



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.

HEARING SCHEDULE:

DATE: Tuesday, March 30, 2021

TIME: 9:00 a.m.

PLACE: Online meeting: Please register at:

<https://us02web.zoom.us/meeting/register/tZAucO2rrj8oGtMf0wpf6WajTFOfEeRKRNbR>

WRITTEN COMMENTS:

The Operators Certification Board encourages all interested persons to provide their opinions or recommendations regarding the matters to be addressed in this rulemaking hearing; however, no oral comments on the proposed rule will be received at the hearing.

Written comments must be received by March 5, 2021. Anyone providing written comments should deliver an electronic copy to cdphe.wwfocb@state.co.us. All written comments will be available to the public on the Board's website.

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 29th day of January 2021 at Denver, Colorado.

WATER AND WASTEWATER FACILITY OPERATORS CERTIFICATION BOARD



Brandy Valdez-Murphy, Administrator

DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Water And Wastewater Facility Operators Certification Board

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

5 CCR 1003-2

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100.4 WATER TREATMENT FACILITY CLASSIFICATION

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

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

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

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

<u>Treatment Type¹</u>	<u>Plant Design Flow Rate (in GPM)</u>		
	<u>Less than 350</u>	<u>350 to 1400</u>	<u>More than 1400</u>
<u>Filtration</u>			
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)	D	C	C

in groundwater)			
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
<u>Disinfection</u>			
Ozone	B	A	A
Chlorine dioxide – formed onsite	B	A	A
Chlorine dioxide – pre-formed and fed onsite	C	C	B
Monochloramine (chlorine and ammonia)	C	B	A
Onsite hypochlorite generation	C	C	B
Gas chlorine	C	B	A
Ultraviolet Light	D	C	C
Calcium hypochlorite	D	D	C
Sodium hypochlorite	D	D	C
Hand-pumped wells regulated under <i>Colorado Primary Drinking Water Regulations</i> , 5 CCR 1002-11 Alternatively can be operated by Level 1 or above Distribution operator without a treatment operator.	D		
Public water systems with a disinfection waiver and no other treatment installed at sources.	Covered under Section 100.8		
Booster chlorination within the distribution system	Covered under Section 100.8		
<u>Other treatment</u>			
Hydrogen peroxide	B	B	A
Coagulant addition (apart from conventional/direct filtration)	B	B	A
Fluoridation	C	B	B
Adjusting pH and/or alkalinity (e.g. caustic, soda ash, lime, calcite contactor, acid feed, CO2 feed)	C	C	B
Corrosion inhibitors (e.g. orthophosphate based or silicates)	C	C	B
Permanganate	C	C	B
Powder activated carbon	C	C	B
Source water blending to comply with <i>Colorado Primary Drinking Water Regulations</i> , 5 CCR 1002-11 (Nitrates, radionuclides, other inorganics)	C	C	B
Source water blending for aesthetic or non-regulatory reasons	D	C	C
Iron or manganese sequestering agents (polyphosphate)	D	C	C
Aeration (aeration towers)	D	C	C
Storage tank treatment systems (for contaminant removal)	D	D	C

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

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

Description of the Facility	Plant Design Flow Rate (in MGD)			
	Below 2	2—5	5.01—9.99	10 or more
<u>Ground Water Systems</u>				
(a) Ground water source with no treatment or with no additional treatment beyond chlorine disinfection.	D	D	C	B
(b) Ground water source with ultraviolet or ozone disinfection.	D	C	C	B
(c) Ground water source utilizing chemical addition and/or a treatment technology (for example, ion exchange, reverse osmosis, membrane filters, or activated carbon) for the specific purpose of meeting secondary drinking water standards.	C	C	B	B
<u>All Water Systems</u>				
(d) Any source utilizing bag or cartridge filtration to comply with primary drinking water standards 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	B	A	A	A

substantial particulate removal.				
Chemical Addition				
(g) Any source utilizing chemical treatment for the specific purpose of complying with secondary drinking water standards².	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 standards¹.	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 standards¹.	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 shall be classified in accordance with the following four classes: Class D, Class C, Class B, or Class A. Class A is the highest level of classification and Class D is the lowest level of classification. The Division may make changes in classification in accordance with the needs created by particular complexities of any specific domestic wastewater treatment facility based on consideration of facility specific factors, including, but not limited to:

- (a) design features or other characteristics that make the facility more difficult to operate than usual;
- (b) facility design flow;

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

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

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

<u>Treatment Type¹</u>	<u>Plant Design Hydraulic Capacity (in MGD)</u>				
	<u>Below 0.5</u>	<u>0.5-1.00</u>	<u>1.01-2.00</u>	<u>2.01-4.00</u>	<u>Above 4.00</u>
<u>Preliminary Treatment</u>					
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
<u>Primary Treatment</u>					
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
<u>Secondary Treatment</u> [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					

<p>Suspended growth (e.g., MLE, A2O, Bardenpho, membrane bioreactor (MBR), aerobic granular sludge, advanced biological algae treatment, etc.)</p> <p>Biofilm (e.g., trickling filter, rotating biological contactor, fixed biofilm reactors (FAST), moving bed biofilm reactors (MBBR), submerged granular media biofilm, integrated biofilm and activated sludge (IFAS), biologically active carbon, membrane aerated biofilm reactor (MABR), denitrification filters, etc.)</p> <p>Anaerobic reactors (e.g., upflow sludge blanket, baffled reactor, multiple compartment reactors, sequencing batch reactor, fluidized bed reactor, membrane bioreactor, filter)</p> <p>Phosphorus removal (e.g., biological, chemical, etc.). Not including struvite recovery – see solids handling.</p> <p>Treatment wetland (e.g., surface flow, subsurface flow) or subsurface submerged bioreactor (e.g., for nitrogen, phosphorus, metals)</p>	B	B	A	A	A
<p>Deammonification</p> <p>Pure oxygen activated sludge</p>	A	A	A	A	A
<p align="center">Chemical/Physical Advanced Waste Treatment</p> <p align="center">[For unit treatment process and not solely an adjusting condition for an earlier biological process (e.g., pH, alkalinity, carbon feed).]</p>					
Air stripping	C	C	B	B	A
<p>Adsorptive media (granular activated carbon, Zeolite, organoclay)</p> <p>Low voltage electro-coagulation / electro-flocculation</p> <p>Ion exchange</p>	B	B	A	A	A
<p>Electro-chemical (e.g., electrodialysis, electrolysis, electro-oxidation, high voltage electro-coagulation/flocculation)</p> <p>Advanced oxidation and/or oxidation/reduction (e.g., hydrogen peroxide + UV, metal ox/reduction recovery)</p> <p>Chemical precipitation (e.g., metal hydroxide precipitation, metal sulfide precipitation). Not including struvite recovery - see solids handling.</p>	Industrial operator	Industrial operator	Industrial operator	Industrial operator	Industrial operator
Filtration					
<p>Cloth filter, cartridge bag/filter</p> <p>Slow sand filtration</p> <p>Upflow sand filtration (no chemical addition)</p>	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
<u>Disinfection / Inactivation</u>					
Free chlorine, contact basin (e.g., premade liquid solution, solid tablets, hypochlorination with liquid solution onsite generation from solid)	D	C	C	B	B
Ultraviolet radiation (UV) Peracetic acid, contact basin	C	B	B	B	A
Free chlorine, contact basin (gaseous)	C	C	B	A	A
Advanced oxidation, electro processes for disinfection	B	B	A	A	A
Ozonation, contact basin	A	A	A	A	A
<u>Dechlorination</u>					
Solid materials (e.g., puck, granular)	D	C	C	B	B
Liquid materials	C	C	B	B	A
Gaseous materials	C	C	B	A	A
<u>Chemical Addition</u> [Includes adjusting condition such as pH, alkalinity, carbon feed, etc. and chemicals for other unit processes.]					
Solid materials	C	C	B	B	A
Liquid non-flammable materials	C	C	B	B	A
Gaseous materials	C	C	B	A	A
Flammable materials	B	B	A	A	A
<u>Effluent Discharge</u>					
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, mechanical such as belt, filter press, polymer addition) Aerobic digestion Solids composting	C	B	B	B	A
Thermal hydrolysis (e.g., pre-digestion) Stabilization / digestion (e.g., anaerobic sludge lagoon, autothermal or autoheated thermophilic aerobic digestion (ATAD), anaerobic digestion (single, multi-stage)) Nutrient recovery through precipitation (e.g., struvite recovery) Centrifuge for dewatering Solids reduction (e.g., incineration, wet oxidation)	B	B	A	A	A

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

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

Description of the Facility	Plant Design Hydraulic Capacity (in MGD)				
	Below 0.5	0.5-1.00	1.01-2.00	2.01-4.00	Above 4.00
-					
(a) Waste stabilization ponds, including aerated and non-aerated types	D	C	C	B	B
(b) Trickling filter or rotating biological contactor	C	C	B	B	A
(c) Extended aeration process sequencing batch reactors (SBR) designed to operate in the extended aeration loading range.	C	B	B	B	A
(d) All other activated sludge processes and extended aeration where used beyond secondary treatment (i.e., nitrification) and chemical and/or physical	B	B	B	B	A

processes providing a high degree of treatment other than polishing ponds.					
(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
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	(MGD)
Class 1	Less than 0.3
Class 2	0.31 – 2.5
Class 3	2.51 – 10.0
Class 4	Over 10.0

100.7 INDUSTRIAL WASTEWATER TREATMENT FACILITY CLASSIFICATION

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

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

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

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

<u>CLASSIFICATION</u>	<u>TREATMENT PROCESS¹</u>
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

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

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

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

<u>CLASSIFICATION</u>	<u>TREATMENT PROCESS¹</u>
Class A	Chemical conversion (e.g., cyanide destruction, hexavalent chromium reduction); Ion exchange; Electrolytic conversion; Filtration by reverse osmosis.
Class B	Chemical coagulation and flocculation; Adsorptive processes (e.g., activated carbon); Ultrafiltration; Microfiltration; Chemical precipitation; Suspended, fixed, or a combination of biological processes (e.g., activated sludge, trickling filters, rotating biological contactors).
Class C	Standard clarification (including waste ponds for settling that regularly utilize chemical addition); Filtration (e.g., mixed media, pressure); Neutralization; Solids Dewatering (e.g., sand or surfaced drying beds, mechanical); Airstripping; Sludge Digestion.
Class D	Particulate settling ponds; Simple gravity flow filtration without chemical addition; Physical water/gas separation without chemical addition; Cooling water discharge without chemical addition.

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

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

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

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

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

100.8 WATER DISTRIBUTION SYSTEM CLASSIFICATION

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

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

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

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

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

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

Step 1 Distribution Table

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

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

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

Step 2 Distribution Table

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

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

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

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

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

100.9 WASTEWATER COLLECTION SYSTEM CLASSIFICATION

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

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

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

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

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

Step 1 Collection Table

CLASS	POPULATION SERVED ¹
Class 1	3,300 or Less
Class 2	3,301 - 25,000

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

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

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

Step 2 Collection Table

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

Notes:

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

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

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

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

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

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

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100.10.8 Site-Specific Certified Operator in Responsible Charge

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

- ~~(iii) — The existing certified operator in responsible charge meets the facility classification existing before March 1, 2021 but does not meet the classification level beginning March 1, 2021.~~
- ~~(c) — Facilities to be classified in accordance with sections 100.4 through 100.9 and existing as of March 1, 2019 may request a designation by the Division of a site-specific certified operator in responsible charge at the level of classification existing before March 1, 2021 for a period until March 1, 2029 if the following conditions are satisfied:~~
 - ~~(i) — The existing facility classification will change on March 1, 2021; and the facility has not been substantially modified after March 1, 2019;~~
 - ~~(ii) — The existing certified operator in responsible charge has been the certified operator in responsible charge continuously since a time beginning before March 1, 2004; and~~
 - ~~(iii) — The existing certified operator in responsible charge meets the facility classification existing before March 1, 2021 but does not meet the classification level beginning March 1, 2021.~~
- ~~(d) — The application form to request a designation for a site-specific certified operator in responsible charge will also identify the necessary supporting documents to be submitted with the application, as determined by the Division.~~
- ~~(e) — To request a designation of a site-specific certified operator in responsible charge, the owner of the facility is required to submit to the Division a complete application with the identified supporting documentation no later than December 31, 2020.~~
- ~~(f) — The Division will review and evaluate the application requesting a designation of a site-specific operator in responsible charge and the supporting documentation along with any other information the Division considers to be relevant to determine whether the facility is operating in compliance with the law and applicable regulations.~~
- ~~(g) — The Division may deny an application requesting designation of a site-specific certified operator in responsible charge, if:~~
 - ~~(i) — the application or supporting document is incomplete;~~
 - ~~(ii) — the facility fails to meet the conditions under the applicable subsection of 100.10.8 (a)-(c) which it applied for the designation of site-specific certified operator in responsible charge; or~~
 - ~~(iii) — there are operator and facility specific factors including, but not limited to, history of non-compliance issues, operational complaints, or past and current enforcement matters.~~
- ~~(h) — Designation of the site-specific certified operator in responsible charge is for long-time existing certified operator in responsible charge of a particular system. Designation is not available for contract operators.~~
- (a) — Following the board's revision of the facility classification criteria in sections 100.4 through 100.9, which became effective March 1, 2019, the Division designated a number of site-specific certified operators in responsible charge in accordance with provisions in section 100.10. Facilities that requested site-specific operator in responsible charge designations had operators in responsible charge holding certificates that met the

classification level of their facility prior to March 1, 2021, but did not meet the classification level of their facility beginning March 1, 2021. The facilities that received site-specific operator in responsible charge designations met other requirements as well. Site-specific operators in responsible charge are allowed to continue operating their facility with current certification until either March 1, 2024 or March 1, 2029, depending on how long they have been the certified operator in responsible charge. Upon the expiration of their site-specific ORC designations, facilities must designate an operator in responsible charge who is certified at the classification level of the facility.

- (b) If at any time the site-specific certified operator in responsible charge is no longer the certified operator in responsible charge for a facility, the facility's designation of a site-specific certified operator in responsible charge is no longer valid. The owner is responsible for notifying the Division and providing a certified operator in responsible charge certified at a level equal to or higher than the classification of the facility he or she is operating within 30 days of a site-specific certified operator in responsible charge's departure from employment at the facility.

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100.61 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: MARCH 30, 2021 RULEMAKING; EFFECTIVE MAY 15, 2021

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

BASIS AND PURPOSE

When the board adopted new classification criteria in November 2018, the old tables were retained in regulation to accommodate a two-year transition period for facilities whose classifications were upgraded by the new criteria. The old tables in Regulation 100 became obsolete after March 1, 2021. Therefore, in this rulemaking, the board determined to delete the obsolete tables.

The board also determined that the application requirements for site-specific operator in responsible charge designations became obsolete after the application deadline of December 31, 2020. Therefore, in this rulemaking, the board deleted those requirements. The board adopted introductory language at 100.10.8(a) to explain the meaning and context of site-specific operators in responsible charge.