

**REPORT TO THE TWENTY-FOURTH LEGISLATURE  
STATE OF HAWAII  
2007**

**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 2006**

# **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 seven (7) meetings during the fiscal year.

Operator certification examinations were administered by Board members statewide in February and August to 73 operators, with 21 successfully passing the examinations, for an overall passing rate of 29 percent. This year's passing rate was higher (29 vs. 22 percent) than last year. 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. The 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.

There are presently a total of 366 certified wastewater treatment plant operators in Hawaii. 363 have permanent certifications and three (3) have conditional operator certificates.

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
- Applying for and obtaining an operating budget increase of \$9,000.00.

### **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 2005 - 2006, \$10,407.30 in revenues was collected. At the end of the fiscal year, a cash balance of \$47,314.12 existed in the fund.

**2006 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 2005 - 2006. 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 Board is comprised of the following members which include representatives from each of the major islands:

Kenneth Knapp	- Chair, County of Maui
Marshall Lum	- Secretary, State Department of Health
Mansfield Dacay	- Operator, County of Kauai
Charles Dawrs	- Operator, private sector
Eassie Miller	- HWEA Representative
Victor Moreland	- University of Hawaii engineering faculty
Myron Nomura	- Professional Engineer in private practice
Wayne Salas	- Operator, City & County of Honolulu
Vacant	- Operator, County of Hawaii

During the year, the Board was assisted by Dayna Culbertson, administrative assistant of the Statewide Operator Training Center (SOTC) and Wade Thode, Administrator of the SOTC. Both SOTC positions are assigned to the Wastewater Branch, State Department of Health. In January 2006 County of Hawaii representative, Lewis Tindall, resigned from his position on the Board due to health and work reasons. The Hawaii representative position remained unfilled for the rest of the fiscal year.

## BOARD MEETINGS DURING FISCAL YEAR 2005 - 2006

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

July 7, 2005	September 23, 2005	November 18, 2005
January 6, 2006	March 31, 2006	April 17, 2006
May 26, 2006		

The Board schedules meetings every two months. The April 17, 2006 special meeting was held to discuss proposed changes to the Operator Certification Program regulations, Hawaii Administrative Rules, chapter 11-61 which the Board administers.

## SUMMARY OF CERTIFICATION EXAMINATIONS

The Board conducted two examinations statewide for all grades of wastewater treatment plant operators during FY 2005 - 2006. The first was held in August 2005 and the second in February 2006. The results of these examinations are depicted in the following tables:

### **August 2005 Examination**

<b>Grade</b>	<b>Pass</b>	<b>Applicants</b>	<b>Passing %</b>
1	6	8	75
2	0	2	0
3	3	10	30
4	0	18	0
Total	9	39	24

### **February 2006 Examination**

<b>Grade</b>	<b>Pass</b>	<b>Applicants</b>	<b>Passing %</b>
1	5	7	71
2	6	7	86
3	0	7	0
4	1	13	8
Total	12	34	35

## COMPARISON OF PASSING PERCENTAGES

### Statewide

Date of Exam	Grade 1	Grade 2	Grade 3	Grade 4
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
February 2003	50	63	13	16
August 2002	73	53	17	6
February 2002	50	25	5	20
August 2001	69	20	4	8
February 2001	33	20	22	5

### Statistics:

A total of 73 operators took the examination in FY 2005 - 2006 of which 21 passed for an overall passing rate of 29 percent. As shown in the above table, the passing percentages for all grades have been fluctuating in recent years.

During the past 5 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 20%. In general, Grades 1 and 2 have higher passing rates than for Grades 3 and 4 which have harder exams.

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

<b>Hawaii's vs National Average</b>	<b>Grade 1</b>	<b>Grade 2</b>	<b>Grade 3</b>	<b>Grade 4</b>
Hawaii's 2005 Average	73	25	18	3
Hawaii's 2004 Average	36	20	26	10
Hawaii's 2003 Average	67	53	26	16
Hawaii's 2002 Average	67	41	10	14
Hawaii's 2001 Average	54	20	12	7
National 2005 Average	63	47	33	38

The average passing rate for Grade 1 exceeded the national average while Grades 2, 3, and 4 have typically been 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 currently being evaluated 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 have 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 18 years ago in September 1988. In Fiscal Year 2005 - 2006, the training center conducted 72 training sessions statewide to 461 registrants.

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 placed great emphasis in improving the quality of the training program. In recent years, additional training videotapes, 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 as instructors begin to use Power Point presentations.

Exam participants who have successfully completed wastewater treatment plant operator courses with the training center have shown significantly better exam results than those who did not participate in the training program.

Joint Meeting

As needed, the Board of Certification meets with the Steering Committee of the Statewide Wastewater Operator Training Center to discuss issues relevant to the training and certification program. Both the Board and the Steering Committee agree that the passing percentages of the exams could improve. The counties, especially the outer islands, have been encouraged to implement additional training and refresher courses for their personnel. During the fiscal year, a joint meeting was not held, but is planned for November of next fiscal year to discuss ways to improve the exam passing rates and discuss other issues of concern.

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. The Board currently maintains a computer file of 160 classified WWTPs in the state.

OTHER SERVICES PROVIDED BY THE BOARD OF CERTIFICATION

<b>Services</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
Total number of operators:					
Permanent Certifications	460	420	420	437	363
Conditional Certifications (Two year renewals)	8	6	6	4	3
Requests for temporary certificates	9	9	12	2	23
Requests for reciprocity certificates	7	7	2	5	4
Evaluation of college transcripts, etc. for CEUs	12	12	19	37	22
Classification of Treatment Plants	15	15	9	8	7

A number of wastewater treatment plant operators have completed college/university courses. The Board evaluated courses related to the wastewater profession and awarded appropriate “continuing educational unit” (CEU) credits to operators applying for exams. CEUs are required as part of the educational requirements for certification examinations in addition to having wastewater work experience.

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 for annual renewals and be compatible with other member states of the Association of Boards of Certification (ABC). The amendments also required 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 the allowable CEU credits for college transcripts, workshops, and short courses attended by operators.

### 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 credited 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 concerns submitted by operators regarding applications and qualifications for examination, and certificate renewal requirements;
4. Continued efforts to inform operators of the Board's functions and decisions via minutes of the Board meetings and a first-time special forum held in conjunction with the 2006 Hawaii Water Environment Association (HWEA) annual conference in February. The minutes are now also available on the Board's website at [http://hawaii.gov/health/environmental/water/wastewater/wtc\\_cert.html](http://hawaii.gov/health/environmental/water/wastewater/wtc_cert.html) for easy access by operators. Meetings are open to any operator interested in attending or making a presentation before the Board. A forum is again planned for the 2007 HWEA conference;
5. Continued utilizing 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 four applications for reciprocity from out-of-state operators;
7. Continued to provide information to operators and other agencies about the certification program, lists of CEUs/training earned, issuance of certificates and other matters such as the renewal of certificates;
8. Continued to review and update all forms and related instructional sheets;



9. Implemented amendments to Hawaii Administrative Rules (HAR), Title 11, Chapter 61, Mandatory Certification of Operating Personnel in Wastewater Treatment Facilities, dated January 20, 2002;
10. Improved the Board's website by including meeting minutes, application forms, and a listing of approved courses for CEU credits for operator downloads.

Schedule of Meetings for Fiscal Year 2006 - 2007

The Board has scheduled the following six meetings for the fiscal year.

July 5, 2006	September 21-22, 2006	November 9, 2006
December 8, 2006	March 16, 2007	May 18, 2007

General business conducted at these meetings includes:

1. Providing an informational meeting for operators in attendance;
2. Reviewing and processing applications for certification examinations 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 certifications to qualifying operators from other states; and
6. Reviewing, and approving or denying operator certificate renewals.

Expenditures During the Year (July 2005 to June 2006):

Object Code	Title	Cost
3020	ABC Examinations	\$2,573.00
3510	Membership Dues	\$900.00
3610	Freight	\$317.91
3810	Telephone Svc.	\$ 52.50
4210 & 4290	Intra-State Airline Tickets for State Employees & Others	\$4,621.09
4310 & 4390	Intra-State Travel Per Diem for State Employees & Others	\$850.00
4490	Out-of- State Airline Tickets	\$492.82
4590 & 4595	Out-of- State Per Diem	\$568.74
4610	Car Rental	\$351.50
7210	Conference Registration Fees	\$390.00
7190 & 7290	Other Miscellaneous Costs	\$1,560.00
	Total	\$12,677.56

In FY 2006 – 2007, the Board received approval of its request to increase its annual budget from \$12,688 to \$21,688 from the Legislature. The budget increase was necessary to include additional costs for: the purchase of computerized equipment such as a laptop computer and software; to provide travel funds to send a representative to the annual ABC members conference; and to ensure adequate funding for neighbor island Board meetings. The meetings on the neighbor islands afford all operators the opportunity to attend or testify at Board meetings.

Funding Source 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 registration, renewal, reciprocity and temporary certificate fees and are to be used specifically for financing the operations of the Board. During the fiscal year, revenues from certification fees and interest generated \$10,407.30 of additional funds. Expenditures exceeded revenues by \$179.02 as neighbor island Board meetings were held and a representative was sent to the annual ABC conference. However, additional revenues expected next year from the processing of certificate renewal fees will ensure the viability of the special fund account. At the close of the fiscal year, a cash balance of \$47,314.12 existed in the fund.