COLORADO
Water & Wastewater Facility
Operators Certification Board
Department of Public Health & Environment

NOTICE OF PUBLIC RULEMAKING HEARING

BEFORE THE

WATER AND WASTEWATER FACILITY OPERATORS CERTIFICATION BOARD

SUBJECT:

For consideration of proposed revisions to Regulation No. 100, "Water and Wastewater Facility Operators Certification Requirements" (5 CCR 1003-2). The revisions to Regulation No. 100 proposed by the Water Quality Control Division, along with proposed Statement of Basis, Statutory Authority and Purpose, are attached to this notice as Exhibit 1. Proposed new language is shown with double-underlining and proposed deletions are shown with ~~strikeouts~~.

SCHEDULE OF IMPORTANT DATES:

Party status requests due	09/24/2018 5 pm	Additional information below.
Proponent's prehearing statement due	09/27/2018 5 pm	Additional information below.
Responsive prehearing statements due	10/23/2018 5 pm	Additional information below.
Rebuttal statements due	11/7/2018 5 pm	Additional information below.
Last date for submittal of motions	11/09/2018 5 pm	Additional information below.
Notify commission office if participating in prehearing conference by phone	11/13/2018 by noon	Send email to cdphe.wwfocb@state.co.us with participant(s) name(s)
Prehearing Conference (mandatory for parties)	11/14/2018 10:00 am	Florence Sabin Conference Room Department of Public Health and Environment 4300 Cherry Creek Drive South Denver, CO 80246 Call-in: 1-857-216-6700, Code: 425132
Rulemaking Hearing	11/27/2018 9:00 am	Florence Sabin Conference Room Department of Public Health and Environment 4300 Cherry Creek Drive South Denver, CO 80246

HEARING SUBMITTALS:

For this hearing, the Operators Certification Board will receive all submittals electronically. Submittals must be provided as PDF documents, except for raw data exhibits which may be provided as Excel workbooks. Submittals may be emailed to cdphe.wwfocb@state.co.us, provided via an FTP site, CD or flash drive, or otherwise conveyed to the commission office so as to be received no later than the specified date.

PARTY STATUS:

Party status requests must be in writing and must provide:

- the organization's name,
- one contact person,
- a mailing address,
- a phone number, and
- email addresses of all individuals associated with the party who wish to be notified when new submittals are available on the commission's website for review.

In accordance with section 25-8-104(2)(d), C.R.S., any person who believes that the actions proposed in this notice have the potential to cause material injury to his or her water rights is requested to so indicate, along with an explanation of the alleged harm, in their party status request.

PREHEARING AND REBUTTAL STATEMENTS:

Each party must submit a prehearing statement: parties that have proposed revisions attached as exhibits to the notice must submit a proponent's prehearing statement. All other parties must submit a responsive prehearing statement. Proponents may also submit responsive prehearing statements when there are multiple proposals attached to the notice.

Each prehearing and rebuttal statement must be provided as a separate PDF document from any accompanying written testimony or exhibits.

Following the rebuttal statement due date, no other written materials will be accepted from parties except for good cause shown.

Oral testimony at the hearing should primarily summarize written material previously submitted. The hearing will emphasize commission questioning of parties and other interested persons about their written prehearing submittals. Introduction of written material at the hearing by those with party status will not be permitted unless authorized by the commission.

PREHEARING CONFERENCE:

Attendance at the prehearing conference is mandatory for all persons requesting party status. Parties needing to participate by telephone are encouraged to notify the commission office prior to the prehearing conference. Remote participants can call 1-857-216-6700 and enter the conference code 425132.

Following the cut-off date for motions, no motions will be accepted, except for good cause shown.

PUBLIC PARTICIPATION ENCOURAGED:

The commission encourages input from non-parties, either orally at the hearing or in writing prior to the hearing. Written submissions should be emailed to cdphe.wwfocb@state.co.us by November 14, 2018.

SPECIFIC STATUTORY AUTHORITY:

The provisions of C.R.S. 25-9-101 through 25-9-110 provide the specific statutory authority for consideration of the regulatory provisions proposed by this notice. Should the Operators Certification Board adopt the regulatory language as proposed in this notice or alternative provisions, it will also adopt, in compliance with section 24-4-103(4) C.R.S., an appropriate Statement of Basis, Specific Statutory Authority, and Purpose.

Dated this 30thth day of August 2018 at Denver, Colorado.

WATER AND WASTEWATER FACILITY OPERATORS CERTIFICATION BOARD

Trisha Oeth, Administrator

EXHIBIT 1

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

100.1 AUTHORITY AND PURPOSE

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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 100.1~~4~~43. Operators are encouraged to apply for certification in the highest classification consistent with their qualifications.

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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 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) Industrial wastewater treatment facilities with non-potable distribution systems 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

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(d) Requests for exemption 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.

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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

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(13) "PLANT DESIGN FLOW RATE" means the maximum flow rate for a drinking ~~(~~water~~)~~ treatment facility ~~or the hydraulic capacity (wastewater)~~ as approved ~~for a water or wastewater treatment facility~~ 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~~4~~) "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.

(20~~15~~) "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~~16~~) "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~~17~~) "WASTEWATER TREATMENT FACILITY" means either a domestic wastewater treatment facility or an industrial wastewater treatment facility.

(2318) "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.

(2419) "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.

(250) "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.

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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 --, 2019, the following classifications shall become effective immediately. For any water treatment facilities existing prior to March --, 2019 and not substantially modified, the following classifications shall apply beginning March --, 2021.

	Plant Design Flow Rate (in GPM)		
Treatment Type[1]	**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 *Colorado Primary Drinking Water Regulations*, 5 CCR 1002-11 Alternatively can be operated by Level 1 Distribution operator only.	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 *Colorado Primary Drinking Water Regulations*, 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

[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. The categories are general guidelines and not meant to be binding.

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

	Plant Design Flow Rate (in MGD)			
Description of the Facility	Below 2	2 – 5	5.01 – 9.99	10 or more
Ground Water Systems				
(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

All Water Systems				
(d) Any source utilizing bag or cartridge filtration to comply with primary drinking water standards[1]. "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, 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).	C	B	B	A
(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
Chemical Addition				
(g) Any source utilizing chemical treatment for the specific purpose of complying with secondary drinking water standards[2].	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[1].	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
Other				
(k) Water vending machines connected to a public water system that does not currently meet primary drinking water standards[1].	C	C	C	C

[1] "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.

[2] "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 ~~and category D non-single family, indoor toilet and urinal flushing graywater 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 --, 2019, the following classifications shall become effective immediately. For any domestic wastewater treatment facilities existing prior to March --, 2019 and not substantially modified, the following classifications shall apply beginning March --, 2021.

Treatment Type[1]	Plant Design Hydraulic Capacity (in MGD)				
	Below 0.5	0.5-1.00	1.01-2.00	2.01-4.00	Above 4.00
Preliminary Treatment					

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
Primary Treatment					
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
Secondary Treatment **[Purpose to treat BOD, TSS to secondary limits.]**					
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
Secondary Clarification					
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
Advanced Treatment **[Purpose to treat beyond secondary limits both within secondary treatment units and/or physically separate processes after secondary treatment.]**					
Biological or Chemical/Biological Advanced Waste Treatment					
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),	B	B	A	A	A

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)					
Deammonification Pure oxygen activated sludge	A	A	A	A	A
Chemical/Physical Advanced Waste Treatment **[For unit treatment process and not solely an adjusting condition for an earlier biological process (e.g., pH, alkalinity, carbon feed).]**					
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	Industrial operator	Industrial operator	Industrial operator	Industrial operator	Industrial operator

precipitation, metal sulfide precipitation). Not including struvite recovery - see solids handling.					
Filtration					
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
Disinfection / Inactivation					
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) Advanced oxidation, electro processes for disinfection	B	B	A	A	A
Ozonation, contact basin	A	A	A	A	A
Dechlorination					

Solid materials (e.g., puck, granular)	D	C	C	B	B
Liquid materials	C	C	B	B	A
Gaseous materials	B	B	A	A	A
Chemical Addition **[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
Flammable materials Gaseous materials	B	B	A	A	A
Effluent Discharge					
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
Solids Handling					
Thickening / Conditioning (e.g., gravity, DAF, plate settlers, drum thickeners, volute thickener, centrifuge thickening, polymer addition) Dewatering (e.g., lagoon, drying bed,	C	B	B	B	A

mechanical such as belt, filter press, polymer addition) Aerobic digestion Solids composting					
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

[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 –, 2019 and not substantially modified, the following classifications shall apply until the classifications in Table 100.5.2(a) become applicable on March –, 2021.

Description of the Facility	Plant Design ~~Flow~~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.

100.5.3 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~~6~~ INDUSTRIAL WASTEWATER TREATMENT FACILITY CLASSIFICATION

100.7~~6~~.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~~6~~.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 --, 2019, the following classifications shall become effective immediately. For any industrial wastewater treatment facilities existing prior to March --, 2019 and not substantially modified, the following classifications shall apply beginning March --, 2021.

CLASSIFICATION	**TREATMENT PROCESS[1]**
Class A	Multiple step chemical conversion, oxidation/reduction reactions (e.g., cyanide destruction, hexavalent chromium reduction, selenium, facilitated with ozone, peroxide, ultraviolet radiation, chlorine, etc.); Ion exchange; Electro-chemical conversion (e.g., electrolysis, electro-oxidation, electro-dialysis, high voltage electro-coagulation/flocculation, capacitive deionization, electro-winning) Nanofiltration, Reverse osmosis. Disinfection/inactivation with ozonation, advanced oxidation, electrolytic release

	Biosolids reduction using incineration, wet oxidation Thermal distillation Solvent extraction
Class B	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 (<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
Class C	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)
Class D	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

[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 –, 2019 and not substantially modified, the following classifications shall apply until the classifications in Table 100.7.2(a) become applicable on March –, 2021.

CLASSIFICATION	TREATMENT PROCESS[1]
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.

[1] Treatment processes are listed as examples and are not all inclusive.

100.7~~6~~.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~~6~~.4 Any industrial wastewater treatment facility that regularly utilizes a combination of two or more of the treatment processes described in section 100.7~~6~~.2 shall be classified in accordance with the highest level of treatment process utilized.

100.7~~6~~.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~~7~~ WATER DISTRIBUTION SYSTEM CLASSIFICATION

100.8~~7~~.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., ~~including, but not limited to:~~

~~(a) unusual factors affecting the complexity of transmission, mixing of sources, or potential public health hazards;~~

~~(b) size and/or length of the system's water mains;~~

~~(c) whether or not there are automatic control valves, including but not limited to, pressure reducing or altitude valves;~~

~~(d) number and/or size and/or types of meters;~~

~~(e) existence of storage tanks in the system;~~

~~(f) existence of multiple pressure zones;~~

~~(g) maximum pressure in the system;~~

~~(h) existence of booster stations;~~

~~(i) number of service connections; or~~

~~(j) quantity of water distributed.~~

100.87.2 ~~Table -~~ Criteria for Water Distribution System Classes 1, 2, 3, and 4

(a) For water distribution systems that are new or substantially modified after March --, 2019, the following classifications shall become effective immediately. For any water distribution systems existing prior to March --, 2019 and not substantially modified, the following classifications shall apply beginning March --, 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[1]
Class 1	3,300 or Less
Class 2	3,301 - 25,000
Class 3	25,001 - 100,000
Class 4	Over 100,000

[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[1]: 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 *Colorado Primary Drinking Water Regulations*, 5 CCR 1002-11 Alternatively can be operated by Level D Treatment operator only.	Class 1

[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 –, 2019 and not substantially modified, the following classifications shall apply until the classifications in Table 100.8.2(a) become applicable on March –, 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

100.87.3 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.

100.87.4 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.

100.98 WASTEWATER COLLECTION SYSTEM CLASSIFICATION

100.98.1 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.:

(a) any unusual factors affecting the complexity of collection;

(b) whether there is the potential for mixing of sources; or

(c) the presence of any potential public health hazards.

100.98.2 Table - Criteria for Wastewater Collection System Classes 1, 2, 3, and 4

(a) For wastewater collection systems that are new or substantially modified after March --, 2019, the following classifications shall become effective immediately. For any wastewater collection systems existing prior to March --, 2019 and not substantially modified, the following classifications shall apply beginning March --, 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[1]
Class 1	3,300 or Less
Class 2	3,301 - 25,000
Class 3	25,001 - 100,000
Class 4	Over 100,000

[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[1]: designed capacity to receive greater than 2,000 gpd (domestic wastewater treatment works) and firm capacity[2] less than 150,000 gpd (0.15 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)[3] in collection system service area	Class 2
Three or more significant industrial users (SIU) in collection system service area	Class 3

[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 –, 2019 and not substantially modified, the following classifications shall apply until the classifications in Table 100.9.2(a) become applicable on March –, 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

100.98.3 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.

100.109 RESPONSIBILITIES AND DUTIES OF WATER AND WASTEWATER FACILITY OWNERS

100.109.1 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 100.1221.

(d) Contracts for limited services do not fulfill the owner's obligation, under section 100.109.1(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.

100.109.2 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 100.121.6.

100.109.3 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 100.121.6 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.

100.109.4 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.

100.109.5 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

Facility or System Classification	Certified Operator in Responsible Charge Minimum Required Certification Levels
Water Facilities	
Water Treatment	
A	A
B	A or B
C	A, B, or C
D	A, B, C, D, S[1] or T[2]
Water Distribution	
4	4
3	4 or 3
2	4, 3 or 2
1	4, 3, 2, 1, or S[1]

Domestic Wastewater Facilities	
Wastewater Treatment	
A	A
B	A or B
C	A, B, or C
D	A, B, C, D, or S[3]
Wastewater Collection	
4	4
3	4 or 3
2	4, 3 or 2
1	4, 3, 2, 1, or S[3]
Industrial Wastewater Facilities	
A	A
B	A or B
C	A, B, or C
D	A, B, C, or D, or S[3]

[1] Applicable only in accordance with section 100.109.5(d)

[2] Applicable only in accordance with section 100.109.5(c)

[3] Applicable only in accordance with section 100.109.5(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.

100.109.6 The Division shall investigate any instances of possible violations of the requirements of sections 100.109.1-100.109.5 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.

100.109.7 Any water or wastewater facility owner who seeks a hearing in response to a Division finding of a violation under sections 100.109.1-100.109.5 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.

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 --, 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 --, 2021 for a period until March --, 2024 if the following conditions are satisfied:

(i) The existing facility classification will change on March --, 2021 to two or more levels higher than the existing facility classification level on March --, 2019, and the facility has not been substantially modified after March --, 2019;

(ii) The existing certified operator in responsible charge has been the certified operator in responsible charge continuously since a time beginning before March --, 2018;

(iii) The existing certified operator in responsible charge meets the facility classification existing before March --, 2021 but does not meet the classification level beginning March --, 2021; and

(iv) The owner of the facility submits a complete application with supporting documentation to the Division no later than December 31, 2020.

(b) Facilities to be classified in accordance with sections 100.4 through 100.9 and existing as of March --, 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 --, 2021 for a period until March --, 2024 if the following conditions are satisfied:

(i) The existing facility classification will change on March --, 2021; and the facility has not been substantially modified after March --, 2019;

(ii) The existing certified operator in responsible charge has been the certified operator in responsible charge continuously since a time beginning before March --, 2014;

(iii) The existing certified operator in responsible charge meets the facility classification existing before March --, 2021 but does not meet the classification level beginning March --, 2021; and

(iv) The owner of the facility submits a complete application with supporting documentation to the Division no later than December 31, 2020.

(c) Facilities to be classified in accordance with sections 100.4 through 100.9 and existing as of March --, 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 --, 2021 for a period until March --, 2029 if the following conditions are satisfied:

(i) The existing facility classification will change on March --, 2021; and the facility has not been substantially modified after March --, 2019;

(ii) The existing certified operator in responsible charge has been the certified operator in responsible charge continuously since a time beginning before March --, 2004;

(iii) The existing certified operator in responsible charge meets the facility classification existing before March --, 2021 but does not meet the classification level beginning March --, 2021; and

(iv) The owner of the facility submits a complete application with supporting documentation to the Division no later than December 31, 2020.

(d) The site-specific certified operator in responsible charge allowance is for long-time existing certified operator in responsible charge of a particular system, but is not for contract operators.

(e) If at any time the site-specific certified operator in responsible charge is no longer the certified operator in responsible charge for a particular system, 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.

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Editorial note regarding sections 100.11 to 100.18 (formerly 100.10 to 100.17):

Non-substantive changes in these sections are not shown. Revisions will be limited to increasing the section numbering by one and correcting cross references.

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100.~~22~~ 19 - 29 RESERVED

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100.56 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; NOVEMBER 27, 2018 RULEMAKING; EFFECTIVE MARCH --, 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 note 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 and 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.