maui. The --</p> <p>22 FACILITATOR: I need to ask you to wrap up. 23 If you can just give us your last couple of points, 24 because -- 25 MS. MARTIN: Okay.</p>

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1 FACILITATOR: -- you're out of time.  
 2 MS. MARTIN: Out of time. So I would say that  
 3 we should support science programs in schools and  
 4 colleges, and that we should enlist other countries to  
 5 build the project, and we should not build it on  
 6 Haleakala.  
 7 FACILITATOR: Thank you.  
 8 Joe Ritter.  
 9 MR. RITTER: I would like to pass for a little  
 10 bit.  
 11 FACILITATOR: Okay. I will ask you if you  
 12 want to speak later.  
 13 Maile Delos Reyes. Good evening.  
 14 MS. DELOS REYES: Good evening, everyone. I  
 15 have just a few points I wanna make. I want to address  
 16 right over there.  
 17 MR. AIKALA: Yes.  
 18 MS. DELOS REYES: Apparently, you're with the  
 19 construction unions?  
 20 MR. AIKALA: Yes, I am.  
 21 MS. DELOS REYES: Okay. Unless you have it in  
 22 black and white, don't tell them, well, we will do this  
 23 and we do that. You want it in black and white, because  
 24 you cannot trust 'em. What they say and what they do  
 25 are two different things.

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1 MR. AIKALA: Yeah. I used to watch the Indian  
 2 movies. And they used to call these guys, guys with the  
 3 forked tongue.  
 4 MS. DELOS REYES: Ah, okay.  
 5 FACILITATOR: Don't cut into her three  
 6 minutes, George.  
 7 MR. AIKALA: Oh, sorry.  
 8 MS. DELOS REYES: I understand the problem  
 9 with construction being down right now. And there are  
 10 many people out of work.  
 11 My husband works for the State, he works at  
 12 the airport. And they're gonna be -- they're dangling  
 13 right now, too. They want to -- the Governor is telling  
 14 them they need to take furlough, three days off for a  
 15 month for the next two years, and then pay for their own  
 16 medical. So I understand the economic stress that our  
 17 people are under, but it is nationwide.  
 18 My brother lives on -- in Oregon. And he  
 19 works one week out of the month. So it's hard. People  
 20 are hard -- people are walking away from their homes,  
 21 leaving all of their possessions behind.  
 22 Now, I understand this project is to study the  
 23 sun. Is that correct?  
 24 FACILITATOR: Uh-huh.  
 25 MS. DELOS REYES: Well, they can start by

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1 cutting out -- stop cutting all the trees. And why  
 2 study the sun? They have no control over it. It's  
 3 gonna do what it's gonna do.  
 4 So why put this beast on our mountain which is  
 5 very sacred to us?  
 6 And when I say "sacred," we go there and we --  
 7 and not only us -- when we have visitors coming from New  
 8 Zealand, (inaudible) and other Polynesian countries,  
 9 they all migrate to Haleakala.  
 10 Now, they have destroyed Mauna Kea. And  
 11 they've already destroyed the top of Haleakala. I hate  
 12 to see any more destruction. Because once it is there,  
 13 it will be there forever. And if they don't take it  
 14 down, like they said they're gonna take it down after so  
 15 many years -- which they're not -- it's gonna be there.  
 16 And if it's up to us to take down, how are we gonna move  
 17 all that crap from the mountain?  
 18 I am totally against it.  
 19 And we need to teach our brother that has a  
 20 family to raise, you know what, we are so dependent, we  
 21 have become so Westernized, and we depend on the stores,  
 22 the economy is so bad, and when Young Brothers start  
 23 raising their prices --  
 24 FACILITATOR: 30 seconds.  
 25 MS. DELOS REYES: -- where you cannot afford

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1 to go to the stores, what we need to do is go back to  
 2 the land and start providing for our families.  
 3 FACILITATOR: Thank you.  
 4 Okay. Nathan Kekahua [sic].  
 5 MR. KEKAHUNA: Kekahuna.  
 6 FACILITATOR: Sorry. Can't read the end.  
 7 MR. KEKAHUNA: Kekahuna.  
 8 FACILITATOR: Okay. Didn't see the end.  
 9 MR. KEKAHUNA: Everybody, my name is Nathan  
 10 Kekahuna. And I oppose this project.  
 11 I born and raised and grew up here on Maui. I  
 12 live my life on spirituality and righteousness.  
 13 To give you a little history. The history is  
 14 everything legal, that you call legal, has been done  
 15 with illegal act. And to this day, the laws you call is  
 16 law is not our law. Everybody in United States. You  
 17 guys got (inaudible) to impose that law. And today, why  
 18 we have differences and why you guys think we racist,  
 19 and all this kind of stuff, because we hate this. We  
 20 hate continuing to take this crap that you guys shoving  
 21 us down our throat.  
 22 My kupuna went welcome your ancestors into our  
 23 home, fed them, bathed them, and also -- they also had  
 24 companionship. And the sacred site they went up to, to  
 25 worship, to ke Akua and to the sun for agricultural

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<p style="text-align: right;">Page 46</p> <p>1 purposes, to grow, to bring life, to sustain life, and,  2 most of all, sustainability. Your system came across  3 and you wiped it out.  4 We have the most long period of sun. I don't  5 need telescope to tell you that. No had to go through  6 class to tell you we have the most long daylight time.  7 Everything grows here. No. What happened? Plantations  8 come in, start changing. Everything become built around  9 money. Our people got caught up in that. And to this  10 day, we caught up in that.  11 I oppose this. I used to roam freely on it.  12 Roam freely. I drove where I like. Now I gotta go  13 through a gate, tell 'em, oh, you know what, I go  14 cultural practice, (inaudible) my pule, to connect with  15 the Akua.  16 You guys, be careful what you guys put in your  17 (inaudible). No base on scientific alone. No forget  18 him. Because one day, you guys gonna meet him. I look  19 a lot of you guys, you guys out there, you guys getting  20 closer to him.  21 I'm here as reminder to you guys, spiritually,  22 seek your (Hawaiian), your spirituality, be very careful  23 what you decide on. Therefore, you're accountable. And  24 my ancestors waiting.  25 Us Hawaiians, Kanaka Maoli, we understand the</p>	<p style="text-align: right;">Page 48</p> <p>1 what does pa`a mean. The kids, they look at me  2 glass-eyed.  3 Some of the best times I've had on this island  4 have been at the summit of the mountain with those kids  5 taking up some students from Kamehameha. And so I do  6 see this as a sacred site.  7 Here's what I see our choice is. We need to  8 balance our economy. And a tech economy will help so  9 that we can dig ourselves out of problems and help each  10 other.  11 And I talk to these tech companies. And they  12 say one thing. We wanna hire local because, when we  13 hire somebody from the mainland, they come out here --  14 and we've all seen the story -- they come out here, they  15 plant -- they come from California, they plant their  16 California plants in the ground and they make their  17 little island of California. A few years later, they go  18 back to the mainland. They wake up, look themselves in  19 the mirror, and say, "I wanna be in California."  20 All of this land is sacred. Not just the  21 summit. This is more sacred than the rest of the  22 island. But we've got all these little pukas. Here's a  23 puka of Arizona, here's a puka of California, here's a  24 puka, there's a puka. There is at least contained.  25 It's in everybody's best interest on here to</p>
<p style="text-align: right;">Page 47</p> <p>1 path is beyond, not here. What we obtain here is wisdom  2 and knowledge which we take beyond. I share with you  3 this. And this is why I come to my point here.  4 Brothers and sisters, construction. Tita, the  5 answer, go to your `aina, the land is still ours.  6 State of Hawaii is who? How can State of  7 Hawaii own land? Where is the person? Where is the  8 uncle that walk around that, wee, I own my mortgage.  9 Hau`oli.  10 FACILITATOR: Can I ask you to wrap up?  11 MR. KEKAHUNA: Yes, I will.  12 FACILITATOR: Thank you.  13 MR. KEKAHUNA: This is just a simple education  14 to pass on to you guys. Spirituality should be  15 always -- anything possession you get, you can't take  16 it. And you leave it to your kids, what, you guys'  17 kids, they're maikai or (inaudible). Gotta get  18 balanced, guys.  19 Mahalo.  20 FACILITATOR: Mahalo.  21 (Applause.)  22 FACILITATOR: James Armstrong.  23 MR. ARMSTRONG: Aloha. You know, I have been  24 up at the summit of the mountain a lot with kids. And I  25 try to teach these kids, you know, the (Hawaiian) pa`a,</p>	<p style="text-align: right;">Page 49</p> <p>1 educate local people to do these jobs, the companies  2 want to hire local. And that's what I see. And that's  3 the advice that I would give the NSF, is help develop  4 the work community here so that we can hire local.  5 What we can do for the `aina is contain it.  6 This is the most sacred place, yeah.  7 And I do support this. I do support this  8 project. And I do hope that we get the -- that we have  9 an understanding of how valuable it would be to have  10 local engineers here. Because the local engineers will  11 stay, they'll do a good job. And we need this education  12 for our local people.  13 Thank you.  14 FACILITATOR: Scotty Miller.  15 MR. MILLER: Mahalo. Thank you.  16 Aloha kakou. I just wanna say my mana`o  17 regarding this project.  18 And I was born and raised over here on Maui.  19 Coming from (inaudible), I understand you guys, brother,  20 but I'm totally against this project. It's gonna be  21 just an eyesore right now down from (inaudible) Beach,  22 looking up at Haleakala.  23 I see Haleakala every day. And it's a  24 spiritual place, like everybody said. I've experienced  25 Haleakala in many different ways.</p>

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1 I was blessed and I had the opportunity to run  
 2 up there, you know, the Run to the Sun. And it's so  
 3 awesome. I mean, just kind of -- I don't know what to  
 4 say about that. But there's that feeling, yeah.  
 5 That's all I had to come up here and say,  
 6 that, you know, I just oppose the project.  
 7 Mahalo for your time. Thanks.  
 8 FACILITATOR: Jeff Kuhu.  
 9 MR. KUHN: I think that's Jeff Kuhn. You  
 10 can't read my writing. Sorry.  
 11 FACILITATOR: Handwriting, sorry.  
 12 MR. KUHN: Never passed that course.  
 13 FACILITATOR: That's all right. I can't spell  
 14 in any language, either.  
 15 MR. KUHN: My name is Jeff Kuhn. I moved here  
 16 about 12 years ago. I got my degree in 1980. And since  
 17 then, I have been studying the sun. I came here to  
 18 study the sun. That's why I'm here. That's why I moved  
 19 here. I lived in lots of places, but I came here to do  
 20 this.  
 21 This telescope that you're talking about  
 22 doesn't mean anything anywhere else. The guys and the  
 23 girls that studied where to put it looked all over the  
 24 world, started with satellites. The only place in the  
 25 world that this telescope can do what it can do is here

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1 on Haleakala. So if you're talking about telescopes,  
 2 put it somewhere else, that's wrong. It doesn't do what  
 3 it can do.  
 4 I'm happy for my kids that the National  
 5 Weather Service is telling me when a hurricane's coming.  
 6 We save lives that way.  
 7 The sun we can't control. But we can look at  
 8 it and we can know what it does. And we've been looking  
 9 at the sun very carefully. The Chinese started 2,000  
 10 years ago.  
 11 The sun has a rhythm. It has a cycle. And  
 12 those cycles aren't exact. It's not like the tone of a  
 13 whistle. We don't understand that tone. Actually, if  
 14 you're reading the news, you may know that, for the  
 15 first time in 100 years, that whistle is interrupted.  
 16 We've got the longest period of no sunspots in over 100  
 17 years. What's going on?  
 18 You go back to the 1300s, and you find out  
 19 that civilizations vanished because the climate changed.  
 20 The Mogollon, the Anasazi, the Hohokam. They're not  
 21 there. And they vanished in synchrony with the time  
 22 when the sun got warmer. That was one of those periods  
 23 when that rhythm of the sun was interrupted.  
 24 We're here to study the sun, not for me, not  
 25 for you, not for our perspective, but for the

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1 perspective of our kids and our grand kids. And it  
 2 matters. It's not just another telescope. It's not  
 3 just another place. It's sacred. But the mating of  
 4 this instrument and that place and these questions have  
 5 importance for all of us for a long way into the future.  
 6 There's no question that civilizations come  
 7 and go in response to what the sun is doing. And  
 8 there's also no question that we can't tell you, one  
 9 year or two years or 10 years, whether or not the sun is  
 10 a tenth of a percent or three-tenths of a percent  
 11 brighter. Those seem like really tiny numbers, but  
 12 those are numbers that completely control climate.  
 13 We're hearing a lot about CO2 and global  
 14 warming. There's no question that we're also affecting  
 15 our climate. But let's not be so arrogant to believe  
 16 that we're the only thing that affects what happens on  
 17 this -- on this planet.  
 18 The study of the sun and this instrument on  
 19 Haleakala is a special match. It's not a random match.  
 20 This process of trying to understand where to put a  
 21 telescope and what it should look like goes back  
 22 decades.  
 23 I lived on a mountain in New Mexico, thinking  
 24 that was once the best place for a solar observatory.  
 25 It's not. It doesn't hold a candle to what Haleakala

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1 offers and our ability to see the sun. If you have been  
 2 there, you know it. Go to Haleakala and hold your thumb  
 3 up over the sun and look at the sky. It's a dark blue  
 4 all the way to the edge of your thumb. There's no place  
 5 else that we ever look where the sky is as dark as it  
 6 is. And the fact is, is the sun doesn't stop at the  
 7 edge of that disk that you see. It extends out into  
 8 space and it touches us here on Earth. We don't  
 9 understand those connections. (Inaudible.)  
 10 FACILITATOR: I need to ask you to wrap up.  
 11 MR. KUHN: I'm done.  
 12 FACILITATOR: Okay. Thank you.  
 13 Charles Villalon.  
 14 MR. VILLALON: Thank you for the opportunity.  
 15 Real good with the scientists talking and everything,  
 16 but you know us Hawaiians, tired of force-feeding  
 17 already, man.  
 18 KAHU MAXWELL: Amen.  
 19 MR. VILLALON: Tired of you force-feeding us.  
 20 That's what it is, the force-feed. You know, I look for  
 21 the match. Well, you guys tell us eight years ago that  
 22 we get a match coming up, and let us know then, not now.  
 23 Yeah.  
 24 This mountain, believe it or not, I not  
 25 bragging, I was the alpha dog on this mountain, DLNR,

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1 for 15 years. (Inaudible) conversion, hunting,  
 2 arresting, pakalolo, everything. I was the guy on this  
 3 mountain. You know what, my family kupuna couldn't  
 4 enjoy this because of the dust on the lens from the  
 5 other telescope. Oh, you guys cannot drive, you cannot  
 6 bring kupuna. Why? Because the dust go on top and we  
 7 no can see. More restrictions now. More restrictions.  
 8 More we cannot make the (Hawaiian), we cannot go back up  
 9 the (Hawaiian) in the valley, we can't make (Hawaiian).  
 10 We cannot hunt.

11 You know how much goats get up there? I see  
 12 one herd of 1,300 goats. That's a lot of meat. And  
 13 talking about recession. You can feed a lot of people  
 14 up there and eradicate 'em. I see goats stand up like  
 15 man and eat the trees. You got -- we gotta do  
 16 something. You got -- you guys can force-feed this  
 17 thing to us.

18 Make us one safe trail without creating dust.  
 19 Give us the opportunity to go up there and malama the  
 20 place, not lock us out. You taking, you taking, you  
 21 taking, and then you lock us out. How can we malama  
 22 things that is real to us when we cannot even go touch  
 23 'em anymore. That's the problem you guys giving. We  
 24 cannot even touch and engage anymore.

25 Yeah, right here. We the endangered species

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1 here. It's our culture. We born and raised here. We  
 2 never come from Mexico.

3 I ran up that place when the first telescope  
 4 was not here. I get 300 years of ancestors on this  
 5 island. When the (Hawaiian) grow, it's all chutes, and  
 6 all the keiki will just pick up all (Hawaiian) at one  
 7 time and can feed hundreds, all the little chutes like  
 8 that. You guys know (Hawaiian) is enough. (Inaudible)  
 9 on top, pau.

10 But you know what, come on, this is -- this is  
 11 our life.

12 You know, I read "The Maui News" the other  
 13 day. They gonna do bachelor's degrees at MCC because  
 14 the other technologies are saying, hey, we're gonna get  
 15 some positions that gonna open up. You guys should do  
 16 that for us. Tell MCC, we looking at these people,  
 17 looking at these, (inaudible) bruddah, I get 'em you can  
 18 come Maui. Because you know what it is. (Inaudible)  
 19 move to Maui. No. No more. You guys gonna make 20,  
 20 40, 50 people work up there. I like see Kanaka. I like  
 21 to see Kanaka learning. I tired of us looking for jobs  
 22 and no can go and no can touch and no can learn. And I  
 23 don't know. The Hawaiians, we different, man. You show  
 24 us the way, we'll find it. We tired of being  
 25 suppressed.

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1 FACILITATOR: Can I ask you to wrap up?  
 2 MR. VILLALON: Thank you.  
 3 (Applause.)  
 4 FACILITATOR: We have to give the court  
 5 reporter -- so she doesn't lose anything. Meanwhile,  
 6 Walter Kanamu.  
 7 (Court reporter requests to pause proceedings  
 8 momentarily; off the record.)  
 9 FACILITATOR: Walter, hi.  
 10 MR. KANAMU: (Hawaiian.)  
 11 Aloha kakou. (Hawaiian.)  
 12 About 15 years ago, I was inspired by a man  
 13 that just left here, Kiope Raymond, who was a professor  
 14 at the Maui Community College. And he gave me the  
 15 privilege of expressing myself in his classes, Hawaiian  
 16 studies, Hawaiian language, Hawaiian culture, as he did  
 17 with all the students. But because of his allowing me  
 18 to express myself, I got deeper into many things.  
 19 I am electronically challenged. By that, I  
 20 mean cell phones, computers, all kind of technical  
 21 equipment. You know, my grand kids, I got four grand  
 22 kids that can operate all this stuff better than I can.  
 23 But I listen to the mud that's oozing up between my  
 24 toes, that's covering my feet, when I walk through the  
 25 stream of fresh water coming down from the mountains,

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1 dripping off the ohī`a-lehua trees. I listen to the  
 2 i`iwi, the apapane, the `amakihī, all the birds of the  
 3 Hawaiian forest. I talk to the moon shining, the full  
 4 moon shining through the kiawe trees that look like  
 5 arteries and veins of your heart pumping while that moon  
 6 is shining through the trees at night. I listen to the  
 7 kupuna talking to me in the caves, old caves. Nobody  
 8 been there. Lava tubes. Right, Patty? And I hear  
 9 voices from the past. (Hawaiian.) I listen to the  
 10 voices of the past. They say come back, return to the  
 11 land. You take care of the land, the land take care of  
 12 you. You don't have to worry. You don't have to worry.

13 I wanna share something. This book is Kuni  
 14 Kaumana (phonetic), came out in 2002. And I wrote some  
 15 things in this book. The University of Hawaii published  
 16 this book. And I wanted to share. The first one that I  
 17 wrote --

18 FACILITATOR: You have about a minute.  
 19 MR. KANAMU: Am I the last one?  
 20 FACILITATOR: I have a few people that said  
 21 they might want to speak at the end, but I can  
 22 definitely give you another three minutes after I check  
 23 with them.

24 KAHU MAXWELL: Can you let him read his book,  
 25 please? We have time.

15 (Pages 54 to 57)

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1 FACILITATOR: Okay. Perry and Joe, you have  
 2 any objection to letting him take a little more time?  
 3 MR. RITTER: No. I'm interested.  
 4 FACILITATOR: Okay. Just have to check.  
 5 MR. KANAMU: Mahalo.  
 6 What did we learn from Pearl Harbor? How many  
 7 of you were alive when Pearl Harbor got bombed? Okay.  
 8 Pearl Harbor was like a magnet sitting in the  
 9 ocean drawing in all those -- all those bombs, yeah.  
 10 Thousands of people died. The land got destroyed, yeah.  
 11 I don't know if you guys know the whole story, you know.  
 12 Okay. We gonna study the sun. What else does  
 13 this do?  
 14 I wanna share with you something that I wrote  
 15 about 15 years ago. While everybody thinks it's funny,  
 16 say we're the laugh of the town, well, keep on laughing,  
 17 yes, keep on laughing, you're going to take us all down.  
 18 Humpty Dumpty sat on a wall. Humpty Dumpty had a great  
 19 big fall. While all the soldiers on the land and all  
 20 the sailors at the seashore, and all the fighters in the  
 21 sky, tell me, is there going to be war? Is there going  
 22 to be war? Humpty Dumpty sat on a wall. Humpty Dumpty  
 23 had a great big fall. Kaho`olawe, Kahakaloea, Kaneohe,  
 24 and Ni`ihau. Pearl Harbor, Diamond Head, Bellows Field,  
 25 and Kahuku. Schofield Barracks, Moanalua, Barbers Point

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1 and Makua. Wheeler Field, Forth Schofield, Punchbowl  
 2 and Hickham, Mokulihia. Haleakala, house of the sun or  
 3 the house of star wars? Do you want any more? We  
 4 cannot give you any more. Is there going to be war?  
 5 Humpty Dumpty sat on a wall. Humpty Dumpty had a great  
 6 big fall. It's time for action, to stop the faction,  
 7 the desecration of our land. We're just like magnets in  
 8 the ocean, attracting missiles from all foreign lands.  
 9 In the middle of the deep blue sea, just set your sights  
 10 on me. Do you want any more? We cannot give you any  
 11 more. Is there going to be war? Humpty Dumpty sat on a  
 12 wall. Humpty Dumpty had a great big fall. Oh,  
 13 everybody still think it's funny? Hawaiians only wanna  
 14 be free. Give back the land, do what you can, it's time  
 15 to help yourself be free.  
 16 It's time for something. Right now, we're  
 17 worried about the missiles from Korea. Right now. I  
 18 wrote this 15 years ago. Where you think is going to be  
 19 the most strategic -- where you think they gonna be  
 20 aiming at? Right here. Right here. Do you want to be  
 21 the target? Other people around the world don't want to  
 22 be the target. You want to be the target? I have --  
 23 (Applause.)  
 24 MR. KANAMU: -- one last thing.  
 25 FACILITATOR: Okay, quickly. Thank you.

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1 MR. KANAMU: Okay. Mahalo, yeah. Mahalo, ke  
 2 Akua, please.  
 3 I wanna share something else that I wrote.  
 4 For people who don't connect to Kaho`olawe, I hope by  
 5 listening to what I have to say, maybe, maybe you can  
 6 connect. I wrote this while camping up there. I was by  
 7 myself. And I -- I -- I was overnight into the morning  
 8 into the next day. A little bit of history.  
 9 You can tell I'm kind of stressed a little bit  
 10 because, all day, I've been thinking about this. All  
 11 day, I've been looking at Haleakala. Driving up here, I  
 12 saw that thing shining up there that's not supposed to  
 13 be there.  
 14 There's a pu'u in Haleakala with my family  
 15 name on it. My family's been here many generations.  
 16 Okay.  
 17 The moon has run its course. The night breeze  
 18 upon your face. Time now brings the morning sun gently  
 19 down upon this place. Quickly bringing everything to  
 20 light, barely visible, the ending of the night. The  
 21 birds begin to sing their melodies. The pastel sky  
 22 grows bright over everything I see.  
 23 FACILITATOR: Thank you.  
 24 MR. KANAMU: The -- wait. The pastel -- oh.  
 25 It goes on, but you disturbed me now. Okay.

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1 FACILITATOR: Oh, sorry.  
 2 MR. KANAMU: The road against the mountains  
 3 take on their earthly tones. As the clouds keep moving  
 4 onwards. Where? Nobody knows. The sun brings light,  
 5 even from behind the clouds. The moon takes its final  
 6 bow. As you feel the gradual warmth upon your face,  
 7 Haleakala is a beautiful place.  
 8 (Applause.)  
 9 MR. KANAMU: Mahalo.  
 10 FACILITATOR: Sorry for the interruption.  
 11 Perry, hi.  
 12 MR. ARTATES: Aloha.  
 13 FACILITATOR: Aloha.  
 14 MR. ARTATES: Shall we wait? At this point in  
 15 time is I try to prepare my -- my introduction of what I  
 16 represent. I'll try to humble myself and give my -- my  
 17 native Kanaka Maoles the respect that they have given to  
 18 express what they feel regarding this project up at  
 19 Haleakala.  
 20 I am born and raised here on Maui, too. Born  
 21 in Keokea, where the Kula Sanitorium is. And I was born  
 22 in one sanitorium at that time, until they called it  
 23 Kula Hospital.  
 24 I represent the Hawaii Operating Engineers.  
 25 The Hawaii Operating Engineers that -- that I represent

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1 built this complex that you are sitting in. We are  
 2 sculptors in our own way. In a Native Hawaiian society  
 3 where they had government and they had (Hawaiian) and  
 4 they had the people they used to sacrifice as  
 5 (Hawaiian).

6 With all respect to Brother Charlie, Brother  
 7 Nathan, Uncle Charlie, I'm here representing what I  
 8 represent, which is those that are operating engineers,  
 9 heavy equipment operators. The best equipment operators  
 10 that I see, and that I learned from, was some of these  
 11 people that mentored me to understand about cultural  
 12 rights, respecting the iwi, because they build from  
 13 mauka to makai. And I just gonna express this people  
 14 that who I -- I'm aware of in my 25 years in this -- in  
 15 this construction industry. They were the Akius, there  
 16 was the Kuohanas (phonetic), there was the Kaleahakis  
 17 (phonetic), there was the (inaudible), there was the  
 18 Wallace, there was the Plunketts, there was the Smiths,  
 19 there was the Poepoes, there was (inaudible), was  
 20 Kekonas, and even Kahunanui. All Native Hawaiians that  
 21 used to run this heavy equipment to build things that we  
 22 live in today. In creating work, whether they built for  
 23 the police department, whether they built for the  
 24 colleges, whether they built for the fire department,  
 25 whether the schools, the colleges. These Native

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1 Hawaiians built those because there was an expertise in  
 2 what they know best, which is running heavy equipment.  
 3 They had respect and they still do have respect, to some  
 4 degree, of how to say keep your hand together, get iwi  
 5 over there.

6 And the generations that I see that is in  
 7 place today, it's all about making money. Sometimes  
 8 there's no respect. But what I'm trying to pursue in  
 9 letting all of you know, as Brother Charlie was  
 10 expressing, as Brother Nathan was expressing, it's all  
 11 about respect. Sometimes we losing the respect that  
 12 then we need to revamp that and educate those that are  
 13 in our industry.

14 And to Brother George here, he represents the  
 15 laborer's union. If we really look at the statistics of  
 16 who sculpturers of our industry of construction, the  
 17 majority of 'em is Native Hawaiians. That's who they  
 18 are. Because we get the respect for when to stop when  
 19 we no need push any more bones.

20 Uncle Charlie, he's a consultant. He talks  
 21 about -- and he observes and monitors those things that  
 22 are in different projects, Maui Lani, Kapalua,  
 23 Ritz-Carlton. We have a Native Hawaiian culturalist  
 24 there.

25 But I represent a body of Native Hawaiians

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1 that is truly out of work, that is truly -- what you  
 2 said, George, that are not making the criteria of paying  
 3 the bills. Not all of us live in Hawaiian Home Lands.  
 4 I do. But what about the rest? What about the rest  
 5 that did have that economical sprawl, that had one  
 6 opportunity to get one loan and buy one home that is a  
 7 Native Hawaiian? You gonna leave them out?

8 Know what? When we leave them out, and  
 9 there's things that we say about how we contradict about  
 10 America, America is watching on the tube of who gonna  
 11 (inaudible) here. It's a fact. They gonna watch every  
 12 place that homes are being lost. And they gonna come  
 13 here. And they gonna tell us exactly right, enough  
 14 already, no build already, not in my back yard.

15 FACILITATOR: I'm going to have to ask you to  
 16 wrap up.

17 MR. ARTATES: Sure. And I'll specifically say  
 18 that the organization I represent is the Hawaii  
 19 Operating Engineers. In my time, in my service in this  
 20 industry, the majority, until this day, are still Native  
 21 Hawaiians. And we should give the right to our local  
 22 contractors here so that we are still able to  
 23 financially support (inaudible).

24 So, in conclusion, with all respect to who  
 25 those that testified, Brother Nathan, who is my

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1 classmate, Charlie Villalon, who live with me in  
 2 Waiohuli Homesteads, George Aikala and Uncle Charlie,  
 3 this is my opinion. Thank you.

4 FACILITATOR: Thank you.  
 5 (Applause.)

6 FACILITATOR: Joe Ritter.  
 7 MR. RITTER: Aloha kakou.  
 8 MEMBERS OF PUBLIC: Aloha.

9 MR. RITTER: I spoke to some of you last  
 10 night. And I'm really glad to do this because some of  
 11 you know I'm a scientist. But this reminds me a lot of  
 12 a very moving experience I had on another special hill  
 13 years ago in Greece, where there was a hill where  
 14 everybody would meet and discuss all the things in the  
 15 city. This is the origin of democracy, something that's  
 16 important to all of us. And in order to approach these  
 17 things together and have mutual respect, and if these  
 18 things go forward, to try to do them to both respect the  
 19 culture and the people and to do it in a way that is  
 20 environmentally sensitive. I think it's very important  
 21 that we talk like this.

22 So I haven't made a long eloquent thing to  
 23 read. I just jotted a couple of notes again. And I  
 24 thought I'd just run through this quickly. And I was  
 25 very glad to give our friend here more time, because I

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1 wanted to hear what you had to say. I hope I can do the  
2 same. But I shouldn't be too long. But it's just  
3 important so we can all communicate.  
4 And a couple points I think are important to  
5 make is all Hawaiians are astronomers. All Kanaka Maoli  
6 are astronomers. All of them had to be in order to come  
7 here. One of the great important and great Hawaiian  
8 traditions is to study the stars and to teach your  
9 children about it. And there are a lot of scientists  
10 who are doing this, too.  
11 Just real quickly on -- on my background. In  
12 fact, when I first learned science, I grew up -- I lived  
13 on sacred Native American land. Of course, all land is  
14 sacred. The culture has many, many things in common  
15 with the natives here. And -- and so, in some ways, you  
16 are not so different.  
17 I've heard a lot of people talk about respect  
18 for culture. And tonight's for input on environmental  
19 statement. And last night, somebody pointed out, gee,  
20 well, we consider culture part of the environment. And  
21 I think it's important we talk about this.  
22 I want you to know a little of our perspective  
23 as scientists. Being one with nature and understanding  
24 and being connected to nature, this is what astronomers  
25 do. It is a thing that we have in common. What you

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1 call a telescope is some -- is a heiau to us.  
2 KAHU MAXWELL: Oh.  
3 MR. RITTER: What you do at a heiau is what I  
4 do at a laboratory. This -- you may disagree, but these  
5 are the things that are sacred to me in my life and the  
6 things that are important to me. And I'm trying to  
7 understand the things that are important to you.  
8 I also wanna say -- and I -- and I think it's  
9 important that we do that so we can at least  
10 respectfully discuss this and -- and try to have  
11 something that is mutually satisfactory to everybody. I  
12 do believe in that.  
13 And then I have to say in these difficult  
14 economic times -- when somebody said last night, from  
15 the Carpenters Union, half of the carpenters on Maui are  
16 unemployed, when all state workers are about to face a  
17 14 percent cut -- and I'm one of them. And if this goes  
18 through, this will affect my salary. Okay. But when I  
19 look at the overall economy, and when I wonder how I'm  
20 gonna pay my mortgage, and I hear people from other  
21 unions saying how are they gonna pay their mortgages and  
22 their bills, and I'm wondering the same question for  
23 myself, and I think if -- at least the government is  
24 giving 27 billion to GM to keep them afloat, maybe we  
25 should do what we can to bring in 146 million or more

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1 just in the incentive funds here and -- and if that  
2 helps us build a 13-foot-wide telescope, terrific. And  
3 especially if it supports jobs at all levels, education,  
4 and what I consider some of man's -- some of man's  
5 ultimate achievements, understanding the nature of the  
6 universe.  
7 Another point that's really relevant -- we've  
8 all seen this -- 80 percent of the economy in Hawaii is  
9 based on tourism. And tourism is way down.  
10 FACILITATOR: Thirty seconds.  
11 MR. RITTER: Right now, \$140 million a year  
12 already comes in from the high-tech industry in Hawaii.  
13 He went over time, so I won't say.  
14 And so I think that if -- if we can bring in  
15 some of this money to help with the severe problems we  
16 have here, this is a benefit to everyone. If we can do  
17 it in a way that can respect every ones beliefs. And so  
18 I guess these are the things that we're trying to  
19 issue -- talk about.  
20 Now, it was mentioned that about why don't we  
21 try to do things for MCC. And I just wanted to let you  
22 know what some of the scientists are doing here at MCC.  
23 I personally serve on the board called ESET  
24 where we have been developing curriculum to have  
25 four-year tech programs here, so we can hire natives in

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1 technology jobs here. And I worked a lot of overtime to  
2 do some of these other things. I don't get paid to do  
3 it. I do it because I'm also trying to give back the  
4 help. This is -- there is a sacred place for me as  
5 well.  
6 So just, in summary, I'd like for you to at  
7 least consider the fact that we may be more alike than  
8 you think on some of these views. And I'm glad we're  
9 talking about this. It's a step towards achieving great  
10 science and, hopefully, science that is actually  
11 compatible with the cultural values here.  
12 Thank you.  
13 FACILITATOR: Dick Mayer. Okay. Can we  
14 continue to listen?  
15 MR. MAYER: I asked the question earlier about  
16 the State EIS. I don't believe -- Charlie tried to say  
17 that they didn't have to respond to each letter. I  
18 believe if you look at the State regulations, you do  
19 have to respond to all of those letters, people  
20 personally, and it has to be included in the document.  
21 And I would very much like to have seen what responses  
22 they had to the many comments that were put in three  
23 years ago when these hearings were held. We don't have  
24 that information here. I have the initial letters that  
25 I wrote. I wrote an eight-page letters, seven or

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1 eight-page, it doesn't -- didn't get responded to,  
 2 wasn't even in the document. I suspect many other  
 3 people's letters were not in the document. I think  
 4 that's absolutely critical. And I think I would advise  
 5 you to look at your State attorney to find out what the  
 6 laws are, not trust the comment by OEQC. The State's  
 7 attorney needs to look at that.

8 Now, as to some of the items that I'm  
 9 concerned about, I -- three years ago, I asked that if  
 10 Haleakala were selected, and is the best place, as they  
 11 say, why do they have to take the place at the very,  
 12 very summit, why couldn't they move the telescope over  
 13 rather than just using that 18-acre site that the  
 14 University of Hawaii has been managing? There are  
 15 places at lower elevation. It wouldn't be intrusive  
 16 into the environment. It wouldn't be as -- at the very  
 17 summit of the mountain, if they're gonna select. If  
 18 they did not even select it, didn't even study that  
 19 other site, they just confine themselves to 18 acres  
 20 that could easily have gone to DLNR and said we need a  
 21 Special Use Permit or CDU to build outside the summit  
 22 area, lower down on the slope. Eight -- 9,800, 9,700  
 23 feet elevation.

24 There are security concerns that weren't  
 25 covered. This telescope is going to be tied to the

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1 military in several ways. The military folks on top of  
 2 the mountain are gonna be grinding the lenses for this  
 3 facility. They'll have the facility, I presume, down to  
 4 the tele -- down to the computer center, down in Kihei.  
 5 Those military -- those -- that military aspect and  
 6 security concerns are something that should have been  
 7 addressed in the document. And I didn't see that.

8 There are cumulative impacts. It's not just  
 9 one telescope. It has interaction with all of the other  
 10 facilities up there, the Pan-STARs, the -- the military  
 11 operations, the present U.H. facilities. There must be  
 12 a need -- there's a need to do a cumulative impact study  
 13 for all of those projects.

14 The National Park, several years ago, when  
 15 this process went through, had some strong reservations.  
 16 And I'm hoping, with our new superintendent, that those  
 17 reservations will be kept in mind. Because Haleakala  
 18 summit and Haleakala National Park are treasures, very,  
 19 very significant treasures. And the most beautiful part  
 20 of that park -- park is to be able to step at the top  
 21 and view out to the crater. And if you stand at the top  
 22 of that hill, Red Hill, what you'll have in your face is  
 23 a 143-foot-tall monstrosity, just across the way, very  
 24 close, right in the face of every one of the million  
 25 tourists who go up there. Disrupting the view, the

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1 tranquility, because during the construction site, as  
 2 the Environmental Impact Statement said, they're gonna  
 3 have noise levels at 55 decibels at the site, at Red  
 4 Hill. That will be very intrusive to the whole  
 5 experience of people going up to the top of that  
 6 mountain.

7 FACILITATOR: Can I ask you to wrap up or ask  
 8 you if want another three minutes?

9 MR. MAYER: I'd like at least another six  
 10 minutes.

11 FACILITATOR: I'll give you another three  
 12 minutes at the end, how's that?

13 MR. MAYER: I'll do that.

14 FACILITATOR: Then if you want another three,  
 15 and we still have time, I'll still give you another  
 16 three.

17 MR. MAYER: Thank you.

18 FACILITATOR: Thank you. I just want to -- my  
 19 concern is to get everybody up. And then I'm willing to  
 20 give people more time.

21 Henry Alau.

22 MR. ALAU: Probably the only one person  
 23 (inaudible) as you, Charlie.

24 KAHU MAXWELL: Hey, howzit. Oh.

25 MR. ALAU: I believe in listening to all the

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1 talk. Very interesting.

2 I grew up on this island. I lived on the side  
 3 of Haleakala all my life. I hunted on that place. I  
 4 hiked up that mountain. I have been up into that crater  
 5 eight different times, walked in, walked out. I know  
 6 those trees and I know that place. And I know there are  
 7 goats. And I will tell you, when they first built the  
 8 satellite tracking station on the top of Haleakala,  
 9 which was tied to WWVH Maui, which was in Kihei, to  
 10 synch their time, that was the beginning of all this  
 11 scientific stuff.

12 What has happened in that area is we have  
 13 created an elite gated community. It is a gated  
 14 community for scientists. Make no mistake, that's what  
 15 it is. Try to go past that point and you see a  
 16 roadblock.

17 When I grew up, you could go up to the end of  
 18 the road, which was at that time the FAA relay station,  
 19 get to the top, turn around, walk down 900 feet, and be  
 20 inside the National -- the State --

21 KAHU MAXWELL: Forest.

22 MR. ALAU: -- Forest Reserve, and start  
 23 hunting. Now, you can't even get there.

24 I guess my problem is I'm not anti-science,  
 25 but I am anti when I don't think all the questions have

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1 been answered and all the issues have been looked at.  
 2 The cultural issues are important. I grew up  
 3 as a Hawaiian. And I work in the white man's world.  
 4 And I understand, but I will tell you, I hear people  
 5 saying, woah, we gonna raise new people, we gonna hire  
 6 people to work up there in these scientific  
 7 environments. Show me one Hawaiian who's working up  
 8 there. And I not talking about one Hawaiian who is  
 9 one-tenth. I mean show me one that's half. None.  
 10 Every person that works up in that place comes  
 11 from somewhere else. But they all tell me, oh, I  
 12 understand your culture, I understand what your problem  
 13 is, I understand where you're coming from. No, you  
 14 don't. Because I always ask, what the hell does the  
 15 `aina mean to you, land? No, more. Hawaiian, food.  
 16 That's what `aina means; not land. Land and food, same  
 17 thing. So you need to look at greater ways on how  
 18 you're gonna do this.  
 19 I don't have a problem with you talking about  
 20 the sun changing and the sunspots. I understand that.  
 21 FACILITATOR: Can I ask you to wrap up, or  
 22 offer you another three minutes after?  
 23 MR. ALAU: No. I can wrap it up.  
 24 FACILITATOR: Okay.  
 25 MR. ALAU: How about that, huh?

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1 FACILITATOR: You're good.  
 2 MR. ALAU: You know, the statement was made  
 3 that the sun's disappeared, (inaudible). That's true.  
 4 But that's not the only thing that caused it.  
 5 So anyway, I kinda disagree with this at the  
 6 present stage right now. At the stage that we at, I  
 7 can't agree and I can't support this. And I do not  
 8 speak for any organization. I speak for myself.  
 9 Thank you.  
 10 (Applause.)  
 11 FACILITATOR: Bing Asun --  
 12 MR. ASUNCION: Asuncion. Good evening. With  
 13 due respect to Kahu Maxwell, I have the same  
 14 spirituality when I'm up in Haleakala, but being a  
 15 retired surgeon, I'm 70 years old, cardiovascular  
 16 surgeon, it seems that -- initially, that science and  
 17 legend were all one together.  
 18 2,500 years ago, the ancient Greek  
 19 civilization started out and started to question their  
 20 beliefs. You know, they had plenty of gods, they had  
 21 gods for everything. And they asked -- one then asked,  
 22 I don't think that the sun is the God of Apollo, I think  
 23 it's a -- it's a hot stone. And then, from then on,  
 24 they figured out that the phases of the moon is not some  
 25 object or gods or goddesses, but the shadows of the

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1 Earth coming from behind -- from the sun behind. And  
 2 that's when they figured out that perhaps the Earth is  
 3 really round. So this ancient civilization, 2,500 years  
 4 ago, really became embodiment of -- of accumulated  
 5 observation. And then from observation, later on came  
 6 experimentation, and that developed into science. And  
 7 especially in England and France. And then eventually  
 8 to the Roman Empire and here.  
 9 So the -- the solar telescope, studying the  
 10 basic science of the sun, for me, practically --  
 11 especially in medicine, all the progress in medicine  
 12 started as basic science. Because of the sun and the  
 13 optics, they discovered that it comes in different  
 14 rainbows. And then laser was invented. And from then,  
 15 you know, retinal detachment is now used to seal back  
 16 the retina. Just the optics, the -- the glasses that we  
 17 use, they're all from optics. It just never --  
 18 (inaudible) never invented in order to hold, you know,  
 19 an eyeglass. It was never like that, it was supposed to  
 20 be other way around. So -- and leprosy for a long time  
 21 has been called --  
 22 FACILITATOR: You have about a minute.  
 23 MR. ASUNCION: -- curse gods. And then until,  
 24 finally, microscope discovered that, due to Hansen's,  
 25 bacillus. And so treatment became observable.

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1 So what I'm saying is that we need this basic  
 2 science. Where is it gonna lead? We don't really know.  
 3 It's almost like a question of where -- of what use is a  
 4 (inaudible). You never know. Because (inaudible)  
 5 physics quantum theory. Without quantum theory, 80  
 6 percent of communication would not be existing today.  
 7 Now, there is a spirituality and there is  
 8 (inaudible) in the child studying his mathematical  
 9 table.  
 10 FACILITATOR: You have 30 seconds.  
 11 MR. ASUNCION: -- sixth grade. And there is,  
 12 also, (inaudible) all the scientific thoughts appearing  
 13 to be (inaudible) of nature. Because science is never  
 14 to possess its true pursuit.  
 15 Thank you.  
 16 FACILITATOR: Thank you.  
 17 (Applause.)  
 18 FACILITATOR: Timmy --  
 19 MR. BAILEY: You don't have to say the --  
 20 FACILITATOR: No. Paulokaleioku.  
 21 MR. BAILEY: Okay.  
 22 FACILITATOR: I just had to look at it for a  
 23 second and I knew right away.  
 24 MR. BAILEY: Aloha, everybody.  
 25 MEMBERS OF PUBLIC: Aloha.

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1 MR. BAILEY: I kept telling myself I wasn't  
 2 gonna come up and do any public comment because of a  
 3 position I hold right now. So for those of you who do  
 4 know the position that I hold, appointed by the  
 5 Governor, I'm not representing that at all.  
 6 But I had to come up here and get some  
 7 clarification questions. And, also, just listening to  
 8 comments tonight, especially uncle who just testified a  
 9 little while ago. I am 50 percent Hawaiian, I've worked  
 10 for Haleakala National Park for 20 -- almost 20 years.  
 11 I'm their Resource Management Division. And I've done  
 12 it as a Native Hawaiian, cultural resource management.  
 13 I have been able to walk almost every inch of  
 14 that mountain, to Kalapawili Ridge where Maui --  
 15 actually, Kalapawili Ridge, where he (inaudible) the  
 16 sun, and to Malahina to all the place names that are up  
 17 there, to even a special place called Kapalaoa.  
 18 But my point in that is just to explain that I  
 19 have seen in the Federal system, and just all their  
 20 agencies, just testimonial thing, this process that we  
 21 go through isn't enough. So the reason why I came up  
 22 here to comment was, that board that's gonna be  
 23 happening in August, that makes the recommendation --  
 24 they said that tonight, right -- these recommendations  
 25 are going to be forward to the Director who has say on

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1 this project.  
 2 Being Native Hawaiian, I support everything  
 3 that's Native Hawaiian and for all Hawaiians. In the  
 4 position that I hold, it's really been hard because I  
 5 got extended for two more years, I have to sit back on a  
 6 neutral corner. And I can't really lash out on -- on  
 7 where I been and how the Federal Government has treated  
 8 me as an employee, too, being Native Hawaiian.  
 9 But this process that's going on tonight, I  
 10 wanted to come up with some positive criticism because  
 11 this ain't happening, this isn't working. There needs  
 12 to be a Native Hawaiian in that board that's making  
 13 these recommendations other than just the testimony or  
 14 consultation. Because the Native Hawaiian that truly is  
 15 connected can make sure he knows recommendations. All  
 16 these issues that our Hawaiian people are bringing up  
 17 are heard and discussed and brought up, and not just  
 18 glanced over in a EIS.  
 19 Too many times have I been dealing with this.  
 20 And even in the small agency that I work in. We don't  
 21 have representation in Native Hawaiians in our small  
 22 little boards. And now we're going up to something  
 23 that's gonna affect the economy, affect Native Hawaiian  
 24 employment, Native Hawaiian homes, Native Hawaiian  
 25 culture, resources. But there's no tool to fix it

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1 unless a Native Hawaiian gets to sit on that board and  
 2 be part of that recommendation, because they're tied  
 3 here. They know where it's at. And they need to have,  
 4 in that board, as they're filtering out what's  
 5 appropriate, inappropriate, not appropriate, whatever  
 6 project we have here, whether we have supporters or  
 7 non-supporters, it has to work for everybody. But we're  
 8 not gonna get equal representation if we do not have a  
 9 Native Hawaiian sitting at that board.  
 10 And I had to come up here and -- and present  
 11 that because that's what I just was at the Capitol all  
 12 day today, justifying the seat at the table for Native  
 13 Hawaiians. And at one point in time, it has to stop.  
 14 That we cannot just keep moving forward and not be there  
 15 on the recommendation table, other than just testimony.  
 16 I just wanted to share that. Mahalo.  
 17 FACILITATOR: I like your shirt.  
 18 MR. BAILEY: My daughter's --  
 19 FACILITATOR: You daughter's. Yeah, I can  
 20 tell. Very good.  
 21 MR. BAILEY: Thank you.  
 22 FACILITATOR: Kalei Kaeo. He's coming. Oh,  
 23 so fast.  
 24 MR. KAE0: Three minutes, huh?  
 25 FACILITATOR: Three minutes. And then I'll

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1 ask you if you want a second three minutes.  
 2 MR. KAE0: Okay. Okay. Let me give what I  
 3 can. (Hawaiian.)  
 4 First thing, I -- strong opposition to this  
 5 project, as been stated many times before, as we dance  
 6 through this dance and the same music is being played  
 7 over and over.  
 8 UNIDENTIFIED SPEAKER: Hana hou.  
 9 MR. KAE0: And the funny thing with this dance  
 10 is that the Hawaiians are always asked to come to the  
 11 dance, but they never play our song. They never play  
 12 our song. They play the waltz. They play those kind of  
 13 songs that don't speak for us. So we come, we share, we  
 14 ask to dance. And no matter how many times we ask to  
 15 dance, they never play our song. Play the band. They  
 16 don't even know our songs. They don't even care to know  
 17 our songs. But they invite us to the dance because  
 18 that's all they need to do.  
 19 See, we know the process. That's all they  
 20 need to do, send out invitations, show up, Hawaiians,  
 21 and they did their part. I been coming to these kind of  
 22 things for a long time. This is not the first time.  
 23 You know we gonna fight. You know we gonna struggle.  
 24 This is just part of the process.  
 25 We've been around for a long time. We gonna

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1 be here for a lot more time. You know, our tradition,  
 2 we have been here for 1,200 generations. We know that.  
 3 On this planet, 1,200. We gonna be here for 1,200 more.  
 4 And what allows us to be here for 1,200 more is to fight  
 5 against these kinds of policies which looking to  
 6 terminate us as a people. Because this is what this is  
 7 about, erase our humanity, our history. That's the  
 8 truth.

9 The EIS didn't address the same questions I --  
 10 I asked three years ago. I asked the question about  
 11 title again. I'm sure that was brought up many times  
 12 over and over. What is the title to the State of Hawaii  
 13 who supposed manages this system through the united --  
 14 united -- the University of Hawaii system. They don't  
 15 have title to this place, we know that. What, that  
 16 waiver on the Newlands Resolution? Is that the best  
 17 they got? That's just part of the scam and the fraud.  
 18 We know that.

19 And if you don't know that, then you need to  
 20 be educated first before you come here and try to act as  
 21 if you gonna teach us a little bit about our own  
 22 history.

23 See, there's a difference between management  
 24 and having authority. Those in power may have the gun  
 25 and may have the power to do what they want to us

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1 here -- and that's what this is about -- but they don't  
 2 have the authority. They may have the power, but they  
 3 don't have the authority. Look at the decision process.  
 4 5,000 miles away.

5 FACILITATOR: We can hear.

6 KAHU MAXWELL: No, no.

7 MR. KAEO: I'm gonna speak my dance here.

8 FACILITATOR: Okay.

9 MR. KAEO: 5,000 thousand miles away, somebody  
 10 gonna decide for us what's good for us, our humanity.  
 11 That's not humanity; that's supremacy. That's nothing  
 12 more than supremacy when someone else, 5,000 miles away,  
 13 can tell us what's good for us and ignore our voices,  
 14 ignore our history, ignore who we are. That's the  
 15 truth. This is nothing new. But we'll speak against  
 16 it.

17 See Ghandi said -- woaah, people. Woaah.  
 18 Ghandi said one of the seven sins is science without  
 19 humanity. But where is the humanity? Are we not  
 20 humans? Are we not humans? Science without humanity.

21 I asked that question many times. What is  
 22 this for, ATST, what is it for, what's the humanity?

23 FACILITATOR: Can I ask you to wrap it up?

24 MR. KAEO: Okay. I'll come back again, too.

25 FACILITATOR: Okay.

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1 MR. KAEO: But just this: What is the  
 2 humanity with that? And I asked that many, many times.  
 3 And I asked Mr. Foltz that directly, the first time I  
 4 met him, and his response to me was this: "Selfish  
 5 personal research." That was his response.

6 FACILITATOR: Okay.

7 MR. KAEO: And I'll come back.

8 FACILITATOR: Okay.

9 KAHU MAXWELL: Right on.

10 FACILITATOR: Another three minutes, okay.  
 11 I have our last speaker, and Dick Mayer who  
 12 asked for another three minutes. Is there anybody else  
 13 that spoke that would like another three minutes?

14 KAHU MAXWELL: I want.

15 FACILITATOR: Okay. One, two, three, four.  
 16 Four of you with another three minutes.

17 MS. HELM: I didn't speak before, but I would  
 18 like to say something.

19 FACILITATOR: Okay. Can you just get me one  
 20 of these for the record? And I will get you up here.  
 21 Okay. Dick, another three minutes?

22 MR. MAYER: I was talking about the large  
 23 building up there. It's gonna be the tallest building  
 24 on the island, 143 feet high. Bigger than any hotel,  
 25 bigger than the County building by about 50 or 60 feet.

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1 It's a huge building. It will be painted with a super  
 2 reflective white color because it's operating during the  
 3 daytime, they wanna reflect the heat. If you think the  
 4 white building on top of the mountain now shines  
 5 brightly when you look from down below, or someplace  
 6 else, this building -- this paint on this building will  
 7 be far whiter and far more intrusive to the tourists  
 8 going up to the mountain.

9 Several people talked about the effects on the  
 10 industry in the island and whatever. What is our major  
 11 industry? It's tourism. What will be the effect of  
 12 having this ugly monstrosity sitting there in the most  
 13 visited spot on the island by tourists? And we have to  
 14 be thinking. We talked about the downturn in the  
 15 economy, we have to recognize that this has an impact.  
 16 Does the EIS adjust for this? No.

17 FACILITATOR: Excuse me, Dick. Folks who are  
 18 having conversations, if you wanna take them outside,  
 19 that would be appreciated.

20 UNIDENTIFIED SPEAKER: They are outside.

21 MS. BLANCO: They are. You can tell them to  
 22 be quiet.

23 FACILITATOR: Okay. Those of you outside, go  
 24 further outside.

25 MR. MAYER: Thank you.

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1 The Upcountry Community Plan is absolutely  
 2 critical here. The Supplemental EIS totally ignored,  
 3 except for one little short paragraph, the Upcountry  
 4 Community Plan which speaks over and over again. It was  
 5 cited three years ago as being significant here. And  
 6 they trivialized the comment to it. And they should go  
 7 through point by point by point, in a letter that I  
 8 drafted to them. I want to see their response.

9 And particularly with regard to the National  
 10 Park, the Community Plan region is the home of  
 11 significant resources, including watershed areas in the  
 12 Haleakala National Park, significant in terms of its  
 13 resources, preservation, enhancement, protection,  
 14 values.

15 From an economic standpoint, the National Park  
 16 is viewed as an important component to the region's  
 17 economy. What is the effect on the National Park, on  
 18 the visitor experience of going up there?

19 Loss of rural character. This Upcountry  
 20 Plan -- that many of you who live in the Upcountry  
 21 District know that this area is known for its rural  
 22 ambience, country-like atmosphere. This is a really  
 23 major urban type facility. 143 foot tall, huge  
 24 building, with lots of construction noise, et cetera, up  
 25 at the top of the mountain.

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1 There's a statement in there, in the Upcountry  
 2 plan requiring a master plan for the whole summit.  
 3 Charlie and I both were on that committee that wrote up  
 4 this plan. And it was adopted by the County Council,  
 5 it's law, it's part of our General Plan. It's  
 6 enforceable. And so far, the Supplemental EIS has not  
 7 addressed that plan at all.

8 As to the master plan for the summit, all they  
 9 did was they looked at the 18 acres where the U.H. is  
 10 located into the master plan. I think that sufficed for  
 11 the plan for the whole top of the mountain. So far,  
 12 that plan hasn't begun. We asked last time, three years  
 13 ago, why not use some of those monies that you've got,  
 14 146 million plus, to do the master plan up there so that  
 15 this project be integrated in with at National Park, if  
 16 it can be integrated at all.

17 The height -- there's a statement in the  
 18 Upcountry Master Plan that's very critical. It was not  
 19 addressed in your Supplemental EIS. It's a 30 --  
 20 there's a 35-foot height limit in Upcountry buildings.  
 21 Charlie, right?

22 KAHU MAXWELL: Yeah, that's right.

23 MR. MAYER: This one is four times that. So  
 24 how are they going to get around the fact that they're  
 25 violating the Upcountry Community Plan?

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1 We don't have a 30-foot height limit in  
 2 Lahaina because the hotels, and South Maui hotels, and  
 3 other projects, but we do have it Upcountry. We wanna  
 4 keep Upcountry country.

5 One -- last page.

6 FACILITATOR: Okay.

7 MR. MAYER: Since the Community Plan is Maui  
 8 County ordinance and because the CDUA permit requires  
 9 that every application must conform to all State and  
 10 County ordinances, the ATST would be ineligible to  
 11 receive a CDUA permit from the DLNR. That's very  
 12 critical. They will not get a permit to build this  
 13 thing if they -- because they're violating the Upcountry  
 14 ordinance which is part of our General Plan.

15 Finally, to -- in response to some of the  
 16 construction workers. The \$146 million could be far  
 17 better used to build something that people of Maui could  
 18 use. Housing projects --  
 19 (Applause.)

20 MR. MAYER: The road to -- that -- perhaps  
 21 from Maalaea out towards Lahaina. That one -- that  
 22 single-lane road that causes accidents all the time.  
 23 That's where those monies should go. That would come  
 24 about much faster, with greater impact for the  
 25 construction workers. It would provide jobs. Because

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1 this telescope, 146 million is not all for jobs on Maui.  
 2 That's for the -- the optics and all the electronic  
 3 equipment and all the computers and everything else  
 4 that's all being built on the mainland. That's not 146  
 5 million going to our construction industry. But  
 6 building a highway on Maui or building housing projects  
 7 for all those who need affordable housing, or in the  
 8 Hawaiian Home Lands, that will be doing something for  
 9 the people of Maui, that would be a much better use of  
 10 the Federal (inaudible) funds.

11 Thank you.

12 FACILITATOR: Okay.  
 13 (Applause.)

14 FACILITATOR: So you don't need another three  
 15 minutes?

16 MR. MAYER: No.

17 FACILITATOR: Okay. Just checking.  
 18 Kahu.

19 KAHU MAXWELL: Yeah. I will sit.

20 FACILITATOR: That's fine.

21 KAHU MAXWELL: I wanted to make a -- a point,  
 22 what Brother Kanamu said. About three years ago -- and  
 23 Mike Maberry was there, and several other people -- I  
 24 asked this colonel from AEOS, the Air Force. And I  
 25 stood up in -- in the meeting and I asked him, I says,

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1 "If we're to be attacked, are we the number one or  
 2 number two target?" And he told me, because of the  
 3 national defense, he couldn't answer that question.  
 4 My second point here is it's really important  
 5 that the National Park not support this telescope  
 6 because it already infringes on the route that tourists  
 7 are taking, the natural resources of the Park, and the  
 8 Park and natural and -- and other resources. And the  
 9 Park, in its mandate, it was mandated to protect the  
 10 natural resources, the cultural resources of Haleakala.  
 11 And that's why they were formed.  
 12 So I encourage the superintendent -- if she's  
 13 still there -- smiling, huh -- please do not -- do not  
 14 give in to them. I know there's a lot of Federal  
 15 pressure against you, but don't give in to them.  
 16 Thank you.  
 17 (Applause.)  
 18 FACILITATOR: Okay. Yes, sir, you wanted  
 19 another three minutes.  
 20 MS. DELOS REYES: I don't want three minutes  
 21 Just have a question.  
 22 FACILITATOR: It will probably go off as a  
 23 comment unless there's a quick answer here tonight.  
 24 MS. DELOS REYES: I'm just wondering if this  
 25 would go faster, or even if they would give it a second

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1 thought, to put that on Mount Rushmore.  
 2 UNIDENTIFIED SPEAKER: Grand Canyon.  
 3 FACILITATOR: Okay.  
 4 MS. DELOS REYES: (Inaudible) put that over  
 5 there.  
 6 FACILITATOR: You wanted another three  
 7 minutes?  
 8 KAHU MAXWELL: That's sacred Indian land.  
 9 Maile, that's sacred Indian land there.  
 10 MS. DELOS REYES: Yeah, they've already  
 11 desecrated it.  
 12 FACILITATOR: Sir, you wanted three more  
 13 minutes?  
 14 MR. KEKAHUNA: Yes.  
 15 FACILITATOR: Okay.  
 16 MR. KEKAHUNA: (Inaudible.) It seems like we  
 17 as Hawaiian people, come in conflict with others because  
 18 of the system that has been imposed upon us through  
 19 illegal occupation and through military force. And we  
 20 as people always have this constant conflict with one  
 21 another because we want to care for our family. We want  
 22 them to have them a better life and we want them to have  
 23 the best. But we also take the truth to be who we wanna  
 24 be.  
 25 I'm not caught up in the construction

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1 industry. I know all about that. I'm a (inaudible). I  
 2 work my land, work my taro. And I understand the `aina.  
 3 The `aina is not something that you look at it and say,  
 4 okay, is it -- when you put something in like this, it's  
 5 gonna stay.  
 6 Who is it gonna educate? Who will learn from  
 7 this? You think scientifically everything is okay, but  
 8 what about the continual people who still go to their  
 9 job? You not gonna sustain them for the rest of their  
 10 life. There seems to be flawed. There's flaw in this.  
 11 If we wanna to do something correctly, fix the flaw.  
 12 Who has suffered more? Because we know. We  
 13 are at the end of this thing for many thousand of years.  
 14 And, yet, we see that, we try, and we frustrated. We  
 15 can't stand it. And we wanna -- I mean, we mad. I'm  
 16 very upset. Because I look at my children future, I  
 17 gotta (inaudible) brother and sister. But everything on  
 18 the foundation is (inaudible).  
 19 The guys who first came here, you -- you come,  
 20 you talk all this kine stuff about Greece. Big deal.  
 21 Now tell me about something about our -- my culture.  
 22 Tell me something I understand. I don't understand  
 23 Greece. Greece is Greece. I'm here. I know my  
 24 culture.  
 25 Many of us have to go evolve and (inaudible).

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1 Did you lose your language for many of thousand of  
 2 years? Did you have your kupuna hold at gunpoint,  
 3 yanked out of his house? You had your kupuna injected  
 4 with disease so they can take the `aina? The stories is  
 5 true. But you guys refuse to listen. Just like now.  
 6 So we go through this, like Kalei Kaeo said,  
 7 dance and everything, but the music is not ours. You  
 8 are pushing it down our throat. And we tired of it,  
 9 what is not helping my people and not helping my  
 10 children. I know, I'm one grandparent. I moved up to  
 11 the next level. You looking, oh, yeah, I know that guy  
 12 (inaudible). I do not come here to (inaudible) you  
 13 guys` system, but they don't know how to work their way  
 14 in the system. You guys look at something that is  
 15 material, that is something that you think that is  
 16 important, oh, beautiful structure, building. Try go  
 17 plant taro. Try make a tree go. Try incorporate  
 18 different other food chain. Can you? That is important  
 19 to me. Can I feed? When you no more job and everything  
 20 gonna crash -- and it will crash, people -- it is still  
 21 in (inaudible) everything gonna crash. Why? You taking  
 22 away the food source.  
 23 When I say, the (Hawaiian) grow wild,  
 24 naturally, ke Akua, in his hands, naturally. But you  
 25 guys decide you gonna take that away. That's

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1 desecration at the highest level. All the land --  
2 FACILITATOR: Can I ask you to wrap up?  
3 MR. KEKAHUNA: And take away our (inaudible).  
4 FACILITATOR: Okay.  
5 MR. KEKAHUNA: (Inaudible). All you guys  
6 think scientifically. Try the building. They won't  
7 come down to the choice. You guys think I'm lying.  
8 There's just as much you put that (inaudible). How much  
9 can you trust? You guys, how much you guys make? Where  
10 you guys buy your guys' vegetables? The supermarket?  
11 Ha. No lie to me. You guys (inaudible). You guys no  
12 can trust your own supermarket because, why? Federal.  
13 They inspect 'em, they guarantee you. Cannot trust that  
14 (inaudible). Can't even trust the milk (inaudible).  
15 You can't trust none of it.  
16 You no fool me, you smart guys over here.  
17 FACILITATOR: Can you wrap up?  
18 MR. KEKAHUNA: I know, I grow my own.  
19 That's -- mahalo.  
20 (Applause.)  
21 FACILITATOR: Okay. Judith hasn't testified  
22 yet. Thank you for waiting.  
23 MS. MANCINI: Aloha kakou.  
24 MEMBERS OF PUBLIC: Aloha.  
25 MS. MANCINI: I'm speaking for myself. Excuse

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1 me. I'm speaking for myself as a longtime resident on  
2 this mountain, as a grandmother concerned about the  
3 arguments made for our children and grandchildren by  
4 ATST proponents.  
5 There has been mention of the need for jobs by  
6 the construction industry, the need for another tourist  
7 destination and the need for educational opportunities  
8 in science for our students. We do need these things,  
9 but we also need a vision for the future.  
10 The jobs will end in a few short years. And  
11 the tourists won't actually have to come to the mountain  
12 because many will be able to see the facility from their  
13 hotel rooms. As far as the students are concerned, I'd  
14 like to make the argument for the need for different  
15 type of knowledge in this world of increasing conflict  
16 and uncertainty. This knowledge does not come from a  
17 book or any other kind of modern technology. It is  
18 entirely experiential and provides food and nurturance  
19 for the spirit and for the soul.  
20 What our children need are opportunities to  
21 develop a sense of wonder about the universe. And to  
22 have the experience of undisturbed nature that they see  
23 with their own eyes, touch with their own hands and feel  
24 with their own hearts. Before children can appreciate  
25 outer space, we need to instill in them a love for this

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1 space. What we adults can give them by example is a  
2 respect for other people and a sense of responsibility  
3 for this mountain that we all share.  
4 In 1916, President Wilson signed the act  
5 creating the National Park Service which states, the  
6 Service, thus established, shall promote and regulate  
7 the use of Federal areas known as National Parks,  
8 monuments and reservation, and whose purpose is to  
9 conserve the scenery and the natural and historic  
10 objects and the wildlife therein, and to provide for the  
11 enjoyment of the same in such manner and by such means  
12 as will leave them unimpaired for the enjoyment of  
13 future generations.  
14 KAHU MAXWELL: Amen.  
15 MS. MANCINI: Some of the guiding principles  
16 of the Park Service state that partnerships will  
17 collaborate with federal, state, tribal and local  
18 governments, private organizations and businesses, to  
19 work toward common goals, and that effective management  
20 would instill a performance management philosophy that  
21 fosters creativity, focuses on results, and requires  
22 accountability at all levels. And, yet, Federal  
23 stimulus money has been set aside for a project that  
24 otherwise could have been allocated for jobs with  
25 minimal environmental impact to maintain the park itself

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1 or to improve delapidated schools in our state, not just  
2 on Maui.  
3 And that, also, wise decisions would integrate  
4 social, economic environmental and ethical  
5 considerations into the decision-making process. And,  
6 yet, Kanaka Maoli have passionately, eloquently and very  
7 clearly presented their position in opposition to this  
8 project. And project proponents genuinely believed that  
9 the negative impacts, which they acknowledge exist, can  
10 be mitigated to the satisfaction of Native Hawaiians.  
11 While the project does not lie within the Park itself,  
12 the National Park Service is described as a guardian of  
13 our diverse cultural and recreational resources. It is  
14 supposed to be environmental advocate, a world leader in  
15 the parks and preservation community, and a pioneer in  
16 the drive to protect America's open space.  
17 I would like to ask the National Park Service  
18 to examine this issue from a broader perspective and to  
19 uphold their mission for all of us, not just some of us.  
20 Granting the necessary easement for a project of this  
21 magnitude diminishes the opportunity for an entire  
22 generation of young people on Maui to experience the  
23 natural wonders of Haleakala.  
24 (Applause.)  
25 FACILITATOR: Is there anyone else that hasn't

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1 spoken this evening that wants to speak before I go back  
 2 to our repeat? Could you give me -- just so I have a  
 3 record. Come on up.  
 4 MS. HELM: Aloha kakou. My name is Mikahala  
 5 Helm.  
 6 Aloha, Uncle Charlie. Mahalo.  
 7 I would like to -- you know, you may wonder  
 8 why am I here all the time, you know. And I even spoke  
 9 to a Congressional representative that we have in  
 10 Washington, D.C. to ask that our message, that our voice  
 11 be heard in Washington that -- about this ATST. Because  
 12 I am for full avoidance of the building of this  
 13 structure on our sacred mountain.  
 14 And what I heard was that there are many  
 15 opinions. I have an opinion. And there are many  
 16 opinions, other opinions. I understand that. Where I  
 17 see the difference is having an opinion that may relate  
 18 to your particular profession, your particular goal for  
 19 what you think is important, versus affecting someone's  
 20 identity, the identity of a people and the culture of a  
 21 people.  
 22 When you look at this proposed ATST here on  
 23 this site, right here, 14-story white structure -- we --  
 24 we went up here with our kupuna and stood right here  
 25 where Uncle Charlie worked with them to have that ahū

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1 built. We stood right there and we turned. Here, we  
 2 could see across to Hawaii. We looked across on this  
 3 side and we could see all the way down there, past to  
 4 Molokai and all of that, which our kupuna know about the  
 5 sacredness of this island and of Haleakala. Why do we  
 6 think that, for all these years, it was in that state?  
 7 Why did we think that the oceans could sustain us? It's  
 8 because they knew how to malama. They knew how to take  
 9 care.  
 10 Now, when we went up there -- this ATST is not  
 11 there yet -- we took a look at it and it was hurtful to  
 12 our kupuna and, also, to us younger ones. We didn't  
 13 even have to walk the whole area. If you could just  
 14 experience and look at it as wounds, random wounds that  
 15 nobody seemed to have great care about what in the world  
 16 was going up on there. If somebody really revered that  
 17 area, how is it that we have antennas here, telescopes  
 18 here and everything?  
 19 And I understand that this particular site  
 20 does not -- does not include all the -- what do you  
 21 call -- antennas and all that. Is that correct? Some  
 22 of the antennas are out of the telescope site, I  
 23 understand that. However, it is a random desecration.  
 24 And to be here and listen -- I respect your  
 25 studies. We respect your studies. The part is, we're

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1 not talking about just studies. We're not talking  
 2 about, oh, have a mitigation and have, let's say, \$2  
 3 million for 10 years or whatever, \$20 million. A drop  
 4 in a bucket. Yes, it's saying it's gonna help Hawaiian  
 5 students, but, really, when you look at how many  
 6 millions have been mentioned that will be spent by the  
 7 end of 2009, just for the -- what is it -- the  
 8 development of this project, that's not even the  
 9 stimulus money we're talking about. That's not the  
 10 other money that would come in to construct this and  
 11 everything else that's involved with it.  
 12 It is insulting. It is -- it is an insult to  
 13 our people and to those practitioners who -- and all of  
 14 the rest of our people, and other non-Hawaiians who want  
 15 to come up to Haleakala.  
 16 FACILITATOR: Can I ask you to wrap up?  
 17 MS. HELM: Yes. Because you know why?  
 18 (Hawaiian.) Right? The pohaku is enough for us. We  
 19 see the sacredness and the life in it. We do not need  
 20 you to dig deep, disturb everything. And right behind  
 21 there, they're talking about Oahu, you know, it's  
 22 supposed to be (Hawaiian). I'm just talking about  
 23 Hawaiian cultural resources.  
 24 It's not even -- when we say resources, it, to  
 25 me, almost -- it -- it's more than resources. It is our

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1 life. It is our identity. That's how deep it is. It  
 2 is the breath of air that we -- we live by.  
 3 And so I just ask you to please, please -- I  
 4 know how much money was spent on this and I know how  
 5 much you guys need to study, but how sacred places have  
 6 you guys built on? Mauna Kea and where else?  
 7 NSF needs to have the President know that this  
 8 is a sacred site. You're building on Mauna Kea. Where  
 9 else in this world are you folks building on that the  
 10 people say this is a sacred site? We need to have the  
 11 respect and we need to have you not do it here.  
 12 Thank you.  
 13 FACILITATOR: Thank you.  
 14 (Applause.)  
 15 FACILITATOR: Okay. Kalei, you wanted another  
 16 three minutes.  
 17 MR. KAEO: Make sure my pockets come out  
 18 because, you know, I don't -- you know, I speak for  
 19 those that not here for economic benefit. I'm here -- I  
 20 not here speaking for those who have a clear conflict of  
 21 interest for personal gain to testify in support of  
 22 this, because they looking for personal gain. This  
 23 Hawaiian not for sale. And that's who I represent.  
 24 First thing I like to say, also, again -- as I  
 25 stopped off last time -- that you must remember our

<p style="text-align: right;">Page 102</p> <p>1 Hawaiian people, our Kanaka Maoli, never, never, ever,  2 ever gave consent to giving up that mountain. Never  3 did. Know your history. We never gave up consent.  4 U.H. may have management, like in the power, but we've  5 never gave consent. And I challenge that EIS to find  6 where Hawaiians have ever given up consent to that  7 mountain, to do what they wanna do up there. It doesn't  8 exist. It's called taking. It's called occupation.  9 It's called usurpation. That's what is going on up  10 there. That's what this is about.  11 So we can talk about the human family, but,  12 see, I know history. When they talk about human family,  13 they are not including the Hawaiians in this family.  14 That's the truth. That's not my culture. In my  15 culture, we all welcome within this family. I know  16 that. I was raised that way. I'm not the one that's  17 ignoring other voices.  18 But people can come and talk as if, because  19 they part of the settler population, part of the  20 military force here, that somehow science excuses them.  21 Please. Look through history. You think all  22 science was good? Come on. Let's start with Columbus.  23 Supposedly, a scientific expedition. Let's look at  24 Bikini, (inaudible), (inaudible) of science. How about  25 the Nazis and their science on humanity? That's</p>	<p style="text-align: right;">Page 104</p> <p>1 FACILITATOR: Can I ask you to wrap up?  2 MR. KAEO: Okay. Let me -- let me try to get  3 a look here.  4 (Hawaiian). So science -- there's a  5 difference between science as a tool and humanity as the  6 goal. Two different things. And just because someone  7 claims to be a scientist and have scientific purpose  8 don't mean it's for humanity. Because I can give you a  9 lot more examples to prove my point. I'm for humanity.  10 I just wanna make a last comment about, you  11 know, kind of an idiotic statement. I going to say that  12 clearly. You know, some have mentioned in the newspaper  13 about Kalakaua. Understand history. When Kalakaua made  14 that statement, he wasn't talking about building some  15 struc -- you know, this monstrosity on top Haleakala.  16 Secondly, Kalakaua was speaking from a time  17 when Hawaiians had control and decided for ourselves.  18 This wasn't outside foreign settlers deciding for us  19 what was good for us. See, that's the question --  20 that's the difference here. So, what, Kalakaua  21 supported astronomy in Hawaii? See, that's the kind of  22 real simplistic kinda statement that someone make who  23 really don't know the history, really have no  24 understanding.  25 But, you know, people get minds manipulating</p>
<p style="text-align: right;">Page 103</p> <p>1 science.  2 At U.H., we had a famous person, scientist,  3 Portis (phonetic), at one time. And his science talked  4 about the fact that, in human structure, you had these  5 classes of people that supremacists thought was part of  6 science. It still exists within science. That's what's  7 going on here.  8 And you may choose to ignore that, but that's  9 a fact. You deal with that.  10 I'm not -- never been against science. In  11 fact, I talked about this many times. I wish someone  12 come forward and explain to me, (inaudible). What the  13 hell are they gonna to do up there? I've asked this  14 many, many times. I wish there was some great purpose  15 that they spoke to.  16 If you told me, as a Hawaiian, you gonna feed  17 10 million people, you gonna save the lives of a million  18 people, see, I can start to discuss that. As a Kanaka,  19 I understand humanity. Because, in Hawaii, one of the  20 most important cultural ideals is the saying (Hawaiian),  21 life is sacred (inaudible), life is the most sacred  22 thing. If that's what this is about, speak to us about  23 that.  24 But the truth is they don't. The band don't  25 even care.</p>	<p style="text-align: right;">Page 105</p> <p>1 away because when you -- like they say, you know, a  2 little bit of knowledge is a dangerous thing. Yeah, it  3 is. Too bad the person didn't read a lot more about  4 their own history, understand a little bit more about  5 what went on. And perhaps they wouldn't make those  6 idiotic statements. But the truth that they did, so I'm  7 here to correct that.  8 Anyway, mahalo.  9 FACILITATOR: Mahalo.  10 (Applause.)  11 FACILITATOR: Is there anyone else that hasn't  12 made a comment this evening that would like to comment  13 Okay.  14 Is there anyone else that hasn't had a second  15 three minutes that would like a second three minutes?  16 Oh, you haven't made a comment. Can I --  17 okay. Okay.  18 MR. ARMSTRONG: A couple of things I wanna  19 point out. Everybody look at the picture over there of  20 the telescope with all the keiki. Faulkes telescope.  21 The project scientist on that telescope is Paul Coleman.  22 He's Kanaka Maoli. I don't know the bloodline.  23 You know, I take kids up there and I try to  24 teach the songs that you say that we're not playing.  25 They're your songs. I teach -- I have told the Boy</p>

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1 Scouts that I took up there that if they want to pass  
 2 off the stars that they know in olelo Hawaii, I will  
 3 accept it. But so many -- so few of them know. And I  
 4 -- I want to ask for your help in teaching students  
 5 around here these traditions, teach them the stars in  
 6 their own traditions, please.  
 7 This -- I -- I still think that this is an  
 8 opportunity for us to teach our -- our keiki, teach our  
 9 kids to teach our next generation. This will provide a  
 10 way for us to train people around here to go into these  
 11 fields, to keep people from around here in Hawaii, you  
 12 know, so that they don't have to move away.  
 13 Thank you.  
 14 FACILITATOR: Okay. Is there anyone else who  
 15 didn't have a second three minutes, that spoke before,  
 16 that would like another three minutes? Another three  
 17 minutes?  
 18 MR. ASUNCION: I just want to address the fact  
 19 that science is not really always bad. I -- for  
 20 example, as I said, I'm in the practice of medicine, I'm  
 21 retired three years ago. And since then, I practiced  
 22 missionary medicine with Doctors Without Borders in  
 23 Africa. And we have applied applied science of biology  
 24 because medicine is really applied biology. And we have  
 25 helped a lot of children who have been burned. And when

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1 they come to us, you know, they have been treated by  
 2 their local doctors who are herbalists, and they treated  
 3 them with -- is it -- powdered nail shells, which really  
 4 makes those children, when they come to us three, four  
 5 days later, severely infected. And they are getting  
 6 what we call in sepsis. And by the time we get them,  
 7 they have lost so much body temperature, calorie and  
 8 protein that, given the circumstance where we are in  
 9 Liberia and Nigeria, sometimes in Haiti, we don't have  
 10 all the manpower, you know, and the resources.  
 11 FACILITATOR: So science isn't always bad.  
 12 I'm trying to relate this to the telescope.  
 13 MR. ASUNCION: Yeah. But what I'm just saying  
 14 is that science is not all that bad.  
 15 FACILITATOR: Okay. Okay. Anyone else that  
 16 hasn't had a second three minutes that wants another  
 17 three minutes?  
 18 MS. MARTIN: My name is Martha Martin. And I  
 19 was speaking against the telescope, saying that it will  
 20 cost more -- Maui more than it will -- than Maui will  
 21 gain. And that the losses we will see cannot be  
 22 mitigated.  
 23 For example, electricity on Maui is mostly  
 24 produced by fossil fuel. And fossil fuel is a  
 25 contributor to global warming. And global warming is a

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1 big problem for the whole world.  
 2 Now, this telescope will draw lots of power,  
 3 which it will get from Maui Electric, and the fossil  
 4 fuel. It is shocking that no plan was made to get any  
 5 energy from the sun itself. Isn't that the first thing  
 6 we should be studying, is getting power from the sun?  
 7 Now -- I beg your pardon?  
 8 KAHU MAXWELL: No.  
 9 MR. MARTIN: Oh.  
 10 KAHU MAXWELL: Sorry.  
 11 MR. MARTIN: I'm sorry.  
 12 KAHU MAXWELL: No, no, no.  
 13 MR. MARTIN: No. They say that -- that the --  
 14 the damage to wildlife will be mitigated. Now, on Maui,  
 15 the wildlife in the Park is ground-nesting. And the  
 16 excavation for the telescope will involve huge machines  
 17 that will compact and beat on the soil.  
 18 Now, I live in Paia, in a small town. And a  
 19 small road, bypass road was built not so long ago. And  
 20 they had road construction compacters beating underneath  
 21 the road, which was not a deep excavation. And the  
 22 vibrations from the road compaction shook up my whole  
 23 house and broke my water pipes in my house.  
 24 Now, you can't tell me that the kind of  
 25 compaction they're going to do up there is not going to

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1 affect the ground and affect the birds in the ground.  
 2 It will. It will cause damage and they will be killed  
 3 or driven away. And that cannot be mitigated.  
 4 FACILITATOR: You've got 30 seconds.  
 5 MR. MARTIN: I beg your pardon?  
 6 FACILITATOR: About 30 seconds.  
 7 MR. MARTIN: Thirty seconds. Okay. So I say  
 8 the sun enables us to live on Earth. And because it is  
 9 so far away, we manage very nicely. And we should all  
 10 be grateful to the sun that we should not build this  
 11 telescope on Haleakala.  
 12 (Applause.)  
 13 FACILITATOR: Is there anybody else who hasn't  
 14 had a second three minutes that wants a second three  
 15 minutes? Oh, okay. Is there anyone else who hasn't had  
 16 a second three minutes that wants a second three  
 17 minutes?  
 18 MR. KANAMU: Can I have one more?  
 19 FACILITATOR: If you keep it to one minute,  
 20 I'll give you one more minute.  
 21 MR. KANAMU: Okay. This is about, I think,  
 22 the third or fourth time I've testified here. And then  
 23 you gonna ask, why are we here.  
 24 FACILITATOR: I'm not gonna ask why you're  
 25 here.

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1 MR. KANAMU: Some people might ask. I've  
 2 heard it, why are we here. Okay.  
 3 And I've talked earlier, but now I'm going to  
 4 say. (Hawaiian.) Akua gave the land to us. My  
 5 family's been in Hawaii over 50 generations, I believe  
 6 from the first canoe that came across Polynesia, 2,000  
 7 years ago. Why would he give to us? Because he knew  
 8 that we were gonna malama the `aina. We would malama  
 9 the `aina.  
 10 FACILITATOR: You promised me a minute.  
 11 MR. KANAMU: (Hawaiian.)  
 12 FACILITATOR: The life of the land is  
 13 perpetuated in righteousness. Okay. Thank you.  
 14 Is there anyone else that hasn't had a second  
 15 three minutes that would like a second three minutes?  
 16 If not, I want to thank you all for coming and  
 17 letting me kind of put you into my dance, which is not  
 18 always culturally appropriate, but does kind of give  
 19 everybody a chance to talk in a way that I hope is  
 20 helpful. So thank you all very much for coming this  
 21 evening. And look for these comments as well as the  
 22 transcript on the website. These will probably be up  
 23 fairly soon; the transcript may take a while.  
 24 MS. BLANCO: And, Dee Dee, we'll be here until  
 25 10:00.

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1 FACILITATOR: And we'll be hanging around in  
 2 case anybody wants to come up and talk to any of the  
 3 folks that are here. So thank you very much for coming.  
 4 (Recess, 9:49 p.m.)  
 5 (Meeting adjourned, 10:00 p.m.)  
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1 CERTIFICATE  
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 7  
 8 I, TONYA MCDADE, a Court Reporter of the State  
 9 of Hawaii, do hereby certify that the proceedings  
 10 contained herein were taken by me in machine shorthand  
 11 and thereafter was reduced to print by means of  
 12 computer-aided transcription; that the foregoing  
 13 represents, to the best of my ability, a true and  
 14 accurate transcript of the proceedings had in the  
 15 foregoing matter.  
 16 I further certify that I am not an attorney  
 17 for any of the parties hereto, nor in any way concerned  
 18 with the cause.  
 19  
 20 DATED this 30th day of June, 2009.  
 21  
 22  
 23  
 24  
 25




Tonya McDade, RPR, CBE, BC  
 Certified Shorthand Reporter #447  
 Registered Professional Reporter  
 Certified Realtime Reporter  
 Certified Broadcast Captioner

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**APPENDIX D**

**FACILITATOR'S NOTES**

**SECTION 106 MEETINGS**

**JUNE 8, 9, and 10, 2009**

**National Science Foundation and National Park Service**  
**National Historic Preservation Act (NHPA) Section 106 Consultation Meeting**  
Transcription of Newsprint by Facilitator Linda Colburn  
June 8, 2009, Kula Community Center, Kula, HI

*(NOTE, added to transcription by NSF: These notes were opinions made by the participating consulting parties and should not be considered to contain 100% accurate facts.)*

Pule by Verna Nahulu: Kahuna La`au Lapa`au

Brief welcome and introductions of presenters and participants:

Contextual information provided by Project Resource Persons:

- When will the meeting notes from last week's meetings be available for review?
  - Three weeks or end of June – expected availability.
- Will National Science Foundation also fund education programs that have been proposed?
  - NSF may provide funding through another entity.
- NSO exists elsewhere?
  - Yes there are projects in Arizona, New Mexico and other locations in the US as well as internationally.
- An issue raised at previous meetings dealt with risks associated with toxic materials used at telescope sites. There were also comments about accidents that have occurred with solar telescopes. Where are the chemicals kept?
  - The chemicals which may amount to hundreds of gallons are stored in underground tanks prior to use.
- What happens to the toxic materials once they've been used?
  - The chemicals are removed from the telescope site, transported to another location for transport to disposal sites that comport to federal and state rules and regulations.
- Then where do they go?
  - Most likely shipped out of state. Unsure of final destination.
- Do we know what the increase in chemicals on site will be as a result of this project if it moves forward?
- The road that leads to the site is historic. Its footprint is 15 feet wide. Will it go through or affect any archeological sites?
  - The road is actually 22 feet wide. An extended corridor of 25 feet (out from the center on each side constitutes the corridor. Eleven sites have been identified in proximity to the road.
- The historic road "Road to the sun" in glacier National Park comes to mind. Is there any problem regarding the use of Haleakala Hwy?
  - No roadway improvements are anticipated. Adverse impacts re: the highway are viewed as minimal/mitigatable.
- There are serious concerns re: use of the road for this proposed project – given the 11 sites identified. The road will disrupt cultural practitioners and practices conducted in the vicinity. Concerned about visual distractions, lack of privacy for cultural practices and noise that would interfere.
- How long will it take to build the ATST?
  - Use of the road would occur during the construction period, currently estimated at 7 years total.

- Maui Community College has engaged faculty and other resource persons to better understand possible risks to cultural resources. MCC has been reflecting on possible educational opportunities involving this island resource (Haleakala) as part of a mitigation strategy.
- MCC: Serious approach to set aside resources from project proponents to elevate Native Hawaiians to play a more pronounced role in science and cultural resources – supporting leadership development in ways that can open up professional options internationally. The synergy of culture and science project request is for \$2 million per year for 10 years duration. An advisory committee of resource persons with appropriate knowledge – envisioned as part of the effort to provide guidance.
- How many traditional/cultural practice activities are conducted up there in areas that might be affected?
  - People are currently engaging in cultural practices up there. It is not known exactly how many practitioners go to the site from Maui and/or other islands. There are many who engage in cultural practices on a daily basis that relate to Haleakala. Haleakala is featured in many mele, hula, chants and other practices. It affects practice even if the activities do not occur on site.
  - A native practitioner was recently assisted to visit the mountain. Once there, even though he was from another culture, he engaged in his own cultural practice on site.
- Section F in volume 2 of the supplemental cultural assessment provides more information about cultural practices.
- Some people visit the mountain because it helps them connect. It is utilized by many people who regard it as a place to become centered and connected.
- A telescope of this size is an intrusion to these efforts to experience spiritual renewal on site. When visiting the ahu there is an audible machine made hum in the background. Will the construction of the proposed telescope make this even louder and more intrusive?
  - There will be noise associated with the construction efforts on site. ATST plans to enclose the equipment that could be the source of this background hum. The housing will be baffled to further reduce noise levels. These measures are expected to reduce operating equipment sound to less than 30 decibels.
  - There are two ahu. One is close to an Air Force project. That is believed to be the source of the hum described.
  - The siting of a second ahu was a gift to provide a west facing view plane. The site is thought to provide more privacy for conduct of cultural practices. There is more information about this proactive effort in the 2004 Long Range Development Plan.
- A letter has been received by the project team from the Maui Native Hawaiian Chamber of Commerce. Excerpts of the letter were read to the audience.
- A response from the project team earlier indicated that the efforts planned to address operations sounds would “theoretically” address concerns about the noise levels?
- Noise starts at the digging site. Construction related activities generate waves of vibration and noise.
  - During the period 4/20 – 7/15 there should be no disturbance from these activities.
- What is the sound level now?
  - Depends on proximity to the source – this affects volume. Section 2 of the document describes the proposed project. Section 3 provides baseline information on environment. Section 4 describes impacts anticipated if the project goes forward. Section 3.10 and 3.58 cited.
- Listening to the sound of the wind is very different from listening to the sound of equipment!

- Project manager (Jeremy) attended a sunrise ceremony at the summit. It was a very moving experience that clearly communicated the passion and emotions that are associated with practices.
- Has there been in-depth study of noise re: the construction and other phases? Will the wind sound be changed?
- The quality of “seeing” has to do with air turbulence. The smoother and calmer the flow of air, the better the seeing.
- “If we hear it.... We’ll fix it.”
- Reflectivity – will not use reflective metal. Will use bright white paint coating, which reduces the absorption of heat. It also, however, does reflect light, which affects visibility.
- Over the course of the project, who is in charge of traffic concerns, once in side the park?
  - NPS required to issue Special Use Permit. The SUP can address this as well as other concerns.
- 800 trucks, increase in passenger vans, thousands of vehicles expected. Will park rangers be in charge of traffic or with there be off duty police?
  - NPS does not currently have the people or budget to manage this.
- If there are people hired to handle this, hire local people to do this.
- NPS kuleana involves dealing with traffic loads. It will be necessary to monitor compliance with the terms and conditions of the Special Use Permit.
- Concern expressed for union workers. They are looking for work!
- There are both religious and scientific perspectives involved, here. Historically, Hawaiian concerns as well as science were recognized. It is important to work together. Hire locally.
- State Historic Preservation Division – Haleakala part of the road is historic. Believe the area below the park is part of the area of interest as well. Concerned about the old road, historic bridges, and narrow sections of the road. If the bridges are affected, how will this be addressed? If there are impacts to the road inside the park, there will also be impacts on the road outside of the park. Important to address the historic aspects of the road (outside of the park) too.
- Mitigate impacts on the road inside the park – these noted.
- State Department of Transportation (DOT) and Federal DOT inventory of roads not yet accepted by Department of Land and Natural Resources (DLNR).
  - A couple of years ago the Haleakala area of interest was expanded. Responses were generated to that. A list of bridges (historical) category 1 or 2 generated. Category 3 eliminated.
- APE (area of potential effects) moved to park boundaries. 2/18 letter. Is it position of the state that this expanded?
- APE may mean looking at monitoring road conditions. Not going back in time. Expanded APE may have provision to look at long term impacts.... Inform the long-term mitigation plan.
- Not consider expanded APE – monitoring provision noted.
- State comfortable exp. Monitoring of bridges and culverts.
- Will SUP be referenced in Agreement – as mitigation measures referenced in 106?
- Sunset clause – after studies completed, sought removal of buildings. Impacts of clearing the area addressed?
- Extra wide loads will go up at night. They will block the road from 10 pm to 4 am. Balance largely in daytime. Reductions planned during petrels’ egging season. There will be restrictions on large slow moving vehicles from 11-2. Notices anticipated for users of the road. 25 extra wide loads are expected at night.
- A comment was made (Jeremy) at the last meeting re: activity on the sun. In history an ice age occurred.

- The sun has a rhythm. There was a little ice age in the 1600's during an extended solar cycle (few sun spots/flares). The sun is an important force that shapes weather and attendant impacts.
- This project is not just about the instrument (telescope). It's about the instrument and the traits of this location that optimizes prospective results.
- This going to be going to be so great.... Practically speaking what are the benefits?
  - Scientists note the relationship between the sun and life on earth that coincide with changes in the sun.
- Mitigation: \$20 million dollars... at the end of this year \$23 million will have been spent on this project. It will involve \$146 million in stimulus funds. The amount cited by MCC (\$2 million per year for 10 years) is an insult to the Hawaiian community. In 2009 NSF has received responses that have been very emotional and painful. For some there is no way to mitigate this. Advocate for avoidance.
- These 3 meetings called today, tomorrow and Wednesday have been planned at times that are inconvenient for people to attend.
- If consulting parties do not reach programmatic agreement, the consultation can be terminated. NSF could decide not to fund.

**National Science Foundation and National Park Service**  
**National Historic Preservation Act (NHPA) Section 106 Consultation Meeting**  
Transcription of Newsprint by Facilitator Linda Colburn  
June 9, 2009, Ha'iku Community Center, Ha'iku, HI

*(NOTE, added to transcription by NSF: These notes were opinions made by the participating consulting parties and should not be considered to contain 100% accurate facts.)*

- Encouraged that you see that mitigation is difficult in cases of natural and cultural resource impacts.
- Compensation doesn't always work as a remedy. Harm or disability remains beyond the legal decision. We have an opportunity to say no and to comment re: this project.
- We don't have to have this conversation about how to mitigate. We don't need to accept this project!
- Indirect mitigation – inability to mitigate spirituality. Hans are tied as a practitioner. Must be at the table. Indignity compromised by this. Ancestors anti annexation petitions signed in 1896 didn't stop annexation, though signed by many. It was ignored.
- Legacy of Aloha Aina can't be amended via mitigation. Will stay at the table, but it's a disturbing exercise.
- Are there concepts that would make this discussion more meaningful?
- The words escape me at the moment.
- Concerned about this project – go back to the 1600's. Scholars considered destruction of his papers (Descartes) out of fear of persecution of the Catholic Church. Pope negotiated with Descartes. Church would not speak of science and science would not talk about matters spiritual. This split still exists today. The discussion needs to address both.
- 400 years of not talking about spiritual matters carries forward. Don't look down your noses at those who speak of meaning and spirit.
- Some proposals have been offered by MCC and kahu Maxwell. Is this a step in the right direction? Would a "sense of place" training of scientists help?
- SHPO Hawaiians have concerns about the archeological findings and assessments. This is a challenge at the state level too.
- Part mission – want to address these concerns. Lei`ohu invited to talk, but has not yet participated in direct conversations. Some structural and process issues have been unhelpful. Spirit. Practitioners invited into a space of "mind" that does not address what's offered from the "heart" perspective. After \$23 million spent – then the invitations offered. Meet at times that work against the full participation of practitioners and elders.
- Science is just now beginning to catch up with the spiritual plane. Haleakala is a vehicle to help shift awareness. Makani (wind) will be affected by the desecration caused by the construction of this project on the summit.
- Brilliant people are involved – scientists and Kanaka Maoli. Our knowledge is not considered re: wind, rain, and other forces.
- Incorporate spirit, culture, and science. It's possible. Why can't science respect this? This needs to be part of the discussion.
- Invite scientists to Kukui ... heiau to experience teaching to expose them to opportunity to move toward more integrated understanding. Let us teach you in our way!
- Statement that NFS is not an advocate for this project seems disingenuous.

- Don't support the project on its face because of spiritual issues. We do understand the need for science.
- Every day we are reminded of adverse impact. Mitigation that did not work. This is a small island. The mountain is small. The scale of this project....
- At the top: The proposed scope is too large. Reduce its size. Make it look Hawaiian. Reduce the size of the footprint. Height of scope at odds with county building code height limitations.
- Songs, mele, not likely to be written about telescopes.
- Don't improve the road to make it wider. That will only encourage more activity and development.
- Spiritual practitioners visit Haleakala often. Learned from others. Stood there and could see the web woven by the Kupuna. Was then shown where the web was broken. Stark contrast. Then saw a vision of the future that the mountain had "given up."
- No mitigation will address the ills wrought by this project!
- This will be the largest telescope in the world. Don't want to hear about mitigation.
- If compare the proposed telescope height to the tallest building in Kahului, the scope would actually be shorter than the county building. The scope would be approximately 8 floors high compared to the county building at 11 stories.
- Have come to revere the Mountain and understand the emotional attachment people feel. As a scientist I have had opportunity to see comet (by blocking the sun with thumb)...
- MCC committed to develop curriculum that will help to integrate learning of east and western principles.
- Increase enrollment of native Hawaiians at MCC. Many, however, don't finish. This may be due to the "disconnect" with culture, etc.?
- Benefit package unique – strong.
- Use local workers to fill jobs. Help people from here stay here.
- Take education into the construction phase.
- Apprentices would have the opportunity to work with state of the art facilities. Apprenticeships can last 4 years. Hope this comes through.
- Maui Economic Development Board: Scope gives residents option to stay on Maui or return to Maui. Education and workplace development interests prominent. Interest in adding to other sectors.
- Maui Nui conference priorities – overriding message that all needs expressed deserve respect. We need to find balance.
- Recalling suppression of culture – similar to what occurred with Japanese workers.
- MEDB offering to assist if the project goes forward. Would help to link science, technical engineering, and math as well as help address "disconnect."
- Offer idea – State Historical and Preservation.... help to acquire land to offset the adverse impacts on the summit caused by this project. Cape within Ulupalakua Ranch. Find a place where preservation could occur. Via Maui Coastal Land Trust. Affords a view of the SW rift zone. Set up like La Perouse (sp?).
- Endowment for long-term management for the area on site might be part of this land off set.
- Appreciation expressed to scientists for sitting with us, listening, coming to our community. Also appreciate examples shared. These are things we expect of anyone

coming to our community. Sad that we are discussing trade offs and community benefits regarding the project.

- Approach NFS to build a Jack in the Box in Arlington National Cemetery. It would be a small project, only take up a small # of graves, etc.... How would that feel...?
- Appreciation expressed – consider other aspects of this beside the science.
- From the State of Hawaii point of view – note adverse affect. State will need to figure out best tack for these strategies – mitigation ideas.
- Dialog important to bridge views. Helpful to do this whether or not project is approved.

**National Science Foundation and National Park Service**  
**National Historic Preservation Act (NHPA) Section 106 Consultation Meeting**  
Transcription of Newsprint by Facilitator Linda Colburn  
June 10, 2009, Maui Community College, Kahului, HI

*(NOTE, added to transcription by NSF: These notes were opinions made by the participating consulting parties and should not be considered to contain 100% accurate facts.)*

- Are Native Hawaiians represented in Washington, D.C.?
- Who do we call when adverse effects occur? Who is the contact person? We've called in the past, but not received a response.
- Kahu Maxwell's proposal submitted some time ago. He has not been contacted regarding his proposal since then. Things have changed since then. Kahu Maxwell asked that his proposal be withdrawn from consideration.
- (Kahu Maxwell) the Maui Community College proposal has not been endorsed by kahu or other groups.
- Question to National Science Foundation: Is this the last "consulting" meeting?
- Representative from DC here for the Historic \_\_\_\_\_ Council. What is her Hawaiian experience? What is your spiritual knowledge that qualifies you to serve in this capacity (directed to Charlene Vaughn)?
- The people involved in the funding decisions regarding construction of structures in our sacred areas should be here.
- There is a significant difference between Native Hawaiians and tribal organizations. We were once a sovereign nation. The Hawaiian Homes Act definition of Native Hawaiian was imposed.
- We demand that land title issues be resolved before this project is permitted to move forward. Ceded lands are involved.

**Would like to focus on the Historic Park Road in Haleakala:**

- You mentioned you wanted to focus on the road, but also mentioned archeological and cultural resources as well. How can the National Park allow them to build this telescope given the impact "in total" on the crater. A description was offered of an attempt to situate a weather sensor on the summit. Noted this incident to emphasize the importance to protect the area.
- There are a lot of fragmented discussions going on. We're uncomfortable with the 106 process. This is a table of intelligent people. We have dealt with and consulted with a multitude of federal agencies...still uncomfortable with process.
- Can you find guidelines in EPA or elsewhere for people of color, other people of spirit, etc.? Don't come to Hawaii assuming you'll get away with this.
- Various sectors, museums, anthropological programs have expertise, but there is a breakdown of relationship with the Department of Interior. There is a long history of this "disconnect." We want to see chants of this place, the true history, etc. and not only from people at this table.
- The process should acknowledge and mention the moku and ahu pua`a systems.
- If the principles of 106 are outdated, then change it.

- We're frustrated and confused by this process. Came across information about mitigations on adverse effects. The parties involved per the act are not involved in this process as required.
- Failure to resolve adverse effects, State Historic Preservation Office or council may determine the necessity to terminate the agreement process.
- Who determines who "consultants" are?
- Who is the Tribal Historical Preservation Officer? For Native Hawaiians there is no designation.
- Determine the area of potential effects. They acknowledge adverse effects. They have to consult with Hawaiian organizations. It is correct that SHPO could terminate. If we can't force National Science Foundation to take a particular course, would termination happen?
- The decision makers at NSF should be at the table to hear and experience our concerns directly.
- Does NTST or IFA lease space that the telescope will be situated on? Is this a \$1 per year lease?
- As Hawaiians we are the flesh and bones of this aina. We advocate for avoidance.
- Meetings where discussions are recorded, facilitated and documented in this fashion are insulting to our ways. I wasn't here when the first desecration occurred on the summit, but I am here now.
- Mitigation proposals are insulting. How does the NSF propose to elevate our spiritual needs and interests? Have you ever visited a heiau to have this discussion? These proceedings in sterile buildings prevent us from being in our indigenaeity of our consciousness.
- Why aren't we represented at the federal, state, and international settings without having to have degrees, credentials, but rather, with our experience?
- I wish to be consulted from here on out at every level as one who loves this land. I wish to be engaged in the sacred halls of Washington, D.C., and the sacred halls of Just Us (justice).
- The 106 process invites federal entities to understand the spiritual and other matters. NSF has failed in this process to truly invite us to engage meaningfully in this situation.
- Come and let us teach you – we invite you to our world to share the essence of our culture/beliefs.
- MCC is interested in increasing the number of Native Hawaiian students. Enrollment is up from 300 to 800 students, but for some reason, a lot of them don't graduate. MCC wants to design curriculum to help address this.
- Although we are not personally at odds (Kiope Raymond and Suzette from MCC), but are professionally at odds today. Astronomy is not the only intersect between science and culture.
- Would RTRF funds come to 25% (indirect funds that come with money to for profits or institutional recipients)? UH system @ 25% ORS , 25% comes to the campus.
- \$2 million per year for 10 years. Is that money at the discretion of the chancellor? What if UH and La`ulu want to explore options?
- Caroline: NSF has heard strong, passionate views on this. While we don't experience it the same way we do appreciate what has been shared.

- What is the mission statement of today's meeting? I want Craig, Caroline, Jeremy, and Jack to understand our contributions to 106. 106 should be more like Ho`oponopono at the table.
- Ceded lands are involved with this site. Alters built will have no value if the view is blocked or noise disturbs practice – mitigations proposed will not address these concerns.
- You can expect protests – once we were warriors. Building this will trigger actions.
- SDEIS is required because historic impacts not addressed. Also supplemental cultural impact needed in SDES.
- Kila Kila O Haleakala will feel irreparable harm to culture. Disagree that Haleakala is the only site. The “seeing” is based on theoretical physics.
- Hawaiians unique native people. There are other places where there are sacred mountain tops. If you willingly know you will create harm...I'm at a loss for words.
- There is to comprehensive plan for the summit. This allows the Institute for Astronomy to proceed with its own development plans without accountability.
- Deny the permit to NPS.
- If we were truly working together we might reach agreement, but IFA proceeding with its own plan – looking at 18 acres.
- We're not talking about ways to help Native Hawaiians. The amount pledged amounts to about \$9,000 per day – that is the price placed on my spirit.
- Don't trust that the removal of the structure will happen as promised at the end of the project life.
- Ivan study loss of native birds. ID problem, fix it, and restore the species.
- Preserve natural sites to protect and prevent further erosion of condition.
- Cannot separate Hawaiians from their spirituality. We have Kuleana to Malama resources for future generations.
- Science and Hawaiian culture are inextricably connected.
- Local custom that shows respect for the household is to remove shoes before entering the house. Failure to comport to this creates impediment from a cultural perspective. Take your shoes off, let's talk. We're not there yet....let's talk story.
- Label Native Hawaiians – we are kanaka maoli who are trying to maintain our culture and practices and traditions.
- We came from the stars. If you want to know about the stars.....

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