



Water and Wastewater  
Facility Operators  
Certification Board

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Colorado Department  
of Public Health  
and Environment

# Colorado Operator Certification Program 2013 Annual Report to EPA

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For questions or additional information, please contact:

Jackie Whelan  
Water Quality Control Division  
4300 Cherry Creek Drive South  
Denver, CO 80246-1530  
303-692-3617  
[jackie.whelan@state.co.us](mailto:jackie.whelan@state.co.us)  
[www.colorado.gov/cdphe](http://www.colorado.gov/cdphe)

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## Introduction

In 1999, the U.S. Environmental Protection Agency (EPA) issued operator certification program guidelines specifying minimum standards for certification and recertification for the operators of community and non-transient non-community public water systems. The goal of the operator certification program is to ensure that skilled professionals are overseeing the treatment and distribution of safe drinking water. Operator certification is an important step in promoting compliance with the Safe Drinking Water Act (SDWA).

The State of Colorado's Operator Certification Program (program) was approved as consistent with the *Final Guidelines for the Certification and Recertification of the Operators of Community and Non-Transient Non-Community Public Water Systems*, 64 CFR 5916 (guidelines) on June 22, 2001.

This is Colorado's annual program report to EPA for calendar year 2013. In accordance with the guidelines, this report addresses the status and continued implementation of Colorado's program for the nine major program components for both community and non-transient non-community water systems. The nine program components are:

1. Authorization
2. Classification of systems, facilities and operators
3. Operator qualifications
4. Enforcement
5. Certification renewal
6. Resources needed to implement the program
7. Recertification
8. Stakeholder involvement
9. Program review

## Authorization

The Water and Wastewater Facility Operators Certification Board (board) is a section of the Division of Administration within the Colorado Department of Public Health and Environment. Article 9 of Title 25, Colorado Revised Statutes (C.R.S.), requires every water and wastewater facility to be under the supervision of a certified operator holding a certificate equal to or greater than the classification of the facility. The board is authorized by 25-9-101 through 110 C.R.S., to promulgate *Water and Wastewater Facility Operators Certification Requirements Regulation 100, 5 CCR 1003-2*, (Regulation 100).

The Colorado Department of Public Health and Environment, Water Quality Control Division (division) has been delegated responsibility for the oversight of public water systems in Colorado to ensure compliance with the provisions of Regulation 100, the Safe Drinking Water Act, Regulation 11-Colorado Primary Drinking Water Regulations and other pertinent regulations.

## Classification of systems, facilities, and operators

### Public water systems

The division is responsible for classifying all public water system treatment and distribution system facilities in accordance with the provisions of Regulation 100. Treatment classification is based on specific design features that include treatment processes and their complexity, source water type and design capacity. Distribution systems are classified by the population served. Water treatment facilities are classified as Class D, Class C, Class B or Class A. Class A is the highest level of classification. Water distribution systems are classified as Class 1, Class 2, Class 3 or Class 4. Class 4 is the highest level of classification.

### Certified operator

Regulation 100 requires every water and wastewater facility to be operated under the supervision of a certified operator who holds a certificate equal to or greater than the classification of the facility. The regulation also requires all process control and system integrity decisions be made by the certified operator in responsible charge or another operator holding a certificate equal to or greater than the classification of the facility. The certified operator in responsible charge or another operator who holds a certificate equal to or greater than the classification of the facility must be available at all times during operating hours of a water treatment or distribution facility.

Compliance with operator certification requirements is a Colorado Safe Drinking Water Program priority. In 2012, the program began integrating drinking water operator data into Safe Drinking Water Information System. The integration project was completed in 2013. The project has improved data management and provided comprehensive compliance tracking along with uniform program implementation.

Table 1 represents the systems in compliance with the certified operator requirements. The decrease in the compliance rates from the previous year are attributed to the division's ability to determine full compliance with the operator certification requirements after completing the data integration project.

	Number of public water systems	Not in compliance	Compliance rate
Community	869	58	93%
Non-Transient Non-Community	167	10	94%

**Table 1 - System compliance rates**

The systems not in compliance do not have:

1. a certified operator designated by the system's owner,
2. the operator's certificate has expired or
3. the operator's certificate is not at the correct level for the facility they are operating.

## Operator qualifications

### Active operators

Colorado requires separate treatment and distribution certificates. Active drinking water certificate counts are listed by category in Table 2. Colorado also grants a Class S certification that combines treatment Class D and distribution Class 1 operator certificates designed specifically for public water systems serving a population of less than 3,300. Many operators hold multiple certificates.

Certificate Levels*	Number of active certificates
Distribution 4	857
Distribution 3	203
Distribution 2	635
Distribution 1	1145
Water Class A	778
Water Class B	336
Water Class C	623
Water Class D	906
Class S	582

\* Class A is the highest level of treatment classification. Class 4 is the highest level of distribution system classification.

**Table 2 - Active operator certificates**

### Exam pass rates

Successfully passing exams is vital to maintain a steady workforce of certified operators. Low pass rates at the higher levels continues to be an area of concern. The program is based on sequential testing and requires the applicant to hold a valid certificate at the level immediately below the level they are seeking.

The 2013 average pass rate for written exams is 53 percent and 67 percent for electronic exams. The traditional paper and pencil exams are taken in a room with as many as 400 people. The entire exam booklet is in front of the examinee, which can be overwhelming and distracting. By comparison, electronic exams are administered in a room with a maximum of eight people taking the exam at a time. The atmosphere is quiet, more relaxed and questions are presented one at a time, which reduces distractions and allows the examinee to focus on the question in front of them.

The average pass rate for all exams administered by the program is 60 percent. The average pass rate from 2008-2011 was 55%. The steady increase in the average pass rate observed in 2012 and 2013 is attributed to the increased numbers of applicants taking exams administered electronically. As more people opt to take the exams electronically, the program anticipates further increases in the overall pass rate.

### Operator certification-capacity development partnership

The Local Assistance Unit was developed by the Colorado Safe Drinking Water Program. This unit works in partnership with drinking water systems, assistance partners and division staff from various program areas. The partnership reaches operators and system owners on a grassroots level to improve compliance, enhance water quality, better position a system managerially, financially, and technically for the future and to protect public health. The Local Assistance Unit's purpose is to provide technical, management and financial assistance

one-on-one and through group trainings to public water systems so they can strengthen their ability to supply safe drinking water to the public and to protect their source water.

The Local Assistance Unit and operator certification staff have worked together on the Joint Project Team for the 2015 Public Water System Training Strategy Administrative Framework Project. A part of the project was to identify areas applicants were failing at the various exam levels. The top two areas of failure were math, at all levels and regulations.

The division has increased outreach to operators in an effort to address the identified areas of concern:

- The division sponsors no or low-cost trainings offered in multiple sites across the state with a focus on operations math.
- In 2013, division coaching staff provided 129 on-site, individual operator training sessions at no cost.
- Division compliance, operator certification and engineering staff regularly present at conferences, seminars and other training venues throughout the state on various regulatory compliance topics.
- Operator certification staff participates in the Rocky Mountain Section AWWA small systems education committee which provides training targeting small system operators.
- The Local Assistance Unit provides support for Colorado's Water and Wastewater Agency Response Network (CoWARN) and works with them to provide systems and operators with emergency preparedness and response training.

The Water Quality Control Division has had dedicated staff to provide facility compliance determinations, outreach to facility owners and service as a liaison between the Board and the Water Quality Control Division. In 2013 the Safe Drinking Water Program moved this staff position from the Compliance Assurance Section into the Local Assistance Unit. Since Compliance Assurance Section staff is best positioned to monitor ongoing facility compliance with facility operator certification requirements this responsibility was left in the Compliance Assurance Section. The responsibilities of outreach to facility owners and service as the liaison between the Board and the Water Quality Control Division stayed with the position now in the Local Assistance Unit. The expected results of this move are improved alignment with capacity deployment efforts including training and certification challenges and improved assistance to facility owners.

## **Grandparenting**

This option was only available to water distribution operators and was valid for two years. The grandparenting provision allowed an operator who was certified before January 30, 2001 under the voluntary program administered by the Colorado Water and Wastewater Collection Systems Certification Council, Inc. to continue operating for two years.

All operators were required to obtain a standard or a restricted certificate no later than January 30, 2003. A standard certificate required qualifying for and passing a standardized exam. The restricted certificate was issued to an operator who was certified under the voluntary program and was renewable upon payment of fees and having obtained the required training units. Restricted certificates were valid as long as the operator continued employment at the same facility where they worked on January 30, 2001.

The last operator with a restricted certificate retired in April 2013. All others granted a restricted certificate have either retired or have successfully passed a certification exam and no longer rely on a restricted certificate.

## **Enforcement**

### **Facility enforcement**

Enforcement authority under 25-9-110(3), C.R.S. is granted to the department to issue and enforce administrative orders and to impose civil penalties against facility owners for failure to operate their systems under the supervision of a certified operator. In 2013, there was one formal enforcement action also called a Notice of Violation against a public water system for violating the certified operator requirements. This system has since returned to compliance.

### **Operator disciplinary action**

The board has authority under 25-9-104(6), C.R.S. to establish criteria for the discipline or reprimand of an operator. Section 100.23.3 grants the division authority to investigate instances of possible misconduct by certified operators. In 2013, there were three new disciplinary action complaints. One complaint was dismissed for lack of evidence of misconduct and the other two remain under investigation.

## **Certification renewal**

### **Certificate renewal and professional development**

Regulation 100 requires on-going professional development to renew certificates every three years. As an incentive to maintain certificates in current status, a late fee of \$50 is charged to an operator who submits the renewal application after the certificate's expiration date. Training courses used to fulfill the professional development requirement must be approved by the board or its contractor.

Individual operators are responsible for tracking and reporting training units for certification renewal. Certificates of completion and transcripts are reviewed to determine fulfillment of the professional development requirements. In 2013, there were approximately 600 courses offered that were approved for operator professional development. Many of these classes were held multiple times within the year. The price for each course varies from free to hundreds of dollars.

Currently, Colorado does not maintain a clearinghouse that tracks the number of classes taught by an instructor or institution, the number of attendees at each training class or the cost to the student for each course. Courses approved for training units are not ranked by certification level.

Trainers submit applications for training units which are approved by a committee of volunteer subject matter experts who review all applications and assign the training units. Upon approval, the course is entered into the database of approved training courses. A list of approved courses is available on-line at [www.ocpoweb.com](http://www.ocpoweb.com).



## **Resources needed to implement the program**

Colorado uniquely contracts the operator certification and examination aspect of the program to a non-profit organization comprised of subject matter experts who volunteer their time and expertise. The contractor subcontracts daily operations to Total Events and Management Services, Inc. (TEAMS). TEAMS manages the Operator Certification Program office, which oversees the daily operation of the operator certification portion of the program.

Income to support the Operator Certification Program office originates from fees charged to applicants and operators as authorized by statute and Regulation 100. These fees cover the costs for management of this portion of the program. In 2013, subject matter experts volunteered more than 3,000 hours reviewing applications and training courses, proctoring exams and completing other contractual activities. This is equivalent to approximately one and a half full-time employees.

Operator certification fees do not fund agency staff. All agency staff funding is provided through state general funds, general program fees and various federal grants. The division has one full-time employee dedicated to operator certification who serves as staff to the board and as the division liaison to the board. In addition, compliance with the requirements of Regulation 100 is performed by the drinking water compliance and enforcement staff and is checked on-site by field services section staff. Facility classification is done at the time of design review by engineering section staff. The division's data system, management and administrative teams provide necessary support for the program as well. The board's administrator and staff represent 0.15 full-time employees.

Under the current organization, Colorado has sufficient resources to implement its operator certification program now and into the future.

## **Recertification**

Certificates are valid for three years from the date of issue. Once an operator's certificate has expired they are no longer certified. A certificate may be restored, through renewal, for up to two years after the expiration date. A certificate is automatically revoked after two years if it is not renewed and subsequently, the person is treated as a new applicant for certification.

## **Stakeholder involvement**

### **Rulemaking**

In May 2013, the division began the regulation revision process. Approximately 8,000 people were invited to participate in the stakeholder process. Those invited included certified operators, system owners and other interested parties. The hearing to consider the proposed amendments to the regulation was scheduled for April 2014 and was continued to August 2014.

### **WWFOCB meetings**

The WWFOCB held six meetings in 2013; all meetings are open to the public and participation is encouraged. The February meeting is traditionally held in conjunction with the annual

Colorado Rural Water Association conference. There were approximately 85 in attendance at the February 2013 meeting.

### **AquaTalk newsletter**

The Safe Drinking Water Program publishes a quarterly newsletter that is distributed to approximately 3,200 system owners, operators and others each quarter. The newsletter is also published and available on the division web site. Each newsletter contains at least one article specifically focused on operator certification requirements and any changes to regulation or policy.

### **Program review**

The division conducts periodic reviews of its processes, procedures and data management. The division implemented changes to the operator certification program and the drinking water compliance and enforcement groups in late 2013. Each public water system is now assigned to one compliance specialist. The compliance specialist oversees all compliance and enforcement activities related to a specific water system in regards to both drinking water regulations and operator certification regulations. This is a more holistic approach to communication between the division and regulated community and has improved the program efficiency and effectiveness.

The program has not conducted an external program review in accordance with published EPA guidance and direction. The division is working with adjoining state operator certification programs to assist each other with an external review using the Association of Board's of Certification Model Standards as guidelines for evaluation. The division continues to work toward developing a standardized approach to conducting internal reviews.

### **Conclusion/summary**

Colorado's facility operator certification program is meeting the requirements for the nine major program components for community and non-transient non-community water systems in accordance with the guidelines.