

**REPORT TO THE TWENTY-FIFTH LEGISLATURE
STATE OF HAWAII
2009**

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 2008**

BOARD OF CERTIFICATION OF OPERATING PERSONNEL IN WASTEWATER TREATMENT PLANT FACILITIES

EXECUTIVE SUMMARY

The Board of Certification of Operating Personnel in Wastewater Treatment Plants (hereafter, the Board) conducted eight meetings during the fiscal year. Additional meetings were held to discuss proposed changes to Hawaii Administrative Rules, Chapter 11-61.

Operator certification examinations were administered by Board members statewide in February and August to 123 applicants, with 44 successfully passing the examinations, for an overall passing rate of 36 percent. This year's passing rate was slightly higher (36 vs. 35 percent) than last year. In addition, more examinees applied for operator certification tests this year (123 vs. 86). Passing rates for each grade fluctuate over the years. The 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 363 wastewater treatment plant operators have permanent Grade 1 through Grade 4 operator certificates in Hawaii. Three additional operators have conditional operator certificates. Of significant concern to the Board and the counties is the loss of qualified operators due to retirement. Nationwide projections for the next five to seven 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 all applications for examinations;
- Conducting two wastewater operator 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 HAR, Chapter 11-61, rules for the mandatory certification of personnel in wastewater treatment plants;
- Issuing permanent and temporary operator certificates;
- Improving the Board's website to provide information and easy access to documents and application forms; and
- Drafting proposed revisions to HAR, Chapter 11-61.

Funding Source for the Board

Act 238, SLH 1999 amended Chapter 340B, Hawaii Revised Statutes (HRS) to establish the Wastewater Treatment Certification Board (WTCB) Special Fund. The revenues for this fund are

generated from monies collected for registration, certificate renewal, reciprocity, and temporary certificate fees and are used specifically for defraying the costs of the operations of the Board. In fiscal year 07-08, \$15,015.40 in revenues was collected. Expenses exceeded revenue this fiscal year because of extra meetings needed to handle increased workload without staff. At the end of the fiscal year, a cash balance of \$48,990.18 existed in the fund.

**2008 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 07-08. 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 | - Co-chair, Operator, private sector |
| Myron Nomura | - Co-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 Operator Training Center (SOTC) and Wade Thode, Coordinator of the SOTC. Both SOTC positions are assigned to the Wastewater Branch, State Department of Health.

Wayne Salas, City and County of Honolulu operator, served as the Board’s Chair during the fiscal year. His tenure on the Board ended on June 30, 2008, and a replacement is currently being sought from the City and County of Honolulu.

Beginning fiscal year 08-09, Charles Dawrs and Myron Nomura will serve as the newly elected Co-chairs of the Board.

BOARD MEETINGS DURING FISCAL YEAR 07-08

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

July 12-13, 2007	September 28, 2007	November 8-9, 2007
December 14, 2007	February 19, 2008	March 13-14, 2008
April 30, 2008	May 30, 2008	

A joint meeting with the Statewide Wastewater Operator Training Center's steering committee was held on November 9, 2007 to discuss training issues affecting operators throughout the state. As a result of that meeting, Board members held an informational session in April 2008 with County Wastewater Division Chiefs to discuss ways to improve the operator passing rates on the certification exams and to encourage counties to initiate measures to train their operators.

SUMMARY OF CERTIFICATION EXAMINATIONS

The Board conducted two examinations statewide for all grades of wastewater treatment plant operators during FY 07-08. The first was held in August 2007 and the second in February 2008. The results of these examinations are depicted in the following tables:

August 2007 Examination

Grade	Pass	Applicants	Passing %
1	16	20	80
2	4	10	40
3	3	12	25
4	5	20	25
Total	28	62	45

February 2008 Examination

Grade	Pass	Applicants	Passing %
1	8	16	50
2	4	13	31
3	2	9	22
4	2	23	9
Total	16	61	26

COMPARISON OF PASSING PERCENTAGES

Statewide

Date of Exam	Grade 1	Grade 2	Grade 3	Grade 4
February 2008	80	40	25	25
August 2007	50	31	22	9
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
February 2004	33	33	0	15
August 2003	80	45	32	16

Statistics:

A total of 123 examinations were given in FY 07-08 of which 44 operators passed their exams for an overall passing rate of 36 percent. As shown in the above table, the passing percentages for all grades have fluctuated over the years.

During the past five fiscal years, passing percentages for Grade 1 ranged from 33% to 80%, Grade 2 ranged from 0% to 86%, Grade 3 ranged from 0% to 44%, and Grade 4 ranged from 0% to 41%. 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
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
Hawaii 2003 Average	67	53	26	16
National 2007 Average	57	39	28	23

During 2007, the average passing rate for Grade 1 exceeded the national average while passing rates for Grades 2, 3, and 4 fell below the national average.

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 20 years ago in September 1988. In fiscal year 07-08, the training center conducted 83 training sessions statewide to 834 registrants. The number of training sessions and registrants has increased significantly over the past year (83 vs. 74 training sessions, and 834 vs. 525 registrants in FY 06-07).

Training courses included introductory basic wastewater courses to more complex advanced courses such as 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 SOTC 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 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.

Joint Meeting

During fiscal year 07-08, the Board of Certification met with the Steering Committee of the Statewide Wastewater Operator Training Center in November 2007 to discuss issues relevant to the training and certification program. Both the Board and the Steering Committee agreed that the passing percentages of 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 at their workplace to improve retention rates.

Chair Wayne Salas, reported that attendees at the January 2008 ABC Conference were informed of the impending problem facing cities nationwide i.e., the loss of qualified operators due to retirement. Projections for the next five to seven years indicate that for every 10 operators leaving the workforce only four will be replaced. In order to deal with this problem, incentives must be created to promote the industry to hire new staff and to keep current operators from retiring.

All of the counties are currently facing staff shortages and have difficulty finding qualified employees that can progress to the Grade 4 level in the minimum time of four years. 45 percent of Maui County operators are now of retirement age. The highest grade operators replacing these operators are currently at Grade 2 levels. The County of Maui has hired a consultant to assess the training needs of their operators and to provide additional training for these operators. In the past year and a half, the City and County of Honolulu hired 25 new assistant operators. These operators will need to be provided with adequate training to obtain their Grade 4 license in four years. The City must also provide these 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 in providing information and vital data of all wastewater treatment plants (WWTP) requiring classification. Information provided by Wastewater Branch inspections of wastewater treatment plants is used to develop plant classifications by the Board. The Board currently maintains a database file of 181 classified WWTPs in the state.

OTHER SERVICES PROVIDED BY THE BOARD OF CERTIFICATION

Services	2008	2007	2006	2005
Total number of operator certifications renewed:				
Permanent Certifications	363	363	363	437
Conditional Certifications	3	3	3	4
Requests for Temporary Certifications	15	8	23	2
Requests for Reciprocity Certifications	7	1	4	5
Evaluation of college transcripts, etc. for CEUs	22	9	22	37
Classification of Treatment Plants	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 number of applications for Temporary and Reciprocity Certifications, and submittals of college transcripts, outside vendor courses under Board review have increased significantly (22 to 9) over the prior year as shown in the table above. The increase in the number of applications for Temporary and Reciprocity Certifications (15 to 8; 7 to 1) is probably due to the increase in new operators hired in 2007. Even numbered years are operator certification renewal years which could be a reason for the renewed activity in college transcripts, etc. under review.

The January 2002 amendments to HAR Chapter 11-61 changed the renewal period for active operator certificates to every two years instead of annually. This change allowed the Board to reduce paperwork and costs associated with annual renewals and be 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. Continued to review and determine the number of CEUs allowed for satisfactory completion of new training courses offered by other institutions;
2. Continued to classify or reclassify wastewater treatment facilities throughout the state;
3. Resolved operator concerns on applications, qualifications for examination, and certificate renewal requirements;
4. 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 2009 HWEA conference;
5. 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;
6. Evaluated seven reciprocity applications from out-of-state operators moving to Hawaii;
7. 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;
8. Continued to review and update all forms and related instructional sheets;
9. Investigated a complaint made against a certified operator and determined that the complaint was unfounded;
10. Implemented amendments to Hawaii Administrative Rules (HAR), Title 11, Chapter 61, Mandatory Certification of Operating Personnel in Wastewater Treatment Facilities, dated January 20, 2002;
11. Discussed proposed amendments to HAR, Chapter 11-61;

12. Continued to improve the Board's website by uploading meeting minutes, revised application forms, annual reports to the Legislature, and updated listings of approved courses for CEU credits.

Schedule of Meetings for Fiscal Year 08-09

The Board plans to schedule meetings approximately every other month with additional meetings for conducting a presentation at the 2009 HWEA conference and a meeting with county representatives or the Steering Committee of the Statewide 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 2008 calendar year are as follows:

July 9, 2008
October 1-2, 2008
December 11, 2008

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 examination 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; and
6. Reviewing, and approving or denying operator certificate renewals.

Resource Issue

The Board would benefit from a full time staff. In recent years, amendments to HAR, chapter 11-61 and the influx of newly hired operators have resulted in large volumes of correspondence, applications, and operator requests for the Board to review. When the Board was established under HRS 340B, no positions were created in the Department of Health to support the functions of the Board. Since the Board's inception, Department staffs have volunteered their time and efforts to support the Board. Now that the program has grown, it has become a heavy burden for staffs to continue providing this support. If the Board is to ensure the quality of competent certified wastewater treatment plant operators in the workforce, it needs more administrative support.

REVENUES AND EXPENSES

Expenses During the Year (July 2007 to June 2008):

Object Code	Title	Cost
3020	ABC Examinations	\$4,026.00
3510	Membership Dues	\$900.00
3610	Freight	\$510.72
4210 & 4290	Intra-State Transportation Costs for State Employees & Others	\$5,403.07
4310 & 4390	Intra-State Travel Per Diem for State Employees & Others	\$5,084.30
4490	Out-of- State Transportation Costs	\$706.92
4590 & 4595	Out-of- State Per Diem	\$1098.80
4610	Car Rental	\$907.83
7210	Conference Registration Fees	\$390.00
7190 & 7290	Other Miscellaneous Costs	\$3,379.29
	Total	\$22,406.93

Funding for the Board

Act 238, SLH 1999 amended Chapter 340B, Hawaii Revised Statutes (HRS) which established the Wastewater Treatment Certification Board (WTCB) Special Fund. The revenues for this fund are generated from monies collected for registrations, renewals, reciprocity fees, and certificate fees that are used specifically for financing the operations of the Board. During this fiscal year 07-08, revenues from application fees for certification exams and reciprocity, etc. generated \$15,015.40 of additional funds. Revenues vary each year and are more during operator certificate renewal years. In the prior fiscal year 06-07, revenues totaled \$20,714.80 in comparison to this fiscal year 07-08 due to operators renewing their certifications.

Fiscal Situation

In fiscal year 07-08, expenses exceeded revenues by \$7,391.53 due to additional meetings held to handle increased workload without staff. In the coming year, the Board plans to limit the number of meetings scheduled and utilize video teleconferencing as much as possible to curtail spending. At the close of the fiscal year, a cash balance of \$48,990.18 existed in the special fund account.