



Water and Wastewater
Facility Operators
Certification Board

Colorado Department
of Public Health
and Environment

Colorado Operator Certification Program 2014 Annual Report to US Environmental Protection Agency

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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 2014. 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 et. seq., 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 and enforcement of 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 applying board regulation and direction to classify 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 in accordance with a written operating plan. 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. Table 1 represents the systems in compliance with the certified operator requirements.

	Number of public water systems	In compliance	Compliance rate
Community	745	709	95%
Non-Transient Non-Community	152	143	94%

Table 1 - System compliance rates

Non-compliance is a result of one of the following circumstances:

1. A certified operator has not been designated by the system's owner.
2. The operator's certificate has expired.
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 with basic treatment processes. Many operators hold multiple certificates.

Certificate Levels*	Active certificates
Distribution 4	852
Distribution 3	253
Distribution 2	709
Distribution 1	1298
Total distribution	3112
Water Class A	804
Water Class B	350
Water Class C	645
Water Class D	953
Class S	587
Total treatment	3409

* 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. In 2012 the program began requiring sequential testing. Sequential testing requires the applicant to hold a valid certificate at the level immediately below the level of the exam they apply to take.

The 2014 average pass rate for written exams is 54.1 percent and 67.5 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 61 percent. The average pass rate from 2008-2011 was 55 percent. The steady increase in the average pass rate observed in 2012, 2013 and 2014 may be attributed to a combination of the requirement to take exams sequentially and the increased numbers of applicants taking exams administered electronically. The program anticipates further increases in the overall pass rate as more people opt to take the exams electronically.

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.

In late 2013, the division made changes to the operator certification staff duties. The staff person now serves as the liaison to the WWFOCB and provides outreach and compliance

assistance to operators and system owners. To better serve water systems in the state, this position was moved to the Local Assistance Unit. This change has improved alignment with capacity development efforts including training, certification challenges and improved assistance to facility owners.

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 and regulations.
- In 2014, division coaching staff provided 186 on-site, individual operator training sessions at no cost and class room style training sessions and presentations at other schools and conferences.
- 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.

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 and the facility classification remained the same.

There are 110 operator holding 141 restricted certificates. All others granted a restricted certificate have either allowed the certificate to expire 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 2014, there were

two formal enforcement actions also called Notices of Violation against public water systems for violating the certified operator requirements.

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 2014, there were two new disciplinary action investigations in 2014. One action resulted in a consent agreement with formal letter of reprimand. The second complaint was resolved with an informal conference with the operator and the direct supervisor.

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 2014, more than 550 courses approved for operator professional development were offered. Many of these classes were held multiple times within the year. The price for each course varies from no charge to several hundred dollars for multiple day training.

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.

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 of management for this portion of the program. In 2014, subject matter experts volunteered more than 3,300 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 compliance is checked on-site by field services section staff during sanitary surveys. 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 approximately 0.2 full-time employees. In total there are over 65 division staff members with responsibilities related to the certified operator program.

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. Subsequently, if the person desired to be re-certified they are 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 held in April 2014 and was continued to August 2014. The WWFOCB promulgated changes to Regulation 100 at that time. The current Regulation 100 is included as Appendix A of this report along with a summary of changes made as Appendix B.

WWFOCB meetings

The WWFOCB held six meetings in 2014; 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 100 in attendance at the February 2014 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. Each public water system is 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 holistic approach that enhances communication between the division and the regulated community and has improved 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 liaison to the board is participating on the national operator certification re-energizing workgroup. The workgroup is developing a supplement to the *Operator Certification Guidelines: Implementation Guidance*, January 2000, with suggested methods for conducting external reviews. The division continues to work toward developing a standardized approach to conducting both internal and external 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.

Appendix A

*Water and Wastewater Facility Operators Certification
Requirements, Regulation 100*

5 CCR 1003-2
effective October 30, 2014

Appendix B

Summary of changes to Regulation 100

Appendix C

Attorney General's Certification of Enforceability