

**STATE OF MAINE**  
**WATER SYSTEM OPERATORS LICENSING RULE**  
**90-429 CODE OF MAINE RULES Chapter 1**



**Board of Licensure of Water System Operators**

Last Amended: July 1, 2018

**STATE OF MAINE  
WATER SYSTEM OPERATORS LICENSING RULE**

**SUMMARY STATEMENT**

This rule is designed to regulate the licensing of operators of water treatment systems and water distribution systems serving the public.

**AUTHORITY**

22 M.R.S. §2628

**Last Amended:** July 1, 2018

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**SECTION 1**  
**ADMINISTRATION**

- A. **RULE** - The Board, in accordance with 22 M.R.S. §2628 and any other State laws, shall make such rules that are reasonably necessary to carry out the intent of the law.
- B. **CONSTITUTIONALITY CLAUSE** - If any section, subsection, sentence, clause, phrase or portion of this rule is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this rule.
- C. **APPLICABILITY**
1. The Board shall license persons to serve as operators of public water systems. The types of public water systems which are required to retain licensed operators are identified in the Department of Health and Human Services *Rules Relating To Drinking Water*, 10-144 C.M.R. Chapter 231. It shall be unlawful for any supplier of water so designated to operate a public water system, unless the operator is duly licensed by the Board.
  2. Pursuant to 22 M.R.S. §2623, it shall be unlawful for any person to perform the duties of an operator without being duly licensed as required under this rule.

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## SECTION 2 DEFINITIONS

**AERATION** - The process of adding air to water.

**BOARD** - Maine Board of Licensure of Water System Operators.

**COMMISSIONER** - The Commissioner of the Maine Department of Health and Human Services or the Commissioner's designee.

**DEPARTMENT** - Maine Department of Health and Human Services.

**DIATOMACEOUS EARTH FILTERS** - A process resulting in 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.

**DISTRIBUTION SYSTEM** - A system of pipes and appurtenances by which a potable water supply is distributed to customers.

**DIRECT FILTRATION** - A series of processes including coagulation and filtration, but excluding sedimentation, resulting in substantial particulate removal.

**DISSOLVED AIR FLOTATION** - Process of solids removal wherein dissolved air is added to the clarifier from the bottom of the basin, causing suspended particles to rise to the surface and be removed by skimming.

**HORIZONTAL FLOW** - Flow of water in a horizontal direction through a rectangular or round sedimentation/clarification basin.

**INJECTION MIXERS** - Use of perforated tubes or nozzles to disperse a chemical into the water being treated.

**IN-LINE BLENDER MIXER** - Stationary blender used for coagulant mixing.

**MECHANICAL DEWATERING** - The use of mechanical devices such as belt filter presses, plate filter presses, centrifuges or other rotational mechanisms to force the separation of solids (sludge) from liquids (water).

**MECHANICAL MIXERS** - Paddles, turbines, and propellers used in coagulation facilities.

**OPERATOR** - An individual either employed or retained by a public water system, who, as part of his or her job duties, is assigned the responsibilities for operational activities that will directly impact the quality and/or quantity of water provided to consumers.

**PUBLIC WATER SYSTEM** - Is hereby incorporated by reference as defined in Title 22, Chapter 601, Section 2601 (8) of the Maine Revised Statutes.

**pH ADJUSTMENT** - The alteration of the pH of the raw water, or pre-finished filtered water or for corrosion control by mechanical or chemical procedures, to enhance the performance of the treatment process.

**RECIPROCITY** - Licensing of a person who has passed a written examination in another state and meets the experience and education requirements of this rule.

**RENEWAL PERIOD** - The period of time between license issue date and the submitted date for renewal or reinstatement of a license.

**REVERSE OSMOSIS** - Passage of water from a concentrated solution through a semi-permeable membrane to fresh water by the application of pressure.

**SCADA INSTRUMENTATION** - Supervisory control and data acquisition system used to monitor and control remote water facility sites.

**SOLID-CONTACT SEDIMENTATION** - Unit which combines the coagulation, flocculation, and sedimentation processes in a single basin which is either rectangular or circular in shape. This process may be either gravity, upflow or pressurized. Flow is through a solids blanket of flocculated, suspended solids or buoyant medium.

**SOLIDS COMPOSTING** - Mixing of sludge with decaying organic material for eventual use as a soil amendment.

**STABILITY OR CORROSION CONTROL** - The removal of dissolved gases or addition of chemicals to render finished water non-corrosive or the addition of chemicals to form a protective coating inside pipes.

**TUBE SEDIMENTATION** - Tubes or inclined plates placed in rectangular or circular sedimentation basins to improve settling efficiency.

**TRAINING CONTACT HOUR (TCH)** - One clock hour of contact: Contact is defined as interaction between a learner and instructor, or between a learner and materials, which have been prepared to facilitate learning. Contact implies two-way communication, in order for the learner to receive feedback, to monitor and assess learning.

**TREATMENT PROCESS AND/OR IN-LINE TREATMENT** - Portion of the drinking water system containing various chemical additions and/or filtration processes, exclusive of transmission or distribution, which alters the physical, chemical, radiological or microbiological quality.

**SECTION 3  
WATER SYSTEM CLASSIFICATION**

**A. CLASSIFICATION**

1. Public water systems shall be classified according to two disciplines – Treatment and Distribution.
2. Public water systems shall be classified as set forth in this rule, based on system capacity, source, complexity of treatment, and other physical conditions affecting public water systems.
3. Systems shall retain an operator or operators duly licensed for Treatment System and Distribution System at the class level designated for the system.
4. The Board shall assign classification value points to treatment technologies not listed in the point rating schedule on a case-by-case basis.
5. If a treatment system or distribution system will be upgraded in class as a result of changes being made to the system, and the operator of that system does not hold the appropriate license for the upgraded class, the operator must upgrade the license by passing the appropriate level(s) of examination within 90 days of the system upgrade. Failure to pass the appropriate examination will make the operator ineligible to continue to operate the system. The system must then employ a licensed operator or enter into a contractual agreement with a licensed operator of proper classification.

**B. PUBLIC WATER SYSTEM CLASSES**

1. Treatment classification is determined by a point system, as outlined in Appendix A and Table 1 below:

**Table 1. Treatment Classification**

Classification	Total Points (From App. A.)
<b>Very Small Water System (VSWS)</b>	<b>19 or less and serving &lt;500 Pop.</b>
<b>Class I</b>	<b>19 or less</b>
<b>Class II</b>	<b>20 to 34</b>
<b>Class III</b>	<b>35 to 47</b>
<b>Class IV</b>	<b>48 or more</b>

2. Distribution classification is based on population served as outlined in Table 2 below.

**Table 2. Distribution Classification**

Classification	Population Served
<b>Class I</b>	<b>1,500 and less</b>
<b>Class II</b>	<b>1,501 to 15,000</b>
<b>Class III</b>	<b>15,001 to 50,000</b>
<b>Class IV</b>	<b>50,001 and over</b>

**SECTION 4  
OPERATOR LICENSE CLASSIFICATION AND STATUS**

**A. LICENSE CLASSIFICATION**

1. There shall be five classifications and two disciplines of operators to parallel the classifications of public water systems.
2. The classifications and disciplines of operators are:
  - (a) Very Small Water System (VSWS) licensed operators shall be considered qualified to supervise and operate a Very Small Water System.
  - (b) Class I-IV licensed operators may hold licenses in either or both disciplines: Water treatment system and Water distribution system. (See Table 1 and Table 2 of this rule).
  - (c) The classification and discipline of licenses indicate the types of systems they may operate.
  - (d) Operators in responsible charge must hold a license of the proper classification and discipline for which they are responsible.
  - (e) Operators may be in responsible charge of systems in a lower classification than the operator's license.
3. The two types of each classification are:
  - (a) Full licensure: a person has met all education, examination and experience requirements and is considered qualified to be in responsible charge of a public water system equal to or less than the classification of the license.
  - (b) Operator-in-Training: a person has met the education and examination requirements, but does not meet the experience requirements for the license.
    - (i) An operator with an Operator-in-Training license is not authorized to be in responsible charge of a classified public water system.
    - (ii) Upon completion of the required experience, an Operator-in-Training may apply to the Board for the full licensure.

**B. LICENSE STATUS**

1. **Active:** Operators in an "active" status are in good standing and have maintained their license through training contact hours and payment of fees.
2. **Expired:** Operators in an "expired" status have not renewed their license. Operators with expired licenses may not be in responsible charge of a water system. An operator whose



license has expired for more than two years will be required to retest to be an active licensee.

3. **Restricted:** A restricted license is issued to a Very Small Water System licensed operator who qualified for the education waiver approved by the Department in 2007, 2008, 2009, 2010, or 2011. Restricted licenses shall be site specific and non-transferable.

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**SECTION 5**  
**LICENSING REQUIREMENTS**

- A. **LICENSURE CRITERIA.** License applicants must meet education, examination and experience criteria for full licensure. Operator-in-Training status may be granted before work-related experience is achieved. The Board shall grant licenses to persons based upon education, examination, and relevant experience.
- B. **LICENSURE AFTER REVOCATION.** An operator whose license has been revoked for disciplinary purposes will not be allowed to sit for an examination for three years from the effective date of revocation.
- C. **EDUCATIONAL REQUIREMENTS.** All applicants must submit satisfactory evidence of graduation from high school or an equivalency certificate, except as otherwise provided in Section 5, subsection (E)(4) below.
- D. **EXAMINATION REQUIREMENTS**
1. Applicants must pass an examination for the class and discipline for which licensure is sought. The Board may choose to accept examinations in sequential or direct-entry format.
  2. Exam results will be accepted to apply to license application for one year after the date of the examination.
  3. Examinations will be reviewed by the Board to assure adequate subject matter content to cover the fundamentals of operation of a water system relating to the source, pumping, distribution, disinfection, water treatment, public health, administration and appropriate rules applicable to water systems.
  4. The Board may enter into contracts with third parties for the development, scoring and proctoring of exams. Examination results will be reported to the examinee and the Board. All partners in these contracts must meet the requirements of the Board and other partners.
    - (a) The Board will assure the availability of examinations annually.
    - (b) The Board will provide notice of examination application procedures.
  5. Applicants for licensure must submit proof of satisfactory completion of a Board-approved examination.
- E. **EXPERIENCE REQUIREMENTS**
1. Applicants must detail experience in public water systems or detail related experience.
  2. Work operator experience in a public water system is defined as that gained in actual performance of operational activities within any public water system.
  3. Related experience may include, but is not limited to, wastewater treatment plant operations, pilot studies, design, planning, construction and other related technical disciplines.

4. Each applicant shall satisfy the experience requirements for the class of license requested. Education may be substituted for experience as set forth below. Transcripts or other proof of completion must be provided to the Board.
  - (a) Post high school education in approved areas of engineering, science, or related fields: 60 semester hours or equivalent equals one year of experience.
  - (b) Specialized training courses will be evaluated on an individual basis.
  - (c) All experience and/or education credentials submitted in support of applications that are not specified in this section shall be evaluated on an individual basis.
5. **Full License Requirements:**
  - (a) **VSWS Operator:** Six months of operating experience in a VSWS or higher water system or one year of related experience.
  - (b) **Class I Operator:** One year of operating experience in a Class I or higher water system or two years of related experience.
  - (c) **Class II Operator:** Two years of operating experience in a Class I or higher water system or four years of related experience.
  - (d) **Class III Operator:** Three years of operating experience at a Class I or higher water system or six years of related experience.
  - (e) **Class IV Operator:** Four years of operating experience in a Class I or higher water system or eight years of related experience.
6. **Operator-in-Training Requirements:** Persons with less than the required experience will be granted a license status of Operator-in-Training.

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**SECTION 6  
LICENSING PROCEDURE**

**A. APPLICATION FOR INITIAL, UPGRADE AND OPERATOR-IN-TRAINING LICENSES**

1. Application forms for licensure are available at the Board's website at <http://www.maine.gov/dhhs/mecdc/environmental-health/dwp/professionals/waterOperators.shtml>. Applications must be accompanied by materials supporting education and examination information (see Section 5, subsections (C)-(E) above) and include payment of fee. Incomplete or illegible applications will be returned to the applicant.
2. Application must be made for initial licensure; to upgrade to a higher class of the same discipline; to add a discipline to an existing license or to upgrade from Operator-in-Training to full license status.
3. Applicant Review: Upon review of the applicant's education, examination and experience, the Board shall issue biennial licenses to individuals to perform the duties of operators. The license shall indicate the classification level of the systems or parts of systems for which the individual is qualified to act as an operator and if the licensee is an Operator-in-Training.

**B. RECIPROCITY**

The Board may issue a license, upon application, without examination in a comparable classification to any person who holds a license or certificate issued by any state, territory or possession of the United States, or another country, if, in the judgment of the Board, the requirements for licensure of operators of public water systems in that jurisdiction are equal or greater than those outlined in this rule.

**C. LICENSE PERIOD:**

1. The initial license period shall not exceed two years and shall be based upon the biennial licensing period, as defined by 22 M.R.S. §2625.
2. Upgrading a license within a license period does not extend the renewal date.
3. The cycle of renewal does not change with late or reinstated licenses.
4. Renewals are for a two-year period. All licenses expire on December 31 of each biennial period.

**D. RENEWAL OF LICENSES.** This section applies to full, Operator-in-Training and restricted licenses.

1. The Board shall notify licensed water operators of the date of expiration of that person's license and the fee required for renewal for a two-year period. The notice

shall be mailed to the person's last-known address at least 60 days in advance of the expiration date of the license.

2. Licensees are responsible for updating license contact information with any changes within the renewal period.
3. Applications for license renewal will not be processed before 60 days in advance of the expiration date of the license.
4. The licensee shall be responsible for providing proof of completion of the required Training Contact Hours (TCH) for their classification of license at the time of renewal. The Board will, at its discretion, verify submitted material for accuracy, applicability and acceptability.
5. License holders who allow their licenses to expire shall be reinstated upon payment of the reinstatement and renewal fees and upon proof the applicant has completed the required TCH provision pursuant to Section 6(E)(2) of this rule.
6. Licenses that remain expired for two years or longer will not be renewed. Persons with expired licenses shall be required to submit an application for initial licensure.

#### **E. TRAINING CONTACT HOURS**

1. TCH must be earned for the highest license held. Operators holding both a Treatment System and Distribution System license shall be required to complete Training Contact Hours for only one category.
2. Prior to licensure renewal, the applicant, including holders of restricted VSWS and Operator-in-Training licenses, shall provide proof of completion of the following requirements during the last renewal period:

<b>VSWS</b>	<b>6 Training Contact Hours</b>
<b>Class I</b>	<b>12 Training Contact Hours</b>
<b>Class II</b>	<b>18 Training Contact Hours</b>
<b>Class III</b>	<b>24 Training Contact Hours</b>
<b>Class IV</b>	<b>24 Training Contact Hours</b>

3. TCH may be earned as follows:
  - (a) One continuing education unit (CEU) equals 10 TCH.
  - (b) One college level credit in chemistry, mathematics, biology, engineering or environmental sciences shall be equal to 10 TCH.
  - (c) Technical meetings, workshops, seminars, courses and classes as approved by the Board, shall be equal to the amount of hours attended with the maximum credit being 6 TCH per technical meeting per day. A description of the course, material covered, institution offering the course and instructor credentials must be submitted to the Board for approval.
  - (d) Successful completion of self-study educational courses offered by a technical school, university, or correspondence school.

- (e) Other waterworks seminars and education courses. A description of the course, material covered, institution offering the course and instructor credentials must be submitted to the Board.
4. **Training shall be relevant.** One hour of relevant training equals one TCH. In order for training to be approved by the Board and count as Training Contact Hours, it must comply with the following criteria:
- The training shows a direct link to water quality, water supply, or protection of public health; and
  - The training is relevant to managing the operation or maintenance of public water systems; or
  - The training is relevant to the operation or maintenance of public water systems.
5. Excess TCH cannot be carried from one renewal period to the next period.

## F. FEES

1. **Payment.** Fees shall accompany all applications for licensure or examination.
2. **Fees for Licensure.**
- (a) Fees are applied per individual, not per discipline held.
- (b) The fee structure for licensure is:
- |       |   |             |
|-------|---|-------------|
| (i)   | <b>Initial Licensure</b>                                | <b>\$75</b> |
| (ii)  | <b>Initial Licensure by Reciprocity</b>                 | <b>\$75</b> |
| (iii) | <b>Upgrade to License</b>                               | <b>\$20</b> |
| (iv)  | <b>Biennial Renewal of License</b>                      | <b>\$75</b> |
| (v)   | <b>Reinstatement of License</b>                         | <b>\$50</b> |
|       | <b>In addition to past renewal fees</b>                 |             |
| (vi)  | <b>Status upgrade from Operator-In-Training to Full</b> | <b>\$20</b> |
- (c) Reinstatement of Licensure: The licensee must pay a \$50 late fee in addition to the biennial renewal fee to reinstate an expired license.
3. **Fees For Examinations.**
- (a) Fees are applied per examination (class and discipline). The fee for each examination is **\$95**.
- (b) Fees for non-Board proctored examinations will be established by the proctor and paid directly to the proctor.

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**SECTION 7  
ENFORCEMENT**

- A. **VIOLATIONS:** The Board may take action, including issuing letters of reprimand, should an operator violate this rule. Violations providing a basis for enforcement action include, but are not limited to, the following:
1. Falsification of records and or credentials;
  2. Selective sampling or sample tampering;
  3. Dangerous acts or failure to report environmental damage;
  4. False or misleading statements;
  5. Failure to utilize proper process control;
  6. Lack of maintenance;
  7. Non-compliance with a federal, State or local statute or regulation relating to a public water system;
  8. Commission of a crime, which may affect the public water system; or
  9. Coercion, bribery, or extortion, which relates to the operation or management of the water system.
- B. **REVOCATION AND SUSPENSION.** The Board may suspend or revoke the license of an operator, in accordance with 22 M.R.S. §2625 or 5 M.R.S. §§5301-5304.
- C. **DETERMINATION OF ACTION.** The Board will consider the extent of deviation and potential for harm when deciding to take enforcement action.
- D. **FORMAL COMPLAINT PROCEDURE.** Pursuant to 5 M.R.S., Chapter 375, Subchapter 5, the Board may establish a procedure by which formal complaints against water operator licensees are accepted and processed.

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**SECTION 8**  
**ADMINISTRATIVE APPEALS**

- A. The Board shall provide written notice to operators or applicants for licensure of a decision to suspend, revoke or deny a license. The notice shall be sent by regular mail and shall include notice of opportunity for appeal in accordance with this section.
- B. An operator or applicant for licensure who is aggrieved by a decision of the Board may appeal by filing a written request. The request shall be filed with the chair of the Board within thirty days of the postmarked date of the written notice of decision from the Board. The request shall specify all issues being raised on appeal. Failure to raise any issue shall be deemed a waiver.
- C. The Board shall notify the appellant of the time, place and date of the appeal hearing within thirty days of receipt of the written request for appeal.
- D. All hearings and appeals shall be conducted in accordance with the *Maine Administrative Procedure Act*, 5 M.R.S, Ch. 375, §§ 9051-9064.
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STATUTORY AUTHORITY: 22 M.R.S. §§ 2622 and 2628

EFFECTIVE DATE:

November 17, 1983

EFFECTIVE DATE (ELECTRONIC CONVERSION):

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AMENDED:

June 19, 2004 - filing 2004-214

June 5, 2007 – filing 2007-231

December 27, 2011 – filing 2011-476

July 1, 2018 – filing 2018-080



## Appendix A

Treatment System Classification Point Values	
Item	Points
<b>Size ( 2 point minimum to 10 point maximum)</b>	
Maximum population (1 point minimum to 5 points maximum)	1 point per 10,000
Design flow average (1 point minimum to 5 points maximum)	1 point per MGD
<b>Water Supply Sources</b>	
Groundwater	3
Groundwater under the influence of surface water	5
Surface Water	5
<b>Chemical Treatment / Addition Processes</b>	
Fluoridation	5
<i>Disinfection:</i>	
Chlorination	5
Chloramination	10
Chlorine dioxide	5
Ultraviolet light	5
Ozonation	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 or potassium carbonate, sodium hexametaphosphate, other)	5
<b>Coagulation &amp; Flocculation Process</b>	
Chemical addition (aluminum sulfate, bauxite, ferrous sulfate, ferric sulfate, calcium oxide, bentonite, calcium carbonate, carbon dioxide, sodium silicate, other)	1 point per chemical coagulant added (5 points max.)
<i>Rapid mix units:</i>	
Mechanical mixers	3
Injection mixers	2
In-line blender mixers	2
<i>Flocculation tanks:</i>	
Hydraulic flocculators	2
Mechanical flocculators	3
<b>Clarification / Sedimentation Process</b>	
Horizontal Flow (rectangular basins)	5
Horizontal Flow (round basins)	7
Solid-contact	15
Inclined-plate, tube	10
Dissolved air flotation	30
<b>Filtration Process</b>	
Single media filtration	3
Dual or mixed media filtration	5
Microscreens	5
Diatomaceous earth filters	5
Cartridge filters	
As pre-filter to another process	2
As microbiological removal	5
Slow sand filters	5

Item	Points
Direct filtration	5
Pressure or greensand filtration	5
<b>Other Treatment Processes</b>	
Aeration	3
Packed tower aeration	5
Ion exchange / softening (Cation, Anion, Adsorptive)	
To control Primary MCL contaminant	5
To control secondary MCL contaminant	2
Adsorptive media	5
Lime - soda ash softening	5
Membrane filtration- reverse osmosis, micro,ultra,nano	10
Powdered activated carbon	5
<b>Other Processes</b>	0 to 15
<b>Residuals Disposal</b>	
Discharge to lagoons	5
Discharge to lagoons and then raw water source	8
Discharge to raw water	10
Disposal to sanitary sewer	3
Mechanical dewatering	5
On-site disposal	5
Land application	5
Solids composting	5
<b>Facility Characteristics</b>	
<i>Instrumentation:</i>	
The use of SCADA or similar instrumentation to provide data with no process operation	0
The use of SCADA or similar instrumentation to provide data with limited process operation	2
The use of SCADA or similar instrumentation to provide data with moderate process operation	4
The use of SCADA or similar instrumentation to provide data with extensive or total process operation	6
<b>Gravity Fed Systems</b>	
Total atmospheric storage less than average day design flow	5