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For more information concerning the history of these regulations, please see the [Table of Regulations](#).

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CHAPTER E-9

ENVIRONMENTAL PROTECTION ACT

DRINKING WATER AND WASTEWATER FACILITY OPERATING REGULATIONS

Pursuant to section 25 of the *Environmental Protection Act* R.S.P.E.I. 1988, Cap. E-9, Council made the following regulations:

- | 1. (1) In these regulations | Definitions |
|--|--|
| (a) “Act” means the <i>Environmental Protection Act</i> R.S.P.E.I. 1988, Cap. E-9; | Act |
| (b) “Atlantic Canada Water and Wastewater Voluntary Certification Board” means the Board established by the Atlantic Canada Water and Wastewater Association to classify a public drinking water supply facility, small public drinking water supply facility, water treatment facility, water distribution facility, wastewater treatment facility or wastewater collection facility, and to certify the operators of these facilities; | Atlantic Canada
Water &
Wastewater
Voluntary
Certification Board |
| (c) “Chief Health Officer” means the chief health officer appointed under section 2 of the <i>Public Health Act</i> R.S.P.E.I. 1988, Cap. P-30; | Chief Health
Officer |
| (d) “contact hour” means a fifty-minute classroom instruction session or its equivalent as determined by the Department; | contact hour |
| (e) “continuing education unit” means 10 hours of participation in a continuing education program recognized by the Department; | continuing
education unit |
| (f) “Department” means the Department of Environment and Energy; | Department |
| (g) “detailed chemical analysis” means a detailed chemical analysis of a water quality sample for the chemicals listed in section 2 of Schedule C; | detailed chemical
analysis |
| (h) “direct responsible charge” or “DRC” means the direct charge of the operations at a public drinking water supply facility, small public drinking water supply facility, water treatment facility, water distribution facility, wastewater treatment facility, or wastewater collection facility; | direct responsible
charge, DRC |
| (i) “facility” means a public drinking water supply facility, small public drinking water supply facility, water treatment facility, water distribution facility, wastewater treatment facility or wastewater | facility |

collection facility, but does not include a semi-public drinking water supply system;

facility
classification
certificate

(j) “facility classification certificate” means a certificate issued under subsection 2(3) or (6) that classifies a public drinking water supply facility, small public drinking water supply facility, water treatment facility, water distribution facility, wastewater treatment facility, wastewater collection facility, or a combination of these facilities;

general chemical
analysis

(k) “general chemical analysis” means a general chemical analysis of a water quality sample for the chemicals listed in section 1 of Schedule C;

Guidelines for
Canadian Drinking
Water Quality

(l) “Guidelines for Canadian Drinking Water Quality” means the recommendations for drinking water quality published by Health Canada;

modification

(m) “modification” means an alteration to a facility whereby a new structure or equipment is added or an existing structure or equipment is eliminated and the alterations do not change the purpose or function of the facility;

operator

(n) “operator” means the person in direct responsible charge of the operation of a public drinking water supply facility, small public drinking water supply facility, water treatment facility, water distribution facility, wastewater treatment facility or wastewater collection facility;

operator’s
certificate

(o) “operator’s certificate” means a certificate of qualification issued by the Minister under Part II;

owner

(p) “owner” means a person who owns, operates or maintains a public drinking water supply facility, small public drinking water supply facility, water treatment facility, water distribution facility, wastewater treatment facility, wastewater collection facility or semi-public drinking water supply system;

public drinking
water supply
facility

(q) “public drinking water supply facility” means a drinking water supply facility serving five or more households;

semi-public
drinking water
supply system

(r) “semi-public drinking water supply system” means a drinking water supply system with a minimal or no distribution system that provides drinking water to the public from a system not connected to a public drinking water supply facility;

small public
drinking water
supply facility

(s) “small public drinking water supply facility” means a drinking water supply facility that serves 100 or fewer customers;

- (t) “small wastewater collection facility” means a publicly or privately owned facility for the collection or transmission of wastewater that serves 100 or fewer customers; small wastewater collection facility
- (u) “Standards Council of Canada” means the corporation established by the *Standards Council of Canada Act* (Canada); Standards Council of Canada
- (v) “wastewater” means sewage or industrial process water; wastewater
- (w) “wastewater collection facility” means a publicly or privately owned facility for the collection or transmission of wastewater; wastewater collection facility
- (x) “wastewater treatment facility” means a publicly or privately owned facility for the treatment and disposal of wastewater, but does not include an on-site sewage disposal system; wastewater treatment facility
- (y) “water distribution facility” means a publicly or privately owned facility for the production, collection, storage and transmission of drinking water; water distribution facility
- (z) “water treatment facility” means a publicly or privately owned facility for the treatment of drinking water, but does not include water treatment equipment used in private residences or a bottled water treatment facility. water treatment facility
- (2) Repealed by EC710/04. Application
- (3) Repealed by EC710/04. (EC710/04) Repeal

PART I

FACILITY CLASSIFICATION

2. (1) No owner of a facility shall operate the facility, or permit it to be operated, unless Facility classification certificate
- (a) a facility classification certificate has been issued for the facility under this section; or
- (b) a facility classification certificate is deemed to have been issued for the facility under subsection 3(2).
- (2) An application for a facility classification certificate shall be made on a form approved by the Minister. Application for a facility classification certificate
- (3) After reviewing an application for a facility classification certificate, the Department shall Issuance of facility classification certificate
- (a) classify the facility in accordance with section 3; and
- (b) issue a facility classification certificate to the owner of the facility that specifies the class level of the facility.

Notification of modification to facility	(4) Where a facility classification certificate has been issued, or is deemed to have been issued, for a facility, the owner of the facility shall ensure the facility is not subsequently modified unless a written notice that providing details of the modifications is given to the Department.
Decision of reclassification	(5) Within 30 days of receipt of the notice provided under subsection (4), the Department shall advise the owner of the facility in writing whether the original classification for the facility needs to be changed.
New classification facility certificate	(6) Where the Department determines that the original classification if a facility needs to be changed under subsection (5), the Department shall issue a new facility classification certificate to the owner of the facility. (EC710/04)
Criteria for classification	<p>3. (1) The Department shall classify a facility using</p> <p>(a) the classification system for water treatment facilities and water distribution facilities, wastewater treatment facilities and wastewater collection facilities, as prescribed in Table 1 of Schedule A to these regulations; and</p> <p>(b) the point system classification and guidelines for water treatment facilities or wastewater treatment facilities as prescribed in Tables 2 and 3 of Schedule A to these regulations.</p>
Deemed classification and certification	(2) Where, before the date this section comes into force, a facility was classified by the Atlantic Canada Water and Wastewater Voluntary Certification Board, a facility classification certificate is deemed to have been issued for the facility under these regulations, and the facility is deemed to have been classified under these regulations at the class level equivalent to that assigned by the Atlantic Canada Water and Wastewater Voluntary Certification Board. (EC710/04)

PART II

OPERATOR CERTIFICATION

Operator's certification requirement	<p>4. (1) Every owner of a facility for which a facility classification certificate has been issued, or is deemed to have been issued, shall place the responsibility for the operation, repair and maintenance of the facility under the direct responsible charge of an operator who holds, or is deemed to hold, a valid operator's certificate of a classification that is equivalent to or greater than the classification assigned to the facility.</p>
Level of classification required	<p>(2) No person shall act as the operator of a facility unless</p> <p>(a) the person holds, or is deemed to hold, a valid operator's certificate of a classification that is equivalent to or greater than the classification assigned to the facility; or</p>

(b) the person holds a valid temporary permit issued under subsection (3).

(3) Where the classification of a facility has been upgraded above the classification of the operator of the facility, the Department may issue a temporary permit to the operator that authorizes the operator to operate the facility for the period specified in the permit.

Temporary permit

(4) Where, before the date this section comes into force, an operator was certified by the Atlantic Canada Water and Wastewater Voluntary Certification Board, the operator is deemed, until the expiry of the certification, to hold an operator's certificate under these regulations with a classification level equivalent to that assigned by the Atlantic Canada Water and Waste Water Voluntary Certification Board.

Deemed certification

(5) An operator who has been certified outside the province by an equivalent certifying agency, and who produces information requested by the Department, may be issued an operator's certificate, under these regulations. (EC710/04)

Certification outside the province

5. (1) The Minister shall, on application made on a form approved by the Minister, issue an operator's certificate to an applicant, or renew the operator's certificate of an applicant, who satisfies the requirements of these regulations.

Operator's certificate

(2) An operator's certificate that is issued or renewed under subsection (1) is valid for four years from the date of issuance.

Duration of operator's certificate

(3) A person who holds an operator's certificate may apply to the Minister to have it renewed on its expiry.

Renewal of operator's certificate

(4) A person who applies to renew an operator's certificate shall provide proof, satisfactory to the Minister,

Proof of continuing education units

(a) if the application is to renew a Class I or Class II operator's certificate, that the person has successfully completed at least 2.4 continuing education units since the date the operator's certificate was last issued to or renewed for the person; or

(b) if the application is to renew a Class III or Class IV operator's certificate, that the person has successfully completed at least 4.8 continuing education units since the date the operator's certificate was last issued to or renewed for the person.

(5) An applicant for a particular type or class of operator's certificate shall satisfy the educational and operating experience requirements for that type or class of operator's certificate that are prescribed in Schedule B of these regulations.

Requirements for operator's certification

Substitutions for education or operating experience	(6) Notwithstanding subsection (5), where an applicant fails to meet the educational or operating requirements prescribed in Schedule B, the Minister may accept substitutions for education or operating experience, if they are within the limits prescribed in Schedule B regarding substitutions.
Examination	(7) In order to be certified to operate a particular type of facility for which a facility classification certificate has been issued, or is deemed to have been issued, an applicant shall <ul style="list-style-type: none"> (a) write an examination approved by the Minister; and (b) achieve a pass mark established by the Minister.
Maintenance of operator's certificate	(8) Every operator who terminates employment at a facility that is subject to these regulations may maintain the operator's certificate for up to two years after the termination on payment of the renewal fee.
Invalid operator's certificate	(9) Where an operator's certificate has been maintained for two years after the termination under subsection (8), the operator's certificate is deemed invalid at the end of the two-year period.
Reinstatement of operator's certificate	(10) Where an operator's certificate has been deemed invalid under subsection (9), the former operator may have the operator's certificate reinstated where <ul style="list-style-type: none"> (a) proof, satisfactory to the Minister, of the former operator's competency is presented to the Minister; and (b) the former operator successfully completes an examination approved by the Minister.
Fee — application for examination	(11) An applicant who applies for an examination under subsection (7) or (10) shall pay a fee of \$50.
Fee — renewal application	(12) An applicant who applies for renewal of a operator's certificate under subsection (1) shall pay a fee of \$20. (EC710/04)

PART III

DRINKING WATER SUPPLY FACILITY MONITORING REQUIREMENTS

Application	6. This Part applies to all public drinking water supply facilities and semi-public drinking water supply systems. (EC710/04)
Registration of public drinking water supply facility	7. (1) No person shall operate a public drinking water supply facility or a semi-public drinking water supply system unless the public drinking water supply facility or semi-public drinking water supply system is registered with the Department.

(2) A person may register with the Department a public drinking water supply facility or a semi-public drinking water supply system by submitting to the Department a completed registration application in a form approved by the Department. (EC710/04) *Idem*

8. The assessment of water quality monitoring results under this Part shall be based on the recommendations in the most recent version of the Guidelines for Canadian Drinking Water Quality, or, where no such guidelines exist, on the advice of the Chief Health Officer. (EC710/04) *Assessment of monitoring results*

9. The owner of a semi-public drinking water supply system shall ensure that water quality samples are collected and analyzed for

- (a) the presence of coliform bacteria and E.coli on at least a quarterly basis each year; and
- (b) a general chemical analysis at least once each year. (EC710/04) *Monitoring frequency — semi - public drinking water supply system*

10. The owner of a small public drinking water supply facility shall ensure that water quality samples shall be collected and analyzed for

- (a) the presence of coliform bacteria and E.coli from each source of supply, and from at least two sites within the distribution system, on a quarterly basis each year;
- (b) a general chemical analysis from each source of supply at least once a year; and
- (c) a detailed chemical analysis from each source of supply at least once every five years. (EC710/04) *Monitoring frequency — small public drinking water supply facility*

11. (1) The owner of a public drinking water supply facility where a free chlorine residue of 0.1 milligrams per litre or more is maintained in the distribution system shall ensure that sampling is conducted such that the interval between the collection of water quality samples from the distribution system does not exceed two weeks and that

- (a) a minimum of four water quality samples per month or, where the population served exceeds 5,000, one water quality sample per month for every 1,000 persons served, is collected from the distribution system and analyzed for the presence of coliform bacteria and E.coli;
- (b) a minimum of one water quality sample per month is collected from each source of supply and analyzed for the presence of coliform bacteria and E.coli;
- (c) a minimum of one water quality sample per year is collected from each source of supply and analyzed for a general chemical analysis;
- (d) a minimum of one water quality sample every three years is collected from each source of supply and analyzed for a detailed chemical analysis; *Monitoring frequency — chlorinated public drinking water*

- (e) a minimum of one measurement per week is made of the disinfection residue at representative points within the distribution system, and that the results are recorded and available for inspection by the Department; and
- (f) any other minimum water quality sampling requirements as directed by the Department.

Monitoring
 frequency — non-
 chlorinated public
 drinking water

(2) The owner of a public drinking water supply facility where a free chlorine residue of 0.1 milligrams per litre is not maintained within the distribution system shall ensure that sampling is conducted such that the interval between the collection of water quality samples from the distribution system does not exceed one week and that

- (a) a minimum of four water quality samples per month or, where the population served exceeds 5,000, one water quality sample per month for every 1,000 persons served, is collected from the distribution system and analyzed for the presence of coliform bacteria and E.coli;
- (b) a minimum of one water quality sample per week is collected from each source of supply and analyzed for the presence of coliform bacteria and E.coli;
- (c) a minimum of one water quality sample per year is collected from each source of supply and analyzed for a general chemical analysis; and
- (d) a minimum of one water quality sample every three years is collected from each source of supply and analyzed for a detailed chemical analysis. (EC710/04)

Seasonal operation

12. (1) The owner of a small public drinking water supply facility or semi-public drinking water supply system that is not operated year-round shall ensure, prior to start-up, that at least one water quality sample, collected as a requirement of these regulations, is analyzed for the presence of coliform bacteria and E.coli by a laboratory accredited by the Standards Council of Canada or by an equivalent accreditation body.

Notification to
 Department of
 results

(2) Where a water quality sample is analyzed by a laboratory other than the PEI Analytical Laboratories and where the results of the analysis indicate the presence of E.coli, the owner shall notify the Department immediately by telephone or facsimile of the results of the analysis. (EC710/04)

Use of accredited
 laboratory

13. (1) The owner of a public drinking water supply facility or a semi-public drinking water supply system shall ensure that water quality samples collected as a requirement of these regulations are analyzed by a laboratory accredited by the Standards Council of Canada or by an equivalent accreditation body.

(2) Where a water quality sample is analyzed by a laboratory other than the PEI Analytical Laboratories, the owner shall submit the results of the analysis to the Department within five working days of the receipt of the analysis.

Reporting of results from laboratories other than PEI Analytical Laboratories

(3) Where a water quality sample is analyzed by a laboratory other than the PEI Analytical Laboratories and where the results of the analysis indicate the presence of E.coli, the owner shall notify the Department immediately by telephone or facsimile. (EC710/04)

Notification to Department of results

14. (1) The owner of a public drinking water supply facility shall report, in summary form, the results of water quality analyses required by these regulations to the customers of the public drinking water supply facility, at least once a year.

Reporting to customers

(2) The owner of a public drinking water supply facility or semi-public drinking water supply system shall ensure that a record of all water quality analyses required under these regulations is maintained for a period of at least five years. (EC710/04)

Record retention

PART IV

WASTEWATER TREATMENT FACILITY MONITORING REQUIREMENTS

15. This Part applies to all wastewater treatment facilities. (EC710/04)

Wastewater treatment facilities

16. (1) No person shall operate a wastewater treatment facility unless the wastewater treatment facility is registered with the Department.

Registration of wastewater treatment facility

(2) A person may register with the Department a wastewater treatment facility by submitting to the Department a completed registration application in a form approved by the Department. (EC710/04)

Idem

17. (1) The owner of a Class I wastewater treatment facility shall ensure that samples of treated wastewater are collected and analyzed for

Analysis of wastewater samples

- (a) biological oxygen demand, suspended solids and fecal coliform bacteria on a quarterly basis per year;
- (b) ammonia, total phosphorous and total nitrogen on a yearly basis;
- and
- (c) any other water quality sampling requirements directed by the Department.

(2) The owner of Class II, Class III or Class IV wastewater treatment facility shall ensure that samples of treated wastewater are collected and analyzed for

Class II or III wastewater treatment facilities

- (a) biological oxygen demand, suspended solids and fecal coliform bacteria on a monthly basis;
- (b) ammonia, total phosphorous and total nitrogen on a yearly basis;
- and
- (c) any other water quality sampling requirements directed by the Department. (EC710/04)

Use if accredited laboratory

18. (1) The owner of a wastewater treatment facility shall ensure that wastewater quality samples collected as a requirement of these regulations are analyzed by a laboratory accredited by the Standards Council of Canada or by an equivalent accreditation body.

Reporting of results from laboratories other than PEI Analytical Laboratories

(2) Where a wastewater quality sample is analyzed by a laboratory other than the PEI Analytical Laboratories, the owner shall submit the results of the analysis to the Department within five working days of the receipt of the analysis. (EC710/04)

Reporting to customers

19. (1) The owner of a wastewater treatment facility shall report, in summary form, the results of wastewater analyses required by these regulations to the customers of the wastewater treatment facility, at least once a year.

Record retention

(2) The owner of a wastewater treatment facility shall ensure a record of all wastewater analyses required under these regulations is maintained for a period of at least five years. (EC710/04)

PART V

WELL FIELD PROTECTION REQUIREMENTS

Submission of well field protection plan

20. (1) Where a municipality is the owner of a public drinking water supply facility, the municipality shall, on or before January 1, 2006, develop and submit to the Department, for the approval of the Minister, a well field protection plan for the protection of the principal sources of drinking water supply of the municipality, including any well fields or wells that collectively provide two-thirds or more of the overall drinking water demand of the serviced area of the municipality.

Capture zones

(2) For the purposes of subsection (3), the Department

- (a) may identify any areas of a municipality or the province as a 250-day, 5-year or 25-year capture zone of the well field of a municipality;
- (b) shall advise the municipality of any capture zones the Department identifies pursuant to clause (a); and

(c) may direct the municipality to take into consideration in the development of its well field protection plan such potential sources of contamination as the Department considers appropriate.

(3) A well field protection plan shall include

Contents of plan

- (a) a description of the proposed measures, including zoning bylaws, legally binding agreements, or the purchase or lease of sensitive lands, that the municipality intends to implement to prevent the contamination of ground water within any capture zone that has been identified by the Department for the well field;
- (b) an emergency response plan or contingency plan to address accidental releases of contaminants or other unplanned events that may threaten the quality of ground water within any capture zone that has been identified by the Department for the well field;
- (c) a copy of a map describing the area that includes the capture zones that have been identified by the Department and that shows the boundaries of any land use control zones proposed for the protection of ground water quality;
- (d) an inventory of all non-conforming land uses or activities identified within any capture zone that has been identified by the Department for the well field;
- (e) a description of measures and time frames proposed to address existing non-conforming land uses or activities within any capture zone that has been identified by the Department for the well field;
- (f) a description of any present or future bylaws intended for the control, restriction or elimination of future non-conforming land uses or activities within any capture zone of the well field that has been identified by the Department for the well field.

(4) After reviewing a well field protection plan submitted by a municipality in accordance with this section, the Minister may provide a written approval of the plan to the municipality if, in the opinion of the Minister, the plan will, on implementation, provide adequate protection for the drinking water supply of the municipality.

Approval

- (5) In a written approval provided under subsection (4), the Minister
- (a) shall set out the date by which the implementation of all or a part of a well field protection plan must be completed; and
 - (b) may attach such conditions to the approval as the Minister considers appropriate.

Implementation
schedule

(6) A municipality shall complete the implementation of an approved well field protection plan, or a part of such a plan, on or before the later of

Duty to implement

- (a) the completion date specified on the written approval; or

(b) the completion date specified in the most recent written extension granted under subsection (7).

Extensions

(7) On application, the Minister may, in writing grant an extension, extend the date for the completion of all or a part of an approved well field protection plan.

Report

(8) A municipality shall, within 90 days of completing the implementation of an approved well field protection plan, submit to the Department a written report containing such information as the Department may require respecting the implementation of the approved plan.

Completion

(9) For the purposes of this section, the implementation of an approved well field protection plan is deemed to be completed where the bylaws, agreements and other measures of the plan referred to in clauses (3)(a), (e) and (f) have been enacted, entered into or otherwise completed, as the case may be. (EC710/04)

SCHEDULE A**CLASSIFICATION OF FACILITIES**

- | | |
|---|---|
| <p>1. Facilities shall be divided into four operational categories:</p> <ul style="list-style-type: none"> (a) Water Treatment (WT); (b) Water Distribution (WD); (c) Wastewater Treatment (WWT); (d) Wastewater Collection (WWC). | Categories |
| <p>2. Facilities shall be classified as small facility, Class I, II, III, or IV, according to complexity and capacity of operation, with Class IV being the highest. Classification of water treatment facilities and wastewater treatment facilities is based on a point system in accordance with Tables 1, 2, and 3. Classification of water distribution facilities and wastewater collection facilities shall be based on populations served.</p> | Classification of facilities |
| <p>3. An owner who wants a facility classified shall file an application with the Department on an application form provided by the Department. The fee, if required, shall accompany the application.</p> | Application for facility classification |
| <p>4. The Department shall review applications and supporting documents, determine the eligibility of the facility for the classification, and notify the applicant of the facility status in writing.</p> | Review |
| <p>5. Classification of any facility may be changed at the discretion of the Department by reason of changes in any condition or circumstance on which the original classification was predicated. Notice of any such change shall be given to the owner of the facility.</p> | Classification changes |
| <p>6. On satisfactory fulfilment of the prescribed requirements and based on the recommendation of the Department, the Department shall issue to the applicant a certificate designating the facility classification.</p> | Facility classification certificate |
| <p>7. Facility classification certificates are permanent unless revoked for cause or replaced by one of a higher class.
(EC710/04)</p> | Certificate permanency |

TABLE 1**FACILITY CLASSIFICATION SYSTEM**

Facility	Units	Small Facility	CLASS I	CLASS II	CLASS III	CLASS IV
WT	Range of points	N/A	30 or less	31-55	56-75	76 & greater
WD*	Population served	0-100	100 to 1,500	1,501 - 15,000	15,001 - 50,000	50,001 & greater
WWT	Range of points	N/A	30 or less	31-55	56-75	76 & greater
WWC*	Population served	N/A	100 to 1,500	1,501 - 15,000	15,001 - 50,000	50,001 & greater

* Simple "in-line" treatment (such as booster pumping or preventive chlorinating or odor control) is considered an integral part of a distribution or collection system.
 (EC710/04)

TABLE 2**POINT SYSTEM CLASSIFICATION OF
WATER TREATMENT FACILITIES (WT):**

A drinking water supply facility with only chlorination added is considered a distribution system, not a water treatment facility. The addition of any chemical, other than chlorine, to a public drinking water supply facility shall be considered water treatment and the person in direct responsible charge should use this rating worksheet to determine the classification of the facility. Each unit process shall have points assigned only once.

Item	Points
Size (2 points minimum to 20 points maximum)	
Maximum population or parts served, peak day (1 point minimum to 10 points maximum)	1 point per 10,000 persons or fraction
Design flow average day or peak month's part flow average day, whichever is larger (1 point minimum to 10 points maximum)	1 point per 4,546 m ³ /d or fraction
Water supply sources	
Groundwater	3
Groundwater under the influence of surface water	5
Surface water	5
Average raw water quality varies enough to require treatment changes 10% of the time	2-10
<ul style="list-style-type: none"> • Little or no variation 	0
<ul style="list-style-type: none"> • High variation. Raw water quality subject to periodic serious industrial waste pollution 	10
Raw water quality is subject to or has elevated:	
<ul style="list-style-type: none"> • Taste and/or odor levels 	3
<ul style="list-style-type: none"> • Color levels 	3
<ul style="list-style-type: none"> • Iron and/or manganese levels 	5
<ul style="list-style-type: none"> • Turbidity levels 	5
<ul style="list-style-type: none"> • Coliform and/or fecal counts 	5
<ul style="list-style-type: none"> • Algal growths 	5
Raw water quality is subject to periodic:	
<ul style="list-style-type: none"> • Industrial and commercial waste pollution 	5
<ul style="list-style-type: none"> • Agricultural pollution 	5
<ul style="list-style-type: none"> • Urban runoff, erosion, and storm water pollution 	3
<ul style="list-style-type: none"> • Recreational use (boating, fishing, etc.) 	2
<ul style="list-style-type: none"> • Urban development and residential land use pollution 	2
Chemical treatment/addition process	
Fluoridation	5
Disinfection	
<ul style="list-style-type: none"> • Gaseous chlorine 	5
<ul style="list-style-type: none"> • Liquid or powdered chlorine 	5
<ul style="list-style-type: none"> • Chlorine dioxide 	5

• Ozonization (on-site generation)	10
pH adjustment* (Calcium carbonate, carbon dioxide, hydrochloric acid, calcium oxide, calcium hydroxide, sodium hydroxide, sulfuric acid, other)	5
Stability or corrosion control (Calcium oxide, calcium hydroxide, sodium carbonate, sodium hexametaphosphate, other)	10
Coagulation and flocculation process	
Chemical addition (1 point for each type of chemical coagulant added, maximum 5 points) (Aluminium sulfate, bauxite, ferrous sulfate, ferric sulfate, calcium oxide, bentonite, calcium carbonate, carbon dioxide, sodium silicate, other)	5
Rapid mix units	
• Mechanical mixers	3
• Injection mixers	2
• In-line blender mixers	2
Flocculation tanks	
• Hydraulic flocculators	2
• Mechanical flocculators	3
Clarification/sedimentation process	
Horizontal-flow (rectangular basins)	5
Horizontal-flow (round basins)	7
Up-flow solid-contact sedimentation	15
Inclined-plate sedimentation	10
Tube sedimentation	10
Dissolved air flotation	30
Filtration process	
Single media filtration	3
Dual or mixed media filtration	5
Microscreens	5
Diatomaceous earth filters	5
Cartridge filters	5
Slow sand filters	5
Direct filtration	5
Pressure or greens and filtration	20
Other treatment processes	
Aeration	3
Packed tower aeration	5
Ion-exchange/softening	5
Lime-soda ash softening	20
Copper sulfate treatment	5
Powdered activated carbon	5
Special processes (reverse osmosis, electrodialysis, other)	15
Residuals disposal	
Discharge to lagoons	5
Discharge to lagoons and then to raw water source	8
Discharge to raw water source	10
Disposal to sanitary sewer	3
Mechanical dewatering	5
On-site disposal	5
Land application	5
Solids composting	5

Facility characteristics	
Instrumentation	
• The use of SCADA or similar instrumentation systems to provide data with no process operation	0
• The use of SCADA or similar instrumentation systems to provide data with limited process operation	2
• The use of SCADA or similar instrumentation systems to provide data with moderate process operation	4
• The use of SCADA or similar instrumentation systems to provide data with extensive or total process operation	6
Clearwell size less than average day design flow	5

Water Treatment Definitions

Aeration

The process of adding air to water. Air is added to water by passing air through water or passing water through air.

Diatomaceous earth filters

A filter technology using a thin layer of diatomaceous earth (a fine, siliceous material) that is deposited on a porous plate to serve as a filter. A good technology for smaller systems because of its relative simplicity of units and maintenance requirements.

Direct filtration

A filtration process where the sedimentation stage of conventional filtration is omitted. Filtration is performed directly after the flocculation stage of treatment. A filter aid is usually added before filtration.

Dissolved air flotation

The process of solids removal whereby dissolved air is added to the clarifier from the bottom of the basin and the air raises suspended particles to the top of the water where the particles are removed by skimming.

Electrodialysis

The process where brackish water flows between alternating cation-permeable and anion-permeable membranes. A direct electronic current provides the motive force to cause ions to migrate through the membranes and either react to create a gas or remain in a separate solution as brine wastewater.

Horizontal-flow

A flow of water in a horizontal direction through a rectangular or round sedimentation and clarification basin, as opposed to the vertical or upward flow that is found in a solids-contact clarifier.

Injection mixers

The use of perforated tubes or nozzles to disperse the coagulant into the water being treated. Provides uniform distribution of the coagulant over the entire basin. Generally sensitive to flow changes and may require frequent adjustments to produce the proper amount of mixing.

In-line blender mixers

Used for coagulant mixing where coagulant is added through a diffuser in a pipe directly to water being treated. Provides rapid dispersion of the

coagulant without significant heat loss. Energy consumption is less than a comparable mechanical mixer.

Mechanical dewatering

The use of mechanical devices such as centrifuges and rotational mechanisms to force the separation of solids (sludge) from liquids (water).

Mechanical mixers

These are paddles, turbines, and propellers frequently used in coagulation facilities. Mechanical mixers use electrical energy for mixing the coagulant with the water being treated.

pH adjustment

The alteration of the pH of the raw water or pretreated water by mechanical or chemical procedures to enhance the performance of the treatment process.

Reverse osmosis

The passage of water from a concentrated solution through a semipermeable membrane to fresh water with the application of pressure.

SCADA instrumentation

The Supervisory Control And Data Acquisition system is a computer-based system that monitors and controls remote water facility sites. A SCADA master control is typically located in a dedicated control centre or treatment facility control room. Remote sites are equipped with remote terminal units to gather information and issue instructions from the master station.

Solids composting

The mixing of sludge with decaying organic material for eventual use as fertilizer.

Stability or corrosion control

The removal of dissolved gases, treatment of the finished water to make it noncorrosive, and the building of protective coating inside the pipe.

Tube sedimentation

Tube settlers or high rate settlers are placed in rectangular or circular basins. Water enters the inclined settler tubes and is directed upward through the tubes. Each tube functions as a shallow settling basin. Particles collect on the inside surfaces of the tubes or settle to the bottom of the basin.

Up-flow solid-contact sedimentation

A unit that combines the coagulation, flocculation, and sedimentation processes into a single basin, which is either rectangular or circular in shape. Flow is an upward direction through a sludge blanket or slurry of flocculated, suspended solids.

Urban runoff

During dry periods, oil, grease, gasoline, and other residues accumulate on paved surfaces. During a storm, this material is washed into local receiving water from roadway storm drainage systems. Urban runoff also contains animal droppings from pets and fertilizers used for landscaping, the residues of which contribute to taste and odor complaints in drinking water.

(EC710/04)

TABLE 3**POINT SYSTEM CLASSIFICATION OF WASTEWATER
TREATMENT FACILITIES (WWT)**

A wastewater facility with only collection, lift stations, and chlorination is considered a collection system and not a wastewater treatment facility. Each unit process shall have points assigned only once.

Item	Points
Size (2 points minimum to 20 points maximum)	
Maximum population equivalent (PE) or part served, peak day (1 point minimum to 10 points maximum)	1 point per 10,000 persons
Design flow average day or peak month's part flow average day, whichever is larger (1 point minimum to 10 points maximum)	1 point per 4,546 m ³ /d
Variation in raw waste (0 points minimum to 6 points maximum)¹	
Variations do not exceed those normally or typically expected	0
Recurring deviations or excessive variations of 100 to 200% in strength and/or flow	2
Recurring deviations or excessive variations of more than 200% in strength and/or flow	4
Raw wastes subject to toxic waste discharges	6
Impact of septage or truck-hauled waste (0 points minimum to 4 points maximum)	
Preliminary treatment	
Facility pumping of main flow	3
Screening, comminution	3
Grit removal	3
Equalization	1
Primary treatment	
Clarifiers	5
Imhoff tanks or similar	5
Secondary treatment	
Fixed-film reactor	10
Activated sludge	15
Stabilization ponds without aeration	5
Stabilization ponds with aeration	8
Tertiary treatment	
Polishing ponds for advanced waste treatment	2
Chemical/physical advanced waste treatment without secondary treatment	15
Chemical/physical advanced waste treatment following secondary	10
Biological or chemical/biological advanced waste treatment	12
Nitrification by designed extended aeration only	2
Ion exchange for advanced waste treatment	10
Reverse osmosis, electro dialysis and other membrane filtration techniques	15
Advanced waste treatment chemical recovery, carbon regeneration	4
Media filtration	5
Additional treatment processes	

Chemical additions (2 points each for a maximum of 6 points)	6
Dissolved air flotation (for other than sludge thickening)	8
Intermittent sand filter	2
Recirculating intermittent sand filter	3
Microscreens	5
Generation of oxygen	5
Solids handling	
Solids stabilization	5
Gravity thickening	2
Mechanical dewatering of solids	8
Anaerobic digestion of solids	10
Utilization of digester gas for heating or cogeneration	5
Aerobic digestion of solids	6
Evaporative sludge drying	2
Solids reduction (including incineration, wet oxidation)	12
On-site landfill for solids	2
Solids composting	10
Land application of biosolids by contractor	2
Land application of biosolids under direction of facility operator in direct responsible charge	10
Disinfection (0 points minimum to 10 points maximum)	
Chlorination or ultraviolet irradiation	5
Ozonation	10
Effluent discharge (0 points minimum to 10 points maximum)	
Mechanical post aeration	2
• Direct recycle and reuse	6
• Land treatment and disposal (surface or subsurface)	4
Instrumentation (0 points minimum to 6 points maximum)	
The use of SCADA or similar instrumentation systems to provide data with no process operation	0
The use of SCADA or similar instrumentation systems to provide data with limited process operation	2
The use of SCADA or similar instrumentation systems to provide data with moderate process operation	4
The use of SCADA or similar instrumentation systems to provide data with extensive or total process operation	6
Laboratory control (0 points minimum to 15 points maximum)²	
Bacteriological/biological (0 points minimum to 5 points maximum)	
• Lab work done outside the facility	0
• Membrane filter procedures	3
• Use of fermentation tubes or any dilution method; fecal coliform determination	5
Chemical/physical (0 points minimum to 10 points maximum)	
• Lab work done outside the facility	0
• Push-button or visual methods for simple tests such as pH, settleable solids	3
• Additional procedures such as DO, COD, BOD, gas analysis, titrations, solids, volatile content	5
• More advanced determinations such as specific constituents; nutrients, total oils, phenols	7

• Instrumentation such as atomic absorption, gas chromatography	10
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1. The key concept is frequency and/or intensity of deviation or excessive variation from normal or typical fluctuations; such deviation can be in terms of strength, toxicity, shock loads, inflow/infiltration, with points from 0 to 6.
2. The key concept is to credit laboratory analyses done on-site by facility personnel, under the direction of the operator in direct responsible charge, with points from 0 to 15.

Wastewater Treatment Definitions

The following definitions are provided for the interpretation of Table 3 of Schedule A.

Activated sludge

The wastewater treatment by aeration of suspended organisms followed by clarification, including extended aeration, Intermittent Cycle Extended Aeration System (ICEAS), and other similar processes. A sequencing batch reactor with the purpose of providing this form of treatment is rated under this category.

Biological or chemical and biological advanced waste treatment

The advanced treatment of wastewater for nutrient removal, including nitrification, denitrification, or phosphorous removal using biological or chemical processes or a combination. If the facility is designed to nitrify based solely on detention time in an extended aeration system, only the points for nitrification by designed extended aeration shall be given.

Chemical addition/Pretreatment

The addition of a chemical to wastewater at an application point for the purposes of adjusting pH or alkalinity, improving solids removal, dechlorinating, removing odors, providing nutrients, or otherwise enhancing treatment, excluding chlorination for the disinfection of effluent and the addition of enzymes or any process included in the tertiary treatment chemical and physical processes. The capability to add a chemical at different application points for the same purpose is rated as one application; the capability to add a chemical or chemicals to dual units is also rated as one application. The capability to add a chemical at different application points for different purposes is rated as a separate application.

Chemical or physical advanced treatment following secondary treatment

The use of chemical or physical advanced treatment processes following, or in conjunction with, a secondary treatment process. This includes processes such as carbon adsorption, air stripping, chemical coagulation, and precipitation.

Chemical or physical advanced treatment without secondary treatment

The use of chemical or physical advanced treatment processes without the use of a secondary treatment process. This includes processes such as carbon adsorption, air stripping, chemical coagulation, and precipitation.

Fixed-film reactor

Biofiltration by trickling filters or rotating biological contactors followed by secondary clarification.

Imhoff tanks (or similar)

Includes Imhoff tanks, septic tanks, spirogeste, clarigeste, or other single units for combined sedimentation and digestion.

Land application of biosolids by contractor

The land application or beneficial reuse of biosolids by a contractor outside of the control of the operator in direct responsible charge of the wastewater treatment facility.

Land treatment and disposal (surface or subsurface)

The ultimate treatment and disposal of the effluent onto the surface of the ground by rapid infiltration or rotary distributor or by spray irrigation. Subsurface treatment and disposal is accomplished by infiltration gallery, injection, or gravity or pressurized drain field.

Mechanical dewatering of solids

The removal of water from sludge by any of the following processes, including the addition of polymers in any of the following: vacuum filtration; frame; belt or plate filter presses; centrifuge; or dissolved air flotation.

Mechanical post-aeration

The introduction of air into the effluent by mechanical means such as diffused or mechanical aeration. Cascade aeration would not be assigned points.

Media filtration

The advanced treatment of wastewater for removal of solids by sand or other media or mixed media filtration.

Solids composting

The biological decomposition process producing carbon dioxide, water, and heat. Typical methods are windrow, forced air-static pile, and in-vessel.

Solids stabilization

The processes to oxidize or reduce the organic matter in sludge to a more stable form. These processes reduce pathogens or reduce the volatile organic chemicals and thereby reduce the potential for odor. These

processes include lime (or similar) treatment and thermal conditioning. Other stabilization processes such as aerobic or anaerobic digestion and composting are listed individually.
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SCHEDULE B**OPERATOR CLASSIFICATION**

Type of Facility/System	O I T		Small Facility		CLASS I		CLASS II		CLASS III		CLASS IV			
	ED	ED	Op Exp	ED	Op Exp	ED	Op Exp	ED	Op Exp	DRC Exp	ED	Op Exp	DRC Exp	ED
Water Treatment (WT)	12	(a)	N/A	N/A	1	12	3	12	4	(c)	14	4	(d)	16
Water Distribution (WD)	12	(a)	0.5	(b)	1	12	3	12	4	(c)	14	4	(d)	16
Wastewater Treatment (WWT)	12	(a)	N/A	N/A	1	12	3	12	4	(c)	14	4	(d)	16
Wastewater Collection (WWC)	12	(a)	0.5	(b)	1	12	3	12	4	(c)	14	4	(d)	16

(a) Three months of operating experience (Op Exp) or completion of an approved basic training course. It is recognized that the position of operator-in-training (OIT) is not a legally required position. It is included here to illustrate a method of encouraging new entrants in the field to enter into the certification program.

(b) Six hours of approved training for one or both of water and/or wastewater categories.

(c) Two years of the operating experience requirement for Class III must be experience in Class II or higher positions. One-half of the operating experience must be in direct responsible charge (DRC).

(d) Two years of the operating experience requirement for Class IV must be experience in Class III or higher positions. One-half of the operating experience must be in DRC.

Note:

For Class I, the minimum operating experience requirement is one year, without substitutions. For Classes II, III and IV, substitutions may be made for required operating experience, but with the limitation that one-half of all stated experience requirements (both operating and DRC) must be met by actual on-site operating experience in a facility or system. This

experience should be obtained under the supervision of a certified operator or under an organized on-the-job training program.

Operator Educational and Operating Experience Requirements

The education and experience requirements for operators are:

Small Facility

1. Accumulate six months of acceptable operating experience in a small facility.
2. Attend a minimum of six hours of approved training for water facilities.
3. Successfully complete a small facilities certification exam.

Class I

1. A high school diploma, GED, or equivalent.
2. One year of acceptable operating experience of a Class I or higher utility.
3. No substitution for experience shall be permitted.

Class II

1. A high school diploma, GED, or equivalent.
2. Three years of acceptable operating experience of a Class I or higher utility.
3. A maximum of 675 contact hours, or 68 continuing education units, or 68 quarter credits, or 45 semester credits of post-secondary education in the environmental control field, in engineering or a related science may be substituted for 1½ years of acceptable operating experience.

Class III

1. A high school diploma, GED, or equivalent.
2. Nine hundred contact hours, or 90 continuing education units, or 90 quarter credits, or 60 semester credits of post-secondary education in the environmental control field, in engineering or a related science.
3. Four years of acceptable operating experience of a Class II or higher utility, including two years of direct responsible charge.
4. A maximum of 900 contact hours, or 90 continuing education units, or 90 quarter credits, or 60 semester credits of post-secondary education in the environmental control field, in engineering or a related science. Appropriate post-secondary education may be substituted for two years of experience; however, the applicant must still have one year of direct responsible charge experience.
5. A maximum of one year of direct responsible charge experience in a Class II or higher position may be substituted for 450 contact hours, or 45 continuing education units or 45 quarter credits, or 30 semester

credits of post-secondary education in the environmental control field, in engineering or a related science.

Class IV

1. A high school diploma, GED, or equivalent.
2. One thousand eight hundred contact hours, or 180 continuing education units, or 180 quarter credits, or 120 semester credits of post-secondary education in the environmental control field, in engineering or a related science; and
3. A maximum of 900 contact hours, or 90 continuing education units, or 90 quarter credits, or 60 semester credits of post-secondary education in the environmental control field, in engineering or a related science. Appropriate post-secondary education may be substituted for two years of experience; however, the applicant must still have one year of direct responsible charge experience.
4. A maximum of two years of direct responsible charge experience in a Class III or higher position may be substituted for 900 contact hours, or 90 continuing education units, or 90 quarter credits, or 60 semester credits of post-secondary education in the environmental control field, in engineering or a related science.

Substitutions

1. Education applied to operating and direct responsible charge experience requirements shall not also be applied to educational requirements.
2. Operating or direct responsible charge experience applied to the educational requirements shall not also be applied to the operating or direct responsible charge experience requirements.
3. Where applicable, related experience in maintenance, laboratories, other environmental control facility positions and allied trades such as plumbing, or other certification categories, may be substituted for one-half of the operating or direct responsible charge experience requirements; however, the applicant for Class III and IV must still have one year of direct responsible charge experience.
4. The maximum substitution of education and related experience for operating or direct responsible charge experience shall not exceed one-half of the stated operating or direct responsible charge experience requirement.

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SCHEDULE C

REQUIRED DRINKING WATER QUALITY MONITORING PARAMETERS

1. A general chemical analysis for the purpose of these regulations shall include, as a minimum, the analysis of a water quality sample for the following:

alkalinity	calcium	chloride	copper
hardness	iron	lead	magnesium
manganese	nitrate	pH	potassium
phosphorous	sodium	sulphate	zinc

2. A detailed chemical analysis for the purpose of these regulations shall include, as a minimum, the analysis of a water quality sample for the following*:

Metals and other inorganic constituents:

aluminium	antimony	arsenic	barium
boron	bromate	cadmium	chromium
fluoride	selenium	silver	strontium
uranium	vanadium		

Organic constituents:

benzene	benzo[a]pyrene	bromodichloromethane
bromoform	carbon tetrachloride	chloramines
chloroform	chlorodibromomethane	chlorophenols
dichlorobenzenes	dichloroethane	dichloroethylene
dichloromethane	ethylbenzene	monochlorobenzene
tetrachloroethylene	toluene	trichloroethylene
vinyl chloride	xylenes	

* Note: a standard metals scan and volatile organic compounds (VOC) scan offered by most commercial laboratories will normally include the parameters required for a detailed chemical analysis.

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