

**REPORT TO THE TWENTY-FIFTH LEGISLATURE
STATE OF HAWAII
2010**

ON THE

**BOARD OF CERTIFICATION OF OPERATING PERSONNEL IN
WASTEWATER TREATMENT FACILITIES**

**PURSUANT TO SECTION 340B-12, HAWAII REVISED STATUTES
REQUIRING THE DEPARTMENT OF HEALTH TO PROVIDE
AN ANNUAL REPORT OF THE ACTIVITIES OF THE
BOARD OF CERTIFICATION OF OPERATING PERSONNEL IN
WASTEWATER TREATMENT FACILITIES**

**PREPARED BY:
STATE OF HAWAII
DEPARTMENT OF HEALTH
BOARD OF CERTIFICATION OF OPERATING PERSONNEL IN
WASTEWATER TREATMENT FACILITIES
DECEMBER 2009**

BOARD OF CERTIFICATION OF OPERATING PERSONNEL IN WASTEWATER TREATMENT PLANT FACILITIES

EXECUTIVE SUMMARY

The Board of Certification of Operating Personnel in Wastewater Treatment Plants (Board) conducted six meetings during the fiscal year. One meeting was successfully conducted by video-teleconferencing (VTC) in response to growing budget concerns. Due to abundant agenda items, time constraints, and budget concerns, limited meeting time was available to discuss proposed changes to certification rules under chapter 11-61, Hawaii Administrative Rules, during the year.

The Board is burdened with performing tasks that could be done by dedicated support staff under a wastewater operator certification program. Over the years, the Board has borrowed administrative support from Department of Health staff assigned to the Statewide Operator Training Center. As the economy improves, the Legislature should seriously consider establishing an operator certification program supported with adequate staff for its operations.

Operator certification examinations were administered by Board members statewide in February and August to 131 applicants, with 45 successfully passing the examinations, for an overall passing rate of 34 percent. This year's passing rate was slightly lower (34 vs. 36 percent) than last year. In addition, more examinees applied for operator certification tests this year (131 vs. 123). Passing rates for each grade fluctuate over the years. Average passing rates for operators taking Grade 3 and Grade 4 exams are typically lower than for operators taking Grade 1 and Grade 2 exams. This is because Grade 3 and Grade 4 exams require the operator to have a better understanding of the operation and maintenance of wastewater treatment plants and contain more complex problems than the Grade 1 and 2 exams.

A total of 320 wastewater treatment plant operators have permanent Grade 1 through Grade 4 operator certificates in Hawaii. Of significant concern to the Board and the counties is the loss of qualified operators due to retirement. By the year 2012 it is anticipated that treatment plants will face a critical shortage of operators due to expected retirements of 37 percent of the workforce. Nationwide projections for the next four to six years indicate that for every 10 operators retiring only four will be replaced. Incentives and additional training opportunities must be developed to retain senior operators longer, and to recruit and impart the skills needed for junior operators to pass their certification exams.

Significant Board actions during the year include:

- Reviewing applications for examinations;
- Conducting two wastewater operator certification examinations;
- Classifying wastewater treatment plants;
- Evaluating applications for issuing reciprocity certifications;
- Evaluating operator college transcripts, outside training courses, and workshops for granting continuing educational units (CEUs);

Implementing chapter 11-61, HAR, for the mandatory certification of operating personnel in wastewater treatment plants;
Issuing permanent and temporary operator certificates; and
Improving the Board's website to provide operators with information and easy access to application forms, documents, and information.

Funding Source for the Board

Act 238, SLH 1999 amended chapter 340B, Hawaii Revised Statutes (HRS) to establish the Wastewater Treatment Certification Board Special Fund. The revenues for this fund are generated from monies collected for registration, certificate renewal, reciprocity, and temporary certificates and are used specifically for defraying the costs of the operations of the Board. In fiscal year 2008-2009, \$25,446 in revenues was collected. Revenues exceeded Board expenses this fiscal year due to increased revenues collected in an operator certificate renewal year and through conscientious efforts to reduce expenses to \$15,784 as compared to last year which resulted in a deficit. Fewer meetings were held this year and use of VTC helped to reduce expenses. At the end of the fiscal year, a cash balance of \$61,265 existed in the fund.

2009 ANNUAL REPORT
BOARD OF CERTIFICATION OF OPERATING PERSONNEL
IN WASTEWATER TREATMENT FACILITIES

INTRODUCTION

Effective operation and maintenance of wastewater treatment works are essential to prevent pollution of the waters of the state. Also, the efficient management of wastewater treatment works is an important economic asset to the public, to county and state officials, and to operators. Furthermore, certification of wastewater treatment works operators assures the employment of personnel competent to provide proper operation and maintenance, and efficient management of wastewater treatment works.

This Annual Report summarizes the Board's activities and accomplishments during fiscal year 2008-2009. It also provides information about the Board's organizational structure.

ORGANIZATIONAL STRUCTURE

The Board is administratively attached to the Department of Health. Members of the Board are appointed by the Governor and confirmed by the Legislature to four-year terms. The present Board is comprised of the following members which include representatives from each of the major islands:

- | | |
|-----------------|---|
| Charles Dawrs | - Chair, Operator, private sector |
| Myron Nomura | - Vice-Chair, Professional Engineer, private practice |
| Marshall Lum | - Secretary-Treasurer, State Department of Health |
| Kenneth Knapp | - Operator, County of Maui |
| Eassie Miller | - HWEA Representative |
| Victor Moreland | - University of Hawaii Engineering Faculty |
| Dana Riddle | - Operator, County of Hawaii |
| Bert Uyeno | - Operator, County of Kauai |
| Vacant | - Operator, City & County of Honolulu |

During the year, the Board was assisted by Dayna Culbertson, Administrative Assistant of the Statewide Wastewater Operator Training Center (SWOTC) and Wade Thode, Coordinator of the SWOTC. Both SWOTC positions are assigned to the Wastewater Branch, State Department of Health.

For next fiscal year 2009-2010, Charles Dawrs was re-elected as the Board's Chair, and Dana Riddle will serve as the Vice-Chair. Incoming Board members include: Wesley Lim (City & County of Honolulu) and Bradley Pierce (County of Maui).

BOARD MEETINGS DURING FISCAL YEAR 2008–2009

During the fiscal year, the Board held six meetings on:

July 9, 2008	October 1-2, 2008	December 11, 2008
February 2, 2009	March 12, 2009	May 14-15, 2009

Two day meetings were held to address issues that could not be accommodated at single day meetings. There has been a noticeable increase in meeting agenda items as operators have become more involved on certification issues than in the past. These additional agenda items require more of the Board's time and have limited the Board's ability to discuss revisions to chapter 11-61, Hawaii Administrative Rules, which governs the operator certification program.

Due to budgetary concerns, the Board conducted its first video-conferencing (VTC) meeting on March 12, 2009. In spite of initial delays at start-up, the first Board VTC meeting was successful and saved the Board the expenses for inter-island travel and lodging costs. As a result, the Board plans to hold additional VTC meetings next year on issues that do not require review and discussion of confidential documents or issues.

SUMMARY OF CERTIFICATION EXAMINATIONS

The Board conducted two examinations statewide for all grades of wastewater treatment plant operators during FY 08-09. The first was held in August 2008 and the second in February 2009. The results of these examinations are depicted in the following tables:

August 2008 Examination

Grade	Pass	Applicants	Passing %
1	6	12	50
2	7	17	41
3	1	10	10
4	1	17	6
Total	15	56	27

February 2009 Examination

Grade	Pass	Applicants	Passing %
1	11	21	52
2	9	20	45
3	8	14	57
4	2	20	10
Total	30	75	40

**COMPARISON OF PASSING PERCENTAGES
Statewide**

Date of Exam	Grade 1	Grade 2	Grade 3	Grade 4
February 2009	52	45	57	10
August 2008	50	41	10	6
February 2008	50	31	22	9
August 2007	80	40	25	25
February 2007	71	50	14	41
August 2006	70	40	0	20
February 2006	71	86	0	8
August 2005	75	0	30	0
February 2005	71	33	0	5
August 2004	40	0	44	4

Statistics:

A total of 131 examinations were given in FY 2008-2009 of which 45 operators passed their exams for an overall passing rate of 34 percent. As shown in the table above, the passing percentages for all grades have fluctuated over the years.

In the past five fiscal years, passing percentages for Grade 1 ranged from 40 percent to 80 percent, Grade 2 ranged from 0 percent to 86 percent, Grade 3 ranged from 0 percent to 57 percent, and Grade 4 ranged from 0 percent to 41 percent. In general, Grades 1 and 2 have higher passing rates than for Grades 3 and 4 which have harder exams that require operators to study more.

**ASSOCIATION OF BOARDS OF CERTIFICATION EXAMINATION (ABC)
PASSING PERCENTAGE COMPARISON**

Hawaii vs. National Average	Grade 1	Grade 2	Grade 3	Grade 4
National 2008 Average	57	44	21	21
Hawaii 2008 Average	50	37	16	8
Hawaii 2007 Average	67	35	24	16
Hawaii 2006 Average	71	67	5	15
Hawaii 2005 Average	73	25	18	3
Hawaii 2004 Average	36	20	26	10

In 2008, average passing rates for Hawaii applicants taking Grade 1 through 4 operator exams fell below national averages. Realizing this situation, the Board held meetings with the training center’s steering committee and county wastewater division chiefs in 2008 to seek ways to improve Hawaii’s passing rates. The February 2009 exam results showed significant improvements in the passing rates for Grades 1 to 3. However, much more work needs to be done to continue this trend and to improve the Grade 4 exam’s passing rate.

Operators are encouraged to enroll in correspondence courses provided by California State University Sacramento (CSUS) and in courses offered by the Statewide Wastewater Operator Training Center. Additional training courses from other sources including online web based courses are evaluated and approved by the Board to enhance the operator’s learning progress.

The ABC Certification Examination questions reference the courses offered by CSUS. Analysis has proven that the majority of the operators who have completed the CSUS courses and taken courses offered by the training center are passing the ABC Certification examinations.

Statewide Wastewater Operator Training Center

The State Department of Health established the training center 21 years ago in September 1988. In fiscal year 2008-2009, the training center conducted 81 training sessions statewide to 1155 registrants. The number of training sessions provided has not changed significantly (81 vs. 83) since last year, but the number of registrants increased significantly by 38 percent (1155 vs. 834) over last year. The rise in class registrants could be attributed to the need for operators to obtain two CEUs before the operator certificate renewal deadline of October 15, 2008. In addition, as

new operators are hired by the counties, federal, and private organizations the operators must be properly trained and certified to be able to operate the wastewater treatment plants.

Training courses included introductory basic wastewater courses to more complex advanced courses in activated sludge, sludge conditioning, and anaerobic digestion.

The Steering Committee of the Statewide Wastewater Operator Training Center has emphasized the need for improving the quality of the training program. The SWOTC Coordinator has been purchasing new course materials to update the courses available to operators. Additional training DVDs, textbooks, and interactive CD-ROMs were purchased to enhance the learning opportunities afforded to operators. Desktop computers and multi-media projectors have been purchased for the neighbor island counties to modernize the learning process. Instructors have also been incorporating Power Point presentations in the classroom.

Exam participants who have successfully completed wastewater treatment plant operator courses with the training center have traditionally shown better exam results than those who did not participate in the training program. The SWOTC provides an important role in the certification of wastewater treatment plant operators statewide.

Joint Meeting

Although a joint meeting of the Board of Certification and the Steering Committee of the Statewide Wastewater Operator Training Center was not held this year, the Board and the Steering Committee agree that improvements to the quality of training is needed to provide well trained certified operators in Hawaii. During the 2008 meetings, both the Board and the Steering Committee agreed that the passing percentages on the exams could improve. To improve passing rates, the counties were encouraged to implement additional classroom training for their operators and to provide opportunities for staff to immediately apply the knowledge gained to their workplace. This will improve operator knowledge retention rates. The SWOTC serves an important function as a supplement to an organization's in-house training and is not the sole training resource for operators.

Chair Charles Dawrs, reported that attendees at the January 2009 ABC Conference were informed of the impending problem facing cities nationwide i.e., the lost of qualified operators due to retirement. It is anticipated that by the year 2012, treatment plants will be faced with a critical shortage of operators due to expected retirements of 37 percent of the workforce. Nationwide projections for the next four to six years indicate that for every 10 operators retiring only four will be replaced. An aggressive recruitment and training program must be developed for Hawaii in order to mitigate the loss of certified operators due to retirement. One goal of the conference was to have the wastewater industry designated as a "Green Industry" by the U.S. Department of Labor and Relations. By having this designation it could be used to obtain federal economic stimulus funding and workforce development programs. With the "Green Industry" label it may also encourage recruitment of future generations into the workforce.

All of the counties are currently facing staff shortages and have difficulty finding qualified employees that can progress to a Grade 4 level in the minimum time of four years. The County of Hawaii has begun seeking applicants nationwide to fill vacancies. Maui County now has 45

percent of its operators at retirement age. The City and County of Honolulu also has a large number of operators nearing retirement age. In recent years, the City hired 25 new assistant operators which should help to mitigate the retirement problem. However, these operators must still acquire the skills and training to obtain a Grade 4 license in four years to replace veteran operators leaving the workforce. The City must provide their operators with the opportunities to obtain the knowledge and skills beyond what the Statewide Wastewater Operator Training Center alone can provide.

Wastewater Branch, Department of Health

The Construction and Operations Section of the Wastewater Branch has assisted the Board by providing information and vital data for all wastewater treatment plants (WWTP) requiring classification. Wastewater Branch inspection reports of wastewater treatment plants is used by the Board to classify new plants as they are constructed. This ensures appropriate levels of certified operators commensurate with a plant’s classification rating are operating the plants. The Board currently maintains a database of approximately 180 classified WWTPs in the state.

OTHER SERVICES PROVIDED BY THE BOARD OF CERTIFICATION

Services	2009	2008	2007	2006	2005
Total number of operator certifications renewed:					
Permanent Certifications	320	363	363	363	437
Conditional Certifications	0	3	3	3	4
Requests for Temporary Certifications	10	15	8	23	2
Requests for Reciprocity Certifications	7	7	1	4	5
Evaluation of college transcripts, etc. for CEUs	25	22	9	22	37
Classification of Treatment Plants	14	7	5	7	8

The Board reviews operator requests to evaluate college transcripts, certificates of completion for workshops, conferences, and short training courses for approval of allowable “continuing educational unit” (CEU) credits. These CEUs are needed by operators to show that the applicant has met the educational requirements for operator certification examinations. Applicants must also show appropriate years of wastewater treatment plant operating experience was obtained in order to qualify for various grade levels of certification.

The January 2002 amendments to chapter 11-61, HAR, changed the renewal period for active operator certificates to every two years instead of annually. This change allowed the Board to reduce paperwork and the cost associated with annual renewals which is comparable with other Association of Boards of Certification (ABC) member states. The amendments also require

operators to obtain two (2) CEU credits prior to renewing their operator certificates. In recent years, this requirement resulted in a substantial increase in the number of operator requests for Board review to determine allowable CEU credits for college transcripts, workshops, and short courses attended by operators. It also reduced the number of operators renewing their licenses because many did not obtain the two CEUs needed for certification renewal. In those cases, operators must retake the certification exam to be properly licensed again. Other reasons for the decrease in operator certification renewals include: operators leaving the state, and retirement.

Significant Board Actions

The primary goal of the certification program is to ensure that all wastewater treatment plants are operated by qualified personnel. During the year, the Board achieved the following objectives:

1. Successfully conducted its first VTC meeting on March 12, 2009;
2. Continued to review and determine the number of CEUs allowed for satisfactory completion of new training courses offered by other institutions;
3. Continued to classify or reclassify wastewater treatment facilities throughout the state;
4. Resolved operator concerns on applications, qualifications for examination, and certificate renewal requirements;
5. Continued to inform operators of the Board's functions and decisions via minutes of the Board meetings and by conducting a special forum at the Hawaii Water Environment Association's (HWEA) annual conference in February. Board minutes are accessible to operators and are available on the Board's website at,

http://hawaii.gov/wastewater/wtc_cert.html.

Meetings are open to any operator interested in attending or making a presentation before the Board. The Board intends to conduct another forum session at the upcoming 2010 HWEA conference;

6. Continued using ABC Services for the development and scoring of the bi-annual certification examinations. The ABC Services standardized examinations consist of 100 questions which are selected by Board members from a pool of 200 questions provided by ABC Services for each grade level. Scoring 70 percent or higher on the exam is required to pass the exam;
7. Evaluated seven reciprocity applications from out-of-state operators moving to Hawaii;
8. Continued to provide information to operators and other agencies about Hawaii's certification program. Provided listings of operator CEUs earned, training completed and issued new certified operator certificates;

9. Continued to review and update all forms and related instructional sheets;
10. Investigated complaints against certified operators;
11. Implemented amendments to Hawaii Administrative Rules (HAR), Title 11, Chapter 61, Mandatory Certification of Operating Personnel in Wastewater Treatment Facilities, dated January 20, 2002; and
12. Continued to improve the Board's website by uploading meeting minutes, accessible application forms, annual reports to the Legislature, and updated listings of approved courses for CEU credits.

Schedule of Meetings for Fiscal Year 2009-2010

The Board plans to schedule meetings approximately every other month with additional meetings as necessary for conducting a presentation at the 2010 HWEA conference and a meeting with the Steering Committee of the Statewide Wastewater Operator Training Center. In response to lowered economic forecasts for the state, the Board intends to use video teleconferencing as much as possible as an alternative to flying members to the meetings. Meetings scheduled through the end of the 2009 calendar year are as follows:

September 24, 2009	November 19, 2009 (w/SWOTC)
October 1, 2009 (VTC)	December 17, 2009

General business conducted at these meetings includes:

1. Providing an informational meeting for operators in attendance;
2. Reviewing and processing applications for certification examinations, selecting Certification exam questions and discussing the results of the exams;
3. Reviewing and preparing responses to correspondence received from operating personnel and other agencies;
4. Reviewing, and approving or denying operator applications for Temporary Certificates;
5. Reviewing and issuing Reciprocity Certificates to qualifying operators moving to Hawaii from other states;
6. Reviewing, and approving or denying operator certificate renewals; and
7. Discussing revisions to chapter 11-61, HAR.

Resource Issue

The Board would benefit by having full time staff to administer the Operator Certification program. The January 2002 amendments to chapter 11-61, HAR, and an influx of newly hired operators have resulted in large volumes of correspondence, applications, and operator requests for the Board to review. At the time of the Board's inception under Hawaii Revised Statutes ("HRS") chapter 340B, no positions were created in the Department of Health to support Board functions. As a result, Wastewater Branch staffs have shared their time and efforts to support Board functions. Now that the program has grown, it is has become a heavy burden for staffs to continue providing this support. Many of the elements of the certification program are time sensitive as deadlines are established in compliance with chapter 11-61, HAR, requirements. If the Board is to ensure the quality of competent certified wastewater treatment plant operators in the workforce, it needs additional administrative support.

REVENUES AND EXPENSES

Expenses During the Year (July 2008 to June 2009):

Object Code	Title	Cost
3020	ABC Examinations	\$4,553.00
3210 & 3410	Stationery & Office Supplies	\$729.11
3510	Membership Dues	\$900.00
3610	Freight	\$132.04
3710	Postage	\$20.86
4210 & 4290	Intra-State Transportation Costs for State Employees & Others	\$3,142.04
4310 & 4390	Intra-State Travel Per Diem for State Employees & Others	\$2,593.50
4490	Out-of- State Transportation Costs	\$632.98
4590 & 4595	Out-of- State Per Diem & Excess Lodging Costs	\$1,122.10
4610	Car Rental	\$500.00
7210	Conference Registration Fees	\$450.00
7190 & 7290	Other Miscellaneous Costs	\$1,008.47
	Total	\$15,784.10

Funding for the Board

Act 238, SLH 1999 amended chapter 340B, Hawaii Revised Statutes (HRS) which established the Wastewater Treatment Certification Board Special Fund. The revenues for this fund are generated

from monies collected for registrations, renewals, reciprocity and new certificates and are to be used specifically for financing the operations of the Board. During fiscal year 2008-2009, revenues from application fees for certification exams, reciprocity, certificate renewals, etc. generated \$25,446 of revenue as compared to last year's revenues of \$15,015. Revenues vary each year and are typically more during operator certificate renewal years. Over the past six fiscal years, actual revenues ranged from \$10,407 to \$25,446 which averages to \$19,246 per year. As a result, the Board will limit annual expenses to not exceed average revenue. The Board cannot meet operational expenses if its budget was based on annual revenue (e.g., \$10,407) but must consider revenues averaged over at least a two year certificate renewal cycle.

Fiscal Situation

In fiscal year 2008-2009, revenues exceeded expenses by \$9,662 due to added revenues collected in an operator certificate renewal year and the Board's conscientious efforts to reduce expenses to \$15,784 as compared to last year's expenses that resulted in a deficit. The Board held fewer meetings (6 vs. 8) this year and conducted one meeting by VTC. Less revenue is expected next year because certificate renewals occur every two years with less incoming revenue in even numbered years. In the coming year, the Board will continue to use VTC meetings where appropriate to manage its decreased budget.

Due to the Governor's budget restrictions, a 14 percent reduction (\$3,000) of the Board's annual budget of \$21,688 is in effect for fiscal year 2009-2010. The budget restrictions will hamper Board efforts to schedule additional meetings for rule amendments and to administer chapter 11-61, Hawaii Administrative Rules, entitled "Mandatory Certification of Wastewater Treatment Personnel in Wastewater Treatment Plants." Further budget reductions will severely restrict the Board's ability to administer the operator certification program.

At the close of the fiscal year, a cash balance of \$61,265 existed in the special fund account.

Recommendation

The Board is in need of administrative support personnel to administer chapter 11-61, Hawaii Administrative Rules. Currently, the Board is a "working board" that must screen and review each of the hundreds of applications for certificate renewals, exams, requests for reciprocity and CEUs which consume much of the Board's time and effort at meetings. Second day meetings are needed to address the carryover of agenda items instead of focusing on developing important and much needed amendments to chapter 11-61, HAR. Ideally, as done in other states, a certification program coordinator with dedicated support staff should be established to administer the program. Legislative action to create and fund positions should be seriously considered as Hawaii's economy improves.