

# Certification Programs for Water and Wastewater System Operators

Joint report of Oregon Health Authority, Drinking Water Services and Oregon Department of Environmental Quality, Water Quality Program



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Submitted to:

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Drinking Water Advisory Committee**

January 2017



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DEQ is a leader in restoring, maintaining and enhancing the quality of Oregon's air, land and water.

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The Oregon Health Authority and the Oregon Department of Environmental Quality prepared this report in accordance with the requirements of Oregon Revised Statute 448.409. The report describes the activities of OHA and DEQ under their respective water and wastewater operator certification programs from January 1, 2015 to December 31, 2016.

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# Executive Summary

Oregon law requires owners of drinking water and wastewater systems (public and private) to operate their systems under the responsible control and direction of certified operators. Trained and certified operators ensure that the systems function in a manner that fully protects public health and the environment. Certified operators also improve facility operation and compliance, protect the public's investment in the facilities, and instill public confidence in the safety and certainty of services. The Oregon Health Authority's Center for Health Protection, Drinking Water Services (OHA-DWS) administers the certification program for drinking water system operators, and the Oregon Department of Environmental Quality (DEQ) administers the program for domestic wastewater system operators. This report provides an overview of program activities and accomplishments, and notes several initiatives to improve program efficiency.

OHA-DWS and DEQ coordinate activities to benefit their respective certification programs. Coordination efforts include, but are not limited to, representation and input at advisory committee meetings on program activities, effectiveness and rulemaking, and general program administration in areas such as testing, efficiencies and the sharing of operator work experience records. Another important area of coordination includes input to trainers and educators through the Oregon Environmental Services Advisory Council for workforce training and continuing education. Program staff also works with the Associated Boards of Certification, a national accreditation organization, on issues germane to certification program operation. Both programs contract with Associated Boards of Certification for computer-based testing. OHA-DWS and DEQ eliminated paper-and-pencil exams offered once a year, replacing them with computer-based exams offered year-round and up to six days a week. This approach provides examinees with immediate exam results and is expected to improve program efficiency and service delivery.

The legislature authorized the Drinking Water Services agency to increase all drinking water fees effective January 1, 2016. The fee increases included all exam and certification fees. This report explains the new renewal and continuing education units (CEUs) audit that began with the 2016 renewal, and the revision to the small water system training manual.

DEQ has increased use of the Internet for communication, guidance, application and other document distribution. The wastewater system operator certification program's web page also includes a query for operators who passed the exam and those who hold current certification, including expiration date and county of residence. DEQ program staff also provided outreach at training workshops and community colleges throughout the state to make additional certification information available to current and prospective operators.

**Table 1: OHA-DWS and DEQ Operator Certification Programs, 2015-2016**

CATEGORY	DHS WATER		DEQ WASTEWATER	
Total Persons Certified	<b>1812</b>		<b>1537</b>	
Holding Two Certificates OHA-DWS <u>or</u> DEQ	526 (29%) (Distribution & Treatment)		668 (43%) (Collection & Treatment)	
Certified by OHA-DWS <u>and</u> DEQ	636 (35%)		565 (37%)	
Certificate Applications Reviewed <sup>1</sup>	475		572	
Applications Denied	33		170	
Certificates Issued by Reciprocity	44		21	
Examinations (scheduled)	426		436	
Continuing Education Required	2.0 CEUs every two years		2.0 CEUs every two years	
Certification Renewal Period	Biennial		Biennial	
<b>Certificates</b>	<b>Distribution</b>	<b>Treatment</b>	<b>Collection</b>	<b>Treatment</b>
Provisional Grade I Certificate	N/A	N/A	1	2
Grade 1 Certificate	563	311	430	370
Grade 2 Certificate	648	236	428	306
Grade 3 Certificate	234	110	160	166
Grade 4 Certificate	127	113	143	204
Filtration Endorsement	N/A	278	N/A	N/A
Total Certificates by Type	1572	770	1162	1048
Total Certificates	<b>2342</b>		<b>2210</b>	
<b>Systems Where Certified Operators Required</b>	<b>Distribution</b>	<b>Treatment</b>	<b>Collection</b>	<b>Treatment</b>
Class 1	184	80	120	138
Class 2	138	90	112	88
Class 3	27	26	31	48
Class 4	14	5	22	42
Total Systems by Type	363	201	285 <sup>2</sup>	316
Small Water / Wastewater Systems	826		10	
Number of small system certified Operators	916		0	
<b>Total Entities</b>	<b>363</b>		<b>381</b>	
Certificate Fee (application, exam & license document)	One cert. \$90.00 to \$195.00 Filtration Endorsement: \$90.00		One cert. \$240.00 to \$340.00 (2 yrs.) Grade I combined \$400.00 (2 yrs.)	
Renewal Fee — One Certificate	All grades \$140.00 for two year		All Grades \$160.00 for two years	
Renewal Fee — Second Certificates	All grades \$210.00 for two year		No Additional Fee	
Reciprocity Fee	\$100.00		\$160-260.00, Grades 1-4	
<b>Program Staffing</b>	1.0 Compliance Specialist 2		1.0 Natural Resource Specialist	
			1.0 Office Specialist	

<sup>1</sup> “Application” count does not include continuing education evaluations for renewal or reinstatement eligibility.

<sup>2</sup> This total does not include 55 “satellite” wastewater collection systems that provide effluent to a nearby treatment facility through a connection.

# Certification Program for Drinking Water System Operators

## Program Activities

The following information describes the OHA-DWS Operator Certification activities for 2015 and 2016.

### Water System Classification:

- Classify systems in the areas of distribution, treatment, and filtration method to determine operator certificate grade level requirements

### Operator Certification for Grades 1- 4 and Filtration Endorsement:

- Review, evaluate, and verify applications for certification including regular exams, special exams, upgrades, reciprocity, renewal and reinstatement for applicants in the four levels of treatment, four levels of distribution, and the filtration endorsement
- Manage data, receipts, refunds, and reports
- Secure exam sites in Oregon through AMP
- Provide information on examination study materials; notify examinees of exam results
- Issue Certificates

### Technical Assistance and Training:

- Respond to inquiries on certification requirements, and procedures
- Provide lists of qualified operators to systems recruiting for vacancies and for professional training
- Provide technical assistance and data management support to OHA-DWS staff regarding system operator and certification compliance
- Attendance and presentations at industry sponsored training conferences

### Compliance and Enforcement:

- Track compliance by water systems with requirements to have qualified and certified operators
- Report performance measures quarterly
- Respond to complaints and investigate allegations of fraud, misconduct, or false reporting
- Track professional growth for individual operators
- Initiate enforcement against non-compliers
- Revoke/suspend certificates when necessary

### Small Water System Operator Certification:

- Review, evaluate, and verify SWS operator designation application with required training
- Update training materials for small water system operators
- Manage the renewal process
- Issue certificates

### Efficiency and Service Improvements:

- Fillable applications made available
- Detailed updates to the operator certification procedural manuals for both staff positions
- Exam analysis for training needs
- Certification program staff work with field staff to monitor compliance and assure proper system classification
- Manage the exam locations with contractor
- Work with OHA Information Services program staff to implement and customize electronic renewal payment
- Quarterly meetings with Department of Environmental Quality staff
- Add Operator Certification articles to the DWS Pipeline newsletter and web site updates

### Coordination and Development:

- Network with other certifying authorities, organizations, and states
- Review and amend Water Operator Certification Rules

- Manage services agreement contract for exams and grading by the Association of Boards of Certification
- Manage services agreement contract for computer based exams and grading by the Applied Management Professionals through Association of Boards of Certification
- Participate in the activities of the Oregon Environmental Services Advisory Council, which evaluates and assigns Continuing Education Units (CEUs) to courses offered for professional growth and assists in coordinating statewide training in environmental technology
- Provide staff support for the Certification Subcommittee of the Drinking Water Advisory Committee  
Develop forms and guidance materials

## **Overview of Drinking Water Operator Certification in Oregon**

The Operator Certification Program is under The Protection, Planning and Certification Unit of Drinking Water Services. Notable accomplishments for this report include the following highlights. In January 2016 all certification fees increased. The fee increase will assure the continuation of the certification coordinator employment. The assistant for operator certification retired November 2015 with no current plans on rehiring. OHA-DWS provides oversight by a sub-committee of members of its Drinking Water Advisory Committee to work on issues specific to Operator Certification. The total number of operators certified in drinking water system operation levels 1-4 is 1,812t. The total number of small water system certified operators is 916. Figures for this group are separated from the larger public water supplier group because small water system operators have unique characteristics: (e.g. certifications are not transferable, there is no fee, there is no reciprocity, no examination required, and certificates are good for three years).

## **Water System Classification**

Water systems are classified as small water, water distribution, or water treatment based on size and complexity, as determined by the OHA-DWS. The rule language was revised in 2015 to improve clarity. A water system is classified as a Small Water System if it has fewer than 150 connections and either uses only groundwater as its source or it purchases water that needs no further treatment once reaching the purchasing system. Distribution systems, with four levels of complexity, are classified based on population served. Water treatment plant classification, also with four levels of complexity, is based on a point system assigned to reflect the complexity of the treatment process used at the plant. A filtration endorsement is required for treatment plants that use conventional filtration. These classifications are used to determine the qualifications required of personnel in direct responsible charge of each water system. There are currently 363 water systems that require Level 1-4 certified operators, and 916 systems classified as Small Water Systems.

## **Operator Certification for Grades 1- 4 and Filtration Endorsement**

Certification exam applications are reviewed and administered by program staff. Effective June 2014, all exams are offered as computer based exams at multiple locations around the state. During 2015-2016 a total of 533 applications for exams or reciprocity were reviewed and 426 exams were given during this two-year period.

In 2015 rule changed to allow four and five-year college diplomas in lieu of the high school diploma or the GED. Application review fee is based on the level of certification. There are 4 levels of professional certification, 1-4. In January 2016, the fees were increased as follows, level one exam increased to \$90.00 to level 4 exam increasing to \$195.00.

Computer exams are generally held at local H & R Block centers, with eight locations in Oregon. The computer exam allows applicants to schedule their own test time anytime within a calendar month, Monday through Saturday. The computer exams are offered year round.

Successful applicants (scoring 70% or above) may become certified. All candidates are provided with individualized exam results noting the areas of deficiency. OHA – DWS staff evaluate exams and work with trainers to develop training intended specifically to improve areas of deficiency.

The certification renewal cycle is every two years. OHS – DWS initiated a staggered, two-year renewal process during the last reporting period for operators, where individuals whose last name initial begins with the letters A to K will renew their certification in even-numbered years, and individuals whose last name initial begins with the letters L to Z in odd-numbered years. Renewal notices are mailed every November. Oregon operator certification program now aligns with other States in renewing certifications on a two year cycle. Certifications expire December 31<sup>st</sup>.

Renewal fee increased to \$140.00 for one certification and \$ 210.00 if they hold both distribution and treatment certifications.

Renewal for the WD and WT requires an applicant to submit a renewal application, pay the fee and submit proof that the applicant has completed 2 continuing education units (CEUs) of professional training. Renewal requirements do not allow for the same class to be taken twice in a renewal period so operators must have a variety of topics in the two year cycle to assure professional growth. Oregon currently has 1812 certified operators of which 1572 of the operators have distribution certificates and 770 are certified as treatment operators. Additionally, 526 of these operators maintain certification in both treatment and distribution activities.

In 2015 fees for late renewal were repealed. In February 2015 there were 334 reinstatement notices mailed. Reinstatement notices incur a \$50.00 fee and are considered as delinquent. An operator during a delinquent status certificate may not be the direct responsible charge of a water system. Operator's certification are terminated one year after the expiration date of the certificate, December 31. An operator who wishes to reclaim their certification after having their certification terminated are required to meet all requirements of an initial applicant, including applying for and successfully passing the appropriate level of written examination.

The Oregon legislature approved revisions to Oregon's Operator Certification fee increases. The recommended budget increases expenditure for fee increases to maintain current program levels for drinking water at \$1.3 million. The fee increases include exam review fees and renewal fees to make the operator certification unit self-sufficient.

In 2016 during the renewal period we started a new program where a portion of the operators (226) were audited March 15 through April 15<sup>th</sup>. The training must have been taken during the renewal cycle, January 2015 – December 2016. Operators who fail to provide proof on time are automatically scheduled for the next audit. It is our intent in the future to terminate the certificates after the due date should they fail to provide proof of professional training. The 2016 audit was largely a success. As of this writing there are four operators who have active certificates whom have yet to submit their CEU certificates and are in delinquent status.

Certified Operators are required to demonstrate professional growth in the field by completing two (2.0) Continuing Education Units (CEUs) every two years in order to renew their certificates. The biennial renewal cycle now coincides with this requirement. One CEU is equivalent to 10 contact hours of lecture or formalized training (and now computerized training including webinars) in water treatment or distribution and related fields. Continuing education ensures that operators maintain and enhance their skills and keep pace with changing regulations and technology. Training opportunities are plentiful in the state and well-attended.

## **Technical Assistance and Training**

Oregon's Drinking Water Services is a member of the Oregon Environmental Services Advisory Council. The Council is a non-profit organization and meets monthly. The OESAC Continuing Education Committee evaluates educational programs and maintains records of those courses presented in Oregon that meet CEU criteria in the area of environmental technology. The CEU committee uses the standards of the International Association for Continuing Education and Training (IACET) to evaluate training classes. Courses which are approved are assigned an OESAC identification number and the maximum number of CEUs that can be earned. There have been 473 courses approved for training this reporting period. The officers meet every month from September through May. The CEU committee meets every month year-round approving and assigning CEUs for training courses, conferences and distance education. The Officers of the Council also continue to change venues for the meetings to best represent the Officers involved.

During the past two years, program staff responded to thousands of requests for assistance from system owners, operator personnel, training providers, vocational counselors, and regional staff regarding operator certificate qualifications, application forms, continuing education, system classification, and rule interpretation. A list of qualified operators is provided to communities, water systems, and organizations, etc. to assist them in recruiting new operators or sending technical course information mailings. This resource is provided on the OESAC website and available to the public. While operators are provided with the opportunity to opt out of this list, very few have done so. OHA – DWS Staff routinely provide educational presentations at industry-sponsored conferences to facilitate better understanding of program goals and requirements. These presentations are generally well-received by industry groups.

The operator certification unit Administrative Assistant retired November 2015. The operator certification coordinator has taken all job duties for the program. She did not attend training nor give training since the retirement. A news article was written about the successes and lessons learned regarding the new Audit and is on the DWS website and will be in the upcoming *Pipeline*.

## **Compliance and Enforcement**

OHA-DWS staff responds to allegations of fraud or misconduct of water system operators regarding compliance with applicable rules and standards. The program is typically able to resolve these issues by contacting the appropriate parties and clarifying the regulatory requirements. Compliance with Operator Certification requirements is included with any administrative orders generated by Drinking Water Services. The program is currently investigating two reports of fraud in exam application submittal. The program has also revoked one certification due to neglect of duties and fraudulent sampling. One system is currently under formal enforcement for failing to hire a certified operator, among other violations. Two other complaints were resolved without any disciplinary action due to lack of sufficient evidence to substantiate the complaints.

System compliance is measured by documentation of persons in responsible charge recorded in Safe Drinking Water Information System (SDWIS) database, with assurance of up-to-date active certification recorded in Licensing 2000 (L2K). The total number of operators for the level 1-4 water systems is 1812; are 363 systems needing a distribution direct responsible charge certified operator; and 201 systems needing a treatment direct responsible charge certified operator. Level 1- 4 compliance for distribution certification is 99%, and 98% for treatment certification.

In February 2016 there were 103 delinquent operators whose certification was terminated for failure to renew. After March 31, 85 reinstatement letters were mailed with a \$50.00 reinstatement fee. Operators have a one month grace period in which to renew. There were a total of 104 certifications terminated effective January 01, 2017.

This reporting period, 13 small water systems have been referred to enforcement for failure to hire or contract with a certified operator.

Since December 2015, 22 small water systems have been referred to enforcement for failure to hire or contract with a certified operator. The July 2016 compliance reveals that 123 systems owners need to submit the SWS operator designation application.

There were no formal complaints this reporting period.

## **Small Water System Operator Certification**

Oregon's small ground water operator certification is based on EPA guidelines. This element of the Certification program was formerly supported by a grant from the Environmental Protection Agency (EPA) that was allotted to states to fund the training and certification for the operators of Small Water Systems, which are defined as community or non-transient non-community systems serving fewer than 150 connections from a groundwater source. Currently expenses incurred by DWS are recovered via the State Revolving Fund technical set aside.

Applicants for certification must have a minimum of a high school education or equivalent and submit an application from the owner appointing the operator in charge (also known as the Direct Responsible Charge, or DRC). Oregon requires attendance at its small water system training as a condition of initial and renewal certification. Training materials suitable for small water operators are based on a “Need to Know” criteria document were developed by a group of drinking water stakeholders. The training materials consist of a manual with individual, updatable Fact Sheets on various program elements. This manual, and all related training materials were updated in 2015. Currently there is one training option for operators to take. They must take the Small Water System Basics course. The basics course training is provided by Oregon Association of Water Utilities.

The Oregon Association of Water Utilities (OAWU) operates under contract with OHA-DWS to provide the classroom training for the original SWS training class. The training schedule link to the OAWU website is available on the Opcert web page.

## **Efficiency and Service Improvements**

In March 2014, Drinking Water Services completed rulemaking related to certification for backflow testers and cross connection specialists and for water system operators. The amendments are necessary to improve the certification and renewal process to improve rule clarity; and to increase the accountability of water system operators. We are making changes, both to improve language clarity and unnecessary language is repealed.

One of the biggest changes to the program is the fee increase and the renewal audit. One certification increasing from \$80.00 to \$140.00, and those holding both certificates the fee collected is from \$120 to \$210.

DWS staff now presents training for operators of small water systems who had not been represented by training needs before. These operators work with surface water system that is transient non-community. The water systems that best represent transient non-community are restaurants or campgrounds.

The Oregon Filtration Endorsement exam is the only one of its kind in the Nation. Oregon requires a separate exam for operators working with conventional and direct filtration treatment. Oregon pays a fee directly to Association of Boards of Certification for the exam maintenance fee. Oregon drinking water personnel have updated the questions bank regarding this exam and will soon be implemented.

## **Coordination and Development**

Drinking Water Services engages stakeholders in a variety of settings, ranging from receiving oversight from our Advisory Committee to collaboration with external groups who have overlapping fields of interest of involvement. These groups include:

The Drinking Water Advisory Committee (DWAC) was created to advise and assist DWS on policies related to the protection, safety and regulation of public drinking water in Oregon. The committee consists of representatives from served communities, advocacy groups and professional organizations and meets quarterly.

Program staff participates in the activities of the Oregon Environmental Services Advisory Committee (OESAC) which reviews proposed training for qualifications of instructors, determines relevancy of course material, assigns continuing education units, and coordinates the training opportunities around the state. OESAC is composed of representatives from community colleges, professional organizations in the water and wastewater industry, OHA-DWS, and DEQ. Coordinated efforts have helped to improve the OESAC website, [www.oesac.org](http://www.oesac.org), which is updated monthly for the benefit of operators and trainers.

The Association of Boards of Certification (ABC) provides the testing program. Because of extended contract renegotiations with ABC, DWS was unable to provide exams as normal between early April 2014 and late July. Though all exams scheduled to be held between April and July were delayed or re-scheduled to some degree, the DWS has now resumed normal exam processes. The passing score remains 70% or higher. The distribution, treatment and filtration

need-to-know criteria are available as a study guide on the DWS website. These tests are given throughout North America and internationally under strict standards set by ABC. ABC contracts with Applied Measurement Professionals (AMP) to provide testing locations for the electronic exam. AMP provides service which allows operators to take exams via computer at 8 testing centers throughout Oregon. Examinees value computer-based testing as a convenient alternative to the paper and pencil exams, enabling them to schedule the exams anytime during the month and then access score reports when complete. This service reduces overhead and workload and provides faster compliance for water systems.

Reciprocity certificates are granted on a case-by-case basis when an operator's experience, education, and examination results meet established criteria. The criteria closely follow the Model Certification Program Standards, developed by the Association of Boards of Certification (ABC) whose membership consists of over 100 certifying authorities representing more than 40 states and 10 Canadian provinces and several international programs. Program standards, uniform testing, and networking among certifying authorities help enable operators certified in Oregon to receive reciprocity in other states or provinces.

The lead operator certification personnel at DEQ's Wastewater Program and DWS meet quarterly to discuss current issues regarding common issues for operator certification.

# Certification Program for Wastewater System Operators

ORS 448 requires the Oregon Department of Environmental Quality to certify persons operating or supervising the operation of sewage treatment works (wastewater systems). Wastewater systems include collection systems, treatment systems and combined collection and treatment systems, whether publicly or privately owned. The Wastewater System Operator Certification Program, as adopted in rule by the Oregon Environmental Quality Commission, requires DEQ to:

- Assist permit writers in classifying systems and defining requirements of system owners
- Certify persons qualified to operate and supervise systems
- Set forth a system of penalties for rule violations
- Revoke or refuse to issue certificates for established grounds
- Provide for variances to the rules
- Establish certification fees based on the principle of cost recovery.

## Program Activities

### Program Coordination and Development:

- Develop forms and guidance material
- Manage data, invoicing, collection, receipts, refunds and reports
- Manage contract for testing services by the Association of Boards of Certification
- Review and amend rules, including fees
- Coordinate and provide staff support for DEQ's Operator Certification Advisory Committee
- Communicate with trainers to assess training needs and career development ladders, and participate with OESAC for workforce training and continuing education
- Act as liaison with the ABC, North American certifying authorities and organizations that represent wastewater system operators, owners, vocational-technical educators and the water quality control industry

### Wastewater System Classification:

- Compile, evaluate and interpret design summary, operation, maintenance and operational compliance information for wastewater systems statewide
- Assist permit writers in classifying systems to determine operator or supervisor certificate grade requirement
- Coordinate permit notification to system owners

### **Operator Certification and Examination:**

- Evaluate education, training and experience qualifications for certification including, Operator-In-Training, Provisional and standard certificates, certificate by reciprocity, continuing education, renewal and reinstatement
- Evaluate and provide examination accommodations for the disabled
- Validate, maintain and secure examinations
- Prepare and distribute exam study guidance
- Schedule exams and proctors
- Provide notice of exam results
- Issue certificates and renew licenses for certificate validation
- Review and amend Wastewater Operator Certification Rules as needed

### **Technical Assistance, Training, and Continuing Education:**

- Respond to inquiries and provide guidance and interpretation of certification requirements regarding system owner, supervisor, operator and contractor operability issues
- Provide technical assistance and record support for the OESAC Continuing Education Committee
- Provide Program information presentations at several conference events statewide each year
- Provide technical assistance and data management support to DEQ staff regarding system owner and operator certification compliance

### **Compliance, Variance and Enforcement**

- Track compliance of system owners and operators
- Respond to complaints and inquiries, including evaluation of compliance investigations and actions, and certificate sanction or revocation
- Evaluate and prepare responses to variance applications

### **Efficiency and Service Improvements**

- Transition to all computer-based exams
- Program webpage improvements
- Technology updates, including possible future replacement of licensing data management system

## **Program Coordination and Development**

The objectives of DEQ's Wastewater System Operator Certification Program are to help protect public health, Oregon's environment/water resources, and capital investment in infrastructure through safe and effective operation of Oregon's domestic wastewater collection and treatment systems. The program helps ensure there are an adequate number of qualified persons available to provide these services throughout the state. Some of the emerging challenges wastewater certification helps to meet are those of an aging operator workforce where the recruitment of new operators is critical to sustaining the continued level of service for Oregon communities. Additionally, the wastewater certification program supports educators to equip operators with the knowledge and experience required for the operation of systems that are becoming increasingly complex in their engineering and technological components. Oregon's wastewater utilities continue to raise minimum employment qualifications for both supervisory and non-supervisory personnel. Certification has established a much-needed minimum standard for education, training and experience that helps ensure an effective and efficient workforce that properly operates and maintains facilities to minimize adverse effects on water quality.

DEQ rules provide for a standing Operator Certification Advisory Committee to provide advice and make program recommendations. Advisory Committee members are appointed by DEQ's director and represent wastewater system owners and operators, professional technical educators and trainers, industry associations and interested parties. Committee members provide advice and make recommendations to the program. DEQ schedules advisory committee meetings at least twice a year.

With the support of the Advisory Committee, DEQ implemented fee increases through rule revisions in March 2013 to fund the Wastewater System Operator Certification program through 2019. This included a 60 percent across-the-board fee increase for operators and system owners. The Operator Certification program is solely reliant on operator and system

owner-paid fees, which had not changed since 2002 despite rising costs of the program. If the one-time fee increase was spread across years 2002 to 2019, the average annual fee increase would have been about 3 percent.

In the upcoming biennium DEQ will work with the operator certification advisory committee that includes representatives of small and large wastewater system operators, and professional technical educators and trainers to draft rules that include a strategy to avoid a one-time large fee increase after a number of years of rising costs. Over a series of meetings, committee members will discuss the program’s needs, current fee structure and various proposed strategies to maintain the program at the current level of service for the years to come.

Continued acceptance and support of the program is evidenced by increased employer preference for certification, recruiting preferences, promotional and pay incentives, and increased employer support for continuing professional skill training. Another indicator of support is the high number of certification and renewal fees paid for operators by their employers. This is estimated to be around 70 percent.

## Wastewater System Classification

Wastewater systems are classified by DEQ as collection or treatment, and at one of five levels based on a system’s size, complexity and degree of difficulty to operate. These classifications establish the certificate type and grade level requirement for the operator. Some entities have both a collection and treatment system classification, while others have only one type of system. As of December 2016, there were a total of 381 classified systems where certification of operators is required (Table 2). Additionally, there are 55 collection systems that do not have treatment systems where certification is also required.

**Table 2: Oregon Classified Wastewater Systems**

Collection & Treatment (including 10 SWS)	289
Collection Only	55
Treatment Only	37
<b>TOTAL</b>	<b>381</b>

DEQ conducts classification reviews for a system whenever a permit action occurs (new permit, permit renewal or modification) or a technical evaluation is required (plan review). DEQ staff reviews system classifications for about 25 facilities a year.

Revisions to rules implemented in March of 2013 resulted in establishing small wastewater systems (SWS) as those systems evaluated as having less than 30 total points; and less than 500 design population or less than 150 connections. This allows communities with this classification to operate their systems with an individual who has earned the small systems certification but who have not achieved the higher standard of grade I certification. The small wastewater system certification is a combined collection and treatment certification and may be a valuable certification tool for use by communities with small wastewater systems. The rulemaking also established the experience required in order to obtain small wastewater system certification.

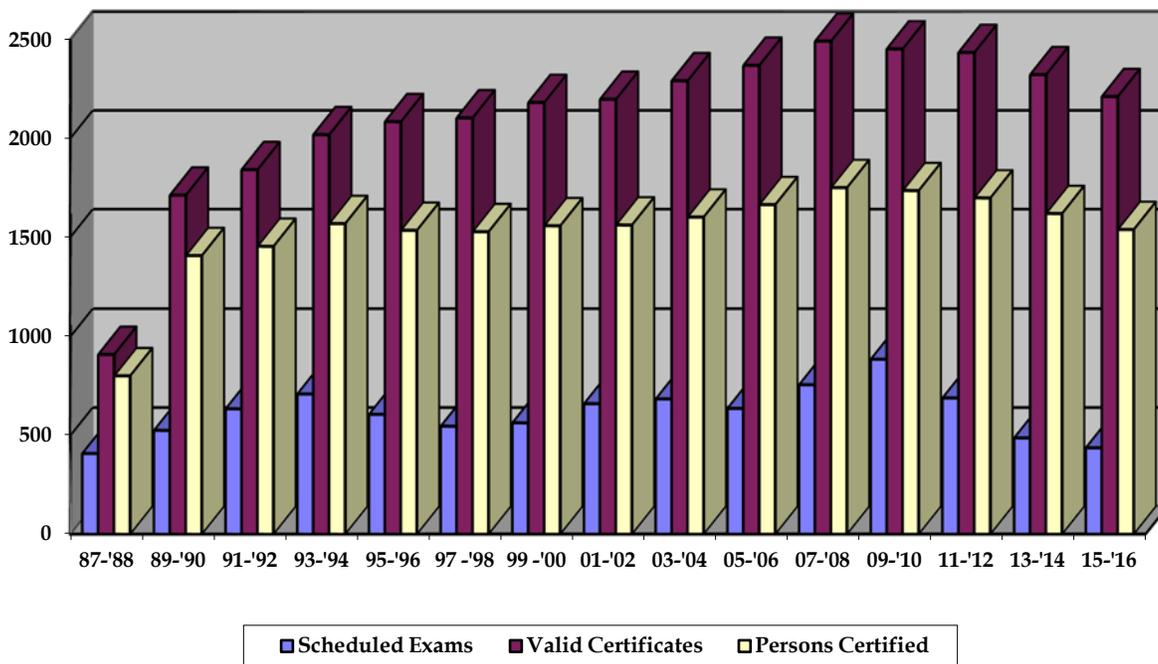
## Operator Certification and Examination

Oregon operators must meet minimum standards for education and operator work experience and pass an examination to obtain a renewable certificate. DEQ examinations are standardized closed-book tests of 100 questions for both collection and treatment system operation. Computer-based exams entirely replaced paper-based exams as of March 2013, except by special ADA request. Test questions are developed by Association of Boards of Certification, a contracted test administrator.

Unlike paper-based testing that were only offered a few times per year, computer-based testing is available year-round, Monday through Friday, and also on Saturdays in selected test sites. Approved candidates schedule their tests with ABC contractor PSI/AMP, (<http://www.goamp.com/>) which provides a network of over 170 secured and proctored testing centers across the United States, including eight locations in Oregon. The wastewater certification program is continually searching for new exam locations in order to increase the ease of access to testing services. Computer-based testing provides immediate exam results to the examinee and reduces resources from the certification program that would otherwise be required to administer paper-based exams. However, the reduction in program resources required to arrange and proctor paper-based exams is partially offset by increased contractor fees. Overall, computer-based exams provide a greater access to testing services with a lower expenditure of program staff resources. Many states and certifying organizations have transitioned to all computer-based testing. During this reporting period, DEQ scheduled 436 examinations.

As of December 2016, 1537 persons were certified in wastewater system operation, including 3 holding provisional certificates that require on-the-job training for the aim of achieving grade 1 certification. About 183 persons hold expired certificates eligible for reinstatement. The total number of valid certificates on this date was 2210, as about 43 percent or 668 persons hold both a certificate in collection system operation and a certificate in treatment system operation.

**Figure 1: Oregon's Wastewater Operator Certification Program, 1987- 2016**



### Technical Assistance, Training, and Continuing Education

During this reporting period, program staff responded to requests for assistance from system owners, operator personnel, training providers and DEQ regional staff regarding operator certificate qualifications, application forms, continuing education, system classification and rule interpretation. DEQ also provides certified operator and classified system information to system owners (employers), operators, vocational counselors, organizations, etc., to help with operator training, recruiting and job placement.

To be eligible to renew a certificate, an operator is required to accumulate a minimum of two (2.0) continuing education units or equivalent, or two hours of community college, college or university credit during the two years leading up to the

certificate's two year expiration date. OESAC provides evaluation and approval of courses and trainings offered for operators in Oregon. One CEU equals 10 contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction and qualified instruction. Courses must have direct application to wastewater system (collection or treatment) operator job tasks and required knowledge. Continuing education promotes professional growth, helps ensure that operators maintain their skills in keeping with changing technology and regulations, and ultimately enhances safe and effective practices in the field.

Training of operators is accomplished by a host of non-profit organizations, community colleges, foundations, public and private sector consultants and professional trainers. In addition to classroom and formalized on-the-job training, numerous opportunities exist for traditional correspondence and distance learning, such as over the Internet. In Oregon, between January 2015 and December 2016, there were over 1,057 courses for operator continuing education providing approved CEUs by OESAC and DEQ for certificate renewal or advancement. DEQ staff also deliver training topics including certification requirements, system operation and compliance issues. DEQ staff assisted with or made presentations at 12 of these events statewide during this reporting period.

## **Compliance, Variance, and Enforcement**

DEQ determines permit compliance by reviewing self-monitoring reports, written operator designations and file records, and through field inspections, surveys and other investigative techniques. DEQ has enforcement authority to compel compliance should it be needed and program rules call for DEQ's director to revoke or to refuse to issue an operator's certificate for grievous acts.

DEQ investigates complaints alleging operator violations of permit conditions for various acts such as failure to perform proper sampling and testing, improper facility operation, false or fraudulent records or reports, or failure to obtain proper certification. DEQ works with system owners and operators who are out of compliance, as well as those where compliance is in question, to help them find efficient and cost effective ways to ensure compliance. DEQ encourages and often recommends a course of action to assure both operator and operator training deficiencies are corrected in the shortest possible time. When there is an unexpected loss or departure of a system supervising operator, upon written request, DEQ may grant a conditional time extension to allow for recruiting or for securing a contract with a certified operator. DEQ also monitors compliance of current and accurate designated system supervisor operator forms. Approximately one in four wastewater system owners meet the requirement to designate a certified supervisory operator through some type of contractual agreement that includes the services of a certified operator.

During this reporting period, DEQ issued compliance request letters to wastewater system owners to comply with certification requirements. One formal enforcement action was taken through a pre-enforcement notice process, with a civil penalty assessed. This action was taken when the owner of a wastewater collection and treatment system was found to be without a certified operator and the owner failed to take corrective actions as required in a subsequent warning letter. The Operator Certification Program issued a second warning-letter-with-opportunity-to-correct for failing to designate a certified operator, and allowing the system to be operated by non-certified personnel. This issue was resolved with the requested corrective action. DEQ revoked one certificate during this period. DEQ was able to resolve operator non-compliance issues without assistance from the Oregon Department of Justice.

## **Efficiency and Service Improvements**

A program coordinator and a clerical support person currently staff DEQ's Operator Certification Program. The program has increased use of the Internet for communication, guidance, application and other document distribution. The program's web page also includes a query for operators who passed the exam and those who hold current certification, including expiration date and county of residence. Increased use of the program's web page reduces the number of telephone information requests and the volume of material needed to be sent by post mail.

DEQ continues to use a licensing data management system, *License2000*, made available through the Department of Administrative Services in 2005. DEQ ended the contract with GL Solutions on the configuration of new licensing software. Several factors went into this decision including the potential for state-wide electronic government and

agency wide electronic commerce platforms to be implemented. Such factors play a role in the agency's future technology plan and will offer a comprehensive approach to DEQ's licensing program's needs. License 2000 is currently compatible with DEQ's Information Technology infrastructure and the agency feels that it adequately meets our needs for the next few years while these new platforms and strategies are developed. In future Legislative Reports, DEQ will describe the scope and context for future licensing software replacement strategies.

DEQ's staggered certificate expiration dates and corresponding two-year continuing education reporting distributes workload and revenue flow over the biennium. DEQ anticipates that all computer-based testing will continue to increase program efficiency and customer service to operators. The move to computer exams also benefits operators in scheduling their exams at any time of the year, on short notice, and in obtaining their certificate(s) faster.

## **Conclusion**

The objectives of DEQ's Wastewater System Operator Certification Program are to help protect public health, Oregon's natural resources, and capital investment in infrastructure through safe and effective operation of Oregon's domestic wastewater collection and treatment systems. The program helps ensure there are an adequate number of qualified persons available to provide these services throughout the state. Some of the emerging challenges wastewater certification helps to meet are those of an aging operator workforce where the recruitment of new operators is critical to sustaining the continued level of service for Oregon communities. Additionally, the wastewater certification program supports educators in their role to equip operators with the knowledge and experience required for the operation of systems that are becoming increasingly complex in their engineering and technological components.

Oregon's wastewater utilities continue to raise minimum employment qualifications for both supervisory and non-supervisory personnel. With the additional Small Wastewater System Operator certification that is included in the recently adopted rules currently proposed rule, DEQ anticipates an increase in certification of operators for small treatment and collection systems. Certification has established a much-needed minimum standard for education, training and experience that helps ensure an effective and efficient workforce that properly operates and maintains facilities to minimize adverse effects on water quality.

The Wastewater System Operator Certification Program is working well in Oregon. Accomplishments in 2015 and 2016 include webpage feature improvements, identification of additional facilities to the Program, addition of extra computer exam sites, and increased compliance monitoring. For the coming biennium, DEQ will continue to seek a variety of outreach opportunities throughout the state. DEQ will also continue to plan for licensing software replacement. Finally, the Operator Certification Program regularly looks to enhance Program components by maintaining the most current information and resources on the program web page for operators, system owners, DEQ employees and others interested in the wastewater certification program.