

# Colorado Operator Certification Program 2019 Annual Report to US Environmental Protection Agency

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<https://www.colorado.gov/pacific/cdphe/water-and-wastewater-facility-operators-certification-board-wwfocb>

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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 protect human health by ensuring that skilled professionals are overseeing the treatment and distribution of safe drinking water. Operator certification is a crucial step in promoting compliance with the Safe Drinking Water Act (SDWA), and oversight of the program ensures that these steps are taken.

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 2018. In accordance with the guidelines, this report addresses the status and continued implementation of Colorado's program for the nine Baseline Standards 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 in responsible charge who holds a certificate equal to or greater than the classification of the facility. The regulation also reserves all process control and system integrity decisions to 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.

**Table 1 - System compliance rates**

	Number of facilities	In compliance	Compliance rate
Community treatment	742	1,546	98%
Community distribution systems	833		
Non-Transient Non-Community treatment	162	277	98%
Non-Transient Non-Community distribution system	119		
Transient Non-Community treatment	935	1,474	98%
Transient Non-Community distribution system	571		

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.

The number of systems without a certified operator for any of the reasons listed above during this reporting period was 65.

## Operator qualifications

### Active operators

Colorado requires that each operator must pass an exam appropriate for the classification to which they are applying for. The state also requires separate treatment and distribution certificates. Active drinking water certificate counts are listed by category in Table 2. Colorado also grants a Class S certificate 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. All exam questions are validated prior to inclusion in current exams.

**Table 2 - Active operator certificates**

Certificate levels*	Active Certificates
Distribution class 4	864
Distribution class 3	363
Distribution class 2	808
Distribution class 1	1460
<b>Total distribution</b>	<b>3495</b>
Treatment class A	826
Treatment class B	391
Treatment class C	627
Treatment class D	996
Class S	547
<b>Total treatment</b>	<b>3387</b>

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

### 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 average pass rate for all water treatment exams is 59 percent. The average pass rate for distribution exams is 54 percent. The overall pass rate for water treatment and distribution is 57 percent. This represents a drop from a high of 61 percent in 2014. The program has not made any changes that would explain the four percentage point drop in exam pass rates for the reporting year. The average pass rates for written and electronic exams from 2008-2011 was 55 percent. The 2018 average pass rate is in keeping with the historic program exam pass rates.

**Table 3 - Written exam pass rates**

Level	# exams	pass %	Level	# exams	pass %
WA	16	25	D4	35	31
WB	22	50	D3	65	29
WC	59	47	D2	123	51
WD	110	55	D1	216	55
WS	38	79	<b>Total</b>	<b>439</b>	<b>48</b>
<b>Total</b>	<b>245</b>	<b>54</b>			

**Table 4 - Electronic exam pass rates**

Level	# exams	pass %	Level	# exams	pass %
WA	106	46	D4	82	56
WB	78	68	D3	127	53
WC	110	57	D2	190	57
WD	123	74	D1	217	68
WS	30	93	<b>Total</b>	<b>616</b>	<b>60</b>
<b>Total</b>	<b>447</b>	<b>63</b>			

**Table 5 - 5 year exam pass rates**

	<b>Written</b>	<b>Electronic</b>	<b>Average</b>
2014	54	68	61
2015	45	62	54
2016	39	60	50
2017	38	61	50
2018	51	61	57

### 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 operator certification staff person serves as the liaison to the WWFOCB and provides outreach and compliance assistance to operators and system owners and is in the Local Assistance Unit. This ensures alignment with capacity development efforts including training, certification challenges and improved assistance to facility owners.

The division outreaches 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 and regulations.
- In 2018, division coaching staff provided 163 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.

## Grand-parenting

Colorado's grand-parenting provision is found in Regulation 100.18. It allowed water distribution operators who were certified before January 30, 2001 under the voluntary program to become certified under the mandatory program without testing as long as

- They met all other certification requirements,
- They continued operating the specific system in which they were employed on January 30, 2001, and
- The facility classification remained the same.

The restricted certificate is renewable in accordance with applicable rules regarding training units. There are currently 69 operators holding 69 restricted distribution 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 2018, the division issued 65 compliance advisories to owners of public water systems for failure to have a certified operator or failure to have a certified operator at the correct level for the facility they were operating. These include system owners who were contacted for failure to designate an operator in responsible charge as well as system owners who received notifications because the operator in responsible charge did not hold a valid certificate for the system. Systems that do not return to compliance in a timely manner may be issued a formal enforcement order with penalties. During the reporting period, there were 5 formal enforcement actions also called Notices of Violation against a public water system for



violating the certified operator requirements. By December 31, 2018, four of the five systems had 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 2018, there were three new disciplinary action investigations. One was dismissed as lacking sufficient evidence of misconduct. The other two investigations resulted in the issuance of an informal letter of reprimand from the division. No certificates were revoked or suspended during 2018 and no certificates were in the process of being revoked or suspended at the end of the reporting period.

## **Certificate 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. Operators who fail to renew or qualify for renewal within two years of the expiration of their certificate must complete the recertification process.

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 2018, more than 500 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. Operators and other interested persons can search the course catalog online at <https://portal.coloradocwp.com/External/Pages/CourseCatalog/Operator/CourseCatalogSearch.aspx>.

## Resources needed to implement the program

During 2018, Colorado contracted the operator certification and examination aspect of the program to a non-profit organization comprised of subject matter experts who volunteered their time and expertise. The contractor subcontracted 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 2018, subject matter experts volunteered nearly 3,400 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 desires to be re-certified they are treated as a new applicant for certification and must sequentially re-test.

## Stakeholder involvement

### Rulemaking

In April 2017, the division began the regulation revision process. Approximately 8,000 people were invited to participate in multiple the stakeholder processes. Those invited included certified operators, system owners and other interested parties. Three hearings were held to

consider the proposed amendments to the regulation, one on September 25, 2018 and two on November 27, 2018. The WWFOCB promulgated changes to Regulation 100 at both times.

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 twelve meetings in 2018; all meetings are open to the public and participation is encouraged. The February meeting was held in conjunction with the annual Colorado Rural Water Association conference. There were approximately 100 in attendance at the February 12, 2018 meeting.

### **AquaTalk newsletter**

The Safe Drinking Water Program publishes a quarterly newsletter that is distributed electronically to approximately 1,600 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 focusing on operator certification topics of interest and any changes to regulation or board policy. Google *AquaTalk* to find electronic copies of the newsletter.

### **Program review**

The division conducts periodic reviews of its processes, procedures and data management. Additionally, regulations, training needs and exam items are reviewed with the stakeholders regularly. 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.

In 2018, the program reached out to the state of Utah for an external program review and received feedback regarding Colorado's compliance with the nine baseline standards. Utah's review questionnaire is attached as Appendix D.

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 Baseline Standards 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

Amended September 25, 2018

Amended November 27, 2018

Effective March 1, 2019



## COLORADO

### Water & Wastewater Facility Operators Certification Board

Department of Public Health & Environment

#### DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

#### Water And Wastewater Facility Operators Certification Board

#### REGULATION NO. 100 - WATER AND WASTEWATER FACILITY OPERATORS CERTIFICATION REQUIREMENTS

#### 5 CCR 1003-2

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Amended:	May 28, 2002
Effective Date:	July 30, 2002
Amended:	March 25, 2003
Effective Date:	June 2, 2003
Amended:	October 26, 2004
Effective Date:	December 30, 2004
Emergency:	November 30, 2004
Amended:	November 30, 2004
Effective Date:	January 30, 2005
Amended:	October 25, 2005
Effective Date:	January 1, 2006
Amended:	February 14, 2006
Effective Date:	April 30, 2006
Amended:	July 31, 2007
Effective Date:	September 30, 2007
Amended:	April 28, 2009
Effective Date:	June 30, 2009
Amended:	September 29, 2009
Effective Date:	November 30, 2009
Amended:	November 24, 2009
Effective Date:	January 30, 2010
Amended:	November 29, 2011
Effective Date:	January 30, 2012
Amended:	April 24, 2012
Effective Date:	June 30, 2012
Amended:	August 26, 2014
Effective Date:	October 30, 2014
Amended:	June 30, 2015
Effective Date:	August 30, 2015
Amended:	December 9, 2015
Effective Date:	January 30, 2016
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Amended:	June 20, 2017
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**DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT**

**Water And Wastewater Facility Operators Certification Board**

**REGULATION NO. 100 - WATER AND WASTEWATER FACILITY OPERATORS CERTIFICATION REQUIREMENTS**

**5 CCR 1003-2**

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**100.1 AUTHORITY AND PURPOSE**

**100.1.1 Authority**

This regulation is promulgated pursuant to the sections 25-9-101 through 110, C.R.S.

**100.1.2 Purpose**

Article 9 of Title 25, C.R.S., requires that every water treatment facility, domestic or industrial wastewater treatment facility, wastewater collection system and water distribution system be under the supervision of a certified operator, holding a certificate in a class equal to or higher than the class of the facility or system.

Certification under this statute is available to all persons who meet the minimum qualifications of a given classification as described in section 100.14. Operators are encouraged to apply for certification in the highest classification consistent with their qualifications.

**100.1.3 Severability**

The provisions of these regulations are severable. If any regulation, rule, section, paragraph, or other portion of the *Water and Wastewater Facility Operators Certification Requirements* is, for any reason, held inoperative, unconstitutional, void or invalid, the validity of the remaining portions shall not be affected.

**100.1.4 Applicability**

The Water and Wastewater Facility Operators Certification Requirements apply to:

- (a) Each person who meets the qualifications for certification.
- (b) The owners of water and wastewater facilities.
- (c) In accordance with Article 9 of Title 25, section 104.4, C.R.S., the Board has the authority to exempt certain water and wastewater facilities from operating under the supervision of a certified operator in responsible charge if the exemption does not endanger the public health or the environment.

**100.1.5 Automatic Exemptions**

- (a) The following facilities and systems are exempt from the requirement to operate under the supervision of a certified operator in responsible charge:

- (i) Water treatment facilities that are not “public water systems” subject to the *Colorado Primary Drinking Water Regulations*, 5 CCR 1002-11.
- (ii) Water distribution systems that are public water systems whose entire distribution system falls within the jurisdiction of the *Water Well Construction and Pump Installation Contractors Act*, C.R.S. 37-91-101, et. seq. and the State Plumbing Code 3 CCR 720-1.
  - (A) Water distribution systems also qualify for the automatic exemption in subsection 100.1.5(a)(ii) if their entire distribution system falls within the jurisdiction of the *Water Well Construction and Pump Installation Contractors Act*, C.R.S. 37-91-101, et. seq. and the State Plumbing Code 3 CCR 720-1 and they also have a single small treatment structure (less than 12 ft. by 12 ft.) that is adjacent to (within 50 feet of) the building which constitutes the public water system.
  - (B) Water distribution systems also qualify for the automatic exemption in subsection 100.1.5(a)(ii) if their entire distribution system falls within the jurisdiction of the *Water Well Construction and Pump Installation Contractors Act*, C.R.S. 37-91-101, et. seq. and the State Plumbing Code 3 CCR 720-1 and they also have an irrigation system that is protected by an approved backflow prevention assembly within the jurisdiction of C.R.S. 25-1-114(1)(h).
- (iii) Water distribution systems for drinking water that are not “public water systems” subject to the *Colorado Primary Drinking Water Regulations*, 5 CCR 1002-11.
- (iv) Industrial wastewater treatment facilities that satisfy the following criteria:
  - (A) The quality of the wastewater discharged is such that discharge permit limits can be met utilizing only passive treatment (treatment in which chemical, mechanical, or biological treatment techniques are not utilized) or no treatment;
  - (B) The facility has designated a responsible person who is specifically responsible for overseeing the facility’s operation and for ensuring compliance with the facility’s discharge permit, including monitoring and reporting requirements. “Responsible person” mean an individual, designated by the owner of a wastewater facility, who is specifically responsible for overseeing the facility’s operation and for ensuring compliance with the facility’s discharge permit and who receives relevant training with respect to these duties including, as appropriate, specific measures used to meet effluent limits, monitoring, inspection, planning, reporting, and documentation requirements; and
  - (C) Discharge under one of the following general industrial permits:
    - (I) Industrial stormwater permit,
    - (II) Construction stormwater permit,
    - (III) Municipal stormwater permit,
    - (IV) Industrial facilities that discharge under the following general permits:

- (1) Construction Dewatering Activities;
  - (2) Aquatic Animal Production;
  - (3) Sand and Gravel Process Water and Stormwater;
  - (4) Minimal Industrial Discharge;
  - (5) Subterranean Dewatering and Well Development;
  - (6) Hydrostatic Testing of Pipelines;
  - (7) Tanks and Similar Vessels;
  - (8) Non-Contact Cooling Water;
  - (9) Pesticides; or
  - (10) Commercial Washing of Outdoor Structures.
- (v) Category A, B, And C graywater treatment facilities as defined in *Graywater Control Regulation*, 5 CCR 1002-86.
- (vi) Wastewater collection systems within the property of the owner of the domestic wastewater treatment facility.
- (vii) Individual wastewater service lines for a single building within the property of the owner of a building connecting to a collection system.
- (viii) Water distribution systems for non-potable water entirely within the property of the owner of a domestic wastewater treatment facility or reclaimed water treatment facility.
- (ix) Non-potable distribution systems from industrial wastewater treatment facilities where the distribution system is solely used to recycle process water for use within the industrial process.
- (b) Facilities that discharge pursuant to a general industrial permit for Water Treatment Plant Wastewater Discharge are not required to be under the supervision of an industrial wastewater treatment certified operator in responsible charge if the facility is under the supervision of a water treatment certified operator in responsible charge who is specifically responsible for overseeing the facility's operation and for ensuring compliance with the facility's discharge permit, including monitoring and reporting requirements.

#### 100.1.6 Discretionary Exemptions

- (a) Wastewater Facilities – Any wastewater facility that does not qualify for an automatic exemption under section 100.1.5 may request an exemption from the Board from the requirement to operate under the supervision of a certified operator in responsible charge. In determining whether to grant such an exemption, the Board may consider:
- (i) Discharges of limited duration;
  - (ii) The sensitivity of the receiving waters;

- (iii) The level of toxic pollutants in the discharge;
  - (iv) Situations where chemical, mechanical, or biological treatment techniques are not required to meet permit limits, including sedimentation ponds at mining operations for construction materials, as defined by section 34-32.5-103 (3), C.R.S.
- (b) Water Facilities – Any water facility that does not qualify for an automatic exemption under section 100.1.5 may request an exemption from the Board from the requirement to operate under the supervision of a certified operator in responsible charge. In determining whether to grant such an exemption, the Board may consider:
  - (i) The classification of the facility as public or nonpublic under the *Colorado Primary Drinking Water Regulations*, 5 CCR 1002-11;
  - (ii) The applicability of the *Colorado Primary Drinking Water Regulations*, 5 CCR 1002-11, to the facility or class of facilities; and
  - (iii) A distribution system having a minimal number of connections.
- (c) Industrial Wastewater Treatment Facilities – Any industrial wastewater treatment facility that does not qualify for exemption under section 100.1.5 may request exemption from the requirement to operate under the supervision of a certified operator in responsible charge. In determining whether to grant such an exemption, the facility must demonstrate to the Board's satisfaction that:
  - (i) The quality of the industrial wastewater discharge is such that discharge permit limits can be met utilizing only passive treatment (treatment in which chemical, mechanical, or biological treatment techniques are not utilized) or no treatment; and
  - (ii) The facility has designated a responsible person who is specifically responsible for overseeing the facility's operation and for ensuring compliance with the facility's discharge permit, including monitoring and reporting requirements. "Responsible person" means an individual, designated by the owner of an industrial wastewater facility, who is specifically responsible for overseeing the facility's operation and for ensuring compliance with the facility's discharge permit and who receives relevant training with respect to these duties including, as appropriate, specific measures used to meet effluent limits, monitoring, inspection, planning, reporting, and documentation requirements.
- (d) Requests for exemptions shall be submitted to the Division. The Division shall evaluate a written request for exemption from the facility and shall provide the Board with a recommendation based on the criteria in sections 100.1.6 (a-c), as appropriate.
- (e) The Board shall approve or deny such requests at a regularly scheduled Board meeting.
- (f) The Board has the authority to remove a facility exemption if the facility fails to comply with the requirements of its discharge permit or if the facility's operational practices result in a direct, negative impact on the public health or the environment.
- (g) If at any time, the facility does not meet the applicable conditions of sections 100.1.6 (a-c), the facility must notify the Division, in writing, and begin operating under the supervision of a certified operator in responsible charge within 30 days of the change in operations.

### 100.1.7 Exceptions

The Board may make exceptions to this regulation, if the exception is not in conflict with its enabling statute, sections 25-9-101 et. seq., C.R.S., and does not endanger public health or the environment in accordance with section 24-4-105, C.R.S.

### 100.1.8 Materials Incorporated by Reference

The materials incorporated by reference cited herein include only those versions that were in effect as of November 27, 2018 and not later amendments to the incorporated material. Materials incorporated by reference are available for public inspection during normal business hours from the Water Quality Control Division, 4300 Cherry Creek Drive South, Denver, Colorado 80246.

## 100.2 DEFINITIONS

- (1) "BOARD" means the Water and Wastewater Facility Operators Certification Board created by section 25-9-103, C.R.S.
- (2) "CERTIFICATE" means the certificate of competency issued by the Board stating that the operator named thereon has met the requirements for the specified classification of the certification program.
- (3) "CERTIFIED OPERATOR" means any person who has responsibility for the operation of any water and wastewater facility and is certified in Colorado as a "Certified Water Professional" ("CWP") in accordance with the provisions of this regulation. For purposes of this regulation, having "responsibility for the operation" of a water and wastewater facility refers generally to being qualified to perform various operational activities at such facilities in the capacity of a CWP.
- (4) "CERTIFIED OPERATOR IN RESPONSIBLE CHARGE" means the certified operator designated by the water or wastewater facility owner to be responsible for making process control and/or system integrity decisions about water quality or quantity that may affect public health or the environment. A facility owner may designate one or more certified operators to serve in this capacity. Such an operator must be certified at a level equal to or higher than the classification of the facility he or she is operating.
- (5) "CLASSIFICATION OF A WATER OR WASTEWATER FACILITY" means the level of operational complexity and/or size of a water or wastewater facility as determined by the Division.
- (6) "DEPARTMENT" means the Colorado Department of Public Health and Environment.
- (7) "DIVISION" means the Water Quality Control Division within the Colorado Department of Public Health and Environment.
- (8) "DOMESTIC WASTEWATER TREATMENT FACILITY" means any facility or group of units used for the treatment of domestic wastewater or for the reduction and handling of solids and gases removed from such wastes, whether or not such facility or group of units is discharging into state waters. "Domestic wastewater treatment facility" specifically excludes on-site wastewater treatment systems.
- (9) "GRAYWATER TREATMENT FACILITY" means a graywater treatment works as defined in the *Graywater Control Regulation*, 5 CCR 1002-86.
- (10) "INDUSTRIAL WASTEWATER TREATMENT FACILITY" means any facility or group of units used for the pretreatment, treatment, or handling of industrial waters, wastewater, reuse water, and wastes that are discharged into state waters. "Industrial wastewater treatment facility"

includes facilities that clean up contaminated ground water or spills; except that such term does not include facilities designed to operate for less than one year or facilities with in-situ discharge.

- (11) "OPERATOR" means any person who performs activities and/or tasks pertinent to the operation of a water or wastewater facility. An operator may or may not be certified.
- (12) "OWNER" means (a) the supplier of water as defined in 5 CCR 1002-11; (b) the person or persons required to apply for a discharge permit in accordance with 5 CCR 1002-61; or (c) the person with legal responsibility for a wastewater collection system or a graywater treatment facility. For purposes of this definition, "person" means an individual, corporation, partnership, association, state or political subdivision thereof, federal agency, tribal agency, state agency, municipality, commission, or interstate body.
- (13) "PLANT DESIGN FLOW RATE" means the maximum flow rate for a drinking water treatment facility as approved by the Division. The overall water treatment plant flowrate is limited to the unit process with the smallest capacity. For drinking water treatment, the "Plant Design Flow Rate" means the maximum rate of water flow allowed by the Department's approval for the facility, as determined by the rate-limiting process. For drinking water treatment plant with a surface water source, the typical plant design flow rate is the filtration rate. If disinfection is rate-limiting, typically the peak hour flow rate is used and defined as the plant's water production when the maximum volume (in gallons or millions of gallons) of water flows through the plant during a one-hour period in each compliance period.
- (14) "PLANT DESIGN HYDRAULIC CAPACITY" means the hydraulic capacity for a wastewater treatment facility as approved by the Division. For wastewater treatment, the hydraulic capacity means the daily flow the treatment facility is able to treat per day, as determined by the rate-limiting process. For domestic wastewater treatment works, the hydraulic capacity is indicated in the Division site location and design approval and discharge permit for the facility. For industrial wastewater treatment, the hydraulic capacity is indicated in the Division discharge permit issued for the facility.
- (15) "RECLAIMED WATER DISTRIBUTION SYSTEM" means any combination of pipes, tanks, pumps, or other facilities that delivers reclaimed water from a treatment facility for any approved use pursuant to Reclaimed Water Control Regulation, 5 CCR 1002-84.
- (16) "RECLAIMED WATER TREATMENT FACILITY" means a domestic wastewater treatment works that receives domestic wastewater or domestic wastewater effluent for treatment to produce reclaimed water for beneficial use.
- (17) "SIGNIFICANT INDUSTRIAL USER" means a source of non-domestic wastewater that has been so designated for pretreatment requirements as defined in Pretreatment Regulations, 5 CCR 1002-63.
- (18) "SITE-SPECIFIC CERTIFIED OPERATOR IN RESPONSIBLE CHARGE" means the certified operator designated by the water or wastewater facility owner to be responsible for making process control and/or system integrity decisions about water quality or quantity that may affect public health or the environment that is certified at a less qualified level than the classification of the facility he or she is operating, for a specified limited period of time, provided specific conditions are met.
- (19) "TRAINING UNIT" means the credit given for an increment of training approved as applicable to the fulfillment of certificate renewal requirements. Ten contact hours shall be required to equal one training unit. A "contact hour" means a classroom or supervised hour of attendance or hour of participation recognized by the Board as a training unit.

100.3 *WATER QUALITY CONTROL DIVISION AND CONTRACTOR DUTIES: APPEALS OF DETERMINATIONS*

- (20) "VALIDATED EXAMINATION" means an examination that is independently reviewed by subject matter experts to ensure that the examination is based on a job analysis and is related to the classification of the system or facility.
- (21) "WASTEWATER COLLECTION SYSTEM" means a system of pipes, conduits, and associated appurtenances that transports domestic wastewater from the point of entry to a domestic wastewater treatment facility. The term does not include collection systems that are within the property of the owner of the facility.
- (22) "WASTEWATER TREATMENT FACILITY" means either a domestic wastewater treatment facility or an industrial wastewater treatment facility.
- (23) "WATER AND/OR WASTEWATER FACILITY" means a water treatment facility, domestic wastewater treatment facility, industrial wastewater treatment facility, water distribution system, or wastewater collection system.
- (24) "WATER DISTRIBUTION SYSTEM" means any combination of pipes, tanks, pumps, or other facilities that delivers water from a source or treatment facility to a consumer.
- (25) "WATER TREATMENT FACILITY" means the facility or facilities within the water distribution system that can alter the physical, chemical, or bacteriological quality of the water.

**100.3 WATER QUALITY CONTROL DIVISION AND CONTRACTOR DUTIES: APPEALS OF DETERMINATIONS**

100.3.1 The Colorado Water Quality Control Division oversees state-wide implementation of this regulation with respect to owner compliance and operator discipline. The local city, city and county, or county with a local graywater control program has exclusive enforcement authority regarding compliance with the ordinance or resolution and, if applicable, rule, including the certified operator in responsible charge requirements for graywater facilities.

100.3.2 In carrying out its responsibilities to administer the operator certification program pursuant to Article 9 of Title 25, C.R.S., the Board may select and appoint through contract, one or more independent nonprofit corporations ("contractors") to carry out the following duties, including but not limited to:

- (a) administering the operator certification program;
- (b) with the prior approval of the Board for each agreement, a nonprofit corporation contracted by the Board may enter into subsidiary agreements with other nonprofit corporations, educational institutions, and for-profit corporations to carry out the duties assigned by the Board.
- (c) collecting program fees for administration of the operator certification program;
- (d) administering validated examinations for operator certification;
- (e) maintaining records of certified operators;
- (f) notifying operators of expiration of certificates;
- (g) providing information on accredited training programs and training requirements;
- (h) preparing and/or furnishing validated examinations and related materials;

- (i) collecting fees for examinations and administration of examinations;
- (j) setting times, dates, and places for holding examinations;
- (k) ensuring the accurate and unbiased grading of examinations;
- (l) evaluating work experience of applicants;
- (m) evaluating and approving training units for renewal of certificate;
- (n) evaluating and making recommendations for requests for certification based upon reciprocity;
- (o) recording results of examinations;
- (p) notifying applicants of their examination results;
- (q) recommending issuance of certificates or issuing certificates in accordance with Board criteria; or
- (r) preparing and distributing annual reports.

100.3.3 The Board retains the final authority for all actions and decisions carried out on behalf of the Board by a nonprofit corporation, educational institution, or for-profit corporation.

100.3.4 Any person affected or aggrieved by a decision of the Division or the Board's contractor(s) may request a hearing before the Board within thirty (30) days of notice of such decision by submitting a request containing the following information:

- (a) identification of the person(s) requesting the hearing and the subject matter of the request;
- (b) the statutory and/or regulatory authority and factual basis for the request, and
- (c) the relief requested.

100.3.5 The Board shall grant any hearing request made pursuant to section 100.3.4 and shall schedule and conduct an adjudicatory hearing in accordance with section 24-4-105, C.R.S.

#### **100.4 WATER TREATMENT FACILITY CLASSIFICATION**

100.4.1 Water treatment facilities shall be classified in accordance with the following four classes; Class D, Class C, Class B, or Class A. Class A is the highest level of classification and Class D is the lowest level of classification. The Division may make changes in classification in accordance with the needs created by particular complexities of any specific water treatment facility based on consideration of facility specific factors, including, but not limited to:

- (a) special features of design;
- (b) source of supply which make operation more difficult than normal; or
- (c) a combination of such conditions.

100.4.2 Table - Criteria for Water Treatment Facility Classes A, B, C, and D



- (a) For water treatment facilities that are new or substantially modified after March 1, 2019, the following classifications shall become effective immediately. For any water treatment facilities existing prior to March 1, 2019 and not substantially modified, the following classifications shall apply beginning March 1, 2021.

	Plant Design Flow Rate (in GPM)		
Treatment Type <sup>1</sup>	Less than 350	350 to 1400	More than 1400
Filtration			
Granular media filtration with coagulants or polymers (direct or conventional)	B	A	A
Engineered biologically active filtration (conventional)	B	A	A
Slow sand or diatomaceous earth	C	C	B
Membrane filtration (microfiltration, ultrafiltration)	C	B	A
Membrane filtration (nanofiltration or reverse osmosis)	C	B	A
Cation or anion exchange technology	C	C	B
Greensand media or other adsorptive media (backwash, regeneration)	C	C	B
Granular media filtration with pre-chlorine feed (typically iron removal in groundwater)	D	C	C
Bag or cartridge filtration (compliance with the surface water treatment rules) For non-Surface Water Treatment Rule (SWTR) use, see Sediment Pre-filtration.	C	C	B
Granular activated carbon	C	C	B
Sediment pre-filtration	D	C	C
Disinfection			
Ozone	B	A	A
Chlorine dioxide – formed onsite	B	A	A
Chlorine dioxide – pre-formed and fed onsite	C	C	B
Monochloramine (chlorine and ammonia)	C	B	A
Onsite hypochlorite generation	C	C	B
Gas chlorine	C	B	A
Ultraviolet Light	D	C	C
Calcium hypochlorite	D	D	C
Sodium hypochlorite	D	D	C
Hand-pumped wells regulated under <i>Colorado Primary Drinking Water Regulations</i> , 5 CCR 1002-11 Alternatively can be operated by Level 1 or above Distribution operator without a treatment operator.	D		
Public water systems with a disinfection waiver and no other treatment installed at sources.	Covered under Section 100.8		
Booster chlorination within the distribution system	Covered under Section 100.8		
Other treatment			

Hydrogen peroxide	B	B	A
Coagulant addition (apart from conventional/direct filtration)	B	B	A
Fluoridation	C	B	B
Adjusting pH and/or alkalinity (e.g. caustic, soda ash, lime, calcite contactor, acid feed, CO2 feed)	C	C	B
Corrosion inhibitors (e.g. orthophosphate based or silicates)	C	C	B
Permanganate	C	C	B
Powder activated carbon	C	C	B
Source water blending to comply with <i>Colorado Primary Drinking Water Regulations</i> , 5 CCR 1002-11 (Nitrates, radionuclides, other inorganics)	C	C	B
Source water blending for aesthetic or non-regulatory reasons	D	C	C
Iron or manganese sequestering agents (polyphosphate)	D	C	C
Aeration (aeration towers)	D	C	C
Storage tank treatment systems (for contaminant removal)	D	D	C

Note: 1. The treatment processes are listed as examples and are not all inclusive but are representative and the division will categorize other technologies consistent with this list and classify facilities based on the similar technologies. Also, treatment categories have been inserted in order for the table to be simpler to navigate.

- (b) For water treatment facilities existing prior to March 1, 2019 and not substantially modified, the following classifications shall apply until the classifications in Table 100.4.2(a) become applicable on March 1, 2021.

Description of the Facility	Plant Design Flow Rate (in MGD)			
	Below 2	2 – 5	5.01 – 9.99	10 or more
<u>Ground Water Systems</u>				
(a) Ground water source with no treatment or with no additional treatment beyond chlorine disinfection.	D	D	C	B
(b) Ground water source with ultraviolet or ozone disinfection.	D	C	C	B
(c) Ground water source utilizing chemical addition and/or a treatment technology (for example, ion exchange, reverse osmosis, membrane filters, or activated carbon) for the specific purpose of meeting secondary drinking water standards.	C	C	B	B
<u>All Water Systems</u>				
(d) Any source utilizing bag or cartridge filtration to comply with primary drinking water standards <sup>1</sup> . “Bag or cartridge filtration” means a filtration system consisting of a fixed filter housing into which flexible (bag) or rigid (cartridge) filters are inserted. Both bag and cartridge filters are disposable and cannot be backwashed or re-used.	D	--	--	--
(e) Any source utilizing a treatment technology (for example, slow sand, diatomaceous earth,	C	B	B	A

membrane filtration, ion exchange, activated carbon filtration, reverse osmosis) with disinfection to comply with primary drinking water standards and which is not listed in sections 100.4.2(d) or 100.4.2(f).				
(f) Any source utilizing conventional or direct filtration with disinfection to comply with primary drinking water standards. "Conventional filtration treatment" means a series of processes including coagulation, flocculation, sedimentation, and filtration resulting in substantial particulate removal. "Direct filtration treatment" means a series of processes including coagulation and filtration, but excluding sedimentation, resulting in substantial particulate removal.	B	A	A	A
<u>Chemical Addition</u>				
(g) Any source utilizing chemical treatment for the specific purpose of complying with secondary drinking water standards <sup>2</sup> .	C	C	B	B
(h) Any source utilizing additional chemical treatment, with the exception of corrosion control in the distribution system and disinfection for the specific purpose of complying with primary drinking water standards <sup>1</sup> .	B	B	A	A
(i) Any source utilizing chemical treatment for the specific purpose of controlling corrosion (i.e., lead and copper) in the distribution system.	C	C	B	B
(j) Any source utilizing fluoridation.	C	C	C	B
<u>Other</u>				
(k) Water vending machines connected to a public water system that does not currently meet primary drinking water standards <sup>1</sup> .	C	C	C	C

<sup>1</sup> "Primary drinking water standard" means any of the set of enforceable maximum contaminant levels for drinking water regulated under the Colorado Primary Drinking Water Regulations, 5 CCR 1002-11.

<sup>2</sup> "Secondary drinking water standard" means any of the set of secondary maximum contaminant levels for drinking water regulated under the Colorado Primary Drinking Water Regulations, 5 CCR 1002-11. These standards are not enforceable, but are intended as guidelines.

100.4.3 The classification of any water treatment facility may be changed at the discretion of the Division based on changes in any condition or circumstance since the last classification determination.

100.4.4 Any drinking water treatment facility that utilizes a combination of two or more of the treatment processes described in section 100.4.2 shall be classified in accordance with the highest level of treatment process utilized.

100.4.5 Water treatment facilities that meet the exemption criteria in section 100.1.5(a) are exempt from the requirement to operate under the supervision of a certified operator in responsible charge and shall not be classified.

## 100.5 DOMESTIC WASTEWATER TREATMENT FACILITY CLASSIFICATION

100.5.1 Domestic wastewater treatment facilities shall be classified in accordance with the following four classes: Class D, Class C, Class B, or Class A. Class A is the highest level of classification and Class D is the lowest level of classification. The Division may make changes in classification in accordance with the needs created by particular complexities of any specific domestic

wastewater treatment facility based on consideration of facility specific factors, including, but not limited to:

- (a) design features or other characteristics that make the facility more difficult to operate than usual;
- (b) facility design flow;
- (c) the character and volume of wastes to be treated;
- (d) the facility's design being approved under the Department's variance procedure;
- (e) a waste unusually difficult to treat;
- (f) flow conditions, use classifications and/or water quality standards assigned to the waters receiving the treated effluent that require an unusually high degree of plant operational control in order to meet permit conditions; or
- (g) combinations of such conditions or circumstances.

100.5.2 Table - Criteria for Domestic Wastewater Treatment Facility Classes A, B, C, and D

- (a) For domestic wastewater treatment facilities that are new or substantially modified after March 1, 2019, the following classifications shall become effective immediately. For any domestic wastewater treatment facilities existing prior to March 1, 2019 and not substantially modified, the following classifications shall apply beginning March 1, 2021.

<u>Treatment Type<sup>1</sup></u>	<u>Plant Design Hydraulic Capacity (in MGD)</u>				
	<u>Below 0.5</u>	<u>0.5-1.00</u>	<u>1.01-2.00</u>	<u>2.01-4.00</u>	<u>Above 4.00</u>
<b><u>Preliminary Treatment</u></b>					
Coarse Solids Reduction (e.g., comminution, macerator, grinder) Screening with manually cleaned bar screen	D	D	C	C	B
Screening with mechanically cleaned screen, fine screen, Flow equalization, Grit removal, Plant pumping of main flow	C	C	B	B	A
<b><u>Primary Treatment</u></b>					
Sedimentation basin (pond, septic tank)	D	C	C	C	B
Primary Clarifier Oil and grease processing	C	C	B	B	A
Dissolved air flotation (DAF) Chemically Enhanced Primary Clarification for settling improvements (coagulation, flocculation)	B	B	B	B	A
Active Primary Clarification (e.g., anaerobic generation of volatile fatty acids)	B	B	A	A	A
<b><u>Secondary Treatment</u></b> <b>[Purpose to treat BOD, TSS to secondary limits.]</b>					

Recirculating sand filtration	D	C	C	C	C
Waste stabilization ponds, including aerated and non- aerated types	D	C	C	B	B
Trickling filter Rotating biological contactor	C	C	B	B	A
Treatment wetland (surface flow, subsurface flow) or subsurface submerged bioreactor for BOD and/or suspended solids	C	C	B	B	A
Extended aeration process sequencing batch reactors (SBR) designed to operate in the extended aeration loading range.	C	B	B	B	A
Activated sludge (e.g., conventional, complete mix, contact stabilization, extended aeration, step-feed, oxidation ditch, non-extended aeration SBR) Fixed biofilm reactor (e.g., fixed activated sludge treatment or FAST) Submerged granular media biofilm Moving bed biofilm reactor (MBBR)	B	B	B	B	A
Integrated biofilm and activated sludge (IFAS) Membrane bioreactor (MBR) Membrane aerated biofilm reactor (MABR) Anaerobic reactors (e.g., upflow sludge blanket, baffled reactor, multiple compartment reactors, sequencing batch reactor, fluidized bed reactor, membrane bioreactor, filter)	B	B	A	A	A
Pure oxygen activated sludge	A	A	A	A	A
<b>Secondary Clarification</b>					
Secondary clarifiers (biofilm)	C	C	B	B	A
Secondary clarifiers (suspended growth) Dissolved air flotation (DAF)	B	B	B	B	A
Ballasted enhanced settling	B	B	A	A	A
<b><u>Advanced Treatment</u></b> <b>[Purpose to treat beyond secondary limits both within secondary treatment units and/or physically separate processes after secondary treatment.]</b>					
<b>Biological or Chemical/Biological Advanced Waste Treatment</b>					

Suspended growth (e.g., MLE, A2O, Bardenpho, membrane bioreactor (MBR), aerobic granular sludge, advanced biological algae treatment, etc.) Biofilm (e.g., trickling filter, rotating biological contactor, fixed biofilm reactors (FAST), moving bed biofilm reactors (MBBR), submerged granular media biofilm, integrated biofilm and activated sludge (IFAS), biologically active carbon, membrane aerated biofilm reactor (MABR), denitrification filters, etc.) Anaerobic reactors (e.g., upflow sludge blanket, baffled reactor, multiple compartment reactors, sequencing batch reactor, fluidized bed reactor, membrane bioreactor, filter) Phosphorus removal (e.g., biological, chemical, etc.). Not including struvite recovery – see solids handling. Treatment wetland (e.g., surface flow, subsurface flow) or subsurface submerged bioreactor (e.g., for nitrogen, phosphorus, metals)	B	B	A	A	A
Deammonification Pure oxygen activated sludge	A	A	A	A	A
<b>Chemical/Physical Advanced Waste Treatment</b>  <b>[For unit treatment process and not solely an adjusting condition for an earlier biological process (e.g., pH, alkalinity, carbon feed).]</b>					
Air stripping	C	C	B	B	A
Adsorptive media (granular activated carbon, Zeolite, organoclay) Low voltage electro-coagulation / electro-flocculation Ion exchange	B	B	A	A	A
Electro-chemical (e.g., electrodialysis, electrolysis, electro-oxidation, high voltage electro-coagulation/flocculation) Advanced oxidation and/or oxidation/reduction (e.g., hydrogen peroxide + UV, metal ox/reduction recovery) Chemical precipitation (e.g., metal hydroxide precipitation, metal sulfide precipitation). Not including struvite recovery - see solids handling.	Industrial operator	Industrial operator	Industrial operator	Industrial operator	Industrial operator
<b><u>Filtration</u></b>					
Cloth filter, cartridge bag/filter Slow sand filtration Upflow sand filtration (no chemical addition)	C	B	A	A	A

Coagulation, flocculation, sedimentation Media filtration (rapid sand, dual media) Upflow sand filtration (with chemical addition) Membrane filtration (microfiltration, ultrafiltration) Diatomaceous earth (DE)	B	B	A	A	A
Membrane filtration (nanofiltration) Reverse osmosis	A	A	A	A	A
<b><u>Disinfection / Inactivation</u></b>					
Free chlorine, contact basin (e.g., premade liquid solution, solid tablets, hypochlorination with liquid solution onsite generation from solid)	D	C	C	B	B
Ultraviolet radiation (UV) Peracetic acid, contact basin	C	B	B	B	A
Free chlorine, contact basin (gaseous)	C	C	B	A	A
Advanced oxidation, electro processes for disinfection	B	B	A	A	A
Ozonation, contact basin	A	A	A	A	A
<b><u>Dechlorination</u></b>					
Solid materials (e.g., puck, granular)	D	C	C	B	B
Liquid materials	C	C	B	B	A
Gaseous materials	C	C	B	A	A
<b><u>Chemical Addition</u></b> [Includes adjusting condition such as pH, alkalinity, carbon feed, etc. and chemicals for other unit processes.]					
Solid materials	C	C	B	B	A
Liquid non-flammable materials	C	C	B	B	A
Gaseous materials	C	C	B	A	A
Flammable materials	B	B	A	A	A
<b><u>Effluent Discharge</u></b>					
Effluent discharge to receiving stream or groundwater	D	C	C	B	B
Effluent discharge to reclaimed water storage/distribution system for outdoor uses or drinking water treatment plant for further treatment	C	B	B	B	A
Effluent discharge to reclaimed water distribution system with indoor uses. (If reclaimed treatment facility classified as wastewater facility, use Table 100.4.2 also. If classified in 100.6.1(c) as drinking water facility, use only Table 100.4.2.)	WW B if WW, also DW facility class required	WW B if WW, also DW facility class required	WW A if WW, also DW facility class required	WW A if WW, also DW facility class required	WW A if WW, also DW facility class required

Effluent discharge to potable water distribution system (Use Table 100.4.2 also.)	WW A also DW facility class required	WW A also DW facility class required	WW A also DW facility class required	WW A also DW facility class required	WW A also DW facility class required
<b>Solids Handling</b>					
Thickening / Conditioning (e.g., gravity, DAF, plate settlers, drum thickeners, volute thickener, centrifuge thickening, polymer addition) Dewatering (e.g., lagoon, drying bed, mechanical such as belt, filter press, polymer addition) Aerobic digestion Solids composting	C	B	B	B	A
Thermal hydrolysis (e.g., pre-digestion) Stabilization / digestion (e.g., anaerobic sludge lagoon, autothermal or autoheated thermophilic aerobic digestion (ATAD), anaerobic digestion (single, multi-stage)) Nutrient recovery through precipitation (e.g., struvite recovery) Centrifuge for dewatering Solids reduction (e.g., incineration, wet oxidation)	B	B	A	A	A

Note: 1. The treatment processes are listed as examples and are not all inclusive but are representative and the division will categorize other technologies consistent with this list and classify facilities based on the similar technologies.

- (b) For domestic wastewater treatment facilities existing prior to March 1, 2019 and not substantially modified, the following classifications shall apply until the classifications in Table 100.5.2(a) become applicable on March 1, 2021.

Description of the Facility	Plant Design Hydraulic Capacity (in MGD)				
	Below 0.5	0.5-1.00	1.01-2.00	2.01-4.00	Above 4.00
(a) Waste stabilization ponds, including aerated and non-aerated types	D	C	C	B	B
(b) Trickling filter or rotating biological contactor	C	C	B	B	A
(c) Extended aeration process sequencing batch reactors (SBR) designed to operate in the extended aeration loading range.	C	B	B	B	A
(d) All other activated sludge processes and extended aeration where used beyond secondary treatment (i.e., nitrification) and chemical and/or physical processes providing a high degree of treatment other than polishing ponds.	B	B	B	B	A
(e) Re-circulating sand filtration	D	C	C	C	C
(f) Wetlands used as a part of the water treatment process	Will be classified in alignment with the last treatment process prior to release of the effluent into the wetland for further treatment.				



## 100.6 RECLAIMED WATER AND GRAYWATER TREATMENT FACILITY AND DISTRIBUTION SYSTEM CLASSIFICATION

100.5.3 The classification of any domestic wastewater treatment facility may be changed at the discretion of the Division based on changes in any condition or circumstance since the last classification determination.

100.5.4 Any domestic wastewater treatment facility that utilizes a combination of two or more of the treatment processes described in section 100.5.2 shall be classified in accordance with the highest level of treatment process utilized.

### 100.6 RECLAIMED WATER AND GRAYWATER TREATMENT FACILITY AND DISTRIBUTION SYSTEM CLASSIFICATION

100.6.1 Reclaimed water treatment facilities or a “category D non-single family, indoor toilet and urinal flushing graywater treatment works” in *Graywater Control Regulation*, 5 CCR 1002-86, shall be based on the water treatment facility classifications in section 100.4 and the domestic wastewater treatment facility classifications in section 100.5 as noted below. The facilities may require single or dual classifications based on the site-specific conditions.

- (a) Facilities that receive untreated wastewater or graywater shall be classified in accordance with the domestic wastewater treatment facility classifications in section 100.5.
- (b) Facilities that discharge for indoor non-potable plumbing uses or direct potable water uses shall be classified in accordance with the water treatment facility classifications in section 100.4.
- (c) Facilities that receive treated effluent from a separate wastewater treatment facility, either domestic or industrial, may be classified in accordance with the water treatment facility classifications in section 100.4, provided the treatment technologies used at the reclaimed water treatment facilities are included in section 100.4. Alternatively, these facilities may be classified in accordance with the domestic wastewater treatment facility classifications in section 100.5, provided the treatment technologies used at the reclaimed water treatment facilities are included in section 100.5.

100.6.2 Reclaimed water distribution systems beyond the property of the owner of the reclaimed water treatment facility that are operated by 1) reclaimed water treaters or 2) reclaimed water users with indoor uses at multiple buildings or users with booster chlorine facilities; and 3) distribution pipes associated with a “category D non-single family, indoor toilet and urinal flushing graywater treatment works” in *Graywater Control Regulation*, 5 CCR 1002-86, that extend beyond the building with the graywater treatment facility; shall be classified based on the water distribution facility classifications in section 100.8 using the following flow table for Step 1 rather than the population table.

Step 1 Reclaimed Water Distribution Table	
CLASS	RECLAIMED WATER DISTRIBUTED PER DAY (MGD)
Class 1	Less than 0.3
Class 2	0.31 – 2.5
Class 3	2.51 – 10.0
Class 4	Over 10.0

### 100.7 INDUSTRIAL WASTEWATER TREATMENT FACILITY CLASSIFICATION

100.7.1 Industrial wastewater treatment facilities shall be classified in accordance with the following four classes: Class D, Class C, Class B, or Class A. Class A is the highest level of classification and

Class D is the lowest level of classification. The Division may make changes in classification in accordance with the needs created by particular complexities of any specific industrial wastewater treatment facility based on consideration of facility specific factors, including, but not limited to:

- (a) design features or other characteristics that make the plant more difficult to operate;
- (b) treatment of a waste that is unusually difficult to process adequately;
- (c) flow conditions, use classifications and/or water quality standards assigned to the waters receiving the treated effluent requiring an unusually high degree of plant operation control in order to meet permit conditions; or
- (d) any combination of the above conditions or circumstances.

100.7.2 Table - Criteria for Industrial Wastewater Treatment Facility Classes A, B, C, and D

- (a) For industrial wastewater treatment facilities that are new or substantially modified after March 1, 2019, the following classifications shall become effective immediately. For any industrial wastewater treatment facilities existing prior to March 1, 2019 and not substantially modified, the following classifications shall apply beginning March 1, 2021.

<b><u>CLASSIFICATION</u></b>	<b><u>TREATMENT PROCESS<sup>1</sup></u></b>
Class A	<p>Multiple step chemical conversion, oxidation/reduction reactions (e.g., cyanide destruction, hexavalent chromium reduction, selenium, facilitated with ozone, peroxide, ultraviolet radiation, chlorine, etc.);</p> <p>Ion exchange;</p> <p>Electro-chemical conversion (e.g., electrolysis, electro-oxidation, electro-dialysis, high voltage electro-coagulation/flocculation, capacitive deionization, electro-winning)</p> <p>Nanofiltration, Reverse osmosis.</p> <p>Disinfection/inactivation with ozonation, advanced oxidation, electrolytic release</p> <p>Biosolids reduction using incineration, wet oxidation</p> <p>Thermal distillation</p> <p>Solvent extraction</p>

Class B	<p>Chemical coagulation and flocculation;          Adsorptive processes (e.g., activated carbon, Zeolite, organoclay, green sand);          Ultrafiltration; Microfiltration;          Coagulation, flocculation          Chemical precipitation;          Enhanced chemical settling (e.g., magnetite)          Chemical softening process (lime)          Suspended, fixed, or a combination of biological processes (e.g., activated sludge, trickling filters, rotating biological contactors, fixed or moving biofilm reactors, membrane bioreactor (MBR), anaerobic reactors/filters, sludge digestion).          Biologically activated carbon          Subsurface submerged reactors (biological, metals removal)          Single step chemical conversion, oxidation/reduction reactions (e.g., iron, manganese)          Oil / water separation with chemical addition (emulsion breaker, etc.).          Can include low voltage electro-coagulation for emulsion breaking.          Oil / water separation with chemical precipitation (three phase, etc.)          Low voltage (&lt;50 volts) electro-coagulation for metals removal          Biological or chemical scrubbers (e.g., odor control)          Diatomaceous earth (DE) filtration          Dissolved air flotation (DAF) with or without chemical addition          Centrifuge          Disinfection/inactivation with gaseous chlorine          Dechlorination with gaseous reagents          Chemical addition in gaseous form</p>
Class C	<p>Standard clarification/sedimentation (including waste ponds for settling that regularly utilize chemical addition, but not chemical precipitation for specific reactions);          Filtration (e.g., mixed media, pressure, slow sand);          Cartridge/bag filtration          Cloth disk/drum filtration          Neutralization (e.g., pH adjustment);          Solids Dewatering (e.g., sand or surfaced drying beds, mechanical such as belt filter, filter press);          Airstripping;          Biological pond/lagoon, wetlands          Biosolids composting          Oil / water skim pit with mechanical skimmer          Disinfection/inactivation with ultraviolet (UV) radiation, free chlorine (e.g., liquid, solid), peracetic acid          Dechlorination with solid or liquid reagents          Chemical addition in dry or liquid form (other than when used in processes listed as Class B or A)</p>
Class D	<p>Particulate settling ponds/tanks, without chemical addition;          Simple gravity flow filtration without chemical addition;          Physical water/gas separation without chemical addition;          Cooling water discharge without chemical addition          Physical oil / water separation without chemical addition (emulsion breaker, etc.) (e.g., gravity separator, corrugated plate separator, tube settler, hydrocyclone). Can include heater/treater or coalescing mesh filter.          Construction dewatering filter sock          Storage pond</p>

Note: 1. The treatment processes are listed as examples and are not all inclusive but are representative and the division will categorize other technologies consistent with this list and classify facilities based on the similar technologies.

- (b) For industrial wastewater treatment facilities existing prior to March 1, 2019 and not substantially modified, the following classifications shall apply until the classifications in Table 100.7.2(a) become applicable on March 1, 2021.

CLASSIFICATION	TREATMENT PROCESS <sup>1</sup>
Class A	Chemical conversion (e.g., cyanide destruction, hexavalent chromium reduction); Ion exchange; Electrolytic conversion; Filtration by reverse osmosis.
Class B	Chemical coagulation and flocculation; Adsorptive processes (e.g., activated carbon); Ultrafiltration; Microfiltration; Chemical precipitation; Suspended, fixed, or a combination of biological processes (e.g., activated sludge, trickling filters, rotating biological contactors).
Class C	Standard clarification (including waste ponds for settling that regularly utilize chemical addition); Filtration (e.g., mixed media, pressure); Neutralization; Solids Dewatering (e.g., sand or surfaced drying beds, mechanical); Airstripping; Sludge Digestion.
Class D	Particulate settling ponds; Simple gravity flow filtration without chemical addition; Physical water/gas separation without chemical addition; Cooling water discharge without chemical addition.

<sup>1</sup> Treatment processes are listed as examples and are not all inclusive.

100.7.3 The classification of any industrial wastewater treatment facility may be changed at the discretion of the Division based on changes in any condition or circumstance since the last classification determination.

100.7.4 Any industrial wastewater treatment facility that regularly utilizes a combination of two or more of the treatment processes described in section 100.7.2 shall be classified in accordance with the highest level of treatment process utilized.

100.7.5 Industrial wastewater treatment facilities that meet the automatic exemption criteria in section 100.1.5(a) are exempt from the requirement to operate under the supervision of a certified operator in responsible charge and shall not be classified.

100.7.6 If an industrial wastewater treatment facility is discharging to a water distribution system with non-industrial, domestic indoor uses or potable water distribution system, the treatment facility must also receive classification as a water treatment facility under section 100.4 and a water distribution system under section 100.8.

## 100.8 WATER DISTRIBUTION SYSTEM CLASSIFICATION

100.8.1 Water distribution systems shall be classified in accordance with the following four classes: Class 1, Class 2, Class 3 or Class 4. Class 4 is the highest level of classification and Class 1 is the lowest level of classification. The Division may make changes in classification in accordance with

the needs created by particular complexities of any specific water distribution system based on consideration of system specific factors.

#### 100.8.2 Criteria for Water Distribution System Classes 1, 2, 3, and 4

- (a) For water distribution systems that are new or substantially modified after March 1, 2019, the following classifications shall become effective immediately. For any water distribution systems existing prior to March 1, 2019 and not substantially modified, the following classifications shall apply beginning March 1, 2021.

The Division will utilize a two-step process for classifying water distribution systems as follows:

Step 1: The first step will be to classify based on population served which is a surrogate for number of taps and system volume/flow. Increasing number of taps, volume, and flow implies increased complexity.

Step 1 Distribution Table

CLASS	POPULATION SERVED <sup>1</sup>
Class 1	3,300 or Less
Class 2	3,301 - 25,000
Class 3	25,001 - 100,000
Class 4	Over 100,000

Note: 1. "Population served" means the average daily population that occurs during the busiest month of the year or normal operating period(s) including resident, non-transient, and transient population.

Step 2: The second step will be to account for additional system complexity not captured in step 1. The Division will increase the classification in accordance with the needs created by particular complexities of any specific water distribution system based on system specific factors as outlined in the Step 2 Distribution Table below. Note: A system classified as a class 3 or class 4 based on population would not increase classification based on the Step 2 Distribution Table. However, a class 1 or class 2 distribution system will be increased to a class 2 or class 3 based on a listed complexity. System classifications can never be lower than the classification determined in step 1.

Step 2 Distribution Table

Distribution System Feature	Minimum Classification
Pressure zones <sup>1</sup> : 3 to 5 zones	Class 2
Pressure zones: 6 or more zones	Class 3
System pressures greater than 150 psi (normal operation)	Class 3
Chloramines residual (instead of free chlorine)	Class 2
Booster chlorine stations – within distribution (not at entry points)	Class 2
Substantial lengths of pipe within distribution (>2% of overall distribution system pipe length) with diameters greater than or equal to 24 inches	Class 3
Systems with 5 to 9 entry points	Class 2
Systems with 10 or more entry points	Class 3

Hand-pumped wells regulated under <i>Colorado Primary Drinking Water Regulations</i> , 5 CCR 1002-11 Alternatively can be operated by Level D or above Treatment operator without a distribution operator.	Class 1
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Note: 1. Pressure zones must serve at least 15 service connections to be counted as a zone. A small booster pump serving a few houses should not be considered its own zone. Pressure zones can be served by a pump or pressure regulating valves.

- (b) For water distribution systems existing prior to March 1, 2019 and not substantially modified, the following classifications shall apply until the classifications in Table 100.8.2(a) become applicable on March 1, 2021.

CLASS	POPULATION SERVED
Class 1	3,300 or Less
Class 2	3,301 - 25,000
Class 3	25,001 - 100,000
Class 4	Over 100,000

100.8.3 The classification of any water distribution system may be changed at the discretion of the Division based on changes in any condition or circumstance since the last classification determination.

100.8.4 Water distribution systems that meet the exemption criteria in section 100.1.5(a) are exempt from the requirement to operate under the supervision of a certified operator in responsible charge and shall not be classified.

## 100.9 WASTEWATER COLLECTION SYSTEM CLASSIFICATION

100.9.1 Wastewater collection systems shall be classified in accordance with the following four classes: Class 1, Class 2, Class 3 or Class 4. Class 4 is the highest level of classification and Class 1 is the lowest level of classification. The Division may make changes in classification in accordance with the needs created by particular complexities of any specific wastewater collection system based on consideration of population, system complexities, or other facility specific factors, including, but not limited to, unusual factors, potential for mixing of sources, or potential health hazards.

100.9.2 Criteria for Wastewater Collection System Classes 1, 2, 3, and 4

- (a) For wastewater collection systems that are new or substantially modified after March 1, 2019, the following classifications shall become effective immediately. For any wastewater collection systems existing prior to March 1, 2019 and not substantially modified, the following classifications shall apply beginning March 1, 2021.

The Division will utilize a two-step process for classifying wastewater collection systems as follows:

Step 1: The first step will be to classify based on population served which is a surrogate for number of connections, system volume/flow, and pipe size/quantity. Increasing number of connections, volume, and flow implies increased complexity.

Step 1 Collection Table

CLASS	POPULATION SERVED <sup>1</sup>
Class 1	3,300 or Less

Class 2	3,301 - 25,000
Class 3	25,001 - 100,000
Class 4	Over 100,000

Note: 1. "Population served" means the average daily population that occurs during the busiest month of the year or normal operating period(s) including resident, non-transient, and transient population.

Step 2: The second step will be to account for additional system complexity not captured in step 1. The Division will increase the classification in accordance with the needs created by particular complexities of any specific wastewater collection system based on system specific factors as outlined in the Step 2 Collection Table below. Note: A system classified as a class 3 or class 4 based on population would not increase classification based on the Step 2 Collection Table. However, a class 1 or class 2 collection system will be increased to a class 2 or class 3 based on a listed complexity. System classifications can never be lower than the classification determined in step 1.

Step 2 Collection Table

Collection System Feature	Minimum Classification
Lift stations <sup>1</sup> : designed capacity to receive greater than 2,000 gpd (domestic wastewater treatment works) and firm capacity <sup>2</sup> less than 150,000 gpd (0.15 MGD). Includes 1 or 2 lift stations with one or both having firm capacity 150,000 gpd (0.15 MGD) or greater, but less than 0.35 MGD.	Class 1
Lift stations: 3 to 5, each with designed capacity to receive greater than 2,000 gpd (domestic wastewater treatment works) and one or more with firm capacity 150,000 gpd (0.15 MGD) or greater.	Class 2
Lift stations: 6 or more, each with designed capacity to receive greater than 2,000 gpd (domestic wastewater treatment works) and one or more with firm capacity 150,000 gpd (0.15 MGD) or greater.	Class 3
Lift station: any single lift station with firm capacity 0.35 MGD to 2.49 MGD.	Class 2
Lift station: any single lift station with firm capacity 2.5 MGD or more.	Class 3
Two significant industrial users (SIU) <sup>3</sup> in collection system service area	Class 2
Three or more significant industrial users (SIU) in collection system service area	Class 3

## Notes:

1. Lift stations for these evaluations do not include units with designed capacity to receive 2,000 gpd or less such as individual grinder pumps at residences or businesses. Lift stations for these evaluations do not include lift stations within the property of the owner of the domestic wastewater treatment facility as they are excluded from the definition of wastewater collection system.
2. Firm capacity is installed pumping capacity with largest unit out of service.
3. Significant industrial users are defined in section 100.2.

- (b) For wastewater collection system existing prior to March 1, 2019 and not substantially modified, the following classifications shall apply until the classifications in Table 100.9.2(a) become applicable on March 1, 2021.

<u>CLASS</u>	<u>POPULATION SERVED</u>
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## 100.10 RESPONSIBILITIES AND DUTIES OF WATER AND WASTEWATER FACILITY OWNERS

Class 1	3,300 or Less
Class 2	3,301 - 25,000
Class 3	25,001 - 100,000
Class 4	Over 100,000

100.9.3 The classification of any wastewater collection system may be changed at the discretion of the Division based on changes in any condition or circumstance since the last classification determination.

100.9.4 Wastewater collection systems for a campus with multiple buildings (e.g., business, educational, camps, mobile home parks) with one owner of the campus property and any of the following conditions are to be classified and expected to operate under the supervision of a certified operator in responsible charge in accordance with this regulation:

- (a) Size exceeding 10,000 feet collection system pipe.
- (b) Having a lift station with a designed capacity to receive greater than 2,000 gpd (domestic wastewater treatment works) located on the property and discharging to another collection and/or treatment system beyond the property of the owner, unless legal arrangements are made with the receiving collection and/or treatment system to maintain the lift station.

### 100.10 RESPONSIBILITIES AND DUTIES OF WATER AND WASTEWATER FACILITY OWNERS

#### 100.10.1 Supervision by a Certified Operator in Responsible Charge

- (a) No owner of a water or wastewater facility shall allow the facility to be operated without the direct supervision of one or more certified operators in responsible charge.  
  
"Direct supervision" means that the certified operators in responsible charge have supervisory responsibility and authority with respect to the operation of the water or wastewater facility and for the activities and functions of other facility operators.
- (b) The owner designates the certified operators in responsible charge of the water or wastewater facility by completing and submitting the appropriate division contact update form.
- (c) Owners shall ensure that their agreements with the certified operators in responsible charge are sufficiently detailed and formal to reflect all the duties as outlined in section 100.12.
- (d) Contracts for limited services do not fulfill the owner's obligation, under section 100.10.1(a), to place the facility under the supervision of one or more certified operators in responsible charge. Contracts for limited services, such as compliance sampling, do not rise to the level of a contract for a certified operator in responsible charge.

#### 100.10.2 Decisions Reserved to Certified Operator in Responsible Charge

Each owner of a water or wastewater facility shall ensure that all process control and/or facility integrity decisions about water quality or quantity or wastewater effluent quality or quantity that may affect public health or the environment are made by either a certified operator in responsible charge or by another operator certified at a level equal to or above the classification of the facility he or she is operating in accordance with the facility's written operating plan as described in section 100.12.6.



## 100.10 RESPONSIBILITIES AND DUTIES OF WATER AND WASTEWATER FACILITY OWNERS

### 100.10.3 Availability of Certified Operator in Responsible Charge

Each owner of a water or wastewater facility shall ensure that a certified operator in responsible charge is available or ensure that operations are conducted in accordance with the facility's written operating plan as described in section 100.12.6 whenever the facility is in operation.

Available" means either on-site or able to be contacted as needed to make decisions and to initiate appropriate actions in a timely manner.

### 100.10.4 Reporting Requirement

Each owner of a water or wastewater facility shall submit the appropriate division contact update form, no later than thirty (30) days following the date the facility is initially placed on-line and thereafter, no later than thirty (30) days after changes to any of the following information:

- (a) name, mailing address, phone number, and email address (if available) of the facility legal representative providing the information;
- (b) full legal name and operator identification number of the certified operators in responsible charge;
- (c) identification of the facility or facilities for which each certified operator in responsible charge has responsibility; or
- (d) the Public Water System Identification (PWSID) number, the Colorado Discharge Permit System (CDPS) permit number, or general permit certification number for all facilities listed.

### 100.10.5 Certified Operator in Responsible Charge Certification Requirements

- (a) Each water and wastewater facility shall have at least one certified operator in responsible charge certified as shown in the following table:
- (b) Table - Criteria for Certified Operator in Responsible Charge

<u>Facility or System Classification</u>	<u>Certified Operator in Responsible Charge Minimum Required Certification Levels</u>
<u>Water Facilities</u>	
Water Treatment	
A	A
B	A or B
C	A, B, or C
D	A, B, C, D, S <sup>1</sup> or T <sup>2</sup>
Water Distribution	
4	4
3	4 or 3
2	4, 3 or 2
1	4, 3, 2, 1, or S <sup>1</sup>
<u>Domestic Wastewater Facilities</u>	
Wastewater Treatment	
A	A

100.10 RESPONSIBILITIES AND DUTIES OF WATER AND WASTEWATER FACILITY OWNERS

B	A or B
C	A, B, or C
D	A, B, C, D, or S <sup>3</sup>
<u>Wastewater Collection</u>	
4	4
3	4 or 3
2	4, 3 or 2
1	4, 3, 2, 1, or S <sup>3</sup>
<u>Industrial Wastewater Facilities</u>	
A	A
B	A or B
C	A, B, or C
D	A, B, C, or D, or S <sup>3</sup>

1 Applicable only in accordance with section 100.10.5(d)

2 Applicable only in accordance with section 100.10.5(c)

3 Applicable only in accordance with section 100.10.5(e)

- (c) Class T certificate is only valid for operating facilities that meet all of the following criteria:
  - (i) are classified as transient non-community public water systems;
  - (ii) that draw water from ground water sources not under the direct influence of surface water;
  - (iii) serve fewer than 100 individuals per day;
  - (iv) utilize treatment consisting only of non-gaseous chlorine disinfection; and
  - (v) would be classified as a Class "D" water treatment facility and/or as a Class "1" water distribution system under the provisions of this regulation.
- (d) Class S Water certificate is only valid for operating facilities that meet all of the following criteria:
  - (i) serve no more than 3,300 persons; and
  - (ii) would be classified as a Class "D" water treatment facility and/or as a Class "1" water distribution system under the provisions of this regulation.
- (e) Class S Wastewater certificate is only valid for operating facilities that meet all of the following criteria:
  - (i) serve no more than 3,300 persons; and
  - (ii) would be classified as a Class "D" wastewater treatment facility and as a Class "1" wastewater collection system under the provisions of this regulation.

100.10.6 The Division shall investigate any instances of possible violations of the requirements of sections 100.10.1-100.10.5 by any owner of a water or wastewater facility. The Division shall enforce compliance with these requirements in accordance with the procedures in section 25-9-110, C.R.S.

100.10.7 Any water or wastewater facility owner who seeks a hearing in response to a Division finding of a violation under sections 100.10.1-100.10.5 or a Department assessment of a civil

## 100.10 RESPONSIBILITIES AND DUTIES OF WATER AND WASTEWATER FACILITY OWNERS

penalty for such violation may request a hearing in accordance with section 24-4-105, C.R.S., before the Board by submitting to the Division, within thirty (30) days of notice of such finding or assessment, a request containing the following:

- (a) identification of the person(s) requesting the hearing and the subject matter of the request;
- (b) the statutory and/or regulatory authority and factual basis for the request; and
- (c) the relief requested.

### 100.10.8 Site-Specific Certified Operator in Responsible Charge

- (a) Facilities to be classified in accordance with sections 100.4 through 100.9 and existing as of March 1, 2019 may request a designation by the Division of a site-specific certified operator in responsible charge at the level of classification existing before March 1, 2021 for a period until March 1, 2024 if the following conditions are satisfied:
  - (i) The existing facility classification will change on March 1, 2021 to two or more levels higher than the existing facility classification level on March 1, 2019, and the facility has not been substantially modified after March 1, 2019;
  - (ii) The existing certified operator in responsible charge has been the certified operator in responsible charge continuously since a time beginning before March 1, 2018; and
  - (iii) The existing certified operator in responsible charge meets the facility classification existing before March 1, 2021 but does not meet the classification level beginning March 1, 2021.
- (b) Facilities to be classified in accordance with sections 100.4 through 100.9 and existing as of March 1, 2019 may request a designation by the Division of a site-specific certified operator in responsible charge at the level of classification existing before March 1, 2021 for a period until March 1, 2024 if the following conditions are satisfied:
  - (i) The existing facility classification will change on March 1, 2021; and the facility has not been substantially modified after March 1, 2019;
  - (ii) The existing certified operator in responsible charge has been the certified operator in responsible charge continuously since a time beginning before March 1, 2014; and
  - (iii) The existing certified operator in responsible charge meets the facility classification existing before March 1, 2021 but does not meet the classification level beginning March 1, 2021
- (c) Facilities to be classified in accordance with sections 100.4 through 100.9 and existing as of March 1, 2019 may request a designation by the Division of a site-specific certified operator in responsible charge at the level of classification existing before March 1, 2021 for a period until March 1, 2029 if the following conditions are satisfied:
  - (i) The existing facility classification will change on March 1, 2021; and the facility has not been substantially modified after March 1, 2019;

- (ii) The existing certified operator in responsible charge has been the certified operator in responsible charge continuously since a time beginning before March 1, 2004; and
  - (iii) The existing certified operator in responsible charge meets the facility classification existing before March 1, 2021 but does not meet the classification level beginning March 1, 2021.
- (d) The application form to request a designation for a site-specific certified operator in responsible charge will also identify the necessary supporting documents to be submitted with the application, as determined by the Division.
- (e) To request a designation of a site-specific certified operator in responsible charge, the owner of the facility is required to submit to the Division a complete application with the identified supporting documentation no later than December 31, 2020.
- (f) The Division will review and evaluate the application requesting a designation of a site-specific operator in responsible charge and the supporting documentation along with any other information the Division considers to be relevant to determine whether the facility is operating in compliance with the law and applicable regulations.
- (g) The Division may deny an application requesting designation of a site-specific certified operator in responsible charge, if:
  - (i) the application or supporting document is incomplete;
  - (ii) the facility fails to meet the conditions under the applicable subsection of 100.10.8 (a)-(c) which it applied for the designation of site-specific certified operator in responsible charge; or
  - (iii) there are operator and facility specific factors including, but not limited to, history of non-compliance issues, operational complaints, or past and current enforcement matters.
- (h) Designation of the site-specific certified operator in responsible charge is for long-time existing certified operator in responsible charge of a particular system. Designation is not available for contract operators.
- (i) If at any time the site-specific certified operator in responsible charge is no longer the certified operator in responsible charge for a facility, the facility's designation of a site-specific certified operator in responsible charge is no longer valid. The owner is responsible for notifying the Division and providing a certified operator in responsible charge certified at a level equal to or higher than the classification of the facility he or she is operating within 30 days of a site-specific certified operator in responsible charge's departure from employment at the facility.

## **100.11 RESPONSIBILITIES AND DUTIES OF A CERTIFIED OPERATOR**

100.11.1 In the performance of their duties, certified operators shall exercise a level of reasonable care and judgment consistent with the experience and training appropriate to their level of certification as defined in these regulations.

100.11.2 Certified operators shall protect the public health and the environment by properly performing and/or supervising the activities pertinent to controlling the operation of a water or

## **100.12 RESPONSIBILITIES AND DUTIES OF A CERTIFIED OPERATOR IN RESPONSIBLE CHARGE**

wastewater facility in accordance with a written operating plan as described in section 100.12.6 as appropriate to their level of certification, including but not limited to the following:

- (a) controlling the selection of or flow from a source to a water or wastewater facility and controlling the selection of or flow from a water or wastewater facility to a receiving body or system;
- (b) controlling the processing of raw and/or treated and/or finished water/wastewater;
- (c) preparing and/or controlling chemical addition for water or wastewater treatment;
- (d) observing and taking necessary actions in response to variations in operating conditions;
- (e) interpreting meter and/or gauge readings and adjusting facility processes based on such interpretations;
- (f) controlling the operation and maintenance of valves and/or gates;
- (g) controlling the operation and maintenance of pumps;
- (h) maintaining logs and/or records;
- (i) collecting and/or analyzing process control samples; and
- (j) reporting instances of non-compliance or situations that could result in non-compliance to the certified operator in responsible charge.

100.11.3 When acting in the capacity of a certified operator, certified operators shall refrain from behaving in a threatening, intimidating, demeaning or similar manner in verbal or written communications or in interactions with the public, the regulated community and regulators.

100.11.4 Certified operators shall update the Board or its contractor with any changes to mailing address, telephone number, or email within 30 days of such a change.

## **100.12 RESPONSIBILITIES AND DUTIES OF A CERTIFIED OPERATOR IN RESPONSIBLE CHARGE**

100.12.1 Certified operators in responsible charge are designated by the owner of the water or wastewater facility and have supervisory responsibility for the operation of the facility and for the operational activities and functions of other facility operators.

100.12.2 Process control and/or system integrity decisions with respect to drinking water quality or quantity that may affect the public health or the environment are reserved to certified operators in responsible charge.

100.12.3 Process control and/or facility integrity decisions with respect to effluent quality or quantity that may affect the public health or the environment are reserved to certified operators in responsible charge.

100.12.4 Certified operators in responsible charge of a water or wastewater facility must hold a valid certificate equal to or greater than the classification of the water or wastewater facility they operate.

100.12.5 Certified operators in responsible charge shall protect the public health and the environment in the conduct of their duties. The certified operators in responsible charge are accountable for the operation and maintenance of the water or wastewater facility and are

responsible for understanding the requirements of the applicable permits, laws and regulations. These duties include the following:

- (a) controlling, supervising or actively participating in the planning, operation and maintenance of a water or wastewater facility;
- (b) making process control and system integrity decisions on the operation and maintenance of the water or wastewater facility;
- (c) making decisions and initiating actions regarding the operation of the water or wastewater facility in a timely manner;
- (d) inspecting and testing new, modified, or repaired facilities prior to placing or returning such facilities into service;
- (e) developing maintenance programs;
- (f) developing and maintaining the written operating plan as described in section 100.12.6;
- (g) reporting instances of non-compliance or situations that could result in non-compliance as appropriate to facility owners and the Department; and
- (h) performing other functions of direct responsibility, including those enumerated in section 100.11.

100.12.6 Written Operating Plan - Certified operators in responsible charge of a water or wastewater facility may delegate tasks or activities, including those listed in section 100.11, to other facility operators when delineated by a written operating plan.

- (a) Such tasks may be performed by the facility operators even if the certified operator in responsible charge is not on-site.
- (b) The operating plan must be precise in defining the limits of such tasks or activities.
  - (i) The operating plan must be reviewed and updated, as needed, at least once each calendar year by a certified operator in responsible charge.
  - (ii) The operating plan must be available to the facility owner and other facility operators at all times. The operating plan must be available for inspection by the Department upon request.
- (c) Any operational activity beyond the limits defined in the operating plan requires the immediate and direct consultation with and participation of a certified operator in responsible charge or another operator holding a certificate equal to or above the classification of the facility he or she is operating.
- (d) Certified operators in responsible charge remain accountable for the consequences of the performance of such tasks or activities by other facility operators under their charge.

### **100.13 DISCIPLINARY PROCEEDINGS**

100.13.1 The Division shall investigate any instances of possible misconduct by certified operators or certified operators in responsible charge. The Division shall present the results of the investigation and its recommendations for any disciplinary action, including reprimand or

suspension or revocation of a certificate, to the Board in accordance with section 24-4-104, C.R.S.

100.13.2 Certified Operators – In accordance with the procedures in sections 24-4-104 and 105, C.R.S., the Board may reprimand a certified operator, and/or suspend or revoke the certificate of any certified operator who violates the requirements of this regulation, including, but not limited to the following:

- (a) failing to exercise reasonable care and judgment consistent with the operator's level of certification and degree of responsibility for the operation of a water or wastewater facility;
- (b) failing to properly perform and/or supervise activities pertinent to controlling the operation of a water or wastewater facility, including, but not limited to the tasks described in section 100.11 of this regulation;
- (c) willfully or negligently violating, causing, or allowing the violation of this regulation, 5 CCR 1003-2; the *Colorado Primary Drinking Water Regulations*, 5 CCR 1002-11; the *Colorado Discharge Permit System Regulations*, 5 CCR 1002-61, or a discharge permit issued thereunder; or any other relevant regulations;
- (d) submitting false or misleading information on any document provided to the Department, Division, Board, or contractor of the Board;
- (e) using fraud or deception in the course of employment as a certified operator;
- (f) failing to conform with minimum standards of performance of a certified operator's duty;
- (g) engaging in dishonest conduct during an examination;
- (h) obtaining a certificate through fraud, deceit, or the submission of materially inaccurate application information;
- (i) representing oneself as holding a valid operator's certificate after the expiration, suspension, or revocation of the certificate;
- (j) when acting in the capacity of a certified operator, behaving in a threatening, intimidating, demeaning or similar manner in verbal or written communications or in interactions with the public, the regulated community or regulators; or
- (k) failure to follow the Colorado Certified Water Professionals Code of Conduct.

100.13.3 Certified Operators in Responsible Charge – In accordance with the procedures in sections 24-4-104 and 105, C.R.S., the Board may reprimand a certified operator in responsible charge, and/or suspend or revoke the certificate of any certified operator in responsible charge, who:

- (a) fails to meet the requirements of a certified operator in responsible charge as defined in section 100.12; and/or
- (b) willfully or negligently causes, instructs, or allows any other person or operator under his or her charge, direction, or supervision to act in a manner inconsistent with a certified operator's duties and obligations as described in section 100.11 or other relevant parts of this regulation, or to act in a manner inconsistent with any other relevant regulations or permits.

## **100.14 CERTIFICATION QUALIFICATIONS, EDUCATION, EXPERIENCE AND SUBSTITUTIONS**

### **100.13.4 Reprimand**

A reprimand is an official admonition for wrongdoing issued to a certified operator by the Board in the form of a letter, which includes the facts and circumstances leading to the reprimand, the statutory and regulatory provisions at-issue, and a warning of more serious consequences for future wrongdoings.

### **100.13.5 Suspension**

- (a) The Board may suspend a certificate for a period not to exceed three (3) years.
- (b) At the end of the suspension period, an operator may resume prior duties without being required to submit a new application for certification.
- (c) If an operator's certificate is due for renewal during the period of suspension, the operator shall remain subject to the renewal deadline and shall renew the certificate in a timely manner.
- (d) Certificates renewed during a suspension period shall become valid for a period of three (3) years, effective on the ending date of the suspension period.

### **100.13.6 Revocation**

- (a) Following the revocation of a certificate, an operator may not apply for another certificate in the same classification category as that of the revoked certificate for a period of three (3) years.
- (b) Any operator whose certificate is revoked shall be treated as a new applicant for purposes of this regulation and must meet all the initial certification requirements, including passing the appropriate certification examination.

### **100.13.7 Emergency Suspension or Revocation**

The Division may immediately suspend or revoke certificates where such immediate action is necessary to protect the public health or the environment.

100.13.8 Following the suspension or revocation of his or her certificate, an operator shall not represent that he or she holds a certificate in the classification category for which the certificate was suspended or revoked. No person shall operate a water or wastewater facility with a suspended or revoked certificate.

## **100.14 CERTIFICATION QUALIFICATIONS, EDUCATION, EXPERIENCE AND SUBSTITUTIONS**

100.14.1 A person desiring to be certified shall apply for certification with the Board or its contractor. Applicants shall affirm agreement with the Colorado Certified Water Professionals Code of Conduct and provide the following:

- (a) documentation showing that the minimum educational requirements of section 100.14.5(e) have been met;
- (b) verification of lawful presence in the United States in accordance with section 24-76.5-101 et. seq., C.R.S., and
- (c) verification of regulatory training course completion as described in section 100.14.5(b).



## 100.14 CERTIFICATION QUALIFICATIONS, EDUCATION, EXPERIENCE AND SUBSTITUTIONS

100.14.2 Completed application materials and fees must be submitted at the time of application.

100.14.3 The Board or its contractor shall review applications and supporting documents, determine the eligibility of applicants and notify applicants of their status. Any application disapproval notification shall specify the reason(s) the application does not meet the minimum requirements.

100.14.4 If an application is disapproved by the Board's contractor, the applicant may appeal this decision to the Board in accordance with the procedures in section 24-4-105, C.R.S.

- (a) Any such appeal must be received in the Board's office within two weeks of the date of the disapproval notification.
- (b) No new factual information will be accepted during the Board appeal process, except for good cause shown.

100.14.5 Qualifications for Certification

- (a) Applicants shall be evaluated by the Board or its contractor as to education, experience, and knowledge related to the classification level for which the applicant seeks to be certified.
- (b) Regulatory Training Requirement
  - (i) Applicants must complete an approved regulatory training course prior to submitting an application.
  - (ii) Each completion of a regulatory training course is valid for three years.
- (c) An applicant for a new certificate must pass a validated examination designated for the category and level for which application is being made with a minimum passing score of 70 percent.

To qualify to sit for an examination, an applicant must apply as set forth in section 100.14.1 and meet the following requirements:

- (i) completion of approved mandatory regulatory training as set forth in section 100.14.5(b);
  - (ii) minimum education requirements;
  - (iii) the minimum experience or cross-experience requirements; and
  - (iv) the prior certification requirements as set forth in section 100.14.5(j).
- (d) Certificates by reciprocity may be issued by the Board or its contractor, without examination, on a case-by-case basis, to persons who:
- (i) hold a valid certificate issued by a state, territory or possession of the United States, or other country or, at the discretion of the Board, by another certifying entity, that administers validated examinations approved by the Board or its contractor as comparable to exams given in Colorado;
  - (ii) meet the minimum experience or cross-experience requirements specified by these regulations;

*100.14 CERTIFICATION QUALIFICATIONS, EDUCATION, EXPERIENCE AND SUBSTITUTIONS*

- (iii) obtain qualifying experience in the state, territory or possession of the United States, or other country in which they hold a valid certificate; and
  - (iv) complete the approved mandatory regulatory training as set forth in section 100.14.5(b).
- (e) Minimum Educational Requirements
  - (i) Applicants must be high school graduates or hold a general equivalency diploma (GED).
  - (ii) Experience and relevant training may substitute for high school graduation or GED. Applicants substituting experience and relevant training for the high school graduation or GED shall:
    - (A) have an additional six (6) months of qualifying experience; and
    - (B) demonstrate the completion of 1.0 training units in a course approved as a substitute for entry-level experience requirements.
- (f) Experience Determinations
  - (i) No more than one year of experience will be credited for employment/activities during any one calendar year.
  - (ii) For water or wastewater facilities that require less than a full time operator for proper operation, the experience of an operator of such a facility who works less than half time will be counted as half-time experience; the experience of an operator of such a facility who works half-time or more will be counted as full-time experience.
  - (iii) The aggregate time spent operating multiple facilities shall be considered in any determination of whether to credit full-time experience or half-time experience.
  - (iv) Experience obtained in the operation of a seasonal water or wastewater facility will be credited only for that portion of the year during which the facility is in operation.
  - (v) Except as described in section 100.14.5(k), the experience cut-off date is the date an application is submitted to determine if the applicant has the required experience to take a certification examination at a particular level.
  - (vi) To meet the experience requirement to test for a particular level of certification, the experience relied upon does not have to be at the level of the examination for which application is being made.
- (g) Evaluation of Experience. For purposes of this section, domestic and industrial wastewater treatment facility experience shall be considered interchangeable. In evaluating experience of operators the Board or its contractor will be guided by:
  - (i) whether and to what degree the experience required technical knowledge of the operation of a water or wastewater facility;

## 100.14 CERTIFICATION QUALIFICATIONS, EDUCATION, EXPERIENCE AND SUBSTITUTIONS

- (ii) whether and to what degree the experience was actual on-site operating experience with the daily operational aspects of a facility that could affect water quality or quantity; and
- (iii) whether or not the experience included the responsible charge of a water or wastewater facility.
- (h) Once specific experience or relevant training is credited toward the satisfaction of either the experience or education requirements of this section, that same experience and/or training may not be further credited to meet other requirements of this section.
- (i) Prior Certification Requirements. To qualify to sit for an examination, an applicant must hold a certificate for the same certification category (water treatment facility, domestic or industrial wastewater treatment facility, distribution system or collection system) and in the class immediately below the class for which application is being made. Prior certification requirements are shown in the table below.
- (j) Table - Prior Certification and Experience Requirements

Certification Class	Prior Certification Required <sup>1</sup>	Minimum Experience Required
Class T	None	No minimum experience requirement
Class S, Class D, or Class 1	None	1 Month
Class C	Class D or Class S	2 Years
Class 2	Class 1 or Class S	2 Years
Class B	Class C	3 Years
Class 3	Class 2	3 Years
Class A	Class B	4 Years
Class 4	Class 3	4 Years

<sup>1</sup> Prior certification must be for the same certification category as that of the examination being applied for.

- (k) Special Rules for Satisfying the Minimum Experience Requirements for Class D, Class 1, Class S and Class T Certifications:
  - (i) The required experience may be obtained either under the supervision of a certified operator in responsible charge or through the successful completion of an approved training course or course of study.
  - (ii) Any education courses used to satisfy the basic experience requirement for a Class D, Class 1, Class S, or Class T certificate may not be used to satisfy the certificate renewal requirements for that same certification.

### 100.14.6 Substituting education and cross experience for the experience requirements

- (a) Substituting Education for Experience Requirements
  - (i) Post-secondary education may also be substituted for up to fifty percent (50%) of the experience requirements of section 100.14.5(f) based on successful completion of formal academic credit hours, as approved by the Board or its contractor in accordance with section 100.14.6(b), for all or a portion of an academic year. For education substitution for experience, academic credit hours shall be calculated as follows:
    - (A) 15 semester hours = ½ academic year = 6 months experience; 15 quarter hours = 1/3 academic year = 4 months experience;

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- (B) Training units: 300 contact hours or 30 training units = 15 quarter hours = 4 months experience;
  - (C) thirty (30) semester hours and/or forty-five (45) quarter hours shall constitute one (1) year's formal education and may be substituted for one (1) year of experience.
- (ii) Military specialty training directly relevant to the operation of water and wastewater facilities.
  - (A) Credit for up to fifty percent (50%) of the applicable experience requirement of section 100.14.5(f) may be granted for satisfactorily completing military specialty training courses.
  - (B) For purposes of equivalency for education substitution for experience, military training credit hours shall be calculated as follows:
    - (I) 1 week training = 40 contact hours.
    - (II) 240 contact hours = 15 semester hours = ½ academic year = 6 months experience.
- (iii) Consideration of Field(s) of Study
  - (A) Credit for up to fifty percent (50%) of the applicable experience requirement of section 100.14.5(f) may be granted for satisfactorily completing structured programs of study in a degree or certificate granting educational institution or equivalent for technically oriented programs which the Board or its contractor has determined are directly relevant to the operation of water and wastewater facilities, including but not limited to post high school education in the environmental control field, engineering or related science. Experience credit shall be granted based upon the number of academic years required to complete the program, in accordance with section 100.14.6(a).
  - (B) Credit for up to twenty-five (25%) of the applicable experience requirement of section 100.14.5(f) may be granted for satisfactorily completing structured programs of study in a degree granting educational institution or equivalent, regardless of field of study. Experience credit shall be granted based upon the number of academic years required to complete the program, in accordance with section 100.14.6(a).
- (iv) In instances where an approved degree or certificate program has not been completed, credit for up to fifty percent (50%) of the applicable experience requirement of section 100.14.5(f) may be granted for the completion of individual technically oriented courses as approved by the Board or its contractor as relevant to the operation of water and wastewater facilities, including but not limited to post high school education in the environmental control field, engineering or related science, in accordance with section 100.14.6(a).
- (v) At least fifty percent (50%) of any experience requirement of section 100.14.5(f) of this regulation shall be met by actual on-site operating experience in a water or wastewater facility, except that Class D, Class 1, and Class S applicants may

satisfy the experience requirements exclusively with formal academic education credits or training units, in accordance with section 100.14.5(k).

- (b) Approval of Training, Educational Courses, and Institutions When Substituting Education for Experience
  - (i) Approval of technically-oriented courses or programs, for purposes of substituting education for experience, shall be determined by the Board or its contractor based on a determination that such courses or programs are directly relevant to the operation of water and wastewater facilities. Such courses and programs may include, but are not limited to, post-secondary education in the environmental control field, engineering, microbiology, chemistry, or other related science.
  - (ii) Approval of educational institutions for purposes of substituting education for experience shall be determined by the Board or its contractor based on accreditation by recognized regional associations for such institutions in the United States. For educational institutions outside the United States, the applicant shall be required to establish to the satisfaction of the Board or its contractor the equivalency and suitability of the courses of study claimed for credit.
  - (iii) Other educational programs, including but not limited to, specialized operator training courses, seminars, workshops, correspondence or computer courses, and technical conferences, may be credited toward education for purposes of substitution for experience as approved by the Board or its contractor. Such programs will receive credit in training units on the following basis:
    - (A) Ten (10) contact hours shall be required to equal one training unit. A contact hour means a classroom or supervised hour of attendance or hour of participation, recognized by the Board as a training unit, successfully completed by an applicant.
    - (B) Three (3) training units shall equal one semester credit hour or two training units shall equal one quarter credit hour for purposes of equivalency.
- (c) Substitution of Cross-Experience for Experience Requirements
  - (i) Cross-experience may be substituted for the experience requirements of section 100.14.5(f) for certification as a Class C, Class B, or Class A water treatment facility operator, domestic or industrial wastewater treatment facility operator; or for a Class 2, Class 3, or Class 4 water distribution or wastewater collection system operator, except that at least fifty percent (50%) of any experience requirement of section 100.14.5(f) shall be met by actual on-site operating experience in the specific certification category, water or wastewater, for which application is being made.
  - (ii) For the purpose of this section, "cross-experience" means that:
    - (A) qualifying experience as an operator in a water treatment facility may be substituted for up to fifty percent (50%) of the experience requirement for certification as an operator of a wastewater treatment facility;

- (B) qualifying experience as an operator in a wastewater treatment facility may be substituted for up to fifty percent (50%) of the experience requirement for certification as an operator of a water treatment facility;
- (C) qualifying experience as an operator in a water distribution system may be substituted for up to fifty percent (50%) of the experience requirement for certification as an operator of a wastewater collection system; or
- (D) qualifying experience as an operator in a wastewater collection system may be substituted for up to fifty percent (50%) of the experience requirement for certification as an operator of a water distribution system.

**100.15 CERTIFICATES BY EXAMINATION AND CERTIFICATES BY RECIPROCITY**

**100.15.1 Examinations**

- (a) The Board or its contractor shall oversee the preparation and administration of validated examinations to be used in determining whether or not the applicant has the necessary skills, knowledge, ability and judgment appropriate for the level of certification sought.
- (b) All examinations shall be administered electronically, unless other arrangements are made with the exam administrator.
- (c) All examinations will be graded by the Board or its contractor and the applicants shall be notified of the results.
- (d) Examinees shall be provided an analysis of their examination performance indicating the level of knowledge demonstrated for each topic tested.
- (e) Applicants who fail an examination may retest within the 180-day eligibility period. A new exam fee will be assessed for each re-examination; however applicants will not be required to pay additional application and administration fees during the 180-day eligibility period.
- (f) Any form of cheating on the part of an applicant will invalidate the results of his or her examination and may result in the applicant being barred from sitting for an examination for a period of 1 to 5 years, as determined by the Board following a hearing in accordance with section 24-4-104, C.R.S.

100.15.2 The Board or its contractor shall award to the applicant a certificate upon satisfactory fulfillment of the requirements of section 100.14.

100.15.3 New certificates by examination and by reciprocity shall be valid for three (3) years from the effective date of the certificate.

**100.16 CERTIFICATE RENEWAL, EXPIRATION, REVOCATION AND TRAINING UNIT REQUIREMENTS**

100.16.1 Renewed certificates shall be valid for three (3) years from the date of the expiration of the prior certificate, not from the issue date of the renewed certificate.

**100.16.2 Application to Renew Certificates**

- (a) To renew a certificate, an operator must apply as set forth in section 100.14.1 and demonstrate satisfaction of the requirements for renewal, including:

100.16      *CERTIFICATE RENEWAL, EXPIRATION, REVOCATION AND TRAINING UNIT REQUIREMENTS*

- (i) verification of regulatory training course completion as described in section 100.14.5(b).
  - (ii) the training unit requirements in section 100.16.6.
- (b) **Renewal Process for Certified Operators Absent Due to Military Service**
  - (i) “Military service” means service in the uniformed services, as defined in the Uniformed Services Employment and Reemployment Rights Act (USERRA), 38 U.S.C. §§ 4301-4335, as the performance of duty on a voluntary or involuntary basis in a uniformed service under competent authority and includes active duty, active duty for training, initial active duty for training, inactive duty training, full-time National Guard duty, a period for which a person is absent from a position of employment for the purpose of an examination to determine the fitness of the person to any such duty, and a period for which a person is absent from employment for the purpose of performing funeral honors duty as authorized by section 12503 of title 10 or section 115 of title 32.
  - (ii) During the period a certified operator is participating in military service, his or her certificate(s) shall be tolled relative to certification renewal and training unit requirements (i.e., for every day a certified operator is in military service, all certifications held by that operator will be put on hold for purposes of meeting the renewal and training unit deadlines). In addition to the number of days in service, an extra 90-day grace period shall be afforded to certified operators upon return from military service for purposes of meeting renewal and training unit deadlines. The Board or its contractor shall have the discretion to extend this grace period to address extenuating circumstances on a case-by-case basis.
  - (iii) If the two-year renewal window for any certificate expires while a certified operator is in military service, the operator’s certificate(s) will not become invalid during the period the operator is in service. Upon return from military service, the certified operator will have the amount of time accrued while in military service, plus an additional 90 days to obtain the required training unit credits and to submit a renewal application. The operator’s certificate(s) will remain valid during that extended time period. In no case will the certified operator be subject to any late fees at the time of submitting a renewal application that is in conformance with section 100.16.1(e).
  - (iv) It is the certified operator’s responsibility to alert the Board or its contractor of intervening military service at the time of filing a renewal application. Such notification shall include the dates the operator was in “service in the uniformed services” in accordance with the USERRA definition. Certified operators shall be expected to provide a signature swearing under the penalty of perjury to the veracity of all statements regarding military service.

100.16.3      **Expired Certificates**

- (a) A certificate becomes invalid on its expiration date.
- (b) Following expiration of a certificate, the operator shall not represent that he or she holds a certificate in the category or level of the expired certificate.
- (c) No certified operator in responsible charge of a water or wastewater facility shall operate a facility with an expired certificate.

100.16.4 Restoration of Expired Certificates

- (a) To restore an expired certificate, an operator may apply for renewal up to two years following the expiration date of the certificate. The Board or its contractor will renew the certificate if the operator pays the renewal and applicable late fees, as listed in section 100.17.2, and satisfies all applicable renewal requirements.
- (b) Certificates renewed after their expiration date shall be valid for three years from the date of expiration of the prior certificate, not from the issue date of renewed certificate.

100.16.5 Automatic Revocation of Non-Renewed Certificates

- (a) Any certificate not renewed by the operator within the two year restoration period is automatically revoked.
- (b) Any operator whose certificate has been automatically revoked shall be treated as a new applicant for purposes of this regulation and must meet all the initial certification requirements, including passing the appropriate sequential examinations.

100.16.6 Training Units

- (a) In addition to the other requirements of this regulation, all certified operators must earn the appropriate number of training units, as specified in sections 100.16.6 and 100.16.7, before the operator's certificate will be renewed.
- (b) At least fifty percent (50%) of the training units for certificate renewal must be for courses approved for credit in the specific certificate category (water treatment, domestic wastewater treatment, industrial wastewater treatment, distribution system or collection system) being renewed.
- (c) Up to fifty percent (50%) of the training units for certificate renewal may come from courses approved for credit in a category (water treatment, domestic wastewater treatment, industrial wastewater treatment, distribution system or collection system) other than that of the certificate being renewed, including supplemental training courses.
- (d) For renewal of a certificate, the maximum number of training units allowed from a specific course is the total number of training units approved for the course.
- (e) If applicable, the training units from one course may be applied toward the renewal of more than one certificate.
- (f) Training units may only be used once in each category to renew a certificate.
- (g) Training units are earned during the three-year period a certificate is valid. Training units may not carry over from one three-year period to the next.
- (h) For training that occurs over multiple dates, the training units will be considered to have been obtained on the date of completion of the training course or class.
- (i) If an operator takes a training course prior to taking a certification examination, passes the examination, and obtains a certificate at a new level, the training course completed prior to the examination will not count toward training units for renewal of the new certificate. Should a certified operator complete such a training course and not pass a new certification examination, that training course can be used, if applicable, to meet the training unit requirements for renewal of the operator's current certificate.



- (j) Late renewal
  - (i) Training classes taken after the expiration date of a certificate, but before the automatic revocation date, may be used to renew the expired certificate.
  - (ii) If an operator completes training units after the expiration date of a certificate, but before the certificate is renewed and does not use the training units to renew the previous certificate, the training units may be used for the subsequent renewal.
  - (iii) It is the certified operator's responsibility to keep track of when the training unit credits have been used and will be responsible to verify and affirm on the renewal application that he or she is not using the credits more than once.
  - (iv) In the event that a certified operator uses training credits more than once, that could be grounds for disciplinary action, including revocation of a certificate.

100.16.7 Table - Training Unit Requirements for Operator Certificate Renewal

Certified Operator Class	Training Unit Requirement
Class T	1.2 Training Units
Class D or Class 1	1.2 Training Units
Class S	1.8 Training Units
Class C or Class 2	1.8 Training Units
Class B or Class 3	2.4 Training Units
Class A or Class 4	3.0 Training Units

100.16.8 The training units for regulatory training course completion as described in section 100.14.5(b) are included in the total training units required as listed in section 100.16.7, not in addition to those requirements.

100.16.9 All training unit subject matter will be determined by the Board or its contractor to be relevant and necessary to the successful operation of a water or wastewater facility.

- (a) The Board or its contractor shall approve as "core training" courses with topics that are directly applicable to aspects of water and wastewater facility operations that may affect public health or the environment, or the need to maintain compliance with established requirements. Training units from such courses may be used to satisfy the training units requirements for the renewal of an operator's certificate in accordance with sections 100.16.6 and 100.16.7.
- (b) Eligible "core training" topics may include the following subjects:
  - (i) operation and maintenance of facility mechanical systems, electrical equipment or hydraulics;
  - (ii) physical treatment, chemical treatment, biological treatment;
  - (iii) physical testing, chemical testing, biological testing, or disinfection;
  - (iv) regulatory compliance; or
  - (v) other relevant topics approved by the Board or its contractor.

- (c) The Board or its contractor may approve as “supplemental training” any courses that are found to provide useful operator knowledge but are not directly related to water or wastewater facility operations. Training units from courses approved as “supplemental training” may be used to satisfy the training unit requirements for renewal of an operator’s certificate in accordance with section 100.16.6 and 100.16.7.
- (d) Minimum course duration for training unit approval is 30 minutes.
  - (i) 1-29 minutes = 0 training units
  - (ii) 30-45 minutes = 0.05 training units
  - (iii) 46-60 minutes = 0.1 training units
- (e) An operator who has taken a course not approved by the Board or its contractor, such as a course taken in another state, may submit information about the course and pay the applicable fee. If the course is approved the operator may use the course to satisfy training unit requirements. The course approval will only apply to the operator who made the application.

100.16.10 Training units shall be awarded to certified operators for teaching a classroom course that has been approved by the Board or its contractor. The training units awarded shall be double the training units approved for the course. If a course is given multiple times in a given year under a single course approval number, double training units will be given the first time the course is taught, and no additional training units will be granted for repeat presentations of the same course with the same course approval number.

100.16.11 Institutions, seminar presenters, and others may seek approval of their training or educational courses or programs by application to the Board or its contractor. Such an application must demonstrate that their proposed material, curricula, contact hour equivalency, and facilities meet the criteria established in section 100.16.9.

## **100.17 FEES**

100.17.1 Application and administration fees

- (a) Application and administration fees shall be nonrefundable.
- (b) Fees shall be collected at the time the application is submitted.
- (c) The fees are:
  - (i) \$50 for each application for certificate by examination.
  - (ii) \$85 for each application for certificate by reciprocity.
  - (iii) \$85 for each application for certificate renewal.

100.17.2 Exam fees

- (a) Exam fees shall be collected by the exam administrator.
- (b) The exam fee is \$100 for each exam.

100.17.3 Late fees

**100.18 RESTRICTED WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEMS  
CERTIFICATES**

- (a) There shall be a \$50.00 late fee, for renewal applications submitted after the expiration date of the certificate being renewed.
- (b) The late fee will be collected at the time the application is submitted along with the application and administration fees.

**100.17.4 Fees for providers requesting training unit course approval**

- (a) Training unit course approval fees shall be as follows:
  - (i) \$25 for an application made by an operator who attended a course not approved for training units.
  - (ii) \$50 for individual courses or one-day events.
  - (iii) \$50 for all courses given as part of an event, i.e., a conference, seminar or workshop lasting multiple days.
  - (iv) \$50 for a batch of up to 10 courses, classroom style or web-based, from a single provider.
  - (v) Accredited or equivalent educational institutions as referenced in subsection 100.14.6(b) shall not be required to submit courses for review in order for such courses to be used to satisfy training unit requirements; if such institutions choose to submit courses for review, the applicable fee will apply and the courses will be posted along with other approved courses.

**100.18 RESTRICTED WATER DISTRIBUTION AND WASTEWATER COLLECTION SYSTEMS  
CERTIFICATES**

Existing operators of water distribution or wastewater collection systems as of January 30, 2001, whose responsibility includes making process control and/or system integrity decisions about water quality or quantity that may affect the public health or environment, may continue to operate the specific system in which they are currently employed so long as the following requirements are satisfied:

- (a) The operator shall not operate any other system until he or she meets the initial certification requirements for that system and obtains a certificate appropriate for that system.
- (b) This provision is non-transferable, applies only to the specific system and operator and does not authorize operation of the system by any other operator.
- (c) If the classification of a facility changes to a higher level, this provision expires, and is no longer valid.
- (d) Any operator authorized to continue operation under this provision who chooses to work for a different facility must meet all the initial certification requirements for that facility.

**100.19 - 29 RESERVED**

**100.30 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; NOVEMBER,  
2000 RULEMAKING**

The provisions of sections 25-9-104(1)(a), (3), (4), (5) and (6), C.R.S.; 25-9-106; 25-9-106.2; 25-9-106.3; 25-9-107; 25-9-108, C.R.S., provide the specific statutory authority for the adoption of these regulatory provisions. The Board also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

## **BASIS AND PURPOSE**

### **Background and Overview**

The 2000 Colorado General Assembly adopted HB 00-1431, revising the certification procedures and requirements for operators of water and wastewater facilities, which include water treatment facilities, domestic and industrial wastewater treatment facilities, water distribution systems and wastewater collection systems. The bill established the composition, duties and rulemaking authority of the Water and Wastewater Facility Operators Certification Board (formerly the Plant Operators Certification Board).

The Board intends that the rules adopted pursuant to HB 00-1431 will comply with guidelines established by the United States Environmental Protection Agency (EPA) under section 1419(a) of the federal Safe Drinking Water Act, which specifies minimum standards for certification and recertification of operators of community and nontransient noncommunity public water systems. In particular, the Board anticipates that this regulation will satisfy EPA requirements and allow that agency to release to the state federal funding that is contingent on adoption of appropriate certification requirements.

### **Operator Classification and Qualification Issues**

In this rulemaking, the Board established various classes of operators for water treatment facilities, domestic and industrial wastewater treatment facilities, water distribution systems and wastewater collection systems. Pursuant to HB 00-1431, the classes of operators established by the Board reflect the differing levels of complexity encountered in operating the various types of facilities and systems. This legislation also authorized the Board to establish separate certification classifications for operators of multiple facilities and for operators of certain small systems. Because of time constraints imposed by EPA deadlines, the Board has chosen to address the issue of operators of multiple facilities in a later rulemaking and has simply "reserved" this section at this time. The Board has made specific provisions for the certification of operators of Small Water and Wastewater Systems and for Transient Non-community Water Systems, as discussed below.

The Board also defined a process for determining the qualifications for certifying and renewing the certification of operators in each of the various classes. In accordance with HB 00-1431 and EPA guidelines, the Board adopted minimum education and experience requirements for operators, a requirement that examinations be validated, and a requirement that operators meet ongoing training requirements in order to renew their certification. The Board intends that if an operator wishes to renew multiple certifications, the same training units may be applied to meet the requirements of more than one certification renewal if the courses in question have been accredited for each of the certifications in question. Operators with multiple certifications are encouraged to take training courses specific to each of their certifications.

The Board also chose appropriate levels at which an applicant may substitute experience for education, or education for experience, in order to allow operator certification where a combination of these components demonstrates that the operator is competent to operate a particular class of facility. Although either education or cross-experience may be substituted for a portion of the experience requirement for any classification, the Board intends that no less than 50 percent of any experience requirement must be met by actual on-site operating experience in the classification applied for. A provision providing for transitional renewal training requirements for operators whose certificates expire prior to January 30, 2004 is also included.

### **Minimum Experience for Entry Level Operators**

According to EPA regulations, operators seeking to be certified must have a specified amount of minimum experience. Several stakeholders expressed concern that requiring a minimum amount of experience for all operators placed an undue burden on entry-level operators in rural areas of Colorado because they would not have the time or financial capability to meet such a certification requirement. In response to these concerns, the Board created a new level of certification for operators of water treatment facilities and water distribution systems serving Transient Non-community Water Systems that draw water from ground water sources not under the influence of surface water, serve less than 100 persons per day, and utilize only non-gaseous chlorine disinfection. Recognizing that such transient non-community systems are outside the scope of EPA guidelines, the Board chose not to impose a minimum experience requirement on such operators and allowed them to gain certification based solely on the passage of a written examination that focuses on subjects particularly relevant to operating this category of transient non-community water treatment facilities and transient non-community water distribution systems. For other entry level water and wastewater facility operators (Class D and Class 1), the Board has established a one-month minimum experience requirement. In order to provide flexibility to entry-level operators, the Board has established a number of options for meeting this experience requirement, including on-the-job training, apprenticeship, and on-site or correspondence training courses.

The Board also created a Small System classification for both water and wastewater facilities. These classifications apply to facilities that serve under 3300 persons and that otherwise fall into the Class D treatment and Class 1 distribution or collection classifications. Small water system operators shall be certified by taking a single examination in water treatment and distribution. Small wastewater system operators shall be certified by taking a single examination in wastewater collection and treatment. Renewal training requirements for these certificates have been set at 1.8 training units. During the transition period prior to the construction and validation of these examinations, applicants for these certifications will take both the Class D and Class 1 examinations in the appropriate category. The application and fee structures have been adjusted to reflect the degree of overlap among these requirements.

### **Classification of Water and Wastewater Treatment Facilities**

Generally, the Board, chose to establish a system for classification of the State's water and wastewater treatment facilities according to their prior system of classification. Accordingly, the Board adopted a classification scheme which takes into consideration factors such as the size, complexity, and amount of water processed through the facility. The Board determined that it would be most efficient for the Division to retain the authority to classify facilities and modify the classification of any facility. Classification decisions by the Division can be appealed to the Board.

The Board recognizes that water treatment processes that do not utilize chemicals are more problematic and impose a greater risk on public health. Therefore, the Board requires that a higher class of distribution system be used in combination with treatment facilities that utilize ground water with a waiver of disinfection, including ultraviolet and ozone disinfection. This is due to the fact that there is no residual disinfectant in the distribution system.

### **Classification of Water Distribution and Wastewater Collection Systems**

In classifying water distribution systems and wastewater collection systems the Board chose to initially classify the systems based on population, which the Board believes serves as an adequate surrogate for complexity. Additionally, the Board provided that the Division can change the classification of any particular facility based on complexity factors. The Board intends to revisit their initial classification scheme for water distribution and wastewater collection systems in a future rulemaking to consider adoption of a classification system that will more accurately reflect the complexities and differences between the various types of distribution and collection systems.

### **Fees**

The new state legislation authorized the Board to adopt application and program fees which reflect the actual costs of administering the operator certification program. The Board has established a certification application fee of \$15, as specified in the statute. It also established two types of program fees: (1) an examination fee of \$25 to cover the cost of administering each examination, and (2) an administration fee that will be charged upon issuance of a certificate and upon renewal of a certificate. The administration fee will cover ongoing costs of program administration by a third party contractor. The Board did not adopt specific fee amounts in this rulemaking because the arrangements with a third party contractor, which will determine the necessary amount of the fees, have not yet been finalized. The Board therefore is reserving the adoption of specific administration fees for a later rulemaking. The Board also anticipates that the fees established in this rulemaking may need to be revised as the transition to this new mode of implementing the operator certification program is completed.

### **Status of Existing Operators**

The Board chose to certify under these regulations those operators of water and wastewater treatment facilities who had been previously certified under the prior certification system. The Board also chose to certify under these regulations those operators of water distribution systems and wastewater collection systems who had been previously certified under the voluntary program administered by the Colorado Water and Wastewater Collection Systems Certification Council, based on the understanding that the voluntary certification program, and in particular the exam administered under the voluntary program, was adequate to ensure the protection of public health and the environment, and the safe operation of water distribution and wastewater collection systems.

In addition, the new regulation provides a procedure to authorize certain existing operators of existing water distribution and wastewater collection systems who have not obtained voluntary certification to continue operation of the specific systems where such operators are currently employed for a period of time without receiving a certificate. Pursuant to EPA guidelines the Board chose to allow operators of existing systems, who were authorized to make process control and/or system integrity decisions about water quality or quantity that may affect the public health or environment, to continue operation of their systems so long as certain requirements are met and a certain procedure is followed. This procedure allows owners of such systems to apply to the Board for an "Authorization for Continued Operation" for the existing operators of their system. Pursuant to EPA guidelines, the Board chose to make the "Authorization for Continued Operation" site-specific and non-transferable. To maintain this authorization, operators will need to meet the same on-going training requirements as certified operators. To move to another facility, operators would need to meet all initial certification requirements, including passing the appropriate exam. These same procedures apply to operators who hold existing restricted certificate issued under authority of the regulations being repealed in this rulemaking.

### **Operator Responsibilities**

One section of the regulation adopted by the Board specifies the duties of certified operators and defines certain standards of performance for certified operators of affected facilities. The regulation requires certified operators to exercise reasonable care and judgment while performing their duties and in supervising facility operations. The regulation also requires operators to keep current with the Board information on where the operator(s) can be contacted so that the Board can notify the operator(s) of certification expiration, renewal requirements, and testing information.

### **Owner Responsibilities**

Another section of the regulation adopted by the Board specifies the duties of owners of water and wastewater facilities. Pursuant to the legislation and EPA guidelines, the Board chose to require owners to place the direct supervision of their facilities under the control of an "operator in responsible charge" holding a valid certification equal to or greater than the classification of the facility. The Board clarified that a direct supervisor relationship exists if the operator in responsible charge has supervisory responsibility and authority with respect to other operators. The Board does not intend for direct supervision to mean that the operator in responsible charge must be on-site at all times.

In order to meet EPA guidelines, the Board required that all process control and/or system integrity decisions about water quality or quantity that may affect the public health or the environment be made by either an operator in responsible charge or another certified operator. This operator must be certified at a level equal to or higher than that of the facility. The Board also required owners to designate a certified operator who would be available for each operating shift. The Board clarified that in order for an operator to be "available," he or she must be on-site or able to be contacted as needed to initiate appropriate actions in a timely manner.

Finally, the regulation requires owners to submit to the Board information on the operator(s) in responsible charge of their facility so that the Board and Division can more efficiently enforce the provisions of this regulation and better protect the public health.

### **Division Enforcement Procedures**

HB 00-1431 also set out the roles of the Water Quality Control Division and the Board in enforcing the new operator certification program. The Board recognized the role of the Division as the agency primarily responsible for investigating and reporting to the Board any misconduct by water and wastewater facility operators. Any disciplinary action regarding operators would be taken by the Board, after an opportunity for a hearing. Pursuant to the legislation, the Board also chose to allow owners of water and wastewater facilities to seek a hearing before the Board in response to a Division finding of a violation of the regulations or in response to a Department assessment of a civil penalty. The rule also establishes a process by which any person, affected or aggrieved by a decision of Division or a third party contractor implementing certain aspect of the program may seek relief through an appeal or hearing before the Board.

### **Nonprofit Contractors Issues**

HB 00-1431 authorized the Board to appoint one or more independent nonprofit corporations to administer the operator certification program, including providing examinations, issuing certification documents, evaluating continuing training requirements for renewal of certification, and evaluating requests for reciprocity. The Board specified in the new regulation the program administration duties that it may choose to delegate to a nonprofit corporation.

### **100.31 FINDINGS IN SUPPORT OF EMERGENCY ADOPTION OF REGULATION NO. 100; DECEMBER 5, 2000**

In addition to its adoption of Regulation No. 100 in accordance with the standard procedures specified in section 24-4-103, C.R.S., which result in an effective date for this regulation on a permanent basis of January 30, 2001, the Board also is adopting the rule on an emergency basis with an effective date of December 5, 2000.

In order to satisfy the new federal requirements noted in section 100.30 above, the modified operators certification program established by these regulations must be in effect by February, 2001. In addition, the new state legislation noted above, which became effective in May, 2000, mandates that the state's operators certification program be implemented in accordance with its provisions. This new regulation needs to be in effect to assure that program implementation is consistent with the new statutory provisions. Because the already-established 2001 certification examination cycle begins in January, 2001, with an application deadline of December 15, 2000, there would be substantial disruption to the certification program, with serious financial implications for operators whose employment depends upon obtaining certification, if this new regulation did not become effective immediately.

Therefore, the Board finds that the immediate adoption of Regulation No. 100 with an effective date of December 5, 2000 is imperatively necessary to comply with state law and for the preservation of public health, safety and welfare, and that compliance with the requirements of section 24-4-103, C.R.S. as to the normal effective date for new regulations would be contrary to the public interest.

**100.32 FINDINGS IN SUPPORT OF EMERGENCY ADOPTION OF REVISIONS TO REGULATION NO.  
100.22.2(b); JANUARY 30, 2001**

In order to satisfy the new federal requirements noted in section 100.30 above, the modified operators certification program established by the Board's regulations must be in effect by February 5, 2001. In its December 5, 2000 rulemaking, the Board reserved a provision in section 100.22.2(b) for an administration fee. This rule revision establishes the amount of the fee.

The Board has determined that collection of a fee to help cover the costs of administration of the Operators Certification Program by nonprofit, third party contractors is necessary to effectively carry out the program. The Board also concludes that immediate imposition of the fee is necessary in order to assure that the program is fully implemented by the federal deadline. Therefore, the Board finds that the immediate adoption of the administration fee in section 100.22.2(b) with an effective date of January 30, 2001 is imperatively necessary to comply with state law and for preservation of public health, safety and welfare, and that compliance with the requirements of section 24-4-103, C.R.S. as to the normal effective date for new regulations would be contrary to the public interest.

**100.33 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; ARCH, 2001  
RULEMAKING**

The provisions of sections 25-9-104(1)(a), (3), (4), (5) and (6); 25-9-105; 25-9-106.3; 25-9-107; 25-9-108, C.R.S., provide the specific statutory authority for the adoption of these regulatory provisions. The Board also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

The 2000 Colorado General Assembly adopted HB 00-1431, revising the certification procedures and requirements for operators of water and wastewater facilities, which include water treatment facilities, domestic and industrial wastewater treatment facilities, water distribution systems and wastewater collection systems. The bill established the composition, duties and rulemaking authority of the Water and Wastewater Facility Operators Certification Board (formerly the Plant Operators Certification Board).

The new state legislation authorized the Board to adopt application and program fees that reflect the actual costs of administering the operator certification program. The Board has previously established a certification application fee of \$15, as specified in the statute. Regulation No. 100 also provides for two types of program fees: (1) an examination fee to cover the cost of administering each examination, and (2) an administration fee that will be charged upon issuance of a certificate and upon renewal of a certificate. The Board has previously established an examination fee of \$25.

On January 30, 2001, the Board adopted on an emergency basis an administration fee of \$60.00 for each new and renewal certification. This administration fee will cover ongoing costs of program administration by one or more third party contractors. The amount of this fee is based upon evidence presented in the emergency rulemaking hearing regarding the actual costs of program administration, taking into account a level of uncertainty associated with this new third party role. In this rulemaking, based on the evidence presented the Board has readopted this same administration fee. The Board intends that the amount of this fee will be revisited from time to time in the future as more experience with implementation of the Operators Certification Program by the third party contractors is gained.

Section 25-9-104 (1)(a) C.R.S. requires a failed examination review without specifying any specific format or requirements for this review. The current regulation (section 100.11.5, 5 C.C.R. 1003-2) contains a similar requirement. It is possible, however, to interpret the regulation as requiring that failed examinees be permitted to review actual copies of the examination. The Board recognizes that providers of standardized examinations are reluctant to permit, and often refuse to permit, copies of their examinations to be available for individual review. These providers generally produce detailed,



individualized statistical analyses of examination results. Such analyses can form the basis for a meaningful review of individual's performance on examinations.

The Board, therefore, has decided to amend the regulatory language to more clearly reflect the statutorily permitted flexibility regarding failed examination reviews. The specific format of failed examination review sessions may be determined by the Board or its designee, consistent with the restrictions imposed by the provider(s) of the standardized examinations used in certification testing.

**100.34 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; AUGUST, 2001 RULEMAKING**

The provisions of sections 25-9-104(1)(a), (3), (4), (5), (6) and (6.5); 25-9-105; 25-9-106.3; 25-9-107; 25-9-108; and 25-9-110, C.R.S., provide the specific statutory authority for the adoption of these regulatory provisions. The Board also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

1. Subsections 100.18.2 and 100.18.3:

The previous version of section 18, 5 C.C.R. 1003-2, made provision for the continuance of the certifications of water distribution and wastewater collection operators who are (as of January 30, 2001) currently certified under the voluntary certification program administered by the Colorado Water Distribution and Wastewater Collection Systems Certification Council by declaring, in section 100.18.1, that such certifications will be considered valid. Operators who have not been certified under the voluntary program have an opportunity to obtain either a full or a restricted certification under the provisions of section 100.18.2. No provision was made to address those operators who hold either expired voluntary certifications or who are under-certified for the level of their job responsibility. This amendment broadens the scope of section 100.18.2 to include such operators.

The original structure of the first paragraph of section 100.18.2 mixed provisions applicable to two distinct groups of operators: those currently operating water distribution and wastewater collection systems and those holding restricted water or wastewater treatment certifications valid under the previous version of these regulations. This admixture of subjects makes the language and interpretation of the existing regulation awkward. Therefore, a new section, 100.18.3, is appropriate. This section applies specifically to operators who hold currently valid restricted water and wastewater treatment certificates.

2. Subsections 100.23.3 and 100.23.4:

Section 25-9-104(6.5), C.R.S., vests the responsibility to investigate instances of possible operator misconduct with the Water Quality Control Division, not with an "other Board designee". Similarly, sections 25-9-110(3) through 25-9-110(6), C.R.S., vest enforcement authority for violations of section 25-9-110(2), C.R.S., with the Division. The enforcement of section 100.21, 5 C.C.R. 1003-2, is also vested in the Division. The original language of sections 100.23.3 and 100.23.4 of the regulation did not accurately reflect this placement of responsibility. The language adopted by the Board eliminates reference to designees of the Board as investigative agents.

3. Subsection 100.11.8:

Similar to subsections 100.23.3 and 100.23.4, this section was revised to eliminate the reference to designees of the Board, since the hearing in question would appropriately be held by the Board.

4. Subsection 100.21.5:

This subsection was revised to clarify that higher levels of water treatment certifications are acceptable for operators in responsible charge of transient non-community water systems. Therefore, for example, an operator with a level "D" water treatment certification may be an operator in responsible charge for a transient non-community system and need not hold a separate water distribution system certification. On the other hand, that operator must hold a level "1" or higher water distribution certification in addition to the level "D" water treatment certification to be a designated operator in responsible charge of a small water system. The Board intends that small systems may have a single operator with the required certifications, or may have multiple operators who together hold the required certifications.

**100.35 FINDINGS AND STATEMENT OF BASIS AND PURPOSE FOR ADOPTION ON AN EMERGENCY BASIS OF REVISIONS TO REGULATION NO. 100 JANUARY, 2002 RULEMAKING**

On January 29, 2002 the Board adopted revisions to Regulation No. 100, Water and Wastewater Facility Operator Certification Requirements [5 CCR 1003-2] to establish a new subsection 100.14.6, regarding "supplemental training" both on an emergency basis pursuant to § 24-4-103(6), C.R.S., and as a final rule pursuant to § 24-4-103, C.R.S.

The Board has established a new category for "supplemental training" courses. These courses are those that are found to provide useful operator knowledge but are not directly related to water or wastewater facility operations. Examples of such courses would include courses on topics such as first aid or word processing skills, which provide general knowledge that may be useful to certified operators, but do not contribute directly to an operator's professional water or wastewater facility expertise and knowledge. Supplemental training courses would be ones that do not fall into the specific categories listed in subsection 100.14.4 (a) through (e).

The Board has determined that it is appropriate to allow training units associated with such supplemental training courses to be used for up to (but not more than) 50% of the training requirements to renew a certificate. This system will allow operators to get credit for obtaining training in useful general subject matter areas, while assuring that at least half of the training units relied on for renewal are related to courses that are directly applicable to water and wastewater facility operational expertise.

The Board's permanent rule adoption complies with the hearing procedures and notice requirements of § 24-4-103, C.R.S. The Board concludes that adoption of the same requirements on an emergency basis is imperatively necessary to protection of public health and safety and that compliance with the effective date provisions of § 24-4-103, C.R.S., would be contrary to the public interest. The purpose of the emergency adoption is to assure that operators seeking certificate renewal prior to the effective date of the permanent rule obtain training that is directly related to water and wastewater facility operational expertise, thereby advancing the purposes of operator certification -- protection of public health and safety. In addition, emergency adoption will minimize confusion and inequity between the types of approval given to operator training courses in 2002.

**100.36 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; JANUARY, 2002 RULEMAKING**

The provisions of sections 29-5-104(1)(a), 25-9-104(3), 25-9-104(4) and 25-9-106.2, C.R.S., provide the specific statutory authority for the adoption of these regulatory provisions. The Board also adopted, in compliance with section 24-4-103(4), C.R.S, the following statement of basis and purpose.

**BASIS AND PURPOSE**

1. Section 100.6:

The Board recognizes that there are a variety of industrial facilities whose wastewater handling involves only physical settling, filtration, or separation processes. These facilities process wastewater without chemical addition and normally require only the monitoring of otherwise passive physical processes. The Board has determined that such facilities represent a lower degree of complexity than is represented by the "C" level of the existing industrial wastewater facility classifications. The Board also recognizes that the facilities described above do not require the supervision of an industrial wastewater facility operator having the level of expertise required of a "C" level operator. Therefore, the Board has determined that a new industrial wastewater facility classification, the "D" level is appropriate. This classification shall consist of facilities whose wastewater handling is purely physical and is without routine chemical addition or complex mechanical manipulation. Subsection 100.6.2 is amended to establish the "D" level industrial wastewater facility classification.

To provide for the proper supervision of "D" level industrial wastewater facilities, the Board establishes a "D" level industrial wastewater facility operators certification. This certification level shall have the same initial certification and renewal requirements as the "D" level water treatment and domestic wastewater treatment certifications.

To allow a degree of flexibility for facilities that only occasionally use processes classed at a higher level than those regularly employed, the Board has broadened the language of subsection 100.6.4 to allow for the occasional use of such processes without requiring a facility classification upgrade.

2. Subsection 100.9.7(a)(i):

This subsection describes the experience requirement for "D" level operators. The subsection is amended to include "D" level industrial wastewater operators within its existing provisions.

3. Subsection 100.21.5:

This subsection is amended to include "D" level industrial wastewater as a listed facility classification and operator certification level. The final paragraph of subsection 100.21.5 was made obsolete by the rulemaking of August 28, 2001, and is hereby deleted.

**100.37 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; APRIL, 2002  
RULEMAKING**

The provisions of sections 25-9-104(1)(a), 25-9-104(3), 25-9-104(4) and 25-9-106.2, C.R.S., provide the specific statutory authority for the adoption of these regulatory provisions. The Board also adopted, in compliance with section 24-4-103(4), C.R.S, the following statement of basis and purpose.

**BASIS AND PURPOSE**

Section 100.6:

The capitalization of the word "and" in the process descriptions for Class B industrial wastewater treatment facilities is an error. The case of the word "and" is, therefore, changed to lower case.

The Board recognizes that stormwater runoff is not an industrial wastewater. Therefore, the listing of "stormwater runoff control ponds" as an example of a process utilized in a class "D" industrial wastewater facility is an error and is hereby deleted.

**100.38 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; MAY, 2002  
RULEMAKING**

The provisions of sections 29-5-104(1)(a) and 25-9-104(3), C.R.S., provide the specific regulatory authority for the adoption of this regulatory provision. The Board also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

In order to maintain enforcement primacy under the Safe Drinking Water Act, the State needs to approve parties who are qualified to make and to assure the quality of certain analyses required by the Environmental Protection Agency (EPA). Most of the required analyses are already made by certified operators of water treatment facilities and water distribution systems. Rather than develop a new certification program to approve parties under the EPA rules, the Board has decided to incorporate the EPA requirements into the existing operators certification program.

Beginning with the Fall 2002 examinations, the Board will expand the coverage of the certification examinations to cover the analyses required by EPA. Because the content of certification examinations is reserved by statute and regulation to the Board, the inclusion of the EPA-required analyses in the certification examinations will not require a regulatory change. However, operators who are already certified will need to acquire training in the EPA requirements. To assure that currently certified operators receive training in the EPA analysis and quality assurance requirements, an ongoing training requirement, to be completed within three years of the start of the Fall 2002 examination cycle, is hereby established.

#### **100.39 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: MARCH 2003 RULEMAKING**

Provisions of section 25-9-104(1)(a), C.R.S., provide the specific statutory authority for the adoption of these amendments to the established regulatory provisions of Regulation 100 (5 CCR 1003-2). The Board also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

The Board has determined that the following sections must be amended in order to correct errors and to clarify the intent of the Regulation: sections 100.1.1, 100.2(15), 100.2(16), 100.4.2 – footnote #1, 100.4.2 – footnote #3, 100.6.2, 100.7.2, 100.10.1, 100.10.2, 100.10.5, 100.11.1, 100.11.8, 100.14.1, 100.14.7, 100.19.1, 100.22.4, and 100.23.5. None of these amendments are intended to substantively modify the Regulation or to change the current practice of the Board.

Section 100.9.6, which details the experience requirements for certification, was reorganized to clarify the experience required for various certification levels. The Board also made explicit its long-standing practice of considering domestic and industrial wastewater treatment experience to be interchangeable for purposes of qualifying to sit for a certification examination.

The failed examination review required by statute (25-9-104, C.R.S.) is non-specific as to format; the Board has determined that the corresponding regulatory provision, section 100.11.5, shall likewise be non-specific as to format. This change permits the Board to accept the detailed, individualized analyses prepared by the examination provider as an appropriate examination review.

The Board has determined that the training required for certification renewal will have “core” and “supplemental” components. The amendment to sections 100.14.4 through 100.14.6 adopted by the Board clarifies the relationship between core and supplemental training, gives examples of core subject matter, specifically authorizes the granting of supplemental credit for non-listed topics, and reorganizes the sections so that they are more readily understood.

Section 100.18.3 is obsolete and substantively conflicts with the broad acceptance of prior certifications granted in section 100.9.1. The Board has determined that section 100.18.3 should be deleted.

**100.40 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: OCTOBER  
2004 RULEMAKING**

Provisions of section 25-9-108, C.R.S., provide the specific statutory authority for the adoption of these amendments to the established regulatory provisions of Regulation 100 (5 CCR 1003-2). The Board also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

**A. New and Revised Fees.**

The Board has revised section 100.22.2 to modify the current examination and administration fees. The existing \$25.00 examination fee is inadequate to cover the actual cost of certification exams provided by ABC. Up until now, the resulting deficit has been made up by the administration fee. However, the Board agrees with the CECTI and Certification Council proposal that it is more appropriate to increase the examination fee (to \$35.00), while reducing the administration fee (from \$60.00 to \$50.00) for those obtaining a new certification by examination. The net result will be no change in total fees for those passing a certification examination to obtain a new certification at a higher level. Those who take an examination and fail will incur a somewhat higher expense. The Board also agrees that it is appropriate not to make any change in the administration fees at this time for those obtaining renewal certifications or certification by reciprocity.

**B. Cross-Experience Training for Certification Renewal.**

Subsection 100.14.1 has been revised to allow a portion of the training units required for certification renewal to be obtained from courses approved as core training in categories other than the operator category for the certification being renewed. The Board has determined that this is consistent with the fact that "supplemental" training courses on a wide variety of topics are already allowed to provide a portion of the training units for certification renewal. This approach is also consistent with the fact that up to 50 percent of the experience requirement for operators qualifying to take certification examinations can be based on "cross-experience".

The revised regulation clarifies that at least 50 percent of the training units for certification renewal must be obtained from core training courses approved in the certification category being renewed. The remainder of the training units may consist of any combination of supplemental training units and/or training units approved as core training in other certification categories. The Board also has included language to prevent "double-counting" the training units from a single course. For example, if a course has been approved for 1.0 training units in each of the certification categories, an operator renewing a class A water treatment operator certification may count the 1.0 training unit toward renewal but may not also use cross-experience credit for the same course, even though it has been approved for training units in other certification categories.

**C. Examination Feedback.**

The Colorado operators certification statute previously required that each of the Board's nonprofit contractors "conducts failed exam reviews" following each certification examination cycle. This provision was amended in House Bill 04-1211, adopted by the 2004 session of the Colorado General Assembly, to provide that each contractor "provides feedback to examinees upon request following each examination". Subsection 100.11.5 has been revised to require that feedback regarding applicants' performance on the individual topics tested be provided to each person taking an operators certification examination. This new language goes beyond the revised statutory mandate, which only requires such feedback upon request. However, the Board has provided in the regulation for the automatic provision of feedback to all examinees, since that is consistent with the contractors' current practice.

*100.41 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE AND  
EMERGENCY FINDINGS: NOVEMBER 2004 RULEMAKING*

D. Specific Training Requirement for Operators Conducting Certain Quality Control Analyses

In order to maintain enforcement primacy under the Safe Drinking Water Act, the State must approve parties who are qualified to make and to assure the quality of certain analyses required by the Environmental Protection Agency ("EPA"). These requirements are detailed in the Colorado Primary Drinking Water Regulation, 5 CCR 1003-1, Article 7.5, "Disinfectant Residuals, Disinfection Byproducts, and Disinfection Byproduct Precursors." Colorado elected to approve certified operators as the parties approved by the State to perform these analyses.

To meet this requirement, the Board approved the original version of subsection 100.14.6 of Regulation 100 in May 2002. However, as originally adopted, the subsection was overly broad. The amendment approved by the Board in this rulemaking clarifies that subsection 100.14.6 applies only to those operators whose duties include performing the above-mentioned analyses and associated quality assurance procedures required by the article 7.5 of the Colorado Primary Drinking Water Regulation.

**100.41 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE AND  
EMERGENCY FINDINGS: NOVEMBER 2004 RULEMAKING**

Provisions of section 25-9-108, C.R.S., provide the specific statutory authority for the adoption of these amendments to the established regulatory provisions of Regulation 100 (5 CCR 1003-2). The Board also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

The Board also adopted a new training unit course approval fee of \$50.00, to cover the cost of the contractors' review of training courses submitted through the new online review and approval system. The Board determined that it is appropriate for the costs of the training unit approval process to be covered by training providers. Establishing a reasonable fee for this service should also have the added benefit of discouraging submittal of training course approval applications for courses of marginal relevance or benefit to certified operators.

In order to address certain special circumstances, the Board has created three exceptions to the \$50.00 training unit approval fee. First, the Board intends that appropriate courses from accredited educational institutions in the United States, and equivalent institutions outside the United States, can be used for training unit credit for certification renewal without approval of the specific courses by the Board or its designee. However, some educational institutions may wish to have their courses listed with other approved training unit opportunities, which generally are posted on the web site of the Board and/or its designee. If an educational institution wishes to have its courses posted along with other approved training units, its courses will be subject to the usual \$50.00 fee and will be reviewed by the normal training unit review process.

The Board recognizes that in some instances an individual may take a course that provides relevant and appropriate operator training, but which has not been submitted by the course sponsor for training unit approval. For example, this could occur if an operator attends training at an out-of-state national conference that has not submitted its courses for approval in Colorado. To reduce the hardship on individuals seeking approval of such courses, the Board established a reduced fee of \$25.00 for applications for approval of a course submitted for review by an individual attending the course. To assure that this option is not used by course sponsors as an opportunity to avoid payment of the usual \$50.00 fee, the Board provided that any course submitted for approval by an individual attending a course will be approved only for that individual.

Finally, to account for other special circumstances that may arise, the Board established an opportunity for case-by-case waiver of the \$50.00 fee. The Board intends that its contractors may use this provision

to avoid financial hardships and the potential unintended consequence of reducing training opportunities for Colorado operators. The Board assumes that this provision will apply infrequently.

The Board provided that the new training unit approval fee will apply to all courses approved for offering in 2005 and later. The Board understands that while some courses have already been submitted and reviewed for offering in 2005, course sponsors submitting such courses have been notified that final approval of such courses will not occur until finalization of this new fee. The Board determined that it is appropriate for all courses to be offered for calendar year 2005 and later to be subject to the same fee provisions, in order to provide for even-handed treatment. Therefore, the Board adopted the new training unit approval fee provisions on both an emergency and permanent basis.

### **EMERGENCY FINDINGS**

On an emergency basis, the training unit course approval fee shall become effective November 30, 2004, and shall remain effective on an emergency basis until it becomes permanently effective on January 30, 2005 pursuant to section 24-4-103(5), C.R.S.. The Board further determined that this result is appropriate and should not result in hardship to course sponsors. This rulemaking was initiated in October 2004 after complying with the usual notice requirements. Possible approaches to the training unit approval fee were discussed at the October 2004 hearing and interested parties had an opportunity to discuss and comment on the proposal. In addition, December 30, 2004 would have been the normal effective date had final action been taken at the October 2004 hearing at the same time as the remainder of the proposed rule. Course sponsors have been aware of the intent to establish a new training unit approval fee for 2005 courses and relying on the usual effective date would now result in unequal treatment in favor of course sponsors that submitted applications for approval of 2005 courses prior to the effective date. Therefore, the Board finds that immediate adoption of these revisions to Regulation No. 100 is imperatively necessary to preserve public welfare and that compliance with the requirements of section 24-4-103(5), C.R.S. would be contrary to the public interest.

### **100.42 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: JULY 26, 2005 RULEMAKING**

The provisions of sections 25-9-104(3) and 25-9-104(4), C.R.S., provide the specific statutory authority for the adoption of these regulatory provisions. The Board also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

### **BASIS AND PURPOSE**

The Board adopted revisions to the drinking water treatment facility classification system in section 100.4 of this regulation in order to more precisely define some classifications, to broaden classifications to include newer technologies, and to remove certain inconsistencies in the former classifications. The classification categories have been indexed for clarity.

#### **Ground Water Systems: Subsections 100.4.2(a) through (c).**

Subsection 100.4.2(a). The deletion of footnote #2 is reflective of the Board's recognition that a level "1" water distribution system operator should have sufficient knowledge and skill to supervise a small ground water system that operates with a waiver of disinfection.

Subsection 100.4.2(c). The Board clarified that treatment technologies other than what may be commonly connoted by the term "filtration" are encompassed by the regulation. The Board also recognized that chemical addition to improve the aesthetic quality of drinking water (secondary drinking water standards as listed in 40 CFR 143) ordinarily should not raise the classification of a system beyond the "C" level. Ground water systems with treatment techniques or chemical additions, other than disinfection, that are used for the specific purpose of meeting primary drinking water requirements (40 CFR 141) should be classified under the criteria in subsection 100.4.2(g).

**All Water Systems: Subsections 100.4.2(d) through (f).**

Subsection 100.4.2(d). The Board intends that small, simple water systems that require filtration in addition to disinfection be classified a "D" systems only if the system utilizes disposable filters, i.e., filters that do not require periodic backwashing or other maintenance and which must be disposed of when they lose their effectiveness. The Board has determined that the type of disinfection utilized should not be restricted to non-gaseous chlorine and has deleted that qualifier from the regulation.

Subsection 100.4.2(e). The Board recognizes that the expertise required to operate water systems that use a variety of filtration and other treatment technologies (other than disposable filters or direct or conventional filtration) in order to meet primary drinking water standards is often equivalent to the skill required to operate water systems using the same techniques to improve the aesthetic quality of water. The classification of such systems is intended to be "C" for smaller systems. However, because of the enhanced public health risk in the case of system failure, the Board intends that the increase in classification level with size be accelerated for systems using filtration and other technologies to meet primary standards.

Subsection 100.4.2(f) Primary treatment techniques that incorporate or depend upon additional chemical treatment in order to function properly are intrinsically more complex to operate. An example of such a system would be a conventional filtration system, which ordinarily requires the additional steps of chemically aided coagulation and flocculation. The terms "conventional filtration" and "direct filtration" are defined in the Colorado Primary Drinking Water Regulations, articles 1.5.2(21) and 1.5.2(30), March 30, 2005, respectively. These definitions are intended to apply to Regulation 100, section 100.4.2(f). Such systems have significant monitoring, testing and adjustment requirements. The Board intends that systems utilizing any filtration technique or other treatment technology that, in and of itself, requires additional chemical treatment in order to meet primary drinking water requirements have an initial classification of "B".

**Chemical Addition: Subsections 100.4.2(g) through 100.4.2(i).**

Subsection 100.4.2(g). Secondary drinking water standards have defined "secondary maximum contaminant levels", SMCLs, which are non-enforceable (40 CFR 143). The Board intends that chemical addition for the specific purpose of meeting secondary drinking water standards, such as iron and manganese control, pH control, or water softening, should not affect the classification of a level "B" or "C" water system. Level "D" systems utilizing chemical addition for the specific purpose of meeting secondary drinking water standards should be individually evaluated under the authority of section 100.4.1 to determine the appropriate classification.

Subsection 100.4.2(h). The Board intends that this classification category apply to systems that, in addition to the primary treatment process, utilize chemical treatment for the specific purpose of meeting the enforceable "maximum contaminant level" requirements for primary contaminants (40 CFR 141). An example of such a chemical treatment would be the use of lime softening for the specific purpose of controlling radionuclides. The Board also intends that disinfection is not to be considered as an "additional chemical treatment" within the meaning of Regulation 100, subsection 100.4.2(h).

Subsection 100.4.2(i). Although lead and copper are contaminants of special concern, they differ from most primary drinking water contaminants in that (1) they commonly occur in the distribution system, not in the source water; and (2) the methods of treatment for lead and copper are relatively non-complex. The Board, therefore, intends that systems that treat for lead and copper in the distribution system (a process commonly referred to as "corrosion control") have a minimum classification of "C". Should treatment be necessary because of the contamination of source water with lead and copper, a higher classification may be appropriate. The Division should evaluate such systems to determine whether an application of section 100.4.1(b) is appropriate.



Subsection 100.4.2(j). The Board intends that any water system utilizing fluoridation have a minimum classification of "C", hence the designation of chlorination as a companion process to fluoridation has been deleted.

**Multiple Treatment Processes: Subsection 100.4.2.4.**

Systems utilizing multiple water treatment processes should be classified in accordance with the most complex process regularly used. This regulation already contains a parallel requirement for domestic and industrial wastewater systems, sections 100.5.4 and 100.6.4, and the Board has determined that the requirement should be included as part of the drinking water classifications.

**100.43 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: FEBRUARY 14, 2006 RULEMAKING**

The provisions of sections 25-9-104, C.R.S., provide the specific statutory authority for the adoption of these regulatory provisions. The Board also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

The Board adopted revisions to a variety of provisions in this regulation in order to clarify the intent of certain provisions and to incorporate within the regulation the definitions of terms commonly used in the water and wastewater industries.

**Definitions: Section 100.2.**

Subsections 100.2(1), (7), and (9). The Board includes the definitions of "Bag or Cartridge Filters", "Conventional Filtration Treatment", and "Direct Filtration Treatment" in order to standardize the understanding of these treatment techniques as used in the water treatment facility classifications of subsection 100.4.2 of this regulation. The Board intends that these definitions be interpreted in a manner consistent with the Colorado Primary Drinking Water Regulation (5 C.C.R. 1003-1).

Subsection 100.2(17). The definition of "Plant Design Flow" is added to this regulation in order to clarify that the classification of a water or wastewater facility is to be based upon the capacity of the facility, as approved by the Division, and not upon the actual production of the facility.

Subsections 100.2(18) and (20). Definitions of "Primary Drinking Water Requirements" and "Secondary Drinking Water Standard" are included in order to remove the incorporation by reference of these terms in subsections 100.4.2(d),(e),(f),(g) and (h) of this regulation.

Subsection 100.2(23). The Board intends to clarify that the "Transient Non-Community" operator certification level, as described in subsection 100.19.2 of this regulation, covers only a specific subset of transient non-community public water systems.

Subsection 100.2(25). The Board intends that the term "validated examination", as used in section 100.11 of this regulation, be interpreted in a manner consistent with the federal guidelines for facility operator certification examinations (Federal Register, Vol.64, No. 24; February 5, 1999.)

**Water Facility Classification: Subsection 100.4.2**

Subsections 100.4.2(d),(e),(f),(g) and (h). Cross-references to provisions of the Code of Federal Regulations are deleted by this amendment. The definitions of the previously cross-referenced terms are explicitly added to this regulation as subsections 100.2(18) and (20).

Subsection 100.4.2(k). The criterion for the classification of water vending machines is amended to be consistent with the terminology used in other facility classifications in section 100.4.2 of this regulation.

#### **Qualifications and Classifications for Certification of Operators: Section 100.9**

Subsections 100.9.2 and 100.9.3. The Board intends that a demonstration, by the applicant for a certification examination, of skills equivalent to the General Equivalency Diploma (GED) may be substituted for the requirement that an applicant hold either a high school diploma or a GED.

Subsections 100.9.4 and 100.9.8(a)(iv) and (b)(iv). The Board intends to clarify that once specific experience or education is used by an applicant to fulfill a requirement for certification, that same experience or education may not be used to meet any other requirement for the same certification.

#### **Application for Certification: Section 100.10**

Subsections 100.10.4, 5, and 6.

The Board intends to clarify the process by which an applicant may request a re-review of his or her application. All application denial notices should include the specific grounds upon which the application was denied. Such notices should include sufficient detail to allow the applicant to supply relevant supplementary information to the Board's designee in a timely manner.

The timeframes allowed for an applicant to request an application re-review or to request an appeal of an application denial are specified.

The Board intends that all material to be considered during a re-review or during an appeal must be submitted at the time of the request for re-review. Appeals to the Board will be evaluated based upon the material available during the re-review of the application. Material submitted after the re-review will not be considered by the Board at an appeal hearing, unless the operator provides a showing why such information could not have been submitted earlier in the process.

#### **Education and Cross Experience Substituted for Experience Requirements: Section 100.12**

Subsection 100.12.1(a). The Board intends to clarify that any education credit claimed as a substitute for experience must be post-secondary education. The Board intends that education obtained at institutions such as community colleges and post-secondary technical schools is acceptable.

Subsections 100.12.1(b) and (c). The Board intends to clarify that an approved and completed program, for which the applicant has received a diploma or certificate, is to be counted as a whole when used as a substitute for education. Experience equivalencies should be credited as specified in subsection 12.1(a). Only when an approved course of study has not been completed should the relevancy of individual courses be evaluated and a course-by-course determination of equivalency determined.

#### **Certificates: Section 13**

Subsection 100.13.7. The Board deleted this subsection as not necessary to this regulation.

#### **Training Unit Requirements for Renewal of Certification: Section 100.14**

Subsection 100.14.1. The Board recognizes that many training courses are approved for credit in multiple fields. While an operator may not count the same material twice toward the renewal of a single certification, the Board intends that operators be granted credit for the full time he or she attended a course. For example, a water treatment operator attends a six-hour course offering 0.4 Training Units (TUs) in water treatment and 0.6 training units in water distribution. For the renewal of a water treatment certification, the operator may count a total of 0.6 TUs for the course: 0.4 TUs may be counted toward the

core requirement in water treatment and 0.2 TUs of the credit approved for water distribution may be counted as “outside the field” credit.

**100.44 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: APRIL 24, 2007 RULEMAKING; ADOPTED JULY 31, 2007; EFFECTIVE SEPTEMBER 30, 2007**

The provisions of sections 25-9-104 and 25-9-108, C.R.S., provide the specific statutory authority for the adoption of these amendments to the established regulatory provisions of Regulation 100 (5 CCR 1003-2). The Board also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

Subsections 100.9.2 and 100.9.3. It is the intention of the Board to reflect the intent of the Environmental Protection Agency (EPA) regarding the substitution of education and/or experience for the general prerequisite that a high school diploma or general equivalency diploma (GED) be held by all candidates for certification. EPA intends that candidates not meeting this prerequisite have education and/or experience beyond that which is required of other candidates. The Board has amended subsections 100.9.2 and 100.9.3 to clarify that (1) the GED is the only automatically acceptable alternative to a high school diploma and that (2) for candidates lacking a high school diploma or GED, there will be an additional experience and education requirement in order to qualify for examination. The choice of a six month period of additional experience is intended to reflect the experience equivalent of a full semester of academic credit as described in section 100.12.1(a) of this regulation.

Subsections 100.12.1(b)(i) and 100.12.1(c). While recognizing the value of all post-secondary education, the Board has revised these sections of the regulation to provide that programs or courses acceptable as a year-for-year substitute for up to 50% of the direct experience requirements of this regulation be limited to those that the Board has determined are directly relevant to the operation of water and wastewater facilities. The previous version of Regulation No. 100 allowed any “technically oriented” courses or programs to substitute for up to 50% of the experience requirement. Addition of the “directly relevant” language reflects the Board’s intent to be more specific with respect to the types of programs or courses that may receive credit. The Board has adopted language from an ABC report on operator certification program standards to provide examples of the types of courses or programs that would be considered “directly relevant”. The Board intends that its contractors will apply this provision in the first instance, subject to appeal and final determination by the Board.

Subsection 100.12.1(b)(ii). Although a degree that does not meet the criteria of section 100.12.1(b)(i) does not provide the specific background skills for entry into the water and wastewater professions, the Board recognizes that applicants who have completed a post-secondary degree program have demonstrated a set of learning abilities which should enable them to more efficiently acquire many of the skills normally developed by hands-on experience. The Board has determined, therefore, that a 25% education credit toward meeting the experience requirement is appropriate for applicants holding post-secondary degrees, regardless of the fields in which the degrees are granted.

Subsection 100.13.8. This section is deleted as duplicative of subsection 100.13.7.

Subsection 100.22.2. The Board has revised subsection 100.22.2 to modify the examination and administration fees. The previous \$35.00 examination fee is inadequate to cover the actual cost of certification exams provided by ABC, including preparation and administration of those exams. Additionally, the previous administration fee of \$50.00 is inadequate to cover the costs incurred in maintaining the database of operators, issuing and mailing certificates and other correspondence. The Board agrees with the CECTI and Certification Council proposal that it is more appropriate to increase the examination fee (to \$45.00) and to increase the administration fee (to \$55.00) for those obtaining a new certification by examination. The net result will be an increase of \$15.00 in total fees for those passing a certification examination to obtain a new certification at a higher level. Those who take an examination and fail will incur a \$10.00 increase.

The Board also agrees that it is appropriate to increase the administration fees at this time for those obtaining renewal certifications or certification by reciprocity from \$60.00 to \$70.00 to cover administrative costs. The Board also determined that it is appropriate to add a \$20.00 fee to cover the cost of providing replacement certification documentation.

### **Water Distribution and Wastewater Collection Classifications**

#### **A. Operator Certification Levels**

The Board has revised subsection 100.9.7 to include a level 3 certification requiring 3 years experience. Further, the Board has agreed to recognize current Class 3 operators as Class 4 operators and authorizes the issuance of operator certificates reflecting Class 4 certification. The Board has determined that this is appropriate, based on the four-year experience requirement previously in place for Class 3 operators and based on the content of the previous Class 3 examinations. Any current restricted Class 3 collection and distribution certification would become a restricted Class 4 certification.

#### **B. System Classifications**

The Board has revised subsections 100.7.2 and 100.8.1 to modify the current Water Distribution and Wastewater Collection Systems classification tables to address the complexity of very large systems. Class 3 systems will be changed from serving populations greater than 25,000 to serving populations from 25,001 to 100,000. The Board has added a Class 4 classification that serves populations greater than 100,000.

Corresponding revisions have been adopted for sections 100.14 and 100.21.

### **100.45 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: APRIL 28, 2009 RULEMAKING; ADOPTED APRIL 28, 2009; EFFECTIVE JUNE 30, 2009**

The provisions of section 25-9-104(4), C.R.S. (2008), provide the specific statutory authority for the adoption of these amendments to the established regulatory provisions of Regulation 100 (5 CCR 1003-2). The Board also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

Subsection 100.2(12). The Board added a definition of "Responsible Person" that sets requirements for persons charged with the responsibility for supervising Class 2 industrial wastewater operations and for ensuring compliance with the facility's discharge permit requirements. The Board intends that such persons receive adequate and ongoing training in areas relevant to their responsibilities, such as specific measures used to meet effluent limits, monitoring, inspection, planning, reporting, and documentation requirements.

Subsection 100.2(18). The Board adopted a definition of "Passive Wastewater Treatment" that parallels the statutory language of section 25-9-104(4)(d), C.R.S.

Subsection 100.6.1. The Board adopted this amendment to Regulation 100 to implement the provisions of section 25-9-104(4), C.R.S., as amended by the Colorado General Assembly in 2008. The Board recognizes that there are wastewater treatment activities in Colorado that require only passive treatment in order to meet Colorado Discharge Permit System ("CDPS") effluent limitations. The Board also recognizes that many of these activities are currently managed under a variety of Best Management Practice ("BMP") requirements. Additionally, the Board recognizes that it is current practice in many of these industrial activities to place the facility/activity under the supervision of an environmental

professional responsible for effluent quality, for overseeing monitoring, and for ensuring timely and accurate discharge monitoring reporting.

In light of the above considerations, the Board divided permitted industrial wastewater facilities into two distinct classes. Class 2 facilities shall not be subject to the requirements to operate under the supervision of a certified operator. The Board maintained the requirement for all industrial wastewater facilities not classified as class 2 facilities to remain subject to the requirements of Regulation 100 to operate under the supervision of a certified operator and designated these facilities as class 1 facilities.

Subsection 100.6.1(b)(i). The Board has determined that facilities/activities which discharge solely under the authority of stormwater permits shall be classified as class 2 facilities without the need for specific Board action other than the adoption of this amendment to Regulation 100. The Board recognizes that such facilities utilize only passive treatment or no treatment of stormwater and are subject to significant requirements, including the filing of and adherence to Stormwater Management Plans. The Board has determined that facilities subject to stormwater discharge permits are appropriately classified as class 2 pursuant to the criteria in section 25-9-104(4) C.R.S. since these discharges generally do not contain substantial concentrations of toxic pollutants and do not require chemical, mechanical, or biological treatment. The Board intends that the designation as class 2 shall include facilities discharging under the authority of municipal stormwater permits, industrial stormwater permits and construction stormwater permits. The Board does not grant automatic class 2 classification to facilities discharging under the authority of combined process water and stormwater permits.

The Board has further determined that facilities/activities discharging pursuant to the Water Quality Control Division's "Low Risk Discharge Policy" shall be classified as class 2 facilities. The Board recognizes that the discharge from such activities is considered to pose minimal risk of environmental degradation. Such discharges generally do not contain substantial concentrations of toxic pollutants and do not require chemical, mechanical, or biological treatment. The Board further recognizes that water distribution systems holding "Treated Water Distribution System" permits are already required to be under the direct supervision of certified water distribution system operators whose training and certification criteria include the handling of the type of discharges covered under these permits. Similarly, water treatment facilities holding "Water Treatment Plant Discharge" permits are already required to be under the direct supervision of certified water treatment operators whose training and certification criteria include the handling of the type of discharges covered under these permits.

Subsection 100.6.1(b)(ii). The Board recognizes that there are additional CDPS general industrial discharge permits whose effluent requirements can ordinarily be met by utilizing, at most, passive treatment techniques. These general industrial permits are listed within the amendment in subsection 100.6.1(b)(ii). The Board has provided that facilities holding these discharge permits shall be recognized as class 2 facilities based upon the Water Quality Control Division's verification of a facility's written certification that effluent limitations can be met utilizing only passive treatment and that the facility is under the supervision of a responsible person as defined in subsection 100.2(21) of this regulation. Verification by the Division will serve to confirm that a facility qualifies as a class 2 facility consistent with the classification determinations made by the Board in revisions to Regulation 100. The Board intends that the Division retain a record of such classifications. The Board recognizes that facilities denied a class 2 classification may appeal the Division's determination to the Board pursuant to section 100.24 of this regulation.

Subsection 100.6.1(b)(iii). The Board further recognizes that certain facilities are required to hold individual industrial discharge permits rather than general industrial discharge permits. Individual permits are usually required either because of the sensitivity of the receiving waters, the nature of the effluent, or the complexity of the treatment required in order to meet effluent limitations. The Board has reserved to itself the authority to grant a class 2 classification to such facilities. The Board has provided that such facilities may submit a request for reclassification to the Board. This request shall include a demonstration that the facility's operations meet the applicable considerations of section 25-9-104(4), C.R.S.; that effluent limitations can be met utilizing only passive treatment; and that the facility is under the supervision of a responsible person as defined in subsection 100.2(21) of this regulation. The Board will

forward the material submitted with the request to the Division for evaluation and recommendation. The Board will approve or deny such requests at an adjudicatory hearing at a regular Board meeting.

The Board recognizes that there are certain general industrial permits that authorize discharges from types of activities which are inherently more complex than those described in section 100.6.1(b)(ii) above. It is the Board's intention that facilities discharging under the authority of general permits other than those listed in subsection 100.6.1(b)(ii) should follow the reclassification procedure outlined for facilities holding individual industrial discharge permits.

Conditions Applicable to Subsections 100.6.1(b)(2) and 100.6.1(b)(iii). In order to ensure that facilities meet the requirements for class 2 classification on a continuing basis, the Board has provided that each facility classified as a class 2 facility under subsection 100.6.1(b)(ii) or subsection 100.6.1(b)(iii) shall submit an annual certification confirming that the conditions under which its classification was granted are still being met and that ongoing annual training has been provided to the designated responsible person. The Board does not intend that a detailed accounting of the nature or timing of such training be submitted with each annual certification.

The Board may reclassify a class 2 facility to class 1 if that facility fails to meet the requirements of its discharge permit or if the facility's operational practices result in a direct, negative impact on the public health or the environment.

#### **100.46 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: SEPTEMBER 29, 2009 RULEMAKING**

The provisions of section 25-9-107, C.R.S., provide the specific statutory authority for the adoption of these amendments to the established regulatory provisions of Regulation 100 (5 CCR 1003-2). The Board also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

Subsection 100.6.1. The Board added subsection 100.6.1 in April 2009 to implement the provisions of section 25-9-104(4), C.R.S., as amended by the General Assembly in 2008. The Office of Legislative Legal Services, which conducts legal reviews of all newly-promulgated agency rules, subsequently expressed concerns regarding the apparent "incorporation by reference" of the Division's Low Risk Discharge Policy in subsection 100.6.1(b)(i)(B). Based on these concerns, the Board decided as part of this rulemaking proceeding to delete subsection 100.6.1(b)(i)(B) (and to re-number the subsection accordingly).

The Board's initial intent in referencing the Division's Policy was to categorically exempt such facilities from the certified operator requirement because of their low risk of impacting the quality of state waters. The Board and the Division have agreed that the Board's intent can be accomplished alternatively through language in the Division's Low Risk Discharge Policy itself. Thus, the Low Risk Discharge Policy will soon be amended to state that the Division will use its enforcement discretion with respect to facilities which do not have a certified operator, where such facilities can prove that they are discharging pursuant to the Policy and implementing the best management practices outlined in the related guidance documents.

Subsection 100.13. The Board recognizes that section 25-9-107, C.R.S., refers to the "award" of a certificate, that certificates shall be "awarded for a period of three years", and that the timing of automatic revocation for non-renewal is referenced to the "expiration date" of the certificate. Earlier versions of this regulation, however, reference the date of automatic revocation of a certificate to the "issue" date. Because certificates may not always be issued exactly three years prior to the expiration date, this difference in language is significant.

*100.47 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: NOVEMBER 2009 RULEMAKING; ADOPTED NOVEMBER 24, 2009; EFFECTIVE JANUARY 30, 2010*

The Board has, therefore, chosen to align the language of subsection 100.13 of this regulation more closely with the language of the governing statute and refer the three year validity period of all certificates either to the date of "award" (for new certificates) or to the date of expiration of the previous certificate (for renewed certificates). It is clarified that renewed certificates are valid for three years from the date of expiration of the certificate being renewed and not from the date of issue of the renewal certificate.

The Board further determined to adopt language which clarifies that the date of issue of a certificate does not determine the date on which a non-renewed certificate is automatically revoked. The Board intends to clarify that certificates shall be automatically revoked if not renewed within two years of the expiration of the certificate.

**100.47 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: NOVEMBER 2009 RULEMAKING; ADOPTED NOVEMBER 24, 2009; EFFECTIVE JANUARY 30, 2010**

Provisions of section 25-9-108, C.R.S., provide the specific statutory authority for the adoption of these amendments to the established regulatory provisions of Regulation 100 (5 CCR 1003-2). The Board also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

**A. New and Revised Fees.**

The Board has revised section 100.22.2 to modify the current examination fees by establishing a \$35.00 fee for online testing. Examination fees currently cover the costs associated with certification when certification examinations are taken in a written format during the regularly scheduled examination periods. Recent advances in technology have now made it possible to offer certification examinations in an electronic format. While this technology offers advantages in the form of convenience, enhanced security and immediate results, there are added costs associated with this form of testing. These costs include added cost for the setup and maintenance of the electronic testing system and the cost of administering and staffing an examination facility. The Board concludes that since electronic testing is an option offered for the convenience of the applicant, the added costs associated with this form of testing should be met by the assessment of a fee specific to electronic examinations and should not be met by an increase in the existing examination fee.

**B. Other Revisions**

The Board has also revised sections 100.9.6, 100.9.8, 100.11.1, 100.11.3, and 100.13.8 to modify references to "written examinations" in order to accommodate electronic testing.

**100.48 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: NOVEMBER 2011 RULEMAKING ADOPTED NOVEMBER 29, 2011; EFFECTIVE JANUARY 30, 2012**

Provisions of section 25-9-108, C.R.S., provide the specific statutory authority for the adoption of these amendments to the established regulatory provisions of Regulation 100 (5 CCR 1003-2). The Board also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

The Board determined that it was necessary to revise Regulation 100 to reflect a change in its testing policy which, before this hearing, consisted of requiring operators to take standard "multiple entry" exams to acquire certification for the various classes within the certification categories. The material on such exams covers the lower levels or classes within a certification category up to the certification level sought. The Board is now changing to a "sequential" testing scheme; each test focuses on the material for a particular class/level of certification within each certification category. Operators will now be required to

hold a certification in the class immediately below the class for which the application is being made, and thus the operators will not be able to “skip” any classes of certification in progressing to the higher classes. The Board has determined that it is prudent to make this change in policy for the following reasons.

The Board agrees with recent findings by the Association of Boards of Certification (ABC) that there are certain deficiencies with the multiple entry exam approach. For example, operators who passed the Class 4 Distribution exam by doing very well with the lower level exam questions could actually do very poorly on the questions specific to Class 4. This indicates that the multiple entry approach may not provide an accurate indication of proficiency in the skills required of a Class 4 Distribution operator. For this reason, ABC is no longer developing standardized multiple entry exams for their clients.

Additionally, the Board was persuaded by the results of an analysis by a psychometrician hired by its Contractors to evaluate knowledge required of Colorado's operators for the various certification categories and the classes within each. Exam blue prints have been developed which support the use of sequential testing because some areas of knowledge are tested more thoroughly at a lower level than at an upper level. The Board also considered the issue of reciprocity, as there will be very few, if any, states using multiple entry exams by the end of 2011. The Contractors' reciprocity committees will benefit from a sequential testing scheme because it will allow an equal comparison of Colorado's testing requirements with those of other states.

Accordingly, the Board added new section 100.9.7 to include the new requirement that in order to qualify to sit for an exam, an applicant must hold a certification for the same category and in the class immediately below the class for which the application is being made. The Board also revised the corresponding “Prior Certification and Experience Requirements” table in section 100.9.8 to consolidate and simplify the explanation of the experience requirements for the various certification categories and classes within each. Minor revisions were also made to section 100.9.6 for consistency with the other changes.

The Board agrees with the Contractors' assessment that relatively few operators will be impacted by this change in testing policy, as most operators already gain the required experience and take examinations with the intent to advance sequentially through a particular certification category. For those few operators who currently have the requisite experience to bypass lower level exams and may wish to skip to higher class of certification, they should be able to obtain their desired level of certification in an expeditious manner. The Contractors have indicated to the Board that, beginning in 2012, they will be expanding from their current offering of two examination cycles per year to three cycles. This added exam cycle will allow operators who meet higher level experience requirements to go through the sequential testing process more quickly in order to obtain their desired level of certification.

**100.49 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: FEBRUARY 2012 RULEMAKING; ADOPTED APRIL 24, 2012; EFFECTIVE JUNE 30, 2012**

Provisions of section 25-9-108, C.R.S., provide the specific statutory authority for the adoption of these amendments to the established regulatory provisions of Regulation 100 (5 CCR 1003-2). The Board also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

The Board determined that it is necessary to revise Regulation 100 to reflect the following changes:

Generally, the Board added clarifications where appropriate, deleted obsolete language, corrected referenced citations, and made grammatical corrections. Stylistic changes throughout the text of the regulation were made for uniformity and clarity. Where possible, the Board reorganized and combined like requirements into unified sections, i.e., section 100.9.9 describing the special rules for satisfying the minimum experience requirements for Class D, Class 1, Class S and Class T certifications. Because the



minimum experience requirement is the same for all three classes, sections 100.9.9(a), 100.9.9(b), and 100.9.6 have been combined into 100.9.9.

Section 100.1. For consistency with other Department regulations, the Board added reference to the specific statutory authority of the Board to promulgate regulations.

Section 100.2. The Board added definitions for the “Colorado Discharge Permit System Regulation” and the “Colorado Primary Drinking Water Regulations;” modified the definition for “public water system” to be consistent with the definition in the “Colorado Primary Drinking Water Regulations;” deleted language in the definition of “operator” that was redundant with the section of the regulation pertaining to certified operator duties; deleted the definition for “small system” because this classification was renamed “Class S” in this rulemaking; deleted the definition for “transient non-community certification” because this term is no longer used; and modified the definition of “water treatment facility” to match the statutory definition, 25-9-102(7), C.R.S.

Sections 100.4.1, 100.5.1, 100.7.1 and 100.8.1. The Board recognizes the confusion resulting from the use of like terms, specifically: 1) transient non-community water system, transient non-community water system operators certification, and transient non-community water system facility classification; and 2) small system under the Colorado Primary Drinking Water Regulations, small water system operators certification, small wastewater system operators certification, small water system facility classification and small wastewater facility classification. Because transient non-community water systems, small water systems, and small wastewater systems are subcategories of Class D water or wastewater treatment facilities with a Class 1 water distribution or wastewater collection system rather than distinct facility classifications, they have been removed as facility types.

Accordingly, the Board revised sections 100.4.1, 100.5.1, 100.7.1, and 100.8.1 to remove references to transient non-community system, small water system, and small wastewater system from the respective lists of facility classifications, and corrected the number of facility classification types in each section; and the sentence preceding the table in section 100.7.2 referencing small water system and transient non-community water system facility classifications was also deleted.

For clarity, the Board also changed the names of the following operator certifications: transient non-community systems to “Class T,” small water system to “Class S,” and small wastewater system to “Class S.” Sections 100.9.2 (d), (e), and (f), containing requirements for certification by examination, define when Class T and Class S certifications are valid to operate a Class D/Class 1 facility.

Section 100.6. The Colorado Discharge Permit System is a self-reporting program, and the Board recognizes that large numbers of the permits issued to facilities that meet the requirements for the Class 2 industrial facility exemption under Regulation 100 are never used or are effective for only short periods of time. The Board also recognizes the inability of the Division to verify on an annual basis each facility’s certification that it meets the requirements for the Class 2 industrial facility exemption.

Accordingly, the Board simplified the exemption process for Class 2 industrial facilities to reduce the regulatory reporting burden on the Division and on businesses operating within the State. A provision requiring facilities to notify the Division when they no longer meet the requirements of the exemption was added to ensure timely transition to operation under the supervision of a certified operator. The Board also added the new general “Pesticides” permit to section 100.6.1(b)(i)(C), and removed the specific industrial general permit numbers to prevent the need to modify the regulation each time the Division discontinues or adds to the permit numbering schema for the identified activity types.

Section 100.9, 100.10, 100.11, 100.12, 100.13, 100.14, 100.15, 100.16, 100.20, 100.21. The Board added language to clarify and to incorporate language from its policies and procedures regarding the following topics: certification requirements; minimum education and experience requirements; criteria for evaluation of experience; application procedures; substitution for the experience requirements; approval of training units, educational courses, and institutions; procedures for purchase of new certificates, renewal of certificates, and certificates by reciprocity; training unit requirements for renewal of

certification; expired certificates; duties of certified operators duties of operators in responsible charge; facility owners' responsibilities, including the role of contract operators; and disciplinary actions, including clarified terminology and procedures.

Section 100.9.3 and 100.13.1. The Board recognizes the issues many small facilities face in ensuring they have trained certified operators. The Board also recognizes that the certified operator profession has an aging work force, and wishes to encourage dedicated young people to enter the profession. Accordingly, the Board added specific language regarding the examination and certification requirements for applicants participating in an approved high school program to encourage them to enter the water and wastewater fields. Specifically, the revised language allows a student to sit for an entry level certification examination prior to graduation from high school, with the provision that the certification will only be issued when the examinee successfully passes the examination and submits proof of graduation.

Section 100.13.1 The Board added a deadline of three years from the date of notification of certification eligibility to apply for the certificate. It is the Board's intention that after the three year deadline has expired, an individual would need to re-apply and retake the examination.

Section 100.13.5(a). The Board added the requirement that in order to obtain a certificate by reciprocity, persons passing exams in other states, territories, or countries must also acquire qualifying experience in the state, territory, or country in which they obtained their certificate. The Board wishes to maintain Colorado's high standards for operator certification, and this requirement is intended to deter persons (particularly Colorado-based operators) from taking certification exams in other states, territories, or countries as a means to more easily obtain a Colorado certification. The Board currently requires that exams taken in other states by reciprocity applicants must be adequate, validated, and "of a standard not lower" than Colorado's. The Board believes, however, that this additional requirement will help streamline the reciprocity process and make it less subjective in situations where an applicant could have taken an exam in Colorado, but instead chose to take it elsewhere with the intent to find a less challenging exam.

Section 100.14.2. For ease of reference, the Board consolidated the training unit requirements that were previously listed in narrative in this subsection into a table.

Section 100.18. The Board added the responsibility for a facility owner to ensure the employment agreement with a certified operator reflects the requirements of an operator in responsible charge. The Board also defined the decisions reserved to the operator in responsible charge and modified the reporting requirements of facility owners.

Section 100.18.5. For consistency with other changes in the regulation, references to Class S and Class T were added to the table regarding criteria for operators in responsible charge.

Section 100.19. In provisions regarding administration fees, the Board clarified that there is no additional fee for a standard 6 x 9 inch certificate, but that an additional fee of \$5.00 will be charged for operators who opt for a larger size of certificate. Operators have had this option since 2008, but the Board believes it is appropriate to formalize this practice through its Regulations. The Board determined that the additional fee is necessary to cover postage and other incidental administrative costs associated with the larger certificate. The Board also added a \$50 late fee for purchases of certificates 61 or more days after the date of the letter notifying the applicant of eligibility to receive certification and for renewal of a certificate after the expiration date. The Board found that the \$50 amount is necessary and appropriate to cover administrative costs associated with delays in application for certification or certification renewal.

Section 100.21. For consistency with other Department regulations, the Board defined a timely appeal to the Board as submitting the request for hearing within thirty (30) days of notice of a decision by the Board's designee or the Division.

Section 100.25. This section regarding "Transitional Renewal Training Unit Requirements" was removed as obsolete.

The Board postponed the adoption of proposed sections 100.16.3(g), 100.16.3(h) and 100.16.4(a)-(f) regarding requirements for delegation of duties to uncertified personnel until a later rulemaking to allow time for additional stakeholder input.

**100.50 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: APRIL 29, 2014  
RULEMAKING ADOPTED AUGUST 26, 2014; EFFECTIVE OCTOBER 30, 2014**

Provisions of section 25-9-104, C.R.S., provide the specific statutory authority for the adoption of these amendments to the established regulatory provisions of Regulation 100 (5 CCR 1003-2). The Board also adopted, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

The Board held a rulemaking hearing on April 29, 2014. After receiving testimony from the Division, CECTI, and members of the public, the Board voted to continue the hearing until its August meeting with direction to the Division to work with stakeholders in developing a revised proposal regarding the definitions of “certified operator” and the associated terminology. At the hearing in August, the Board adopted the Division’s revised proposal regarding the certified operator terminology, which was discussed and agreed to by the various stakeholders. As discussed in more detail below, the Board determined that the Division’s revised proposal helps to clarify the roles of “operators,” “certified operators,” and “certified operators in responsible charge,” while maintaining consistency with the statutory definition of “certified operator.” The Board further determined that it was necessary to revise Regulation 100 as follows:

Generally, the Board added clarifications where appropriate, deleted obsolete and redundant language, corrected referenced citations, and made grammatical corrections. Stylistic changes throughout the text of the regulation were made for uniformity and clarity. Where possible, the Board reorganized and combined like requirements into unified sections. Additionally, there were many instances where the term “certification” was used when the reference was more accurately referring to a “certificate.” In those instances, “certification” was changed to accurately refer to a “certificate.”

Section 100.1.1. The Board revised the statutory citation to match current practice.

Section 100.2. The Board revised the term “certified operator” to be consistent with the common understanding of this term within the profession. Accordingly, the Board now defines this term as including all operators in Colorado who hold a Certified Water Professional (“CWP”) certificate. To accomplish this, within its definition of “certified operator,” the Board revised its interpretation of an operator’s having “responsibility for the operation” of a facility. The Board’s previous interpretation referred only to those operators who were in charge of making process control and/or system integrity decisions that may affect public health or the environment. The revision construes the term more broadly to include all CWPs who, by virtue of holding a certificate, are qualified to perform various operational responsibilities at a facility.

The previous term “operator in responsible charge” was deleted and replaced with “certified operator in responsible charge.” The Board determined that the new term was more appropriate to reflect the status of such operators. Within the definition, the Board clarified that “certified operators in responsible charge” have a higher level of responsibility at facilities because they are in charge of making process control/and or system integrity decisions that may affect public health or the environment. The Board also clarified its endorsement of the long-standing practice that facility owners may designate more than one person as the certified operator in responsible charge.

Finally, the definition of “operator” was revised to indicate that it is a general term that includes persons who may or may not hold a CWP certificate, and to delete the unnecessary word “supervises” to alleviate any confusion as to the general responsibilities or qualifications of an “operator.” The Board made revisions to terminology throughout the regulation to be consistent with these changes to the definitions of “certified operator,” “certified operator in responsible charge,” and “operator.”

Additionally, the Board moved definitions that are only used once in the regulation to the section of the regulation where the term is used. The definitions of “Board,” “certificate,” “department, and “domestic wastewater treatment facility” were changed to match the statutory definitions, and clarifying language was added to the term “training unit.” The Board removed the definitions of “community water system,” “non-transient community water system,” and “non-community water system” because these terms are not specific to Regulation 100, and they are defined in the Colorado Primary Drinking Water Regulations, 5 CCR 1002-11.

Section 100.4. The Board removed as unnecessary the terms “community,” “non-transient community,” and “transient non-community” water systems in the section 100.4.2 table heading. In accordance with authority granted in § 25-9-104.4(2), C.R.S., the Board added section 100.4.5, which exempts water treatment facilities that are not public water systems subject to the Colorado Primary Drinking Water Regulations.

Section 100.6. The Board combined the stormwater permitted facilities with other facilities discharging under listed general industrial permits, requiring these facilities to meet the conditions for classification as Class 2 industrial facilities. With changes to the stormwater permit discharge limits, there is the possibility a facility may install active treatment to meet permit discharge limits. This change ensures that if that were to occur, the facility would be required to operate under the direct supervision of a certified operator in responsible charge.

Section 100.7.5. The Board added a provision that exempts water distribution facilities that fall within the jurisdiction of the “Water Well Construction and Pump Installation Contractors Act,” 37-91-101 C.R.S. This provision was moved into the regulation from the Board’s “De Minimus Distribution Systems” policy (July 20, 2003).

Section 100.9. The Board added the minimum passing score to the requirements for certification. The Board changed the minimum passing score for certification by examination to 70 percent at the April 2004 meeting. This decision is being incorporated in the regulation for clarity and transparency of the Board’s expectations.

To improve the alignment of like provisions, the Board moved the provisions regarding restrictions on Class T and Class S Water and Wastewater certifications from section 100.9.2 (d), (e), and (f) to section 100.18.5(c), (d), and (f), which defines the minimum certification levels necessary for certified operators in responsible charge for each facility classification. Persons holding Class T and Class S certificates may serve as a certified operator in responsible charge only when all of the criteria in the relevant sections is met.

The Board made changes to the wording to increase clarity and readability. In addition, redundant language in section 100.9.9(c) was removed regarding the special rules for satisfying the minimum experience requirement for entry level certification in order to simplify the section.

Sections 100.10 and 100.11. For consistency, the Board changed the word “type” to “category” in sections 100.10.7 and 100.11.6. In addition, the terms “small water system” and “small wastewater system” were corrected in section 100.10.7 to be consistent with changes to the certificate names made in 2012. Class T was added to the list.

Section 100.13.1(a)(iii) and section 100.13.6. To ensure the Board has the most accurate operator contact information, the Board added the requirements to provide current contact information when applying for a new certificate and to update the Board upon a change to the contact information within 30 days of such a change.

Sections 100.13(e) and 100.16. The Board added language to clarify its expectations and to incorporate language from its policies and procedures regarding the following topics: renewal process for operators absent due to military service, delegation of tasks or activities, and duties of certified operators in

*100.51 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: JUNE 30, 2015  
RULEMAKING ADOPTED AUGUST 25, 2015; EFFECTIVE SEPTEMBER 30, 2015*

responsible charge. These include the following Board policies: Policy 13-2 (USERRA), "Delegation of Tasks to Uncertified Personnel," approved September 24, 2002, and "Interpretation of Operator in Responsible Charge Duties," approved June 26, 2001.

Section 100.13.5(a)(i). The Board broadened the list of certifying authorities for applicants seeking to obtain a certificate by reciprocity by adding the general term "another certifying entity". This revision gives the Board discretion to consider certificates awarded by national or international water or wastewater professional organizations, such as the Association of Boards of Certification (of which the Board is a member), which offers professional certification for water and wastewater facility operators. The Board recognizes that this type of certification should be recognized and taken into account when evaluating an operator who applies for a certificate by reciprocity.

Section 100.15.6 and 100.20.1. The Board added the requirement for certified operators to conduct themselves in a professional manner when acting in the capacity of an operator, and included failure to do so to the list of offenses that may result in a Board disciplinary action. The Board made this addition to clarify its expectations with respect to a certified operator's obligation to uphold the integrity of the CWP profession while acting in such capacity.

Section 100.18.2 and 100.18.3. The Board clarified for facility owners its expectation regarding who may make process control decisions and who must be available to make those decisions. This change is consistent with section 100.30 (Statement of Basis and Purpose November 2000), which states: "In order to meet EPA guidelines, the Board required that all process control and/or system integrity decisions about water quality or quantity that may affect the public health or the environment be made by either an operator in responsible charge or another certified operator. This operator must be certified at a level equal to or higher than that of the facility."

**100.51 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: JUNE 30, 2015  
RULEMAKING ADOPTED AUGUST 25, 2015; EFFECTIVE SEPTEMBER 30, 2015**

Provisions of section 25-9-104, C.R.S., provide the specific statutory authority for the adoption of these amendments to the established regulatory provisions of Regulation 100 governing the requirements for water and wastewater facility operators (5 CCR 1003-2). The board hereby adopts, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

The board held a rulemaking hearing on June 30, 2015. After receiving testimony from the division and members of the public, the board determined that it was necessary to revise Regulation 100 as follows:

Generally, the board made grammatical corrections, stylistic changes and used simple declarative sentences when possible to avoid confusion or ambiguity.

Based on the input received from stakeholders, no changes to the provisions regarding experience requirements of section 100.9.4 are being made at this time.

Section 100.2(11). The board added the definition for owner. Not all suppliers of water, permittees and co-permittees are the owners of the physical facilities. Defining owner in regards to Regulation 100 clarifies who is responsible for ensuring the facility is under the direct supervision of a certified operator in responsible charge when it is operating as required by section 100.18.1.

Sections 100.10. For clarification, the board changed the title and provisions of section 100.10 to clearly reflect that this section refers to the first of the two-step process of certification, to apply to sit for a certification examination.

*100.52 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: DECEMBER 9, 2015 RULEMAKING, EFFECTIVE JANUARY 30, 2016*

Section 100.13. To ensure consistency, provisions of Regulation 100 that refer to the issuing of the certificate, payment of program fees and the period each certificate is valid were moved to section 100.13 "Introduction." For transparency, the board added the requirements to comply with section 24-76.5-101 et seq., C.R.S., often referred to as the lawful presence legislation when applying for new or renewed certificates.

Section 100.13.1, 100.13.2 and 100.13.5. For clarification, the board changed the headings and provisions of these three sections to clearly reflect they refer to the second of the two-step process of certification, the requirement to submit application for new or renewed certificates or to obtain certification by reciprocity.

Section 100.15.3. In August 2014, the board adopted revisions to section 100.20.1(j) to clarify that the board may take disciplinary action for failure to conduct oneself in a professional manner. In this proceeding, the board also adopted section 100.15.3 to include in the list of certified operators' duties the requirement to act in a professional manner. The board made this addition to clarify its expectations with respect to a certified operator's obligation to uphold the integrity of the CWP profession while acting in such capacity.

Section 100.16.5. The board removed responsibility from the certified operator in responsible charge duties for the management, administration, compliance with regulatory and permit requirements, and other responsibilities that require decision-maker action and approval, such as providing operational, technical and financial resources necessary for proper operation and maintenance of the water or wastewater facility. These responsibilities are implicitly and explicitly identified in other applicable regulatory and permit requirements as belonging to the owner of the facility. The board wanted it clearly understood that the certified operator in responsible charge is responsible for the professional operation and maintenance of the facility as appropriate to their certification level and working with the resources provided by the owner.

Section 100.18.1(a) and (b). For consistency and clarity, the board combined these provisions so the definition for direct supervision immediately follows the requirement for direct supervision by a certified operator in responsible charge.

Section 100.18.1 (b). The board defined how an owner designates the certified operator in responsible charge.

Section 100.18.3(a) and (b). For consistency and clarity, the board combined these provisions so the definition for available immediately follows the requirement for a certified operator in responsible charge to be available to make decisions and initiate actions that are reserved to the certified operator in responsible charge.

Section 100.18.4. For clarity, the board defined how an owner reports changes to the certified operator in responsible charge to the division. The division requires that current update forms be used. In addition, the board removed reference to certified operators in responsible charge being employed or contracted by the owner from sections 100.18.4 (b) and (c). There are other relationships that may exist between the owner and certified operators in responsible charge.

**100.52 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: DECEMBER 9, 2015 RULEMAKING, EFFECTIVE JANUARY 30, 2016**

Provisions of section 25-9-104, C.R.S., provide the specific statutory authority for the adoption of these amendments to the established regulatory provisions of Regulation 100 governing the requirements for water and wastewater facility operators (5 CCR 1003-2). The board hereby adopts, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

Sections 100.15.3 and 100.20.1(j). The board added subsection 100.20.1(j) in August 2014 to clarify that the board may take disciplinary action against a certified operator for failure to conduct oneself in a “professional manner.” In August 2015, the board adopted section 100.15.3 to include in the list of certified operators’ duties the requirement to act in a professional manner. The board made these additions to clarify its expectation that certified operators have an obligation to uphold the integrity of the profession by working with the public, others in the regulated community, and regulators in a dignified manner that fosters trust and respect. The board believes this obligation is important because the profession is directly linked to the important duties of protecting public health and the environment.

The Office of Legislative Legal Services, which conducts legal reviews of all newly-promulgated agency rules, expressed concern after the August 2015 adoption of section 100.15.3 that the language describing “professional manner” was too vague to meet the requirements of the Colorado Administrative Procedures Act, 24-4-101 et. seq., C.R.S. To address these concerns, the board adopted changes to section 100.15.3 to delete the concept of “professional manner,” and instead to specifically prohibit certain types of behavior when a certified operator is acting in a professional capacity. These prohibited behaviors are related to a certified operator’s demeanor while communicating/interacting with the public, the regulated community and regulators. The board similarly revised section 100.20.1(j) to clarify that certified operators who exhibit such behavior are subject to disciplinary action by the board.

#### **100.53 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; NOVEMBER 29, 2016 RULEMAKING; EFFECTIVE JANUARY 30, 2017**

Provisions of section 25-9-104, C.R.S., provide the specific statutory authority for the adoption of these amendments to the established regulatory provisions of Regulation 100 governing the requirements for water and wastewater facility operators (5 CCR 1003-2). The board hereby adopts, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

The board held a rulemaking hearing on November 29, 2016. After receiving testimony from the division and members of the public, the board determined that it was necessary to revise Regulation 100 as follows:

Generally, the board made grammatical corrections, stylistic changes, and used simple declarative sentences when possible to avoid confusion or ambiguity. The board also made clarifications, removed duplicates and obsolete language, updated citations and numbering, and changed section titles to be more specific. The sections of the regulation were reorganized for a more logical flow and to increase readability. Sections 100.1 through 100.13 describe the various components of the operator certification program, including facility classification criteria. Sections 100.13 through 100.17 detail the certification process and requirements for obtaining and renewing certificates.

Section 100.1.3. The board created a new section titled “Severability” to make it known that if, for any reason, a portion of the regulation is held inoperative, unconstitutional, void or invalid, the validity of the remaining portions is not affected.

Section 100.1.4. The board created a new section titled “Applicability.” For clarity, the board defined the categories of persons to which the regulation applies.

Section 100.1.5. The board created a new section titled “Automatic Exemptions.” It is divided into four subsections covering water treatment facilities and water distribution systems, as well as certain industrial wastewater treatment facilities. Each subsection includes the criteria which, if met, automatically results in an automatic exemption from the requirement for the facility/system to operate under the supervision of a certified operator in responsible charge (ORC). Under these subsections, if the criteria are met, there is no requirement for a facility to request an exemption from the board.

Section 100.1.6. The board created a new section titled “Discretionary Exemptions.” This new section outlines the procedure for facilities that do not meet the “automatic exemption” criteria of section 100.1.5 to request an exemption from the requirement to operate under the supervision of a certified operator in responsible charge. This section is comprised of a combination of language from 25-9-104.4, C.R.S. (covering water and wastewater facilities), and from section 100.6, which is specific to industrial wastewater treatment facilities. The board also removed the requirement that was previously in section 100.6 for an adjudicatory hearing to address an industrial wastewater treatment facility exemption request. The division will evaluate exemption requests made under this section and make a recommendation to the board. The board will make a decision regarding the request at a regularly scheduled meeting.

Section 100.1.7. The board created a new section titled “Exceptions” which makes clear that the board has the authority to make exceptions to the requirements in Regulation 100 if the exception is not contrary to statute and does not endanger the public health or environment.

Section 100.2(9). The board added the definition for graywater treatment facility. In this rulemaking, the board is adding a requirement for a certified operator in responsible charge for certain graywater treatment works as defined in the *Graywater Control Regulation*, 5 CCR 1002-86.

Section 100.3. The board added a provision to clarify the role of the Water Quality Control Division, which details the scope of division enforcement authority and oversight and reserves all enforcement and oversight regarding graywater facilities to the local city, city and county, or county with a local graywater control program in accordance with the *Graywater Control Regulation*, 5 CCR 1002-86.

The board also clarified the duties delegated to its contractor and removed two provisions that were not accurate. Throughout the regulation for consistency, the board deleted the term “the board’s designee” and replaced it with “the board’s contractor.”

Section 100.3.2. For clarity, the board added this provision from section 25-9-104.2(4), C.R.S., stating that the board retains the final authority over all actions and decisions of its contractors and subcontractors.

Section 100.3.2. To accomplish better flow of the regulation, this section was moved from the former section 100.21, “Hearings and Appeals,” and placed into this section of the regulation because it outlines the process for appealing decisions of the division and the board’s contractor(s).

Section 100.6. The board added category D non-single family, indoor toilet and urinal flushing graywater treatment facilities, as defined in the *Graywater Control Regulation*, 5 CCR 1002-86, to domestic wastewater treatment facilities that require supervision by an ORC. Treated graywater is not potable water and is not required to be treated to potable water standards prior to recycling. Using non-potable water in homes, apartments or condominiums, schools, businesses, hotels, dormitories, etc. may increase the possibility of exposure to pathogens or other substances from partially treated water and could pose a public health risk. Current research is showing an increase in risk with each additional contributor to a graywater system, such as apartments, condominium units, hotel rooms, or numbers of people.

Ensuring that graywater treatment processes are functioning properly is a critical component in protecting public health. A certified operator is specifically trained to understand and oversee operation of treatment processes. Based on this increased risk from multiple contributors and the unique role of a certified operator in protecting public health, the board is requiring an ORC for non-single family graywater treatment facilities that supply non-potable water for toilet and urinal flushing.

The board is not requiring an ORC for category A and C single family graywater systems and category B non-single family subsurface irrigation graywater systems as defined in the *Graywater Control Regulation*, 5 CCR 1002-86.



*100.54 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: JUNE 20, 2017  
RULEMAKING; EFFECTIVE AUGUST 31, 2017*

Section 100.9.7. To accomplish better flow of the regulation, the board removed this provision dealing with the appeal rights of facility owners regarding a violation of the responsibility to have an ORC from the former section 100.21, "Hearings and Appeals"

Section 100.15.5(b) and (c). For clarification and consistency, the board replaced the word "field" with "category" and spelled out the five certificate categories: water treatment, domestic wastewater treatment, industrial wastewater treatment, distribution system or collection system.

Section 100.15.5(d). For clarity and to make it easier to understand, the board reworded the section using plain language.

Section 100.15.5(f-j). For clarification and transparency, the board added certain provisions from Policy #15-3 regarding timing of training units.

Section 100.15.8. The board clarified the criteria for a certified operator to receive double training units for teaching a board approved classroom course.

**100.54 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: JUNE 20, 2017 RULEMAKING; EFFECTIVE AUGUST 31, 2017**

Provisions of section 25-9-104, C.R.S. provide the specific statutory authority for the adoption amendments to the established regulatory provisions of Regulation 100 governing the requirements for water and wastewater facility operators (5 CCR 1003-2). The Board hereby adopts, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

At its November 29, 2016 rulemaking hearing, the board revised section 100.9.7 to state that a facility owner can respond to a notice of violation issued by the division or a civil penalty assessment issued by the Department by "submitting to the Board" a hearing request. Subsequently it came to the board's attention that this revision was not consistent with the Board's enabling statute (section 25-9-110(4), C.R.S.), which requires that the facility owner submit such hearing requests to the division. The board conducted a "written comment only rulemaking hearing" to address this relatively minor issue, and received no comments. In order to align the language in the regulation with the statute, the board is now revising section 100.9.7 to indicate that hearing requests for notices of violation under sections 100.9.1-100.9.5 and related civil penalty assessments are to be submitted to the division. The hearings are then conducted by the board.

**100.55 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE:  
SEPTEMBER 25, 2018 RULEMAKING; EFFECTIVE MARCH 1, 2019**

Provisions of section 25-9-104, C.R.S. provide the specific statutory authority for the adoption amendments to the established regulatory provisions of Regulation 100 governing the requirements for water and wastewater facility operators (5 CCR 1003-2). The Board hereby adopts, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

**BASIS AND PURPOSE**

The board held a rulemaking hearing on September 25, 2018 and determined to revise sections 100.12 through 100.16 to:

- improve clarity and update citations;
- add failure to follow the Colorado Certified Water Professionals Code of Conduct to the list of violations that could result in disciplinary action against an operator;

- ensure that regulatory language is harmonious with the automated features of the board's new web-based certification management system;
- remove references to test cycles;
- add military education as a valid substitute for experience;
- add provisions for mandatory regulatory training; and
- ensure that appropriate fees are collected to meet the needs and processes of the program, and are assessed in a consistent, equitable and transparent manner.

100.12.2. The board added failure to follow the Colorado Certified Water Professionals Code of Conduct to the list of violations that could result in disciplinary action against an operator.

100.13 and 100.14. The board renamed these sections to clarify that there is a single application for certification.

The board's web-based certification management system allows operators to apply for certification without differentiating among eligibility to sit for an exam, reciprocity, renewing a certificate, etc. Therefore, throughout these two sections, the board simplified language, as appropriate, to refer to all applications for certification.

100.13. The board removed references to test cycles throughout this section and renumbered the sections.

100.13.1. The board simplified the wording of the application requirement and, to improve transparency, added a list of materials applicants will need to submit with their applications.

100.13.2. The board clarified that applicable fees are to be paid at the time application is submitted.

100.13.4. The board removed the re-review requirement for disapproved applications. A concern was raised that operators would lose some due process regarding their right to appeal the decision of the reviewer if an application was denied. However, the board's new information system renders the request for re-review unnecessary by providing a 90-day window to correct deficiencies. Essentially, operators can request innumerable re-reviews until the 90-day period is over. .

100.13.5. The board reorganized this section for a more logical flow of ideas.

100.13.5(b). The board added a provision for mandatory regulatory training to be completed prior to submission of an application and valid for three years. To ensure flexibility as the division develops criteria for this requirement, the regulation does not specify the length of the regulatory training course or the number of training units to be awarded, only that the course must be approved to meet this requirement.

100.13.5(d). The board moved the qualifications for reciprocity from section 100.14 to section 100.13.5(d) for a more logical flow.

100.13.5(k). The board removed a provision that had allowed entry-level applicants to sit for an exam prior to meeting the one-month experience requirement because the provision would not be enforceable when the new on-line information system goes live. Proposed alternatives such as removing the experience requirement altogether or creating a new classification for operators-in-training, were determined not to be viable at this time.

- 100.13.6(a)(ii). As part of the implementation of HB 16-1197 which mandates clear pathways to certification for members of the armed services and veterans, the board added language making it clear that military education can be substituted for experience requirements consistent with the same way postsecondary education from educational institutions can be substituted for experience requirements.
- 100.13.6(b). The board removed the provision allowing secondary students in board-approved programs or courses to take exams prior to earning a high school diploma. The goal of this provision was to allow graduating students to be certified shortly after graduation. This was necessary as a work-around of the test cycles. This provision is no longer necessary with the end of test cycles.
- 100.13.13. The board moved language about examinations to section 100.14.1 and took out implementation details such as the setting of places, times and dates for examinations. The board established that, unless other arrangements are made with the exam administrator, exams will be administered electronically. The board also removed language about preparation of validated examinations and examination materials as these items are addressed in state statute.
- 100.14. The board simplified this section and removed reference to renewed certificates because this section is specifically for new certificates.
- 100.14.1. Added the language moved from section 100.13.13. The board removed language related to the setting of places, times and dates for examinations and established that, except as approved by the board, exams will be administered electronically. The board also removed language about preparation of validated examinations and examination materials as these items are addressed in state statute. The board added the provision to allow applicants who fail an exam to retest within a 180-day eligibility period.
- 100.15.1. The board moved a reference to renewed certificates and their period of validity from section 100.14 to 100.15 because section 100.15 deals specifically with certificate renewal.
- 100.15.2(a). The board removed all reference to the time frame for submitting applications for certificate renewal as such applications can be made at any time in the new on-line information system.
- 100.15.8. The board clarified training units from the mandatory regulatory training are included in the total training units required for renewal and not in addition to those requirements.
- 100.15.9(d). The board adopted a new provision specifying that the minimum course duration for training unit course approval is 30 minutes and spelling out the maximum training units that can be granted for courses lasting less than an hour. The information has been documented for years on the Training Units Matrix, but the board determined that adopting the minimum course duration into Regulation 100 was appropriate to increase transparency.
- 100.15.9(e). The board also adopted a provision for operators who have taken a course not approved for training units by the board or its contractors to provide a context for the fees collected for review of such courses.
- 100.16.1 and 100.16.2. The board revised the fees section of this regulation for greater clarity, transparency, equity and consistency.

#### Structure

The board revised the fee structure to accommodate collection of non-refundable application and administrative fees in the new certification management system, and separate collection of examination fees outside the system by an exam administrator. The board determined that this

structure was sensible and would enhance operators' understanding of the way fees are be applied.

#### Fee Amounts

The board set the combined application and administration fee at \$50 for approval to sit for an exam. The exam fee for electronic exams was set at \$100, for a total of \$150. The exam fee for paper exams was set at \$65 for a total of \$115. Although structured a little differently, there was no increase in the total fees assessed for electronic and paper examinations.

The board set the combined application and administration fee at \$85 for renewal and reciprocity applications. Although structured a little differently, there was no increase in the total fees assessed for these applications.

- 100.16.3. The board adopted a provision to clarify that late fees for renewal applications submitted after the expiration date of the previous certificate should be paid through the certification management system at the time the application is submitted. 100.16.4. The board modified the fee structure for approval of training unit courses and events to ensure consistency and transparency in handling various types of training options and mitigate against lost training opportunities due to overpricing.

#### **100.56 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: NOVEMBER 27, 2018 RULEMAKING; EFFECTIVE MARCH 1, 2019**

Provisions of section 25-9-104, C.R.S. provide the specific statutory authority for the adoption amendments to the established regulatory provisions of Regulation 100 governing the requirements for water and wastewater facility operators (5 CCR 1003-2). The Board hereby adopts, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

The board held a rulemaking hearing on November 27, 2018 and determined to revise section 100.16.2(b) to establish that the examination fee for both paper and electronic exams will be \$100. Fees for paper exams had been \$35 less than fees for electronic exams. In this rulemaking the board, in effect, raised the fee for paper exams to ensure a consistent rate for all test-takers. In September 2018, the board adopted revisions requiring all examinations to be administered electronically unless special arrangements were made. To ensure there is no financial incentive for applicants to request paper exams, the board decided to remove the distinction between paper and electronic exams. The board is sensitive to exam cost concerns and will consider adjusting exam costs in the future based on the financial status of the program.

#### **100.57 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; NOVEMBER 27, 2018 RULEMAKING; EFFECTIVE MARCH 1, 2019**

Provisions of section 25-9-104, C.R.S., provide the specific statutory authority for the adoption of these amendments to the established regulatory provisions of Regulation 100 governing the requirements for water and wastewater facility operators (5 CCR 1003-2). The Board hereby adopts, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

#### **BASIS AND PURPOSE**

The Board held a rulemaking hearing on November 27, 2018. After receiving testimony from the Division and members of the public, the Board determined that it was necessary to revise Regulation 100 as follows:

The Board adopted updates to the facility classification sections to provide clarity to the facility classification process, better align the classifications with operator certification testing, and update the facility classification sections to include currently accepted technologies. The Board's intent was not to change all facility classifications. In Colorado, there are over 2,000 public water systems, over 400 domestic wastewater facilities, and over 200 industrial facilities. The Board expects many facility classifications to be unchanged by the updates. The Board understands that the classification of some facilities will change. The Board specifically included a delayed effective date for any facility classification changes to existing facilities to assist with compliance. The Board also included provisions for a site-specific certified operator in responsible charge for some situations to provide additional time to assist with compliance.

As noted below, the Board added section 100.6 to include reclaimed water treatment and distribution systems. The existing sections 100.6 and greater were shifted to sections 100.7 and greater. Cross references to these later sections were modified to the new section numbering.

The purpose of the facility classification updates is explained in more detail below.

### **Reasons for Facility Classification Updates**

The Board observed that there were increasing number of situations where the use of the classification sections to classify a facility was ambiguous, leading to possible different interpretations, and requiring Board involvement for what should be regular decisions by Division staff based on the regulation. The classification sections date from generally 20 years or more in the past and do not include many technologies that have been developed and used in facilities since that time. The Board also observed portions of the facility classification sections did not align with the testing criteria for the operator certification tests. Alignment of the operator certification testing and the facility classifications is important since the Board and the Division rely on the existing and future certified operator in responsible charge of a facility to have the level of understanding to responsibly operate the facility. Regarding the distribution and collection sections, in the year 2000 the Board stated that it intended that the Division would include complexities in classification, but the regulation language is unclear regarding how to include the noted complexities and the Board intended that the complexities be clarified in the future.

### **Determination of Classifications**

The Board updated the classification sections based on best professional judgment of the stakeholder and Division recommendations considering the 2017 Need-to-Know Criteria developed by the Association of Boards of Certification (ABC), the organization responsible for the certification tests being used by Colorado, and minimum experience requirements for the operator certification levels. The Need-to-Know Criteria identify several types of knowledge that support job tasks associated with the particular certification with similar levels of test questions. The types of knowledge are rated at one of three levels to represent the extent of knowledge needed to perform the job tasks assigned to each content area in the criteria. The three levels are: 1) basic – a fundamental or lower level of knowledge, 2) intermediate – ability to understand and discuss the application and implications of changes to processes, and 3) advanced – very high level of knowledge/expertise and functioning at an expert level. Within the testing, the testing for particular content areas may only be at the basic level for lower levels of certification. When content areas are significant for a particular technology, the testing needs to be at the intermediate or advanced level. The classifications adopted by the Board also recognize the experience requirements associated with initially receiving a particular operator certification level. Some classifications were adjusted to align with the intermediate/advanced test questions and operator experience requirements.

Although the Board included many technologies in the classification sections, the lists may not include every technology encountered in the future. In those situations, the list of technologies included in the facility classification sections are representative and the Board directs the Division to categorize other technologies consistent with the updated lists and classify facilities based on the similar technologies.

### **Optional Technologies**

The Board determined that optional technologies installed at a facility are included in this important responsibility of the certified operator in responsible charge and must be included in the facility classification. Some stakeholders had expected that optional technologies installed at a facility, but not required for compliance, should not be considered for facility classification. This concern is an issue when the optional technology is more complicated than the other technologies in use at the facility and the facility classification would be lower if the optional technology is ignored during classification. When a technology is installed and could be used, the certified operator in responsible charge still needs to understand how to properly operate the technology and what interactions and potential impacts the optional technology can have on the other treatment technologies in use at the facility. A long-time requirement of Regulation 100 is for the certified operator in responsible charge to be certified at a level representing their ability to fulfill their responsibility for process control and/or facility integrity decisions about water quality or quantity or wastewater effluent quality or quantity that may affect public health or the environment.

### **Implementation of Updated Classifications**

The Board, the workgroups, and the Division were aware the implementation of updated classifications will be a significant effort and that some certified operators in responsible charge may need to acquire a higher level certification. Therefore, the Board included a split schedule with an immediate effective date for new or substantially modified facilities and a two-year deferred effective date for existing facilities that are not being substantially modified. The extended period for existing facilities that are not being substantially modified will give the facilities and the Division time to develop methods for classifying, reporting, and confirmation and give certified operators in responsible charge time to acquire a higher level operator certification, if needed.

### **Site-Specific Certified Operator in Responsible Charge**

The Board recognized that for some operators not located near teaching or testing resources, it can be difficult to get testing. Therefore, the Board added the ability for facility owners to request approval of a site-specific certified operator in responsible charge to give additional time to meet the operator requirements related to an updated facility classification for facilities that will not be substantially modified and are in three types of scenarios: 1) the facility classification level will increase two or more levels (added three years for a total five years to implement), 2) the certified operator in responsible charge has been in that role for that facility for 5 or more years (added three years for a total five years to implement), and 3) the certified operator in responsible charge has been in that role for that facility for 15 or more years (added 8 years for a total 10 years to implement). See discussion for section 100.10 for more detail.

### **Automatic Exemptions, Section 100.1.5**

In this rulemaking, the Board clarified automatic exemptions in section 100.1.5. Some public water systems are contained in a single building such that a separate distribution classification and operator are not needed. There are limited situations where there may be some water system piping outside the building, but a distribution system classification and operator is still not needed, such as between the treatment building and the single building or associated with an irrigation system protected by an approved backflow prevention assembly. The Board updated the water distribution system exemptions to clarify the situations where the distribution classification and operator are not required. The Board added four automatic exemptions. Two of the added exemptions clarify situations that are not part of the collection system definition, such as collection systems on the property of the owner of the domestic wastewater treatment facility and service lines from a building to the collection system. With the increased focus in society on the use of non-potable water, the Board added two more exemptions for non-potable water lines at a domestic wastewater treatment facility or reclaimed water treatment facility, and one for an industrial wastewater treatment facility, similar to the concept in the collection system definition of excluding the collection pipe system on the property of the treatment facility. The Board also

clarified in section 100.1.6 that requests for discretionary exemptions be submitted to the Division for evaluation.

#### **Materials Incorporated by Reference, Section 100.1.8**

The Board added Section 100.1.8 Materials Incorporated by Reference to comply with the statutory requirements in the Administrative Procedures Act, 24-4-103(12.5), C.R.S.

#### **Definitions, Section 100.2.**

The Board clarified and added definitions in section 100.2.

For the definition of “plant design flow,” Regulation 100 previously included two terms for the same definition, depending on whether the context was referring to a drinking water treatment facility or a wastewater treatment facility. The definition for drinking water treatment was a flow rate and the definition for wastewater treatment was a daily flow capacity. The Board acknowledges the two terms were often confused by using one term to mean two different concepts within different sections of the regulation. The Board deleted the definition of “plant design flow” and created two separate definitions in its place. The new definitions are “plant design flow rate” for drinking water treatment and “plant design hydraulic capacity” for wastewater treatment. In addition, the updated facility classification sections include units of gallons per minute (gpm) for drinking water treatment and millions of gallons per day (MGD) for wastewater treatment, to further separate the concepts for the two definitions. These modifications do not change the long-term intent of the Board, but add clarity for users of Regulation 100.

The Board added definitions for “reclaimed water distribution system” and “reclaimed water treatment facility.” In Colorado, there is an increased focus on the use of non-potable water derived from treated domestic wastewater, which is referred to as “reclaimed water” in water quality terms. The Board did not create a separate certification for reclaimed water. Instead, the Board included a classification section for reclaimed water that refers to existing classifications for domestic wastewater treatment, in some instances drinking water treatment, and drinking water distribution. The Board added definitions for “reclaimed water distribution system” and “reclaimed water treatment facility” to support the updated classification sections.

The Board added a definition for “significant industrial user,” a term associated with pretreatment programs. The term is used in classifying collection systems as multiple significant industrial users can increase the complexity of operation and maintenance of a collection system.

The Board also adopted a definition for “site-specific certified operator in responsible charge,” which is a term for a certified operator in responsible charge that the Division approves to be certified at a level less than the classification of the facility he or she is operating, for a specified limited period of time, provided specific conditions are met. The Board adopted this type of designation to provide some additional time to assist owners and operators in responding to facility classification changes for specific situations. See further discussion under section 100.10 below.

#### **Water Treatment Facility Classification, Section 100.4.**

The Board updated the content and format of the drinking water treatment facility classification section 100.4. In 100.4.2, the Board established two classification subsections. The first subsection, part (a), includes classifications that are immediately applicable to new or substantially modified facilities, and will be applicable to existing facilities not undergoing substantial modifications after the two year implementation period. The second subsection, part (b), includes the current classification sections that are applicable to the existing facilities not undergoing substantial modifications during the two year implementation period.

The Board also modified the descriptions of the classification basis for drinking water treatment from descriptions that were more similar to drinking water regulations to a format listing treatment technologies and is more similar to the other classification sections. Each treatment technology is grouped under the headings of filtration, disinfection, and other treatment, although a technology might be used for different purposes than the heading.

In addition to modifying the technologies list, the Board clarified the plant design flow for drinking water treatment facilities. For drinking water systems, plant design flow rate means the approved maximum flow rate of the facility (instantaneous flow). The Board also adopted units for plant design flow rates for drinking water treatment facilities as gallons per minute. The plant design flow rate (gpm) heading in the classification table clarifies the flow rate within the table itself. The modifications should alleviate the confusion that surrounds which value to use in assessing a facility's appropriate classification. The Board also adopted new capacities for grouping classifications based on the recommendation of the stakeholder workgroup of operators.

The facility classification tables include specific classifications (i.e., letters D, C, B, A) assigned to treatment technologies based, in part, on the 2017 Need to Know Criteria published by the Association of Boards of Certification (ABC). The Board adopted a minimum facility classification level of C for drinking water facilities conducting surface water treatment, including sources that are groundwater under direct influence of surface water (GWUDI). This classification will change classification for systems with surface water treatment facilities that have bag or cartridge treatment that are currently have a D classification. The C classification was selected because the D level operator certification testing does not adequately cover the concepts for drinking water treatment of a surface water source. The D level operator certification covers simple chlorination of groundwater. It does not adequately cover the following topics: the importance of properly and continuously operating multiple barriers, log-inactivation of Giardia, or maintaining disinfection contact time levels given differing water quality conditions like changing temperature, pH, and alkalinity.

The Board also found that proficiency levels, as evidenced by the minimum experience required to initially qualify to test for a certification level, were necessary for each classification level in addition to passing the certification test for each level since certain types of technologies and larger systems require a more experienced operator.

During the stakeholder review of the workgroup proposals, some of the classification levels for various technologies (e.g. membranes) were questioned by stakeholders, including at higher flow rates. The workgroup met again to review and discuss the classification levels and decided that the proficiency levels necessary with each classification level, there is the minimum experience period required to initially qualify for a certification level in addition to passing the certification test. The workgroup wanted to remind the stakeholder community that experience cannot be ignored when setting minimum classification levels and higher flows necessitate a certain amount of experience in many cases. The Board concurred with this perspective of the workgroup.

#### **Domestic Wastewater Treatment Facility Classification, Section 100.5.**

The Board updated the content and format of the domestic wastewater treatment facility classification section 100.5. In 100.5.2, the Board established two classification subsections. The first subsection, part (a), includes classifications that are immediately applicable to new or substantially modified facilities, and will be applicable to existing facilities not undergoing substantial modifications after the two year implementation period. The second subsection, part (b), includes the current classification sections that are applicable to the existing facilities not undergoing substantial modifications during the two year implementation period. The Board also moved the category D non-single family, indoor toilet and urinal flushing graywater treatment facilities to the new reclaimed water section of the regulation.

All but one row of the existing domestic wastewater treatment technologies were focused on secondary treatment (i.e., removal of total suspended solids and organic material as represented by biological oxygen demand or BOD tests). Since the tables were originally developed more than 20 years ago, the



constituents being removed in treatment have increased (e.g., nutrients) and the effluent limits for constituents have decreased to low levels that necessitate advanced levels of wastewater treatment. To meet these more stringent treatment needs, newer technologies and combinations of technologies have been developed. Therefore, the Board adopted a format with a significantly longer listing of treatment technologies, grouped under headings representing the anticipated purpose of the technology including: preliminary, primary, secondary, and advanced treatment and the added purposes of: disinfection/inactivation, dechlorination, chemical addition, effluent discharge type, and solids handling.

In addition to adding technologies, the Board clarified the plant design flow for domestic wastewater treatment facilities. Although the design flow for drinking water systems means the approved maximum flow rate of the facility (instantaneous flow), the design flow for wastewater facilities means the design hydraulic capacity of the facility as a volume discharged in 24 hours. The Board created the definition "plant design hydraulic capacity" for wastewater treatment facilities and retained the units of million gallons per day. The plant design hydraulic capacity (MGD) heading in the classification table clarifies the hydraulic flow capacity within the table itself.

With the large number of wastewater technologies added, the Board chose not to modify the capacities for grouping classifications. The facility classification tables include specific classifications (i.e., letters D, C, B, A) assigned to treatment technologies based, in part, on the 2017 Need to Know Criteria published by the Association of Boards of Certification (ABC). The Board also found that proficiency levels, as evidenced by the minimum experience required to initially qualify to test for a certification level, were necessary for each classification level in addition to passing the certification test for each level since certain types of technologies and larger systems require a more experienced operator. The technology rows for the secondary treatment technologies in the existing regulation are the same in the updated classifications with one exception for the advanced treatment technologies. In the current classifications, the classification of a facility with treatment beyond secondary treatment moves to the level A classification above 4 MGD. In the updated classifications, the classification of a facility with treatment beyond secondary treatment moves to the level A classification above 1 MGD. The Board determined that the technologies represented by advanced treatments warranted an advanced/expert level of both testing and the minimum experience period required to initially qualify for a certification level at the size of a "major" facility, represented at the 1 MGD capacity in wastewater permitting.

The Board also determined that various methods of discharge, including increased uses of reclaimed wastewater, should be included in the classification of the treatment facilities based on possible risks and included a component to assess effluent discharge type during facility classification. When the effluent is being used as reclaimed water for outdoor uses, treatment beyond secondary limits (i.e., organic matter and total suspended solids) is required. As noted above, in the ABC 2017 Need to Know Criteria, the content questions are predominantly basic questions at the level C operator certification test and become intermediate questions at the level B operator certification test and advanced/expert questions at the level A operator certification test. The classification system follows this need for level B classification for advanced technologies beyond secondary treatment. When the effluent is being used as reclaimed water with indoor uses, it is expected that drinking water type technologies will be used to produce high quality reclaimed water. In this instance, the dual classification of wastewater treatment and drinking water treatment is indicated. As noted in the new reclaimed water section 100.6, there are situations where a reclaimed water treatment facility does not receive raw sewage, but receives treated effluent from a domestic wastewater treatment facility and could be classified as a drinking water treatment facility. If the separate reclaimed water treatment facility is classified as a drinking water treatment facility, the facility does not need the dual classification as wastewater treatment.

The Board determined that the proficiency levels necessary for complicated technologies and high risk situations should recognize the minimum experience period required to initially qualify for a certification level in addition to passing the certification test. Although some technologies used in both drinking water and wastewater treatment are classified differently, the testing content for drinking water treatment and wastewater treatment are different at different certification levels based on the 2017 Need to Know Criteria.

As the effluent parameters and treatment levels change over time, different technologies are being used at domestic wastewater treatment facilities. Some technologies are considered industrial technologies, for which it would be appropriate to have an industrial classification and be operated by an operator with an industrial operator certification. The updated facility classification table identifies these technologies in a row indicating those technologies require an industrial operator. Ideally, the certified operator in responsible charge for the domestic wastewater treatment facility with one of these technologies will have both the domestic wastewater treatment operator certification and also the industrial operator certification. There could be a situation at a facility where the certified operator in responsible charge for the facility has the domestic wastewater treatment certification, but may not have the industrial operator certification. At this time, there do not appear to be many domestic facilities with these industrial technologies. If a domestic facility has one of the industrial technologies and the certified operator in responsible charge for the facility has the domestic wastewater treatment certification but does not have the industrial operator certification, the Board anticipates an operator with the industrial operator certification will be available to and reporting to the certified operator in responsible charge for the facility who has the domestic wastewater treatment certification. The Board encourages the certified operator in responsible charge in a domestic wastewater treatment facility with an industrial technology to pursue and acquire the industrial operator certification. Although the addition to the updated classification table appears to create the situation, the situation could exist with the current classification and the update brings clarity to identifying what technologies are expected to be included under the domestic wastewater classification and operator, and which also require an industrial operator.

#### **Reclaimed Water and Graywater Treatment Facility and Distribution System Classification, Section 100.6.**

The Board added a new section 100.6 to clarify classification of facilities for reclaimed water distribution and reclaimed water treatment. The Board also moved the category D non-single family, indoor toilet and urinal flushing graywater treatment facilities to the new reclaimed water section of the regulation. Reclaimed water facilities, a subset of domestic wastewater treatment works, have been classified previously, but there was confusion regarding classification since Regulation 100 did not mention them clearly. In Colorado, there is an increased focus on the use of non-potable water derived from treated domestic wastewater, which is referred to as “reclaimed water” in water quality terms. The Board did not create a separate operator certification for reclaimed water. Instead, the Board included a facility classification section for reclaimed water that refers to existing facility classifications for domestic wastewater treatment, in some instances drinking water treatment, and drinking water distribution. Most reclaimed water treatment facilities are located at the wastewater treatment facility where sewage is received and treated and would be classified as a wastewater treatment facility. Some reclaimed water treatment facilities receive treated effluent from a wastewater treatment facility and treat the reclaimed water in a separate treatment facility with technologies that are similar to drinking water treatment technologies. For these facilities, the Board included an option for a reclaimed water treatment facility to be classified as a drinking water treatment facility allowing operation by a certified operator in responsible charge with a certification as a drinking water treatment operator. The Board anticipates that operator experience accrued at a reclaimed water treatment facility will align with the classification of the facility – wastewater experience if the facility is classified as a wastewater facility and drinking water experience if facility is classified as a drinking water facility.

Reclaimed water distribution systems will have pressurized pipe carrying highly treated water, having multiple tap connections, with concern regarding preserving water quality and preventing cross connections. Each of these factors is much more similar to drinking water distribution systems than wastewater collection systems. The Board did not create a separate operator certification for reclaimed water. Instead, the Board adopted the approach for reclaimed water distribution systems to be classified using the water distribution section and to be operated by a certified operator in responsible charge having an appropriate drinking water distribution certificate. Although the new section references the drinking water distribution system, a daily flow capacity has been included to substitute for population in step 1 of the distribution classification section. The complexities in step 2 of the drinking water distribution system classification section will also apply to the reclaimed water distribution system classification.

### **Industrial Wastewater Treatment Facility Classification, Section 100.7.**

The Board updated the content and format of the industrial wastewater treatment facility classification section 100.7 (formerly section 100.6). In 100.7.2, the Board established two classification subsections. The first subsection, part (a), includes classifications that are immediately applicable to new or substantially modified facilities, and will be applicable to existing facilities not undergoing substantial modifications after the two year implementation period. The second subsection, part (b), includes the current classification sections that are applicable to the existing facilities not undergoing substantial modifications during the two year implementation period. The section format is similar to the existing section with more technologies added to the tables at the various classification levels. Since the technology list was developed 20-30 years ago, there have been more technologies developed. In recent years, the oil and gas industry has implemented a number of technologies, new and old, that were not included in the existing table. A few industrial wastewater treatment technologies, such as chemical conversion oxidation/reduction reactions, can be a single step reaction, such as iron oxidation, or more complex multiple step conversion, such as cyanide destruction or hexavalent chromium reduction. The Board listed the technology in the classifications based on the complexity of the treatment.

As noted in section 100.36, in January 2002 the Board created the level D industrial wastewater treatment classification finding that some facilities process wastewater without chemical addition, without biological or mechanical processes, and normally require only the monitoring of otherwise passive physical processes. The Board established the level D industrial wastewater treatment classification shall consist of facilities whose wastewater handling is purely physical and is without routine chemical addition, biological treatment, or complex mechanical manipulation. The updated facility classification section maintains the distinction and clarifies that technologies without chemical addition may be a level D classification while the technology would require a higher level classification if chemical addition is included.

The Board clarified the automatic exemptions to include treated industrial wastewater recycled for industrial processes. With the future potential for some industrial treatment facilities to perhaps choose to use treated industrial wastewater for indoor uses other than industrial uses, the classification section was updated to include a provision similar to the reclaimed water section when the effluent is discharged into plumbing for indoor, non-process, domestic water uses. In this situation, a drinking water classification and operator would be needed (e.g., dual classification requiring drinking water certification as well as industrial wastewater certification) for indoor domestic uses. Whether a situation is exempt or requires dual classification will depend on ultimate use of water from the industrial treatment facility.

One stakeholder requested the ability for a domestic wastewater operator certification to substitute for compliance with an industrial wastewater classification at an industrial treatment facility with only biological methods in use to treat organic and inorganic constituents. Since this is expected to be limited to a few situations, the updated classification section does not reference substituting a domestic wastewater operator certification for this situation, but the situation could be addressed by an individual facility's request to the Board.

### **Water Distribution System Classification, Section 100.8.**

### **Wastewater Collection System Classification, Section 100.9,**

The Board updated the content and format of the water distribution and wastewater collection facility classification sections 100.8 and 100.9 (formerly sections 100.7 and 100.8). In sections 100.8 and 100.9, the Board established two classification subsections. The first subsection, part (a), includes classifications that are immediately applicable to new or substantially modified facilities, and will be applicable to existing facilities not undergoing substantial modifications after the two year implementation period. The second subsection, part (b), includes the current classification sections that are applicable to the existing facilities not undergoing substantial modifications during the two year implementation period.

The Board adopted a two-step classification section for water distribution and wastewater collection. Step 1 is a classification determination based on population served. Step 2 includes an increase in the classification level, if the water distribution or wastewater collection system contains one or more of the complexities included in the updated classification section. The Step 2 complexity evaluation is not necessary for water distribution and wastewater collection systems serving a population greater than 25,000 people. The Step 2 complexity evaluation can increase, but not decrease a classification. A classification based on population in Step 1 would not be reduced based on a complexity in Step 2.

This approach is consistent with the Board's intentions when it originally adopted the distribution and collection system classifications. As noted in section 100.30, in November 2000 the Board chose to initially classify water distribution systems and wastewater collection systems based on population, which the Board believed serves as an adequate surrogate for general representations of complexity. Additionally, the Board provided that the Division can change the classification of any particular facility based on complexity factors. In practice, the complexity factors in the regulation could be subjective and were rarely used by the Division. The Board intended to revisit its initial classification scheme for water distribution and wastewater collection systems in a future rulemaking to include adoption of a classification system that will more accurately reflect the complexities and differences between the various types of distribution and collection systems. The distribution and collection workgroups evaluated the issue of complexities in distribution and collection systems from several perspectives including: 1) the complexity factors in the existing classification section, 2) potential complexity concerns not represented by population surrogate, and 3) the 2017 Need to Know Criteria published by the Association of Boards of Certification (ABC), to assess the level of operator certification to be certified operator in responsible charge of a facility with a particular complexity.

Specific complexities in drinking water distribution systems include number of pressure zones, number of entry points, type of chlorine residual in use, and presence of booster chlorine stations within a distribution system. Generally, the different complexities contribute greatly to the complexity of a water distribution system and the expertise required to consistently operate it. With such complexities, the numbers of cascading effects can grow exponentially for changing conditions. This cascade effect therefore requires the higher level of experience and certification.

Specific complexities in wastewater collection systems include a collection system having multiple medium size lift stations or at least one larger lift station. In the ABC 2017 Need to Know Criteria, the level of questions for the bulk of the lift station content areas and the sanitary sewer overflows are basic questions at level 1 operator certification test, include some more intermediate questions at the level 2 operator certification test, all intermediate questions at the level 3 operator certification test, with advanced questions becoming introduced at the level 4 operator certification test. The risk of sanitary sewer overflows increase with multiple lift stations and large lift stations and the higher testing and experience requirements for level 2 and 3 operator certifications represent the greater experience needed in these cases. Complexities in wastewater collection systems were also included for a collection system having multiple significant industrial users associated with a pretreatment program for the domestic wastewater treatment facility. Although the pretreatment program can be staffed by treatment operators at the treatment facility, the significant industrial users discharge non-domestic wastewater into the collection system and collection operators need to understand chemistry and other concerns associated with having multiple significant industrial users in a collection system. In the ABC 2017 Need to Know Criteria, the level of questions for chemistry, contaminants, corrosion control, etc. are basic questions at level 1 and 2 operator certification tests, include intermediate questions at the level 3 operator certification test, with advanced questions becoming introduced at the level 4 operator certification test. Higher testing and experience requirements for level 2 and 3 operator certifications represent the greater experience needed when multiple significant industrial users are present in the collection area.

Wastewater collection systems serving multiple properties and conveying the wastewater on to another sanitation district for treatment are satellite collection systems. Satellite collection systems are required to have a certified operator in responsible charge. This includes large mobile home parks where the homes are located on individually owned property lots. There has been confusion regarding when a

collection system serving multiple buildings on a property having a single owner needed a certified operator in responsible charge for the collection system. A service line for an individual property is exempt, and it is reasonable for a similar service line for a few buildings to be exempt. As a collection system increases, it becomes reasonable for a private collection system to have a certified operator in responsible charge to adequately maintain and clean the collection system. To bring clarity to this situation, the Board adopted provisions identifying when a private satellite collection system is to be classified and expected to operate under the supervision of a certified operator in responsible charge, including both collection system pipe and possible lift stations.

#### **Responsibilities and Duties of Water and Wastewater Facility Owners, Section 100.10.**

The Board added a new portion to section 100.10 (formerly section 100.9) to allow for site-specific certified operator in responsible charge for some situations to assist owners and operators in responding to facility classification changes for specific situations. As noted above, the Board included an extended two-year deferred period before an effective date for existing facilities that are not being substantially modified to give the facilities time to understand the updated facility classification and time for the certified operator in responsible charge time to acquire a higher level operator certification, if needed. The Board determined that most operators will not need to change certifications or will be able to acquire the higher certification during the two year period. The Board recognized that for some operators not located near teaching or testing resources, it can be difficult to get testing. Under the allowance, a certified operator in responsible charge could be certified at a level less than the classification of the facility he or she is operating, for a specified limited period of time, provided specific conditions are met. Therefore, the Board added the ability for facility owners to request allowance for a site-specific certified operator in responsible charge to give additional time to meet the operator requirements related to an updated facility classification for facilities that will not substantially modify the facilities and are in three types of scenarios including: 1) the facility classification level will increase two or more levels (added three years for a total five years to implement); 2) the certified operator in responsible charge has been in that role for that facility for 5 or more years (added three years for a total five years to implement); and 3) the certified operator in responsible charge has been in that role for that facility for 15 or more years (added 8 years for a total 10 years to implement). Since the Regulation 100 certified operator in responsible charge requirements do not apply to other operators, the site-specific certified operator in responsible charge also does not apply to other operators at a facility.

The additional deferred periods for site-specific certified operators in responsible charge are based on several significant principles to maintain the integrity of the operator certification program. A facility will be properly classified in accordance with the facility classification sections. An operator will be certified based on the experience requirements and testing. During the transition, approval as a site-specific certified operator in responsible charge will provide time to allow the existing certified operator in responsible charge to get a higher certification, if needed based on the updated facility classification. During the additional period allowed to comply, the operators must maintain the on-going training required to renew the existing operator certification. If a higher level of certification is needed, the operators are expected to be studying and testing to acquire a higher level certification during the compliance period. The allowance for a site-specific certified operator in responsible charge is applicable to the current certified operator in responsible charge and does not apply to any other operator at or coming to the facility. The allowance for a site-specific certified operator in responsible charge does not apply to contract operators for a facility because contractors should be able to achieve higher levels of certification and are not subject to the same delays as fixed, rural communities. Any certified operator in responsible charge moving to a different facility must meet all the certification requirements for that facility. The allowances for a site-specific certified operator in responsible charge are not permanent. Although some stakeholders asked for permanent allowances for all existing operators at all existing systems, such a request is not compatible with U.S. Environmental Protection Agency requirements for operator certification programs.

# **Appendix B**

## **Summary of Revisions to Regulation 100**

The board held three rulemaking hearings in 2018, with all revisions becoming effective March 1, 2019. At its September 25, 2018 rulemaking hearing, the board revised sections 100.12 through 100.16 to improve clarity and update citations; add failure to follow the Colorado Certified Water Professionals Code of Conduct to the list of violations that could result in disciplinary action against an operator; ensure that regulatory language was harmonious with the automated features of the board's new web-based certification management system; remove references to test cycles; add military training as a valid substitute for experience; add provisions for mandatory regulatory training; and revise the fee structure to accommodate new processes.

On November 27, 2018, the board conducted two separate rulemaking hearings. The first effected a fee change so that all examinees should be assessed the same amount, whether they take paper or electronic exams. Through the second rulemaking, the board updated the criteria for facility classification to improve clarity regarding the facility classification process, better align the classifications with operator certification testing, and update the facility classification sections to include currently accepted technologies. The board adopted a two-year delayed effective date for any facility classification changes to existing facilities to assist with compliance. Through this rulemaking hearing, the board also adopted a new section (100.6) to clarify classification of facilities for reclaimed water treatment and reclaimed water distribution systems. Subsequent sections of Regulation 100 were re-numbered.

The operator certification program has improved many processes through a new operator portal, added a new requirement that operators take a regulatory course at least every three years and updated criteria for facility classification. However, no backsliding has occurred since submitting the annual report covering program activities for calendar year 2017 and revisions to Regulation 100 do not amend the initial program description submitted in 2001.

## Appendix C

### Attorney General's Certificate of Enforceability



PHIL WEISER  
Attorney General  
NATALIE HANLON LEH  
Chief Deputy Attorney General  
JUNE TAYLOR  
Chief Operating Officer  
ERIC R. OLSON  
Solicitor General



**STATE OF COLORADO  
DEPARTMENT OF LAW**

RALPH L. CARR  
COLORADO JUDICIAL CENTER  
1300 Broadway, 10th Floor  
Denver, Colorado 80203  
Phone (720) 508-6000  
Natural Resources and  
Environment Section

May 15, 2019

Mr. Gregory Sopkin  
Administrator, Region 8  
United States Environmental Protection Agency  
1595 Wynkoop Street  
Denver, CO 80202-1129

RE: Attorney General Certification Regarding the Continued Enforceability of  
Colorado's Operator Certification Program

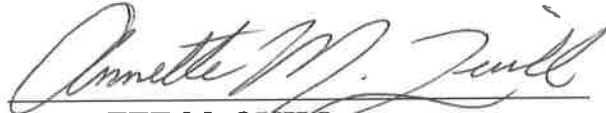
Dear Mr. Sopkin:

This certification letter is provided in accordance with the requirements of the U.S. Environmental Protection Agency's *Final Guidelines for the Certification and Recertification of the Operators of Community and Non-Transient Non-Community Public Water Systems* (64 CFR 5916), and specifically, "Baseline Standard No. 1." In the past year, the Colorado Water and Wastewater Facility Operators Certification Board ("Board") adopted two sets of revisions to its "Water and Wastewater Facility Operators Certification Requirements," Regulation No. 100 (5 C.C.R. 1003-2). On September 25, 2018, the Board adopted various revisions to Regulation No. 100 to ensure consistency with recent program updates. On November 27, 2018, the Board adopted another set of revisions to Regulation No. 100. The main topics of the November 2018 rulemaking consisted of adjustments to examination fees and updates to facility classifications to take into account newer technologies. The regulatory revisions adopted in both September 2018 and November 2018 became effective on March 1, 2019.

I hereby certify pursuant to my authority as Senior Assistant Attorney General and as counsel for the Board that these revisions did not impact the State of Colorado's legal authority to fully implement and enforce the requirements of its operator certification program.

Sincerely,

FOR THE ATTORNEY GENERAL

A handwritten signature in cursive script, reading "Annette M. Quill". The signature is written in dark ink and is positioned above the printed name.

ANNETTE M. QUILL

Senior Assistant Attorney General &  
Counsel for the Board

Natural Resources and Environment Section

Colorado Office of the Attorney General

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# Appendix D

## Utah's Review Questionnaire

# **COLORADO OPERATOR CERTIFICATION PROGRAM REVIEW**

*by Kim Dykes, Utah Operator Certification Program*

*August 2017*

## Introduction

This document is divided into different sections, one for each of the 9 Baseline Standards, including:

- Authorization
- Classification of System, Facilities and Operators
- Operator Qualifications
- Enforcement
- Certification Renewal
- Resources Needed to Implement the Program
- Re-certification
- Stakeholder Involvement
- Program Review

Each section includes the baseline standard language and a list of review protocol questions as developed by EPA to guide states through internal and external reviews to critically consider the effectiveness and efficiency of the processes that drive the implementation of their program. In addition, questions are designed to look at how the state program manages specific program components.

## Baseline Standard 1

*As evidenced by an Attorney General's certification, or certification from delegated counsel, the state must have the legal authority to implement the program requiring the certification of operators of all community and nontransient noncommunity water systems and to require that the systems comply with the appropriate requirements of the program.*

### State Processes/Procedures Related to Baseline Standard 1: Authorization

#### Review Protocol Topic/Question #1:

Does the state have the legal authority to implement an operator certification program for its community water systems (CWSs) and nontransient noncommunity water systems (NTNCWSs)?

100.54 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: JUNE 20, 2017 RULEMAKING; EFFECTIVE AUGUST 31, 2017

Provisions of section 25-9-104, C.R.S. provide the specific statutory authority for the adoption amendments to the established regulatory provisions of Regulation 100 governing the requirements for water and wastewater facility operators (5 CCR 1003-2). The Board hereby adopts, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

## State Processes/Procedures Related to Baseline Standard 1: Authorization

### Review Protocol Topic/Question #2:

Does the state have the legal authority to require that systems comply with the requirements of the operator certification program?

*100.54 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: JUNE 20, 2017 RULEMAKING; EFFECTIVE AUGUST 31, 2017*

Provisions of section 25-9-104, C.R.S. provide the specific statutory authority for the adoption amendments to the established regulatory provisions of Regulation 100 governing the requirements for water and wastewater facility operators (5 CCR 1003-2). The Board hereby adopts, in compliance with section 24-4-103(4), C.R.S., the following statement of basis and purpose.

**If not, please explain why not and what is needed to ensure compliance. Further questions on re-certification will be asked in Baseline Standard 4.**

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #3:

If the program has been delegated, did the state submit documentation of legal delegation to EPA?

Yes

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #4:

If changes were made to the regulations or statute, did the state submit to EPA a new Attorney General (AG) statement or certification from delegated counsel, and include a copy of the revised regulations or statutes? Yes

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

## Baseline Standard 2

*A state's program must meet the following requirements:*

- It must classify all community and nontransient noncommunity water systems based on indicators of potential health risk, which for example may include: (a) complexity, size, source water for treatment facilities, and (b) complexity, size for distribution systems. It must develop specific operator certification and renewal requirements for each level of classification.*
- It must require owners of all community and nontransient noncommunity water systems to place the direct supervision of their water system, including each treatment facility and/or distribution system, under the responsible charge of an operator(s) holding a valid certification equal to or greater than the classification of the treatment facility and/or distribution system.*
- It must require, at a minimum, that the operator(s) in responsible charge or equivalent must hold a valid certification equal to or greater than the classification of their water system, including each treatment facility and distribution system, as determined by the state.*
- It must require that all operating personnel making process control/system integrity decisions about water quality or quantity that affect public health be certified.*
- It must require that a designated certified operator be available for each operating shift.*

## State Processes/Procedures Related to Baseline Standard 2: Classification of Systems, Facilities and Operators

### Review Protocol Topic/Question #1:

What indicators of potential health risk does the state use to classify CWSs and NTNCWSs?

**Examples may include: (a) complexity, size, source water for treatment facilities, and (b) complexity, size for distribution systems. They use a combination of system complexity and population size to determine level of certification.**

Has the state classified all CWSs and NTNCWSs based on these indicators of potential public health risk?

**If no, what are the reasons a system has not been classified?**

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #2:

What are the operator certification and renewal requirements for each classification level? **100.15**

#### **CERTIFICATE RENEWAL, EXPIRATION, REVOCATION AND TRAINING UNIT REQUIREMENTS**

##### **100.15.6 Table - Training Unit Requirements for Operator Certificate Renewal Certified Operator Class**

###### *Training Unit Requirement*

*Class T 1.2 Training Units, Class D or Class 1, 1.2 Training Units, Class S 1.8 Training Units, Class C or Class 2 1.8 Training Units, Class B or Class 3 2.4 Training Units, Class A or Class 4 3.0 Training Units*

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #3:

Does the state require owners of all CWSs and NTNCWSs to place the direct supervision of their water system (treatment and/or distribution) under the responsible charge of an operator holding a valid certification equal to or greater than the classification of the treatment facility or distribution system? Yes

**Please describe the relationship between owners of CWSs and NTNCWs and operators and the process for ensuring the owners of all CWSs and NTNCWs comply with this requirement.**

#### **100.9.1 Supervision by a Certified Operator in Responsible Charge**

(a) No owner of a water or wastewater facility shall allow the facility to be operated without the direct supervision of one or more certified operators in responsible charge.

“Direct supervision” means that the certified operators in responsible charge have supervisory responsibility and authority with respect to the operation of the water or wastewater facility and for the activities and functions of other facility operators.

(b) The owner designates the certified operators in responsible charge of the water or wastewater facility by completing and submitting the appropriate division contact update form.

#### **100.9 RESPONSIBILITIES AND DUTIES OF WATER AND WASTEWATER FACILITY OWNERS** **13**

(c) Owners shall ensure that their agreements with the certified operators in responsible charge are sufficiently detailed and formal to reflect all the duties as outlined in section 100.11.

(d) Contracts for limited services do not fulfill the owner’s obligation, under section 100.9.1(a), to place



## State Processes/Procedures Related to Baseline Standard 2: Classification of Systems, Facilities and Operators

the facility under the supervision of one or more certified operators in responsible charge. Contracts for limited services, such as compliance sampling, do not rise to the level of a contract for a certified operator in responsible charge.

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #4:

Are operator(s) in responsible charge required to hold a valid certification equal to or greater than the classification of the water system, including the treatment facility and/or distribution system? Yes

100.10.2 Certified operators shall protect the public health and the environment by properly performing and/or supervising the activities pertinent to controlling the operation of a water or wastewater facility in accordance with a written operating plan as described in section 100.11.6 as appropriate to their level of certification,

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #5:

Are all operating personnel making process control/system integrity decisions about water quality or quantity that affect public health required to be certified? Yes

**If so, please describe the process and list the stakeholders involved in these decisions. If no, explain what is required of those that make these decisions (e.g., education, experience, etc.).**

100.11.5 Certified operators in responsible charge shall protect the public health and the environment in the conduct of their duties. The certified operators in responsible charge are accountable for the operation and maintenance of the water or wastewater facility and are responsible for understanding the requirements of the applicable permits, laws and regulations. These duties include the following:

- (a) controlling, supervising or actively participating in the planning, operation and maintenance of a water or wastewater facility;
- (b) making process control and system integrity decisions on the operation and maintenance of the water or wastewater facility;
- (c) making decisions and initiating actions regarding the operation of the water or wastewater facility in a timely manner;
- (d) inspecting and testing new, modified, or repaired facilities prior to placing or returning such facilities into service;
- (e) developing maintenance programs;
- (f) developing and maintaining the written operating plan as described in section 100.11.6;
- (g) reporting instances of non-compliance or situations that could result in non-compliance as appropriate to facility owners and the Department; and
- (h) performing other functions of direct responsibility, including those enumerated in section 100.10.

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #6:

Does the state confirm that a designated certified operator is available for each operating shift, as required? Yes  
How is this done?

*100.9.2 Decisions Reserved to Certified Operator in Responsible Charge*

*Each owner of a water or wastewater facility shall ensure that all process control and/or facility integrity decisions about water quality or quantity or wastewater effluent quality or quantity that may affect public health or the environment are made by either a certified operator in responsible charge or by another operator certified at a level equal to or above the classification of the facility he or she is operating in accordance with the facility's written operating plan as described in section 100.11.6.*

## State Processes/Procedures Related to Baseline Standard 2: Classification of Systems, Facilities and Operators

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Baseline Standard 3

*States must require the following for an operator to become certified:*

- *Take and pass an exam that demonstrates that the operator has the necessary skills, knowledge, ability and judgment as appropriate for the classification. All exam questions must be validated.*
- *Have a high school diploma (HSD) or a general equivalency diploma (GED). States may allow experience and/or relevant training to be substituted for a HSD or GED. Education, training, or experience that is used to meet this requirement for any class of certification may not be used to meet the experience requirement.*
- *Have the defined minimum amount of on-the-job experience for each appropriate level of certification. The amount of experience required increases with each classification level. Post high school education may be substituted for experience. Credit may be given for experience in a related field (e.g., wastewater). Experience that is used to meet the experience requirement for any class of certification may not be used to meet the education requirement.*

*Grandparenting—EPA recognizes that there were many competent small system operators at the inception of the program, that did not meet the initial requirements to become certified. EPA believed that States needed a transition period to allow these operators to continue to operate the system through “grandparenting.”*

- *Grandparenting is permitted only to existing operator(s) in responsible charge of existing systems which, because of state law changes to meet these guidelines, must for the first time in the early 2000s, have a certified operator.*
- *The certification for the grandparented operator must be site specific and non-transferable to other operators.*
- *After the operator was grandparented, he or she must, within some time period specified by the state, have met all requirements to obtain certification renewal, including the payment of any necessary fees, acquiring necessary training to meet the renewal requirements, and demonstrating the skills, knowledge, ability and judgement for that classification.*
- *If the classification of the plant or distribution system changes to a higher level, then the grandparented certification will no longer be valid.*
- *If a grandparented operator chooses to work for a different water system, he or she must meet the initial certification requirements for that system.*

## State Processes/Procedures Related to Baseline Standard 3: Operator Qualifications

### Review Protocol Topic/Question #1:

Does the state require applicants to pass an exam appropriate for the classification for which they apply?

Yes

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #2:

Do exams demonstrate that the applicant has the necessary knowledge, skills, ability and judgment appropriate for the classification?

Colorado uses ABC exams.

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #3:

What is the process to assure all exam questions are validated (i.e., reviewed for accuracy) or in the process of being validated?

The exams are provided by an independent non-profit corporation who contracts with ABC for validated exams.

*HB 00-1431 authorized the Board to appoint one or more independent nonprofit corporations to administer the operator certification program, including providing examinations, issuing certification documents, evaluating continuing training requirements for renewal of certification, and evaluating requests for reciprocity. The Board specified in the new regulation the program administration duties that it may choose to delegate to a nonprofit corporation.*

**Please describe the specific validation process, including the individual or group responsible for validation, how often the exams are reviewed for relevancy, how validation and/or changes are documented/addressed, and the administration of the exam. Also, if not all exam questions are validated, give the date that the state expects to have this accomplished.**

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #4:

To become certified, does the state require operators to have a high school diploma or GED, or permit substitution of experience or relevant training?

Yes

**If applicable, please describe the specific experience or relevant training required for substitution of high school diploma or GED.**

*100.13APPLICATION TO SIT FOR CERTIFICATION EXAMINATION, QUALIFICATIONS, EDUCATION, EXPERIENCE AND SUBSTITUTIONS*

*(A) Such an approval shall be based on a case-by-case determination that such courses or programs are directly and specifically relevant to the operation of water and wastewater facilities.*

*(B) After passing the examination, the certificate will be issued upon submitting proof of the **high school diploma** to the Board or its contractor.*

### State Processes/Procedures Related to Baseline Standard 3: Operator Qualifications

Does this meet the requirements of the Baseline Standard? (circle one): Yes No

#### Review Protocol Topic/Question #5:

What are the minimum requirements for on-the-job experience for each appropriate level of certification? See Table.

**If applicable, please describe the education or on-the-job experience requirements needed for substitution of experience for each level of certification.**

*100.13 APPLICATION TO SIT FOR CERTIFICATION EXAMINATION, QUALIFICATIONS, EDUCATION, EXPERIENCE AND SUBSTITUTIONS*

*the class immediately below the class for which application is being made. Prior certification requirements are shown in the table below.*

*(g) Table - Prior Certification and Experience Requirements*

Does this meet the requirements of the Baseline Standard? (circle one): Yes No

#### Review Protocol Topic/Question #6:

Does the state give applicants credit for experience obtained in a related field, such as wastewater?

Approved by the Board on a case-by-case basis.

*(b) Approval of Training, Educational Courses, and Institutions When Substituting Education for Experience*

*(i) The Board or its contractor may approve, for purposes of substituting education for experience, courses or programs which are specifically designed to prepare secondary students to operate water or wastewater facilities. Such an approval shall be based on a case-by-case determination that such courses or programs are directly and specifically relevant to the operation of water and wastewater facilities.*

Does this meet the requirements of the Baseline Standard? (circle one): Yes No

#### Review Protocol Topic/Question #7:

If the state permits substitution of on-the-job experience for education, or vice versa, how does it confirm that there is no double-counting?

It is done by a review process by the Board.

Does this meet the requirements of the Baseline Standard? (circle one): Yes No

## The Baseline Standard 4

*States with primary enforcement responsibility for Public Water System Supervision (PWSS) Program must have regulations that meet requirements of these guidelines and require community water systems and non-transient non-community water systems to comply with state operator certification.*

*States must have the ability to revoke operator certifications.*

*States must have the ability to suspend operator certifications or take other appropriate enforcement action for operator misconduct.*

The following information should be reviewed prior to beginning the review of a state's operator certification program.

- Work with the entity within your and/or the primacy agency responsible for taking enforcement against operators.
- Consider whether enforcement is taken solely against operators or are actions against operators part of other enforcement actions.
- Provide a list to EPA, with the annual submittal of the system name, PWSID, enforcement action taken and status/result of the enforcement action.

Review the outcomes of the actions taken to determine whether the program's revocation and/or suspension policy is adequate. Also, determine whether enforcement protocols are being implemented as written.

### State Processes/Procedures Related to Baseline Standard 4: Enforcement

#### Review Protocol Topic/Question #1:

Does the state have regulations requiring CWSs and NTNCWSs to comply with the state Operator Certification requirements?

Yes

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

#### Review Protocol Topic/Question #2:

What state agency provides enforcement activity support for the operator certification program?

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT  
Water And Wastewater Facility Operators Certification Board

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

## State Processes/Procedures Related to Baseline Standard 4: Enforcement

### Review Protocol Topic/Question #3:

Does the state delegate any of its enforcement authority to a local government agency or to a third party contractor?

No

**If so, please name the local government agency or third party contractor, and the reason(s) for the delegation of authority.**

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #4:

What is the specific process or protocol that must be followed to revoke an operator's certification?

**Describe the expected timeline for activities to occur. For example, the state may have an escalation policy that stipulates the next level of enforcement action to take when problems are not resolved.**

100.12.2 Certified Operators – In accordance with the procedures in sections 24-4-104 and 105, C.R.S., the Board may reprimand a certified operator, and/or suspend or revoke the certificate of any certified operator who violates the requirements of this regulation, including, but not limited to the following:

- (a) failing to exercise reasonable care and judgment consistent with the operator's level of certification and degree of responsibility for the operation of a water or wastewater facility;
- (b) failing to properly perform and/or supervise activities pertinent to controlling the operation of a water or wastewater facility, including, but not limited to the tasks described in section 100.10 of this regulation;
- (c) willfully or negligently violating, causing, or allowing the violation of this regulation, 5 CCR 1003-2; the *Colorado Primary Drinking Water Regulations*, 5 CCR 1002-11; the *Colorado Discharge Permit System Regulations*, 5 CCR 1002-61, or a discharge permit issued thereunder; or any other relevant regulations;

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #5:

What is the specific process or protocol that must be followed to suspend an operator's certification or take other appropriate enforcement action for operator misconduct?

*100.12.1 The Division shall investigate any instances of possible misconduct by certified operators or certified operators in responsible charge. The Division shall present the results of the investigation and its recommendations for any disciplinary action, including reprimand or suspension or revocation of a certificate, to the Board in accordance with section 24-4-104, C.R.S.*

**Describe the expected timeline for activities to occur. For example, the state may have an escalation policy that stipulates the next level of enforcement action to take when problems are not resolved. Note and explain the difference if there are multiple intermediate level enforcement actions that may be taken.**

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #6:

What specific enforcement capabilities (i.e., administrative orders; bilateral compliance agreements; civil administrative penalties; criminal administrative penalties; stipulated penalties; other) are available in the state?

The Board has the authority to issue administrative penalties to systems the don't comply with the rules.

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

## Baseline Standard 5 - Certification Renewal

*A State's program must meet the following requirements:*

- *The state must establish training requirements for renewal based on the level of certification held by the operator.*
- *States must require all operators including grandparented operators to acquire necessary amounts and types of state approved training. States may determine other requirements as deemed necessary.*
- *States must have a fixed cycle of renewal not to exceed three years.*
- *The state must require an individual to recertify if the individual fails to renew or qualify for renewal within two years of the date that the certificate expired.*
- *States must pay special attention to identify specific renewal requirements for grandparented operators to ensure that they possess the knowledge, skills ability and judgement to properly operate the system. This must be done by one or more of the following approaches or by an alternative approach approved by EPA.*
- *States may specify renewal requirements for grandparented operators on a case-by-case basis, taking into consideration factors such as a system's compliance history and operator experience and knowledge. For systems that have a history of being out of compliance, any certification renewal decision should consider whether noncompliance is the result of actions or inactions by the system's owner or the system's operator.*
- *States may require specific training requirements for certification renewal at the first renewal cycle for grandparented operators. This training should include all of the information covered by the initial certification exam for the system classification level for which the operator was grandparented even though an initial certification exam may not be required for certification renewal.*
- *States may require operators with grandparented certificates to meet all of the initial certification requirements for the classification level for which the operator was grandparented, and thereby obtain certification within a reasonable time period specified by the state.*

### State Processes/Procedures Related to Baseline Standard 5: Certification Renewal

#### Review Protocol Topic/Question #1:

Does the state have a fixed cycle of renewal not exceeding 3 years?

Yes

**Please give the length of the fixed cycle of renewal and justification for a length exceeding 3 years.'**

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes

No

#### Review Protocol Topic/Question #2:

Does the state require individuals to recertify if the individual fails to renew or qualify for renewal within two years of the date that the certificate expired?

Yes

**If not, please explain why. Further questions on recertification will be asked in Baseline Standard #7.**

## State Processes/Procedures Related to Baseline Standard 5: Certification Renewal

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #3:

Has the state established training requirements for renewal based on the level of certification held by the operator? Yes

**If so, please describe the specific training requirements for each level of certification.**

#### 100.15.5 Training Units

(a) In addition to the other requirements of this regulation, all certified operators must earn the appropriate number of training units, as specified in section 100.15.5, before the operator's certificate will be renewed.

(b) At least fifty percent (50%) of the training units for certificate renewal must be for courses approved for credit in the specific certificate category (water treatment, domestic wastewater treatment, industrial wastewater treatment, distribution system or collection system) being renewed.

(c) Up to fifty percent (50%) of the training units for certificate renewal may come from courses approved for credit in a category (water treatment, domestic wastewater treatment, industrial wastewater treatment, distribution system or collection system) other than that of the certificate being renewed, including supplemental training courses.

(d) For renewal of a certificate, the maximum number of training units allowed from a specific course is the total number of training units approved for the course.

(e) If applicable, the training units from one course may be applied toward the renewal of more than one certificate.

(f) Training units may only be used once in each category to renew a certificate.

(g) Training units are earned during the three-year period a certificate is valid. Training units may not carry over from one three-year period to the next.

(h) For training that occurs over multiple dates, the training units will be considered to have been obtained on the date of completion of the training course or class.

(i) If an operator takes a training course prior to taking a certification examination, passes the examination, and obtains a certificate at a new level, the training course completed prior to the examination will not count toward training units for renewal of the new certificate. Should a certified operator complete such a training course and not pass a new certification examination, that training course can be used, if applicable, to meet the training unit requirements for renewal of the operator's current certificate.

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No



## The Baseline Standard 6 - Resources Needed to Implement the Program

*States must provide sufficient resources to adequately fund and sustain the operator certification program (components include, but are not limited to staff, data management, testing, enforcement, administration, and training approval). EPA recommends that states establish a dedicated fund that is self-sufficient.*

### State Processes/Procedures Related to Baseline Standard 6: Resources Needed to Implement the Program

#### Review Protocol Topic/Question #1:

Does the operator certification program have sufficient resources to adequately fund and sustain its operator certification program?

Yes

**Please describe the source(s) and status (i.e., sufficient, moderately sufficient, insufficient) of funding related to the following components of the state's operator certification program: staff, data management, testing, enforcement, administration, and training approval.**

*The program is funded by the collection of fees for certification and renewals. No information given on federal moneys used.*

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

#### Review Protocol Topic/Question #2:

Is the operator certification program supported by a dedicated fund that is self-sufficient?

Yes

**If so, please describe the state entity responsible for administering and maintaining the self-sufficient fund, as well as any considerations that enhance or jeopardize the continued success of this funding source.**

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Water And Wastewater Facility Operators Certification Board

**If not, please discuss reason(s) and/or challenges associated with not having a self-sufficient fund as well as whether there are plans to establish such a fund.**

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

## The Baseline Standard 7 - Recertification

*The states must have a process for recertification of individuals whose certification has expired for a period exceeding two years. This process must include: review of the individual's experience and training, and reexamination. An individual is not certified with an expired certificate. The state may develop more stringent requirements for recertification for individuals whose certificates have expired, been revoked, or been suspended.*

## State Processes/Procedures Related to Baseline Standard 7: Recertification

### Review Protocol Topic/Question #1:

What is the state's process for the recertification of operators whose certification has expired for a period exceeding two years?

**Please describe all requirements (i.e., experience, training, reexamination, and/or education) and the associated timeline for recertification. Continuation of question #2 in Baseline Standard #5.**

*100.15.4 Revocation of Non-Renewed Certificates*

*(a) Any certificate not renewed by the operator within two years of its expiration is automatically revoked.*

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #2:

Does the state have different requirements for recertification of individuals whose certificates have expired, been revoked, or been suspended?

**If so, please state whether the recertification requirements are more stringent after an expiration, revocation, or suspension, as well as why the state elected to have different requirements for each situation.**

*100.15 CERTIFICATE RENEWAL, EXPIRATION, REVOCATION AND TRAINING UNIT REQUIREMENTS*

*(b) Any operator whose certificate is revoked shall be treated as a new applicant for purposes of this regulation and must meet all the initial certification requirements, including passing the appropriate certification examination.*

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

## The Baseline Standard 8 – Stakeholder Involvement

*Stakeholder involvement is important to the public health objectives of the program. It helps to ensure the relevancy and validity of the program, and the confidence of all interested parties.*

*States must include ongoing stakeholder involvement in the revision and operations of state operator certification programs. Public comment on rule revisions is not adequate stakeholder involvement. A stakeholder board or advisory committee is strongly recommended.*

*Examples of stakeholders may include: operators, environmental/public health groups, the general public, consumer groups, technical assistance providers, utility managers, trainers, etc.*

## State Processes/Procedures Related to Baseline Standard 8: Stakeholder Involvement

### Review Protocol Topic/Question #1:

Does the state maintain ongoing stakeholder involvement in the revision and operations of its operator certification program?

Yes

**If so, please list all stakeholders and a brief description of their background, expertise, or relevancy to the program. Also, please describe the process by which they are involved (e.g., Board meetings, public meetings, surveys, etc.), including all related communication, information/data flow, and responsibilities of the various parties involved.**

25-9-103. Water and wastewater facility operators certification board - composition - repeal of article.

(1) There is hereby created the water and wastewater facility operators certification board which constitutes a section of the division of administration of the department and consists of the following ten members:

(a) A certified water treatment or domestic wastewater treatment facility operator with the highest level of certification available in Colorado;

(b) A certified industrial wastewater treatment facility operator or other representative of a private entity that operates an industrial wastewater facility;

(c) A city manager, manager of a special district, or utility manager in a city, county, or city and county that operates a domestic water or wastewater treatment facility;

(d) A representative of the department of public health and environment who shall be an ex officio, nonvoting member;

(e) A certified water distribution or wastewater collection system operator with the highest level of certification available in Colorado;

(f) A representative of water or wastewater facilities serving rural areas; and

(g) Four members appointed to achieve geographical representation and to reflect the various interests in the water and wastewater facility certification program. At least one of such members shall reside west of the continental divide, and at least one shall reside in the rural portion of the eastern plains of Colorado.

Does this meet the requirements of the Baseline Standard? (circle one):      Yes      No

### Review Protocol Topic/Question #2:

Does the state have a stakeholder board or advisory committee?

Yes

**If so, please describe the specific involvement of the board or advisory committee, including specific responsibilities and roles.**

25-9-103. Water and wastewater facility operators certification board - composition - repeal of article.

There is a water and wastewater facility operators certification board which constitutes a section of the division of administration of the department and consisting of ten members

Does this meet the requirements of the Baseline Standard? (circle one):      Yes      No

## The Baseline Standard 9 – Program Review

*States must perform reviews of their operator certification programs. EPA recommends that states perform periodic internal reviews and occasional external/peer reviews. Examples of items to review include: regulations, exam items for relevancy and validity, compliance, enforcement, budget and staffing, training relevancy, training needs through examination performance, and data management system.*

Some parts of a state program need to be reviewed on a continual basis, such as training activity and budget. Other elements of programs that fulfill longer term planning needs may not need continual review but should be done periodically. EPA recommends a periodic review process consist of an internal program reviews every three years and an external/peer reviews every five years. States should review all elements that are necessary to their programs and their successful implementation.

State Processes/Procedures Related to Baseline Standard 9: Program Review	
<b>Review Protocol Topic/Question #1:</b>	
Does the state have a process for reviewing its operator certification program?	
Yes	
<b>Please discuss communication, information/data flow, responsibilities of the various parties involved, and final product (report/documentation). The Board administers the program and third party contractor is also part of the operation of the program.</b>	
<i>100.3.2 In carrying out its responsibilities to administer the operator certification program pursuant to Article 9 of Title 25, C.R.S., the Board may select and appoint through contract, one or more independent nonprofit corporations ("contractors") to carry out the duties.</i>	
Does this meet the requirements of the Baseline Standard? (circle one):	<input checked="" type="radio"/> Yes <input type="radio"/> No
<b>Review Protocol Topic/Question #2:</b>	
Does the state's process include periodic internal reviews? If so, who conducts them?	
Yes	
<b>Please discuss the frequency, timeframe and process for internal reviews. Indicate the specific components of the program that was reviewed (e.g., regulation review, exams, compliance rate determination, enforcement, budget and staffing, training relevancy, training needs through exam performance, data management system, status of certified operators/trends, stakeholder involvement).</b>	
<i>Internal reviews are done by the Board and contractors.</i>	
Does this meet the requirements of the Baseline Standard? (circle one):	<input checked="" type="radio"/> Yes <input type="radio"/> No

## State Processes/Procedures Related to Baseline Standard 9: Program Review

### Review Protocol Topic/Question #3:

Does the state's process include occasional external/peer reviews?

Yes

**Please indicate what organization(s) perform these reviews, as well as discuss the frequency, timeframe, and process for external/peer reviews. Indicate the specific components of the program that was reviewed (e.g., regulation review, exams, compliance rate determination, enforcement, budget and staffing, training relevancy, training needs through exam performance, data management system, status of certified operators/trends, stakeholder involvement, strategic planning, changes to state regulations, changes to primacy agency delegation).**

*I couldn't find it in the documents, however, Colorado has used other States and independent contractors to review their program.*

Does this meet the requirements of the Baseline Standard? (circle one):

Yes No

Following the implementation of a program change, it is vital for the state to continue analyzing and questioning the processes underlying its operator certification program. Specifically, each state should critically consider the following questions:

- Have the changes implemented improved the program?
- How do you measure improvements?
- What changes still need to be made?
- What improvements to the operator certification program can be made given current program resources and priorities?
- What is the future direction of your operator certification program?

States can also use this document to identify learning opportunities, asking questions such as:

- Are there some practical new approaches you discovered that could lead to increased collaboration, effectiveness, and efficiency in your program, or between your program and other programs?
- Which state examples are the most compelling for you? Is your state similar or different? How would you need to modify a particular approach in order for it to be successful in your state?
- Who are the key decision-makers and partners you would have to enlist to implement any new ideas you have in mind? What information would you need to provide in order to convince them of the benefits?
- What are the measures of success for your program? How would an increase in program collaboration move you closer to your goals? How would you know if it is working?

Are there some non-programmatic related benefits that might occur from implementing program collaboration measures? For example, collaborating within and outside the drinking water program can help build lasting relationships that may provide avenues for future collaboration.



## Appendix A: Additional Questions

The following tables include a complete list of state review protocol questions for each of the 9 Baseline Standards. While the review questions included within each section of the document above cater directly to the requirements of each Baseline Standard, the lists that follow include questions developed with an objective of further investigating state operator certification programs. The questions below can be used in both internal and external reviews, and are a means to identify not only the processes underlying a state operator certification program, but also how those processes could be modified, updated, and ultimately improved.

### Baseline Standard 1 – Authorization

State Processes/Procedures Related to Baseline Standard 1: Authorization
<b>Review Protocol Topic/Question #1:</b>
Does the state have the legal authority to implement an operator certification program for its community water systems (CWSs) and nontransient noncommunity water systems (NTNCWSs)?
Yes
Does this meet the requirements of the Baseline Standard? (circle one): <input checked="" type="radio"/> Yes <input type="radio"/> No
<b>Review Protocol Topic/Question #2:</b>
Does the state have the legal authority to require that systems comply with the requirements of the operator certification program? Yes
<b>If not, please explain why not and what is needed to ensure compliance. Further questions on recertification will be asked in Baseline Standard 4.</b>
Does this meet the requirements of the Baseline Standard? (circle one): <input checked="" type="radio"/> Yes <input type="radio"/> No
<b>Review Protocol Topic/Question #3:</b>
Has the state delegated the authorization of the program?
No, it is done by the State and the Board.
<b>If so, please name the organization or group to which the authority was delegated, the reason(s) for the delegation of authority.</b>

## State Processes/Procedures Related to Baseline Standard 1: Authorization

### Review Protocol Topic/Question #4:

If the program has been delegated, did the state submit documentation of legal delegation to EPA?

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #5:

What is the specific process that the state must follow to make regulation changes that could potentially affect the operator certification program?

The rules are adopted by the Board and approved through the AG's office.

**Discuss communication, information/data flow, responsibilities of the various parties involved, and the expected timeline for activities to occur.**

### Review Protocol Topic/Question #6:

When is a new Attorney General (AG) Certification required?

When there is a revision to the regulations.

### Review Protocol Topic/Question #7:

If changes were made to the regulations or statute, did the state submit to EPA a new AG statement or certification from delegated counsel, and include a copy of the revised regulations or statutes?

Yes

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #8:

How does the state make the determination of what constitutes a "substantive change" and requires a new AG statement?

The state submits a new AG certification after each revision to the regulations.

### Review Protocol Topic/Question #9:

Can a new Attorney General certification for the operator certification program be included with an AG statement for other rules?

Yes

## State Processes/Procedures Related to Baseline Standard 1: Authorization

### Review Protocol Topic/Question #10:

Since the last review, has the state modified or implemented any new regulations that affect the operator certification program?

Yes

**If so, please briefly describe the specific regulation change(s); the reason for the change(s), including which entity(ies) suggested and supported the change(s); and the expected or observed effect(s) on the program.**

**100.54 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: JUNE 20, 2017 RULEMAKING; EFFECTIVE AUGUST 31, 2017**

At its November 29, 2016 rulemaking hearing, the board revised section 100.9.7 to state that a facility owner can respond to a notice of violation issued by the division or a civil penalty assessment issued by the Department by "submitting to the Board" a hearing request. Subsequently it came to the board's attention that this revision was not consistent with the Board's enabling statute (section 25-9-110(4), C.R.S.), which requires that the facility owner submit such hearing requests to the division. The board conducted a "written comment only rulemaking hearing" to address this relatively minor issue, and received no comments. In order to align the language in the regulation with the statute, the board is now revising section 100.9.7 to indicate that hearing requests for notices of violation under sections 100.9.1-100.9.5 and related civil penalty assessments are to be submitted to the division. The hearings are then conducted by the board.

### Review Protocol Topic/Question #11:

What is the specific process that the state must follow to make statutory changes that could potentially affect the operator certification program?

The board goes through a periodic sunset review process with a bill being introduced in the state legislature.

**Discuss communication, information/data flow, responsibilities of the various parties involved, and the expected timeline for activities to occur.**

### Review Protocol Topic/Question #12:

Since the last review, has the state made any statutory changes that affect the operator certification program?

No

**If so, please briefly describe the specific statutory change(s); the reason for the change(s), including which entity(ies) suggested and supported the change(s); and the expected or observed effect(s) on the program.**

### Review Protocol Topic/Question #13:

Does the state have any plans to make regulatory or statutory changes that could affect the operator certification program in the future?

Unkown

**If so, please briefly describe the specific planned change(s); the reason for the change(s), including which entity(ies) suggested and supported the change(s); and the expected effect(s) on the program.**

## State Processes/Procedures Related to Baseline Standard 1: Authorization

### Review Protocol Topic/Question #14:

Does the state see a need for regulatory or statutory changes that could affect the operator certification program in the future?

Yes, specifically related to the facility classification matrices.

## Baseline Standard 2 – Classification of Systems, Facilities and Operators

## State Processes/Procedures Related to Baseline Standard 2: Classification of Systems, Facilities and Operators

### Review Protocol Topic/Question #1:

What indicators of potential health risk does the state use to classify CWSs and NTNCWSs?

**Examples may include: (a) complexity, size, source water for treatment facilities, and (b) complexity, size for distribution systems.**

Because Colorado required certified operators at transient non-community water systems prior to the 1999 changes it classifies all public water systems based on complexity and population.

Has the state classified all CWSs and NTNCWSs based on these indicators of potential public health risk?

Yes

**If no, what are the reasons a system has not been classified?**

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #2:

How does the state track system classification?

In the databases of record.

**Describe who is responsible for the classification, where the designation is stored (e.g., in paper files, spreadsheet, or information system), and how changes are identified and documented.**

The division's Engineering Section, the sanitary surveys can also be used to make updates to a system.

### Review Protocol Topic/Question #3:

What are the operator certification and renewal requirements for each classification level?

*100.15.6 Table - Training Unit Requirements for Operator Certificate Renewal Certified Operator Class*

*Training Unit Requirement*

*Class T 1.2 Training Units, Class D or Class 1 1.2 Training Units, Class S 1.8 Training Units, Class C or Class 2 1.8 Training Units, Class B or Class 3 2.4 Training Units, Class A or Class 4 3.0 Training Units*

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #4:

Have the operator certification and renewal requirements for each classification level changed since their original development?

No

**Please describe the reasons for the change and the effects it had on the operator certification program.**

## State Processes/Procedures Related to Baseline Standard 2: Classification of Systems, Facilities and Operators

### Review Protocol Topic/Question #5:

Does the state require owners of all CWSs and NTNCWSs to place the direct supervision of their water system (treatment and/or distribution) under the responsible charge of an operator holding a valid certification equal to or greater than the classification of the treatment facility or distribution system?

Yes

**Please describe the relationship between owners of CWSs and NTNCWs and operators and the process for ensuring the owners of all CWSs and NTNCWs comply with this requirement.**

*100.9.1 Supervision by a Certified Operator in Responsible Charge*

*(a) No owner of a water or wastewater facility shall allow the facility to be operated without the direct supervision of one or more certified operators in responsible charge.*

*"Direct supervision" means that the certified operators in responsible charge have supervisory responsibility and authority with respect to the operation of the water or wastewater facility and for the activities and functions of other facility operators.*

*(b) The owner designates the certified operators in responsible charge of the water or wastewater facility by completing and submitting the appropriate division contact update form.*

*(c) Owners shall ensure that their agreements with the certified operators in responsible charge are sufficiently detailed and formal to reflect all the duties as outlined in section 100.11.*

*(d) Contracts for limited services do not fulfill the owner's obligation, under section 100.9.1(a), to place the facility under the supervision of one or more certified operators in responsible charge. Contracts for limited services, such as compliance sampling, do not rise to the level of a contract for a certified operator in responsible charge.*

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #6:

Are operator(s) in responsible charge required to hold a valid certification equal to or greater than the classification of the water system, including the treatment facility and/or distribution system?

Yes

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #7:

How does the state track the certification status of each operator?

**Discuss communication, information/data flow, and responsibilities of the various parties involved.**

OCPO tracks information through a database.

## State Processes/Procedures Related to Baseline Standard 2: Classification of Systems, Facilities and Operators

### Review Protocol Topic/Question #8:

Are all operating personnel making process control/system integrity decisions about water quality or quantity that affect public health required to be certified?

Yes

**If so, please describe the process and list the stakeholders involved in these decisions. If no, explain what is required of those that make these decisions (e.g., education, experience, etc.).**

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #9:

Does the state confirm that a designated certified operator is available for each operating shift, as required?

Yes

How is this done?

It is required by the rules.

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #10:

Are there any trends related to the total number of operators or by certification level?

Yes

**If so, describe the process used for tracking and analyzing these trends, as well as how these trends have affected processes related to exam development, administration, and review/scoring.**

It appears from past reviews that the Treatment and Distribution categories are increasing.

### Review Protocol Topic/Question #11:

Are there any trends related to the distribution of operators across system size or type?

Yes

**If so, describe the process used for tracking and analyzing these trends, as well as how these trends have affected processes related to exam development, administration, and review/scoring.**

*This is information take from a previous program review.*

*Metrics:* Although the total of 11,906 certified individuals is a significant number, looking at the change occurring between 2011 and 2016 provides content for future discussion about trends and direction. See the following examples.

§ Water Treatment: All categories increased over time except W-T. In 2015, all categories decreased.

§ Wastewater Treatment: All categories increased; WW-S stayed constant.

§ Industrial Wastewater Treatment: Ind-A minimal increase, Ind-B doubled, Ind-C decreased, and Ind D increased about 30%.

§ Water Distribution: All categories increased except D-4.

§ Wastewater Collection: All categories increased except C-4.

So what does it all mean?

## State Processes/Procedures Related to Baseline Standard 2: Classification of Systems, Facilities and Operators

Certainly trend analysis can be used to help predict activity in the upcoming years.

*Pass/fail rates:* The summary of data for 2016 exams tells a story. Of the total 3,586 applications submitted, 5% were not approved. There were 2,757 eligible to sit for the exam. For the written exam, 995 took the exam, and 54% passed. For the electronic exam, 1,762 took the exam, and 62% passed.

### Review Protocol Topic/Question #12:

For any classification level or for particular system sizes or types where trends show too few certified operators, has the state or other parties undertaken any efforts to recruit or identify new operators? (For instance, a mentoring program might attract new operators to the industry to offset the increase in operators retiring.)

Not from the information given.

**If so, please describe the program(s), including the reason for establishment, source of funding, and any measures of success that have been identified.**

## Baseline Standard 3 – Operator Qualifications

### State Processes/Procedures Related to Baseline Standard 3: Operator Qualifications

#### Review Protocol Topic/Question #1:

Does the state require applicants to pass an exam appropriate for the classification for which they apply?

Yes

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

#### Review Protocol Topic/Question #2:

Do exams demonstrate that the applicant has the necessary knowledge, skills, ability and judgement appropriate for the classification?

Yes, the exams are validated by ABC.

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

#### Review Protocol Topic/Question #3:

Does the state develop its own operator certification exams or does it purchase its exams?

It purchases the exams from ABC.

**If developed in state, please explain the specific process used for developing the exams, including how often this process occurs. If purchased, name the organization that develops the exams and reason for electing to purchase exams.**



## State Processes/Procedures Related to Baseline Standard 3: Operator Qualifications

### Review Protocol Topic/Question #4:

What is the process to assure all exam questions are validated (i.e., reviewed for accuracy) or in the process of being validated?

ABC does a regular review of the questions for need-to-know by subject matter experts.

**Please describe the specific validation process, including the individual or group responsible for validation, how often the exams are reviewed for relevancy, and how validation and/or changes are documented/addressed. Also, if not all exam questions are validated, give the date that the state expects to have this accomplished.**

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #5:

Who is responsible for administering the operator certification exams?

The State of Colorado.

**Explain the specific process used for administering the exams, including the venue (i.e., online exams or paper exams), where must they be taken, and whether they are proctored, as well as how often the exams are administered in the state.**

The state administers written and electronic exams in three cycles. Each cycle has multiple exam locations and dates. All exams are proctored.

### Review Protocol Topic/Question #6:

Who is responsible for reviewing/scoring of the exams?

ABC scores the exams.

**Please explain the specific process used for reviewing/scoring the exams, including the amount of time an individual must wait to receive their results.**

### Review Protocol Topic/Question #7:

Is the same exam administered to individuals seeking certification through reciprocity?

No, those approved through reciprocity are not required to take an exam.

**Please explain how the exams for in-state and reciprocal certification compare in regards to exam development and validation, administration, and review/scoring.**

It is done on a case-by-case basis.

### Review Protocol Topic/Question #8:

Has the state identified any trends related to pass/fail rates by license/certification category and if possible, system type and size? Unknown, only from a previous review.

**If so, please describe the process used for tracking and analyzing these trends, as well as how these trends have affected processes related to exam development, administration, and review/scoring.**

## State Processes/Procedures Related to Baseline Standard 3: Operator Qualifications

### Review Protocol Topic/Question #9:

To become certified, does the state require operators to have a high school diploma or GED, or permit substitution of experience or relevant training?

Yes

**If applicable, please describe the specific experience or relevant training required for substitution of high school diploma or GED.**

100.13.11(b)(ii)

Experience and relevant training may substitute for a high school diploma or GED. Applicants substituting experience and relevant training for the high school diploma or GED shall:

(A) have an additional six (6) months of qualifying experience; and

(B) demonstrate the completion of 1.0 training units in a course approved as a substitute for entry-level experience requirements.

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #10:

What are the minimum requirements for on-the-job experience for each appropriate level of certification or does the state allow post high school education to be substituted for experience?

**If applicable, please describe the education or on-the-job experience requirements needed for substitution of experience for each level of certification.**

*Substituting Education for Experience Requirements*

*(i) Post-secondary education may also be substituted for the experience requirements of section 100.13.11(c) based on successful completion of formal academic credit hours, as approved by the Board or its contractor in accordance with section 100.13.12(b), for all or a portion of an academic year. For education substitution for experience, academic credit hours shall be calculated as follows:*

*(A) 15 semester hours = ½ academic year = 6 months experience; 15 quarter hours = 1/3 academic year = 4 months experience;*

*(B) Training units: 300 contact hours or 30 training units = 15 quarter hours = 4 months experience;*

*(C) thirty (30) semester hours and/or forty-five (45) quarter hours shall constitute one (1) year's formal education and may be substituted for one (1) year of experience.*

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #11:

Does the state give applicants credit for experience obtained in a related field, such as wastewater?

*Evaluation of Experience. For purposes of this section, domestic and industrial wastewater treatment facility experience shall be considered interchangeable. In evaluating experience of operators the Board or its contractor will be guided by:*

*(i) whether and to what degree the experience required technical knowledge of the operation of a water or wastewater facility;*

*(ii) whether and to what degree the experience was actual on-site operating experience with the daily operational aspects of a facility that could affect water quality or quantity; and*

*(iii) whether or not the experience included the responsible charge of a water or wastewater facility.*

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

## State Processes/Procedures Related to Baseline Standard 3: Operator Qualifications

### Review Protocol Topic/Question #12:

If the state permits substitution of on-the-job experience for education, or vice versa, how does it confirm that there is no double-counting?

The regulation does not allow you to use the same years of experience for both education and on-the-job experience requirements.) Through the database.

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #13:

In addition, a state should review each system, facility, and operator classification to determine whether it is still adequate based upon new rules under the SDWA. Does the state believe that classifications should be changed based upon new monitoring requirements under specific rules (e.g., GWR, RTCR, etc.)?

Colorado has a good program and from everything I have seen reviewing their program, they do everything possible to ensure that the operators classifications were updated as needed.

**Please provide explanation for opinion.**

## Baseline Standard 4 – Enforcement

The following information should be reviewed prior to beginning the review of a state's operator certification program.

- Work with the entity within your and/or the primacy agency responsible for taking enforcement against operators.
- Consider whether enforcement is taken solely against operators or are actions against operators part of other enforcement actions.
- Provide a list to EPA, with the annual submittal of the system name, PWSID, enforcement action taken and status/result of the enforcement action.

Review the actions taken to determine whether the program's revocation and/or suspension policy is adequate. Also to determine whether is being implemented as written.

## State Processes/Procedures Related to Baseline Standard 4: Enforcement

### Review Protocol Topic/Question #1:

Does the state have regulations requiring CWSs and NTNCWSs to comply with the state Operator Certification requirements?

Yes

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

## State Processes/Procedures Related to Baseline Standard 4: Enforcement

### Review Protocol Topic/Question #2:

What state agency provides enforcement activity support for the operator certification program?

DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Water and Wastewater Facility Operators Certification Board

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #3:

Does the state split enforcement responsibility (i.e., enforcement against systems vs. enforcement against operators) between different programs or agencies?

It appears the enforcement against systems is done by Water Quality Control Division. Enforcement against operators is done by the Water and Wastewater Facility Operators Certification Board.

**If so, please name the separate parties and the reason(s) for this split.**

### Review Protocol Topic/Question #4:

Does the state delegate any of its enforcement authority to a local government agency or to a third party contractor?

No.

**If so, please name the local government agency or third party contractor, and the reason(s) for the delegation of authority.**

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #5:

How does the state identify problems that may warrant enforcement activity, including revocation, suspension, or other enforcement actions used to address operator misconduct?

Through a review process.

If the state has split enforcement authority across multiple state programs or agencies or delegated enforcement authority to local agencies or third party contractors, is the process different?

Does not split enforcement authority.

### Review Protocol Topic/Question #6:

What is the specific process or protocol that must be followed to revoke an operator's certification?

**Describe the expected timeline for activities to occur. For example, the state may have an escalation policy that stipulates the next level of enforcement action to take when problems are not resolved.**

100.12.2 Certified Operators – In accordance with the procedures in sections 24-4-104 and 105, C.R.S., the Board may reprimand a certified operator, and/or suspend or revoke the certificate of any certified operator who violates the requirements of this regulation, including, but not limited to the following:

(a) failing to exercise reasonable care and judgment consistent with the operator's level of certification and degree of

## State Processes/Procedures Related to Baseline Standard 4: Enforcement

responsibility for the operation of a water or wastewater facility;

(b) failing to properly perform and/or supervise activities pertinent to controlling the operation of a water or wastewater facility, including, but not limited to the tasks described in section 100.10 of this regulation;

(c) willfully or negligently violating, causing, or allowing the violation of this regulation, 5 CCR 1003-2; the *Colorado Primary Drinking Water Regulations*, 5 CCR 1002-11; the *Colorado Discharge Permit System Regulations*, 5 CCR 1002-61, or a discharge permit issued thereunder; or any other relevant regulations;

(d) submitting false or misleading information on any document provided to the Department, Division, Board, or contractor of the Board;

(e) using fraud or deception in the course of employment as a certified operator;

(f) failing to conform with minimum standards of performance of a certified operator's duty;

(g) engaging in dishonest conduct during an examination;

(h) obtaining a certificate through fraud, deceit, or the submission of materially inaccurate application information;

(i) representing oneself as holding a valid operator's certificate after the expiration, suspension, or revocation of the certificate; or

(j) when acting in the capacity of a certified operator, behaving in a threatening, intimidating, demeaning or similar manner in verbal or written communications or in interactions with the public, the regulated community or regulators.

Also Board Guidance 16-1 Disciplinary Action Recommendation Guidance and Board Procedure 16-2 Operator Misconduct Investigation and Disciplinary Action Adjudicatory Hearing Procedures.

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #7:

What is the specific process or protocol that must be followed to suspend an operator's certification or take other appropriate enforcement action for operator misconduct?

**Describe the expected timeline for activities to occur. For example, the state may have an escalation policy that stipulates the next level of enforcement action to take when problems are not resolved. Note and explain the difference if there are multiple intermediate level enforcement actions that may be taken.**

100.12.2 Certified Operators – In accordance with the procedures in sections 24-4-104 and 105, C.R.S., the Board may reprimand a certified operator, and/or suspend or revoke the certificate of any certified operator who violates the requirements of the regulation.

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #8:

What enforcement actions are taken against operators with no or improper licensing?

**Describe the specific process or protocol that must be followed in these situations, if different from questions 5 and 6, above.**

In addition to 5 and 6 above:

*100.13 APPLICATION TO SIT FOR CERTIFICATION EXAMINATION, QUALIFICATIONS, EDUCATION, EXPERIENCE AND SUBSTITUTIONS*

(a) Following the revocation of a certificate, an operator may not apply for another certificate in the same classification category as that of the revoked certificate for a period of three (3) years.

(b) Any operator whose certificate is revoked shall be treated as a new applicant for purposes of this regulation and must meet all the initial certification requirements, including passing the appropriate certification examination.

100.12.7 Emergency Suspension or Revocation

The Division may immediately suspend or revoke certificates where such immediate action is necessary to protect the public

## State Processes/Procedures Related to Baseline Standard 4: Enforcement

health or the environment.

100.12.8 Following the suspension or revocation of his or her certificate, an operator shall not represent that he or she holds a certificate in the classification category for which the certificate was suspended or revoked. No person shall operate a water or wastewater facility with a suspended or revoked certificate.

### Review Protocol Topic/Question #9:

What enforcement actions are taken against systems with no or improperly licensed operator(s)?

**Describe the specific process or protocol that must be followed in these situations, if different from questions 5 and 6, above.**

100.9.6 The Division shall investigate any instances of possible violations of the requirements of sections 100.9.1-100.9.5 by any owner of a water or wastewater facility. The Division shall enforce compliance with these requirements in accordance with the procedures in section 25-9-110, C.R.S.

100.9.7 Any water or wastewater facility owner who seeks a hearing in response to a Division finding of a violation under sections 100.9.1-100.9.5 or a Department assessment of a civil penalty for such violation may request a hearing in accordance with section 24-4-105, C.R.S., before the Board by submitting to the Division, within thirty (30) days of notice of such finding or assessment, a request containing the following:

- (a) identification of the person(s) requesting the hearing and the subject matter of the request;
- (b) the statutory and/or regulatory authority and factual basis for the request; and
- (c) the relief requested.

### Review Protocol Topic/Question #10:

How does the state track enforcement actions?

Through the compliance and enforcement databases.

**Discuss communication, information/data flow, and responsibilities of the various parties involved.**

### Review Protocol Topic/Question #11:

If the state has split enforcement authority across multiple state programs or agencies or delegated enforcement authority to local agencies or third party contractors, is the process described in the above questions different?

Does not have split enforcement authority.

**Describe the local agencies' or third party contractors' process, if applicable.**

### Review Protocol Topic/Question #12:

What specific enforcement capabilities (i.e., administrative orders; bilateral compliance agreements; civil administrative penalties; criminal administrative penalties; stipulated penalties; other) are available in the state?

Administrative orders; bilateral compliance agreements; civil administrative penalties; and stipulated penalties

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

## State Processes/Procedures Related to Baseline Standard 4: Enforcement

### Review Protocol Topic/Question #13:

Have there been circumstances since the last triennial internal review where the state has either been unable to use these available enforcement actions or felt that additional enforcement capabilities would have been helpful to resolve a problem? Why?

No.

### Review Protocol Topic/Question #14:

Has the state revoked an operator's certification since the previous triennial internal review? If so, how often?

Yes. This has rarely occurred.

#### Provide general details about the individual situations.

Operator cooperated with town officials to selectively report nitrate results from multiple sources. The PWS accumulated over 2,000 violations in a five year period for failure to report, failure to collect confirmation samples, failure to distribute public notice and failure to report violations in the consumer confidence report.

### Review Protocol Topic/Question #15:

Has the state suspended an operator's certification or taken other appropriate enforcement action for operator misconduct since the previous triennial review? If so, how often?

Yes, five times. Including the incident above there were three formal actions and two informal actions:

- 1 formal reprimand
- 1 order on consent
- 1 revocation
- 1 conference
- 1 informal reprimand

#### Provide general details about the individual situations.

The revocation is reported in #14 above, both the formal reprimand and order on consent were for unprofessional behavior toward division staff and other certified operators.

### Review Protocol Topic/Question #16:

If not included above, what enforcement actions were taken against operators with no or improper licensing?

None.

### Review Protocol Topic/Question #17:

What enforcement actions were taken against systems with no or improperly licensed operator(s)?

Reporting year	Drinking water	Wastewater	NDY issued	Returned to compliance
2012	11	4	15	15
2013	1	31	4	3
2014	2	3	5	5
2015	1	1	2	1
2016	0	0	0	0

## State Processes/Procedures Related to Baseline Standard 4: Enforcement

### Review Protocol Topic/Question #18:

In any of the cases described above, were the problems not resolved satisfactorily or in a timely manner?  
All have been resolved.

### Review Protocol Topic/Question #19:

Has the state experienced any difficulties with identification of problems or tracking their resolution?  
No.

**Describe any problems identified since the last triennial review failed to be resolved according to the state's policies.**

### Review Protocol Topic/Question #20:

Please describe any best management practices or innovations that enable the state to enforce and track operator certification program requirements efficiently and effectively.  
Colorado has a well functioning program. They have all of the necessary players in place to run their program.

### Review Protocol Topic/Question #21:

Does the state perform or have a third party review the effectiveness of the state enforcing operator certification requirements?

Yes. The state does on-going program reviews. In addition it conducted a third party review of administrative services and a customer satisfaction survey in 2017.

**Describe the process for the review and how often does it occur.**

The last third party review was done by:

Francine Butler, PhD  
Empressa Consulting Ltd.  
1944 Goldenvue Drive  
Golden, CO 80401

### Review Protocol Topic/Question #22:

Does timely and accurate information flow between the operator certification program staff and all parties responsible for enforcement?

The board's contractor can only supply stagnant data approximately monthly to division compliance staff. This can be a hindrance to timely enforcement.

**Describe the process the state has to measure the effectiveness of the process.**

It is done through the staff, contractor and operator certification program with each other and the Board. The program can improve on data flow.



## State Processes/Procedures Related to Baseline Standard 4: Enforcement

### Review Protocol Topic/Question #23:

Describe any circumstances that have adversely affected enforcement of the requirements under Baseline Standard IV since the last triennial review of the operator certification program.

The program integrated enforcement of operator requirements with overall facility compliance reducing the impact of staff turnover or vacancies.

**Examples include reduced program funding, staff turnover, staff vacancies, management or policy decisions that affect ability to perform program duties, failure to share information between the operator certification program staff and parties responsible for enforcement. Please explain the specific causes of these challenges in the state and the consequences.**

## Baseline Standard 5 – Certification Renewal

### State Processes/Procedures Related to Baseline Standard 5: Certification Renewal

#### Review Protocol Topic/Question #1:

Does the state have a fixed cycle of renewal not exceeding 3 years?

Yes, 3 years.

**Please give the length of the fixed cycle of renewal and justification for a length exceeding 3 years.**

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

#### Review Protocol Topic/Question #2:

Does the state require individuals to recertify if the individual fails to renew or qualify for renewal within two years of the date that the certificate expired? Yes

**If not, please explain why. Further questions on recertification will be asked in Baseline Standard #7.**

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

#### Review Protocol Topic/Question #3:

Has the state established training requirements for renewal based on the level of certification held by the operator?

Yes

**If so, please describe the specific training requirements for each level of certification.**

Does this meet the requirements of the Baseline Standard? (circle one):

Yes ☐ No ☒

## State Processes/Procedures Related to Baseline Standard 5: Certification Renewal

### Review Protocol Topic/Question #4:

What is the state's process for renewal? Already provided this.

**Please describe the specific process, including the expected timeline for activities to occur, as well as any changes that the state has made or plans to make to this process.**

### Review Protocol Topic/Question #5:

Is there a separate training program for renewals? Unknown

### Review Protocol Topic/Question #6:

How does the state approve training courses for continuing education credits (CEUs)?

**Please discuss communication, information/data flow, and responsibilities of the various parties involved.**

The Certification Board approves it through their contractor.

### Review Protocol Topic/Question #7:

How does the state inform its operators of available training?

Posted on contractor website.

**Please describe all methods used for disseminating information to existing or potential operators.**

## State Processes/Procedures Related to Baseline Standard 5: Certification Renewal

### Review Protocol Topic/Question #8:

How do operators enroll in training courses?

Varies by training provider.

### Review Protocol Topic/Question #9:

Who provides training? Is it conducted by the state, local agencies, or third party contractors (including universities)?

State, local agencies, or third party contractors, including colleges and universities.

### Review Protocol Topic/Question #10:

What steps are required for trainers to be approved to conduct training for CEUs?

Submit outline of course to contractor for evaluation and approval.

### Review Protocol Topic/Question #11:

How often is training provided?

Over 500 courses approved. Given throughout the year in person and on-line.

**Please discuss the reason(s) for offering the training on this schedule, and how the frequency of offerings has changed in the past or might be changed moving forward.**

### Review Protocol Topic/Question #12:

Does the state have other requirements for renewal, beyond training, to renew certification? Just what's spelled out in the rules.

**For instance, for PWSs that have a history of being out of compliance, does the state consider whether noncompliance is the result of actions or inactions by the system's owner or the system's operator?**

I don't have this information.

### Review Protocol Topic/Question #13:

How does the state track the status of operator certification renewals and confirm all required steps are completed, such as obtaining appropriate number of CEUs?

**Discuss communication, information/data flow, and responsibilities of the various parties involved.**

Yes, it is done in a database. All renewals are reviewed and approved before new certificate is issued.

## State Processes/Procedures Related to Baseline Standard 5: Certification Renewal

### Review Protocol Topic/Question #14:

Are there any training needs that are not currently being met?

No.

**Please discuss the specific needs not currently being met, if any, as well as the state's process for identifying and meeting these training needs moving forward.**

## Baseline Standard 6 – Resources Needed to Implement the Program

### State Processes/Procedures Related to Baseline Standard 6: Resources Needed to Implement the Program

#### Review Protocol Topic/Question #1:

Does the operator certification program have sufficient resources to adequately fund and sustain its operator certification program?

As federal dollars continue to shrink, the agency may need to consider how fees can support the agency portion of the program.

**Please describe the status (i.e., sufficient, moderately sufficient, insufficient) of funding related to the following components of the state's operator certification program: staff, data management, testing, enforcement, administration, and training approval.**

Sufficient.

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

## State Processes/Procedures Related to Baseline Standard 6: Resources Needed to Implement the Program

### Review Protocol Topic/Question #2:

Is the operator certification program supported by a dedicated fund that is self-sufficient?

The administrative services portion of the program is done through fees. The agencies portion is funded by federal money and permit and drinking water fees.

**If so, please describe the state entity responsible for administering and maintaining the self-sufficient fund, as well as any considerations that enhance or jeopardize the continued success of this funding source.**

**If not, please discuss reason(s) and/or challenges associated with not having a self-sufficient fund as well as whether there are plans to establish such a fund.**

There is no current plan to establish a self-sufficient fund.

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #3:

Does the operator certification program rely on other or additional funding sources (i.e., certification fees, exam fees, federal or state General Revenues, etc.)?

Yes.

**If so, please list all additional funding sources and how the funding from each source specifically supports the operator certification program.**

### Review Protocol Topic/Question #4:

How many full-time equivalents (FTEs) support the operator certification program? Unknown.

**In addition to the numbers and hours of FTEs, please describe the specific functions performed per FTE (e.g., 1 FTE tracks request for certification exam, 2 FTEs track renewal status). Also, please define the number of hours per FTE for program staff (after accounting for paid time off).**

### Review Protocol Topic/Question #5:

What are the annual expenses of the state's operator certification program, itemized by program function (e.g., administration, exams, initial applications, renewals, CEU training course approvals)?

Unknown

### Review Protocol Topic/Question #6:

What are the annual salary expenditures to implement the operator certification program, itemized by position?

Unknown.

### Review Protocol Topic/Question #7:

## State Processes/Procedures Related to Baseline Standard 6: Resources Needed to Implement the Program

Does the state maintain the database(s) that contain certified operator information? Yes

**For each database, please describe its purpose and content, as well as whether it is online and accessible to operators.**

There is a small portion of the operator database visible on the web. Specifically designed for employers to verify an operators certificates and status.

### Review Protocol Topic/Question #8:

Is the program able to execute all responsibilities in a timely fashion or are there backlogs for responding or taking appropriate action per program function (e.g., responding to inquiries, tracking and reviewing applications, administering or scoring exams)?

Yes

**If so, please describe the specific program functions with backlogs, the reason(s) for the backlog, and any efforts taken by the state to resolve the issue(s) to ensure efficient implementation of the operator certification program.**

Unknown

### Review Protocol Topic/Question #9:

How has the end of the Expense Reimbursement Grant (ERG) effected the program? What measures did you take to address the end of the ERG?

Unknown.

## Baseline Standard 7 – Recertification

### State Processes/Procedures Related to Baseline Standard 7: Recertification

#### Review Protocol Topic/Question #1:

What is the state's process for the recertification of operators whose certification has expired for a period exceeding two years? **Already addressed this above**

**Please describe all requirements (i.e., experience, training, reexamination, and/or education) and the associated timeline for recertification. Continuation of question #2 in Baseline Standard #5.**

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

#### Review Protocol Topic/Question #2:

### State Processes/Procedures Related to Baseline Standard 7: Recertification

Does the state have different requirements for recertification of individuals whose certificates have expired, been revoked, or been suspended?

Already addressed this

**If so, please state whether the recertification requirements are more stringent after an expiration, revocation, or suspension, as well as why the state elected to have different requirements for each situation.**

Does this meet the requirements of the Baseline Standard? (circle one):      Yes      No

#### Review Protocol Topic/Question #3:

How is operator certification recertification status tracked?

Through a database.

**Please discuss communication, information/data flow, and responsibilities of the various parties involved.**

Unknown. done by contractor.

## Baseline Standard 8 – Stakeholder Involvement

### State Processes/Procedures Related to Baseline Standard 8: Stakeholder Involvement

#### Review Protocol Topic/Question #1:

Does the state maintain ongoing stakeholder involvement in the revision and operations of its operator certification program?

Yes

**If so, please list all stakeholders and a brief description of their background, expertise, or relevancy to the program. Also, please describe the process by which they are involved (e.g., Board meetings, public meetings, surveys, etc.), including all related communication, information/data flow, and responsibilities of the various parties involved.**

Through a Board

Does this meet the requirements of the Baseline Standard? (circle one):      Yes      No

#### Review Protocol Topic/Question #2:

(If not discussed in question 1) Who are the state's stakeholders of its operator certification program?

Already answered.

**Please list all stakeholders and a brief description of their specific role in supporting or implementing the operator certification program.**

## State Processes/Procedures Related to Baseline Standard 8: Stakeholder Involvement

### Review Protocol Topic/Question #3:

Does the state have a stakeholder board or advisory committee?

Yes, the board is a governor appointed board that includes operators, town managers, small system representatives, etc.

**If so, please describe the specific involvement of the board or advisory committee, including specific responsibilities and roles.**

They have the authority to run the program.

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #4:

Does the state have a user-friendly and up-to-date website that stakeholders may access?

Unknown

**If so, please describe the information included and whether the state knows if operators utilize the website to remain informed about the operator certification program.**

### Review Protocol Topic/Question #5:

Does the state do any outreach to inform its stakeholders (e.g., operators, environmental/ public health groups, the general public, consumer groups, technical assistance providers, utility managers, trainers) about the operator certification program, including news about employment and mentorship opportunities, as well to endorse the value of operators and the water industry overall?

Unknown

**Please describe any specific campaigns or efforts to keep these stakeholders informed and engaged.**

## Baseline Standard 9 – Program Review

Some parts of a state program need to be reviewed on a continual basis, such as training activity and budget. Other elements of programs that fulfill longer term planning needs may not need continual review but should be done periodically. EPA recommends a periodic review process consist of an internal program reviews every three years and an external/peer reviews every five years. States should review all elements that are necessary to their programs and their successful implementation.

## State Processes/Procedures Related to Baseline Standard 9: Program Review

### Review Protocol Topic/Question #1:

Does the state have a process for reviewing its operator certification program?

Yes, already answered this.

**Please discuss communication, information/data flow, and responsibilities of the various parties involved.**

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No



## State Processes/Procedures Related to Baseline Standard 9: Program Review

### Review Protocol Topic/Question #2:

Does the state's process include periodic internal reviews? If so, who conducts them?

Already answered this

**Please discuss the frequency, timeframe and process for internal reviews. Indicate the specific components of the program that was reviewed (e.g., regulation review, exams, compliance rate determination, enforcement, budget and staffing, training relevancy, training needs through exam performance, data management system, status of certified operators/trends, stakeholder involvement).**

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #3:

Does the state's process include occasional external/peer reviews?

Already answered above.

**Please indicate what organization(s) perform these reviews, as well as discuss the frequency, timeframe, and process for external/peer reviews. Indicate the specific components of the program that was reviewed (e.g., regulation review, exams, compliance rate determination, enforcement, budget and staffing, training relevancy, training needs through exam performance, data management system, status of certified operators/trends, stakeholder involvement, strategic planning, changes to state regulations, changes to primacy agency delegation).**

Does this meet the requirements of the Baseline Standard? (circle one):

☒ Yes ☐ No

### Review Protocol Topic/Question #4:

Do the internal and external reviews provide feedback on progress made in implementing the state's strategic plan?

Yes. The board developed its strategic plan in 2017. This is its first external peer review.

### Review Protocol Topic/Question #5:

Does the state document changes made to the operator certification program as a result of a program or regulation review?

Yes.

**Please discuss the process for documenting changes and responsibilities of the various parties involved.**

Unknown.

### Review Protocol Topic/Question #6:

What funding sources pay for the external/peer reviews?

Unknown.

## State Processes/Procedures Related to Baseline Standard 9: Program Review

### Review Protocol Topic/Question #7:

Has the state made any changes to its program since the last internal/external review? Unknown

**If so, please describe the reason(s) for the change(s) (i.e., the issue identified during the program review), and whether the change(s) improved the operator certification program.**

### Review Protocol Topic/Question #8:

How does the state measure program improvements?

Through exam statistics, training needs, responses to the customer satisfaction survey.

**Please describe the specific metrics used.**

### Review Protocol Topic/Question #9:

What improvements to the operator certification program can/should the state make?

None to recommend.

**Please describe any needed changes and plans to make them, as well as any potential challenges the state has faced or will face in implementing such changes.**

### Review Protocol Topic/Question #10:

Did the program review identify any new future direction of the state's operator certification program?

It appears that the program will continue to grow.