3900-FM-BSDW0109 9/2012



#### ROMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION STATE BOARD FOR CERTIFICATION OF WATER AND WASTEWATER SYSTEMS OPERATORS

### **OPERATOR CERTIFICATION EXAMINATION REGISTRATION**

PA Certification to Operate Water or Wastewater Systems

## FORM COMPLETION INSTRUCTIONS ON FOLLOWING PAGES - PRINT CLEARLY

Part 1: Applicant Information							
LAST NAME FIRST N		FIRST NAME	Ξ			MIDDLE INITIAL	
STREET – PO BOX:						CLIENT ID (if you have one)	
				()			
СІТҮ		COUNTY	STATE	ZIP CODE		SOCIAL SECURITY #	
Part 2: Requested Class:	Part 3: Exa	amination I	Date & S	ate & Site		EMAIL ADDRESS	
A B C D E	TUESDAY, APRIL		L 18, 2017				
	DEP Meadville Of		ffice				
	230 Chest	nut St – M	eadville	PA			
Part 4: Examinations							
WATER EXAMIN	ATIONS		W	ASTEWATE	R EXA	MINATIONS	
CLASS E – Distribution Systems I		≡) □	CLASS E – Satellite Collection System with Pump Station/Single				
[60 minutes]		·····	Entity Owner Collection System Examination (WWE4) [75 minutes]				
Dc – Groundwater source that ser individuals or 150 connections and		00	PART 1 – GENERAL EXAMINATION (WWGEN) [75 minutes]				
disinfection (WDC) [90 minutes]							
Dn – Groundwater source that serves less than 500							
individuals or 150 connections – no treatment [75 minutes]							
PART 1 – GENERAL EXAMINATION (WGEN) [30 minutes]			PART 2 – TECHNOLOGY SPECIFIC EXAMINATIONS Subclass 1 – Activated sludge (WW1) [45 minutes]				
PART 2 – TECHNOLOGY SPECIFIC	EXAMINATION		Subclass 1 – Activated studge (WW1) [45 minutes] Subclass 2 – Fixed film treatment (WW2) [30 minutes]				
Subclass 1 - Conventional filtrat	-		<b>Subclass 3</b> – Treatment ponds and lagoons (WW3) [30 minutes]				
Subclass 2 - Direct filtration (W2	2) [45 minutes]		Subclass 5 – Laboratory Supervisor (WW5) [30 minutes]				
<b>Subclass 3</b> - Diatomaceous earth filtration (W3)							
[30 minutes]			Guidelines on the average time to take each examination are in brackets next to each examination name. Examination sessions are limited to four (4) hours. Applicants should not register for more examinations than can be completed in the allocated 4 hours. If you anticipate the need for a testing accommodation due to a disability, your written request must be submitted with your registration form. Written requests must contain the following: (1) a letter from a professional who has made an assessment of your disability, describing the way in which you would be best				
<ul> <li>Subclass 4 - Slow sand filtration (W4) [30 minutes]</li> <li>Subclass 5 - Cartridge or bag filtration (W5)</li> </ul>		are					
[30 minutes]							
Subclass 6 - Membrane filtration (W6) [30 minutes]		ies] dis					
<b>Subclass 7</b> - Corrosion control and sequestering (W7)		g (W7) reg					
[30 minutes] <b>Subclass 8</b> - Chemical addition (W8) [90 minutes]							
□ Subclass 9 - Ion exchange and greensand (W9)						ou describing the requested	
[45 minutes]		aco	accommodation. If you have questions, please contact the State				
Subclass 10 - Aeration and activated carbon adsorption (W10) [45 minutes]		at	Board for Certification of Water and Wastewater Systems Operators at 717-787-5236 or through PA AT&T Relay Services at				
Subclass 11 - Gaseous chlorine disinfection (W11) [60 minutes]		1) <sup>1-8</sup>	00-654-59	84 (IDD).			
Subclass 12 - Non-gaseous chemical disinfection (W12) [60 minutes]		i (W12)					
Subclass 13 - Ultraviolet disinfection (W13) [30 minutes]		ninutes]					
Subclass 14 - Ozonation (W14) [30 minutes]		-					
Subclass 15 - Laboratory Superv	isor [30 minutes						
Send Completed Registration & Registration Fee to:		e to: the	I hereby certify that all information in this application is true and accurate to the best of my knowledge. I understand that any information provided by me that is not accurate may be grounds for ineligibility for certification to operate				
Pennsylvania Water Environment	Association			stewater System.		. ,	
PO Box 3367 Gettysburg PA 17325							
		_		Signati	ire of Appl	cant	
Registration Deadline: Friday, March 17, 2017		1	Signature of Applicant				

PROTECTION



#### pennsylvania COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL DEPARTMENT OF ENVIRONMENTAL PROTECTION STATE BOARD FOR CERTIFICATION OF WATER AND WASTEWATER SYSTEMS OPERATORS

### **EXAMINATION INFORMATION**

- You may apply for and take any examination(s) without meeting the experience requirements prior to taking the examination(s).
- Approximately two weeks before an examination, gualified applicants will receive a "LETTER OF NOTIFICATION" from the exam provider.
- Examination results will be mailed to the applicant approximately 40 days after examination.
- A passed examination score has no expiration date.

#### **Part 1: Applicant Information**

Complete all information as requested, including your CLIENT ID, if DEP has assigned one to you.

Part 2: Requested Class	Part 3: Test Site
Choose class based on size systems you want to operate, (see definition of classes below).	Choose only one testing site for the examination.

Part 4: Certification Examinations

(Mark appropriate boxes)

Water Examinations						
PART 1 – GENERAL EXAMINATION	<ul> <li>Required for Class A, B, C, or D certification.</li> <li>1. Class A, B, or C certification requires Technology Specific Examinations applicable to your system. Class D does not, unless your system is using a specific treatment technology.</li> <li>2. Class Dc and Dn certification cannot be upgraded without retesting.</li> </ul>					
PART 2 – TECHNOLOGY SPECIFIC EXAMINATION	Applicable to your system – Check System Permit.					
CLASS E – DISTRIBUTION SYSTEM EXAMINATION	Distribution System certification.					
	Technology Specific Examinations 7 thru 14 (if applicable to your distribution system).					
Dc – SMALL SYSTEM EXAMINATION	Groundwater source that serves less than 500 individuals or 150 connections and requires disinfection.					
Dc – SMALL SYSTEM EXAMINATION	Groundwater source that serves less than 500 individuals or 150					
	connections and does not require treatment.					

### Wastewater Examinations

PART 1 – GENERAL EXAMINATION	Required for Class A, B, C, or D certification.
PART 2 – TECHNOLOGY SPECIFIC EXAMINATIONS	Applicable to your system - Check System Permit.
CLASS E4 – SATELLITE COLLECTION	Satellite collection system with a pump station(s).
	Single entity owner collection system certification.
	This certification cannot be upgraded without retesting.

Guidelines on the average time to take each examination are in brackets next to each examination name on the test registration form. These are suggested time limits only. Examination sessions are limited to four (4) hours. Applicants may register for up to eight exams per session.

If you anticipate the need for a testing accommodation due to a disability, your written request must be submitted with your registration form. Written requests must contain the following: (1) a letter from a professional who has made an assessment of your disability, describing the way in which you would be best accommodated, and (2) a letter from you describing the requested accommodation. If you have questions, please contact the Board at 717-787-5236 or through PA AT&T Relay Services at 1-800-654-5984 (TDD).

For further information on the Operator Certification Program and the process for applying for certification, please refer to the Drinking Water and Wastewater Information Center at www.dep.state.pa.us, keyword: Operators. 3900-FM-BSDW0109 9/2012 Instructions

# **DEFINITIONS OF CLASSES** - WASTEWATER

Class A – Serving an average of more than 5 million gallons per day.

Class B – Serving an average of greater than 1 million gallons per day but less than or equal to 5 million gallons per day.

Class C – Serving an average of greater than 100,000 gallons per day but less than or equal to 1 million gallons per day.

Class D – serving an average of less than or equal to 100,000 gallons per day.

Class E – Satellite collection system with a pump station (will be combined with wastewater subclassification 4)

## <u>Class E</u>

► Collection system – A system of pipelines or conduits, pumping stations and force or gravity mains used for collecting and conveying wastes to a point of treatment and disposal.

► Satellite collection system – A wastewater system consisting only of collection facilities with at least one pump station, which is designed to convey in excess of 2000 gallons per day of untreated wastewater to a wastewater system owned by a different entity.

# **DEFINITIONS OF CLASSES** - WATER

Class A – Serving an average of more than 5 million gallons per day.

Class B – Serving an average of greater than 1 million gallons per day but less than or equal to 5 million gallons per day.

Class C – Serving an average of greater than 100,000 gallons per day but less than or equal to 1 million gallons per day.

Class D – Serving an average of less than or equal to 100,000 gallons per day.

Class E – Distribution and consecutive water systems.

Class Dc- Serving no more than 500 individuals or having no more than 150 connections, where the source of water for the system is exclusively groundwater and requires only disinfection.

Class Dn- Serving no more than 500 individuals or having no more than 150 connections, where the source of water for the system is exclusively groundwater and does not requires treatment.

### <u>Class E</u>

**Consecutive water system** – A public water system that obtains all of its water from another public water system and resells the water to a person, provides treatment to meet a primary maximum contaminant level or provides drinking water to an interstate carrier. The term does not include bottled water and bulk water systems. <u>If treatment is provided the examination for the type of treatment utilized must also be taken.</u>

**Distribution system** – Pipelines, appurtenances, devices and facilities that convey potable water under pressure to customers. <u>If treatment is provided the examination for the type of treatment utilized must also be taken.</u>

# **DEFINITIONS OF SUBCLASSES – WASTEWATER**

**Subclassification 1 (Activated Sludge)** – A treatment technology that mechanically introduces air into wastewater to achieve microbiological suspended growth treatment such as extended aeration, sequential batch reactors, contact stabilization, conventional, step feed or oxidation ditch.

**Subclassification 2 (Fixed Film)** – A wastewater treatment technology that uses a fixed contact media to achieve treatment such as trickling filters and rotating biological contactors.

Subclassification 3 (Treatment Ponds & Lagoons) – A wastewater treatment technology that utilizes a pond, lagoon or wetlands with anaerobic or facultative biological processes for the treatment of wastewater and meets the following criteria: (i) A design hydraulic detention time in the treatment process of 15 days or greater; (ii) A biological treatment process that does not have any return activated sludge system and (iii) A biological treatment process that is impacted by diurnal fluctuations as a result of photosynthesis. 3900-FM-BSDW0109 9/2012

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<u>Subclassification 4 (Single Entity Collection Systems)</u> – A wastewater collection system consisting only of collection facilities with at least one pump station which is designed to convey in excess of 2000 gallons per day of untreated wastewater to a wastewater treatment system owned by the owner of the collection system.

**Subclassification 5 (Laboratory Supervisor)** - An individual having the knowledge, skills and abilities necessary to supervise laboratory procedures and the reporting of analytical data for an environmental laboratory operated by a wastewater system in accordance with industry, State and Federal standards. An operator must already be certified in wastewater treatment to add this subclassification.

# **DEFINITIONS OF SUBCLASSES – WATER**

**Subclassification 1 (Conventional Filtration)** – A series of processes for the purpose of substantial particulate removal consisting of coagulation, flocculation, clarification and granular media filtration. The clarification step must be a solid/liquid separation process where accumulated solids are removed during this separate component of the treatment system.

<u>Subclassification 2 (Direct Filtration)</u> – A series of processes implemented for the purpose of substantial particulate removal consisting of coagulation, and filtration. The term includes flocculation after coagulation, but does not include sedimentation.

<u>Subclassification 3 (Diatomaceous Earth Filtration)</u> – A process for the purpose of substantial particulate removal, in which a precoat cake of diatomaceous earth filter media is deposited on a support membrane (septum) and, while the water is filtered by passing through the cake on the septum, additional filter media, known as body feed, is continuously added to the feed water, to maintain the permeability of the filter cake.

<u>Subclassification 4 (Slow Sand Filtration)</u> – A process for the purpose of substantial particulate removal by physical and biological mechanisms during the passage of raw water through a bed of sand at low velocity, generally less than 0.4 meters per hour.

<u>Subclassification 5 (Cartridge or Bag Filtration)</u> – A process for the purpose of substantial particulate removal by straining with bag or cartridge filters manufactured of various materials and pore sizes.

<u>Subclassification 6 (Membrane Filtration)</u> – A pressure or vacuum driven separation process in which particulate matter larger than one micrometer is rejected by an engineered barrier, primarily through a size-exclusion mechanism, and which has a measurable removal efficiency of a target organism that can be verified through the application of a direct integrity test. The term includes the common membrane technologies of microfiltration, ultrafiltration, nanofiltration and reverse osmosis.

<u>Subclassification 7 (Corrosion Control & Sequestering)</u> – A water treatment process designed to mitigate the adverse effects of corrosion in drinking water.

<u>Subclassification 8 (Chemical Addition)</u> – A water treatment process designed to improve the quality of the water being treated through the addition of chemicals such as lime, soda ash, caustic soda and permanganate.

<u>Subclassification 9 (Ion Exchange & Green Sand)</u> – A water treatment process such as greensand filtration, ion exchange, or activated alumina designed to improve the quality of water being treated by removal of inorganic constituents.

### Subclassification 10 (Aeration & Activated Carbon Adsorption):

<u>Aeration</u> – A water treatment process designed to improve the quality of water being treated by introducing air or oxygen into water to remove undesirable dissolved gases, to remove volatile organic compounds or to oxidize inorganic compounds so they can be removed as particulates.

<u>Activated Carbon Adsorption</u> – A water treatment process designed to improve the quality of water being treated by using activated granular or powdered carbon to remove specific organic chemical compounds by adsorption.

**Subclassification 11 (Gaseous Chlorine Disinfection)** – A water treatment process designed to inactivate pathogenic organisms from water being treated utilizing gaseous chlorine.

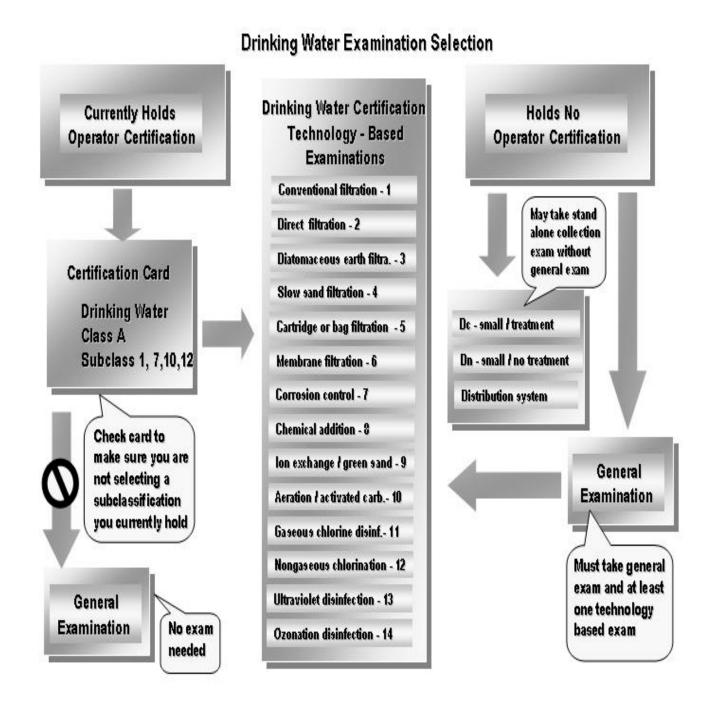
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<u>Subclassification 12 (Nongaseous Chemical Disinfection)</u> – A water treatment process designed to inactivate pathogenic organisms from water being treated utilizing nongaseous chemical elements or compounds.

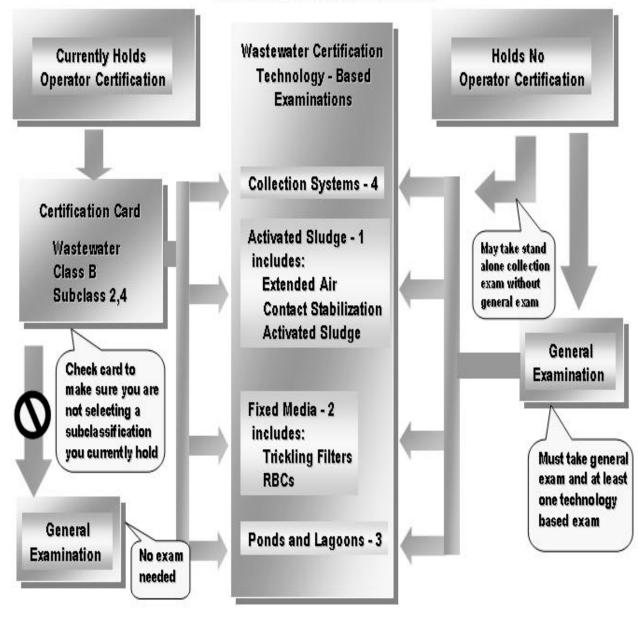
<u>Subclassification 13 (Ultraviolet Disinfection)</u> – A water treatment process that inactivates pathogenic organisms using light with a wavelength range of 1000 to 4000 angstroms.

**Subclassification 14 (Ozonation)** – A water treatment process designed to inactivate pathogenic organisms from water being treated utilizing ozone.

<u>Subclassification 15 – Laboratory Supervisor</u> – An individual having the knowledge, skills and abilities necessary to supervise laboratory procedures and the reporting of analytical data for an environmental laboratory operated by a drinking water system in accordance with industry, State and Federal standards. An operator must already be certified in drinking water treatment to add this subclassification.



# Wastewater Examination Selection



## Certification Upgrade for Technology (subclassifications)

