

## Chapter NR 114

**CERTIFICATION REQUIREMENTS FOR  
WATERWORKS AND SEWAGE TREATMENT PLANT  
OPERATORS**

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Note: Chapter NR 114 as it existed on October 31, 1978 was repealed and a new Chapter NR 114 was created effective November 1, 1978.

**NR 114.01 Purpose.** This chapter establishes an examining program for the certification of waterworks and sewage treatment plant operators pursuant to s. 144.025 (2) (1), Stats. No person may operate a waterworks or sewage treatment plant unless that person holds a valid certificate issued pursuant to this chapter.

Note: Pursuant to s. 144.57, Stats, any person who violates this chapter, shall forfeit not less than \$10 nor more than \$5,000 for each violation. Each day of continued violation is a separate offense.

History: Cr. Register, October, 1978, No. 274, eff. 11-1-78.

**NR 114.02 Applicability.** The provisions of this chapter are applicable to all owners and operators of waterworks and sewage treatment plants as defined in this chapter.

History: Cr. Register, October, 1978, No. 274, eff. 11-1-78.

**NR 114.03 Definitions.** (1) "Board" means a board of certification for sewage treatment plant operators or a board of certification for waterworks operators.

(2) "Certificate" means a printed document issued by the department, pursuant to this chapter, stating that the individual named therein has met the competency requirements for one or more operator grades and subgrades.

(3) "Certified operator" means an individual who has met the requirements of this chapter and has been issued a certificate by the department to operate one or more of the classifications of waterworks or sewage treatment plants.

(4) "Community water system" means a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.

(5) "Department" means the department of natural resources.

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(6) "Direct responsible charge" means to provide detailed on-site technical direction of the operation of a waterworks or sewage treatment plant. Not included in this definition are shift operators or shift supervisors. Also not included are utility managers, city engineers, directors of public works or the equivalent, who are not actually involved in day-to-day operations.

(7) "Experience in the operation of a waterworks or a sewage treatment plant" means either (a) to perform duties that directly affect the treatment process or final effluent or product, or (b) to provide daily on-site technical supervision of the person or persons performing such duties.

(8) "Industrial wastewater treatment facility" means a privately owned sewage treatment plant for treating liquid or other wastes resulting from any process of industry, manufacture, trade or business or the development of any natural resources.

(9) "Land disposal system" means a facility for disposing of liquid wastes consisting of:

- (a) An absorption or seepage pond system,
- (b) A ridge and furrow system,
- (c) A spray irrigation system,
- (d) A spray runoff system,
- (e) A subsurface field absorption system,
- (f) A surface spreading system, or
- (g) Any other land area receiving liquid waste discharges.

(10) "Major contributing industry" means an industrial or commercial facility that is a user of a publicly owned sewage treatment plant and:

- (a) Has a waste discharge flow of 50,000 gallons or more per average work day;
- (b) Has a waste discharge flow greater than 5% of the flow carried by the publicly owned sewage treatment plant receiving the waste;
- (c) Has in its waste, a toxic pollutant in toxic amounts as defined in chapter NR 215, Wis. Adm. Code; or
- (d) Has a waste which the department determines has, or in the case of a new source will have, a significant impact, either singly or in combination with other wastes, on the publicly owned sewage treatment plant or on the quality of effluent from such plants.

(11) "Municipal water system" means a community water system owned by a county, city, village, town, town sanitary district, utility district, public institution as defined in s. 49.10 (12) (f) 1., Stats.

(12) "Operate" means to be in direct responsible charge of the operation of a waterworks or a sewage treatment plant.

(13) "Owner" means the state, county, town, town sanitary district, city, village, metropolitan sewerage district, corporation, firm, company,

institution, association, utility district, school district, joint sewerage commission or individual responsible for providing water or wastewater treatment.

(14) "Public water system" means a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Such term includes (1) any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system, and (2) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system.

(15) "Secretary" means the secretary of the department of natural resources.

(16) "Sewage treatment plant" means any facility provided for the treatment of sanitary sewage or industrial waste or both. The following types of systems are excluded:

(a) Facilities consisting of septic tank and soil disposal systems defined as plumbing in s. 145.01 (1) (b), Stats.

(b) Pretreatment facilities from which effluent is directed to a public sewer system for treatment.

(c) Industrial wastewater treatment facilities which consist solely of a land disposal system.

(17) "Waterworks" means a municipal water system.

*History:* Cr. Register, October, 1978, No. 274, eff. 11-1-78.

**NR 114.04 Severability.** Should any section, paragraph, phrase, sentence, clause or word of this chapter be declared invalid or unconstitutional for any reason, the remainder of this chapter shall not be affected thereby.

*History:* Cr. Register, October, 1978, No. 274, eff. 11-1-78.

**NR 114.05 Boards of certification.** (1) Boards of certification shall be appointed by the secretary to advise the department in administration of the certification program.

(2) The board of certification for sewage treatment plant operators shall consist of:

(a) A faculty member of a university or vocational school in Wisconsin.

(b) A representative, such as a city engineer, director of public works or utility manager, of a municipality required to employ a certified sewage treatment plant operator.

(c) An elected or appointed municipal official.

(d) Two sewage treatment plant operators holding valid certificates, one of whom shall hold a grade 4 certificate.

(e) Two representatives of industries required to employ a certified sewage treatment plant operator.

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(f) The secretary of the department or a designated representative who shall serve as recording secretary for the board.

(3) The board of certification for waterworks operators shall consist of:

(a) A faculty member of a university or vocational school in Wisconsin.

(b) A representative, such as a city engineer, director of public works or utility manager, of a municipality required to employ a certified waterworks operator.

(c) An elected or appointed municipal official.

(d) Two waterworks operators holding valid certificates.

(e) The secretary of the department or a designated representative who shall serve as recording secretary for the board.

(4) Terms of office.

(a) Members of the boards shall serve 3-year terms, except the secretary, who shall be a permanent board member.

(b) Appointments to succeed a board member who is unable to serve his or her full term shall be for the remainder of the unexpired term.

(c) Board members may be reappointed but shall not succeed themselves automatically.

(d) Any board member who leaves his or her field of employment or moves out of the state shall be terminated as a member of the board.

(5) At the first meeting of each year, the board shall select from its membership a chairman and such other officers as may be needed to conduct its business.

(6) Members of the boards shall be reimbursed for their actual and necessary expenses by the department.

*History:* Cr. Register, October, 1978, No. 274, eff. 11-1-78.

**NR 114.06 Examinations and applications.** (1) Examinations shall be used to determine knowledge, skill and ability of the applicants to operate a waterworks or sewage treatment plant. A score of 75% or higher shall be a passing score on each examination. An individual desiring to be certified shall file an application with the department at least 15 days prior to the established date of a written examination on an application form provided by the department. Fees as outlined in NR 114.07 must accompany application. Applicants shall be notified of their eligibility for examination.

(2) Written examinations shall be conducted at least 4 times annually at locations and times set by the department. Practical examinations shall be arranged with each individual applicant.

(3) Written examinations will not be issued to persons who have not properly registered 15 days prior to the examination date, or who fail to identify themselves on request.

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(4) Examination papers will not be returned to the applicant but means will be provided for review of the results with a staff member of the department upon request by the applicant within 30 days of notification of result. Examination papers may be destroyed after the 30-day notification period.

(5) Applicants who fail to pass a written examination may apply to the department for reexamination at a subsequent scheduled examination. Applicants who fail a practical examination may arrange for a reexamination without a formal reapplication.

**History:** Cr. Register, October, 1978, No. 274, eff. 11-1-78.

**NR 114.07 Fees.** (1) Fees for certification shall be as follows:

(a) Sewage application-examination-certification	\$5.00
(b) Water application-examination-certification	5.00
(c) Biennial renewal-waterworks certificate	5.00
(d) Biennial renewal-sewage certificate	5.00
(e) Duplicate certificate	5.00

(2) Fees must accompany the completed application form. There is no limit to the number of examinations that can be taken on one date under the fees listed in (a) and (b) above. The department recommends that operators attempt no more than 10 sewage or 4 waterworks examinations on one date.

(3) The renewal fee is due on the expiration date of the certificate.

(4) Fees will not be refunded if a candidate fails to pass a written certification examination.

**History:** Cr. Register, October, 1978, No. 274, eff. 11-1-78.

**NR 114.08 Issuance of certificates.** (1) Upon satisfactory fulfillment of the qualifications required by this chapter and receipt of the certification fee, the department shall issue a certificate to an applicant indicating the grade (s) for which the applicant has qualified.

(2) Certified operators who desire to become certified in another grade must fulfill satisfactorily the established qualifications and pay the established fees before a new certificate is issued.

(3) Certificates may be issued, without examination, in a comparable grade to any person who holds a certificate in any state, territory or possession of the United States or any country, if in the judgment of the board the requirements for certification of operators under which the person's certificate was issued do not conflict with the provisions of these rules and are of a standard not lower than that specified by these rules.

(4) Transfer of existing certificates.

(a) An individual holding a valid sewage treatment plant operator's grade I, II, III or IV certificate on the effective date of these rules, will be issued respectively a grade 4, 3, 2 or 1 certificate in the subgrades (a) - (j) listed in NR 114.10(3).

(b) An individual holding a valid sewage treatment plant operator's grade V certificate on the effective date of these rules will be issued a grade 1 certificate in those subgrades necessary to operate the particular

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industrial wastewater treatment facility at which the individual is employed on the effective date of these rules. A grade 1 certificate issued pursuant to this subsection will authorize the holder of the certificate to operate only the particular industrial wastewater treatment facility at which the holder is employed on the effective date of these rules. Any individual who holds a grade 1 certificate issued pursuant to this subsection who wishes to operate a sewage treatment plant other than the one at which he or she was employed on the effective date of these rules must apply for and meet the requirements necessary to obtain a new certificate.

(c) An individual holding a valid waterworks operator's certificate on the effective date of these rules will be issued a grade 1 certificate according to the following table:

<u>Old</u>	<u>New</u>
S-1	S,L,Z,I,G,D
G-1	L,Z,I,G,D
P-1	Z,I,G,D
M-1	G,D

(5) An individual whose certificate has lapsed for 180 days or longer may be reinstated by paying all back renewal fees, fulfilling the continuing education requirements for the lapsed period, and paying a \$5.00 penalty fee. Such an individual may choose to follow the procedures for initial certification.

(6) All certificates shall expire 2 years from the date of issuance. Certificates may be renewed subject to the requirements of NR 114.08 (7).

(7) **Renewal requirements.** Effective January 1, 1980, any individuals whose certificates have expired, and who desire to renew their certificates shall indicate in the space provided on the renewal form the training courses, approved by the department, which they have successfully completed during the two-year period. These may include, but are not limited to, courses sponsored by the department or any university or technical school, technical sessions at meetings of professional organizations, in-house training, and correspondence courses. Failure to successfully complete at least 12 hours of approved training within the two-year period shall result in rejection of a certificate renewal application.

**History:** Cr. Register, October, 1978, No. 274, eff. 11-1-78.

**NR 114.09 Revocation of certificates.** (1) The department may on its own motion make investigations and conduct hearings and may, on its own motion or upon complaint in writing, duly signed and verified by the complainant, revoke or refuse to renew as hereinafter provided any operator's certificate if the department finds that the holder of such a certificate has:

(a) Made a material misstatement in the application for certification or any application for a renewal of certification, or

(b) Demonstrated incompetence to operate the type of facility for which the certificate was issued, or

(c) Bypassed a discharge at a sewage treatment plant in violation of the plant's WPDES permit without notifying the department, or

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(d) As the individual in direct responsible charge of the operation of a waterworks, failed to notify the department of a violation of a maximum contaminant level as required in chapter NR 109, Wis. Adm. Code, or

(e) Falsified any monitoring or operating records submitted to the department, or

(f) Violated a second time because of operator negligence any provision of chs. 144 or 147, Stats., any administrative code adopted pursuant to chs. 144 or 147, Stats., or any order issued by the department.

(2) Notice of revocation of or refusal to renew a certificate shall be served on the certified operator and shall state the reasons for revocation or refusal to renew.

(3) Revocation of or refusal to renew a certificate shall take effect on the 10th day after the notice is served, unless the certified operator files a written answer with the department prior to the 10th day. If such an answer is filed, the revocation or refusal to renew is stayed and the department shall conduct a hearing on the matter within 30 days after receipt of the answer. At least 10 days prior to the date of the hearing, the department shall send a written notice to the operator indicating the date, time and location of the hearing. The final determination of the department, including the basis for the decision, shall be provided in writing to the operator.

(4) Application may be made for a new certificate one year after the date of revocation or refusal to renew.

(5) Any order revoking a certificate is subject to judicial review as provided in ch. 227, Stats.

History: Cr. Register, October, 1978, No. 274, eff. 11-1-78.

**NR 114.10 Classification of sewage treatment plants.** (1) Each sewage treatment plant shall be assigned a class based upon a system of rating values and shall be assigned one or more subclasses based on the operations performed at that plant.

(2) Items to be rated and their assigned values are:

- (a) Design flow is greater than 1 MGD 1 Point
- (b) Plant uses 4 to 7 of the processes listed in (3) (a-i) 1 Point below
- (c) Plant uses 8 or 9 of the processes listed in (3) (a-i) 2 Points below
- (d) Treatment required is beyond best conventional pollution control technology for an industrial wastewater treatment facility 1 Point
- (e) Monthly average effluent limit for BOD or suspended solids is less than 30 mg/l for a nonindustrial sewage treatment plant 1 Point
- (f) Receives wastewater from a major contributing industry 1 Point

#### Classification

Class 1	0 Points
Class 2	1 Point
Class 3	2 Points

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- (3) Subclasses are:
- (a) Primary settling including Imhoff tanks
  - (b) Trickling filters and rotating biological contactors
  - (c) Activated sludge
  - (d) Stabilization ponds and aerated lagoons
  - (e) Disinfection
  - (f) Anaerobic digestion
  - (g) Sludge handling including but not limited to vacuum filtration and incineration
  - (h) Filtration
  - (i) Phosphorus removal by chemical addition
  - (j) On-site laboratory testing for BOD or suspended solids
  - (k) Special - for treatment plants not required to monitor BOD

History: Cr. Register, October, 1978, No. 274, eff. 11-1-78.

**NR 114.11 Qualifications of sewage treatment plant operators.**

(1) Five grades and eleven subgrades of sewage treatment plant operators are hereby established. To qualify for certification in a given grade and subgrade, an individual must meet the appropriate experience and examination requirements for that grade and pass the applicable examination(s) for the subgrade at that level.

(a) Grade 1. Pass a written examination of knowledge necessary to operate a class 1 sewage treatment plant and a written and practical examination of the individual's ability to perform routine operational duties for the given plant subclass.

(b) Grade 2. Completion of grade 1 requirements plus one year of satisfactory experience in the operation of the given plant subclass plus pass a written examination of the knowledge necessary to operate a class 2 sewage treatment plant and a written examination of the individual's ability to identify and correct common operating problems involving the given plant subclass.

(c) Grade 3. Completion of grade 2 requirements, including one year of satisfactory experience in the operation of the given plant subclass, plus pass a written examination of the knowledge necessary to operate a class 3 sewage treatment plant and a written examination of the individual's ability to identify and correct less common operating problems involving the given plant subclass.

(d) Grade 4. Completion of grade 3 requirements, including one year of satisfactory experience in the operation of the given plant subclass, plus pass a written examination of the knowledge necessary to operate a class 4 sewage treatment plant and a written examination of the individual's ability to identify and correct complex operating problems involving the given plant subclass and an oral examination by the board of the individual's ability to supervise the operation of a class 4 plant.

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(e) Operator-in-training grade. Pass the written grade 1 examination for a given plant subclass.

(2) Operator subgrades are the same as plant subclasses listed in 114.10(3).

History: Cr. Register, October, 1978, No. 274, eff. 11-1-78.

**NR 114.12 Classification of waterworks.** (1) The classification of each waterworks shall be the sum of all the applicable classes listed below:

(a) Class G. All waterworks utilizing a ground water source.

(b) Class Z. All waterworks providing zeolite softening.

(c) Class I. All waterworks providing iron removal by oxidation and filtration.

(d) Class L. All waterworks providing treatment by the lime-soda ash process for iron removal and/or softening.

(e) Class S. All waterworks utilizing a surface water source.

(f) Class D. All waterworks containing a distribution system.

History: Cr. Register, October, 1978, No. 274, eff. 11-1-78.

**NR 114.13 Qualification of waterworks operators.** (1) Two grades and 6 subgrades of waterworks operators are hereby established. To qualify for certification in a given grade and subgrade, an individual must meet the appropriate experience requirement and pass the applicable examinations for the subgrade.

(a) Grade 1. One year of satisfactory experience in the operation of the given waterworks class plus pass a written and a practical examination of the individual's ability to perform routine operational duties and identify and correct operating problems involving the given waterworks class.

(b) Operator-in-training grade. Pass the written grade 1 examination for the given waterworks class.

(2) Operator subgrades are the same as waterworks classes listed in NR 114.12.

History: Cr. Register, October, 1978, No. 274, eff. 11-1-78.

**NR 114.14 Required grades for the operation of waterworks and sewage treatment plants.** (1) SEWAGE TREATMENT PLANTS. (a) The individual(s) in direct responsible charge of the operation of a subclass of a treatment plant listed in NR 114.10(3) must hold a valid certificate for the corresponding subgrade at a grade the same as, or higher than, the plant class.

(b) An individual certified as a sewage treatment plant operator at the grade 1 level for a plant subclass may be in direct responsible charge of that subclass of a class 2, 3, or 4 treatment plant for a period not to exceed one year.

(c) An individual certified as a sewage treatment plant operator-in-training may operate that subclass of a treatment plant for a period not to exceed three months.

(2) **WATERWORKS.** (a) The individual in direct responsible charge of the operation of a class of waterworks listed in NR 114.12(1) must hold a valid certification for the corresponding subgrade at the grade 1 level.

(b) An individual certified as a waterworks operator-in-training may operate that class of waterworks for a period not to exceed one year.

(3) The owner of each waterworks and sewage treatment plant shall designate to the department the operator(s) in direct responsible charge as required in NR 114.13(1) and (2).

**History:** Cr. Register, October, 1978, No. 274, eff. 11-1-78.

TABLE 1

Subcategory	BOD			TSS		
	Daily Maxi- mum	30-day Aver- age	Annual Aver- age	Daily Maxi- mum	30-day Aver- age	Annual Aver- age
(1) (a) BCT Bleached Kraft	27.3	14.2	8.0	48.0	25.8	14.2
(b) Fine Bleached Kraft	21.2	11.0	6.1	44.3	23.8	13.2
(c) Papergrade Sulfite (Blow-Pit)	63.6	33.1	18.6	87.9	47.3	26.0
(d) Groundwood Chemi-Mechanical	27.0	14.1	7.9	39.5	21.3	11.7
(e) Groundwood Thermo-Mechanical	21.2	11.1	6.2	31.1	16.7	9.2
(f) CMN Groundwood	14.9	7.8	4.4	25.5	13.7	7.5
(g) Fine Groundwood	13.7	7.2	4.0	23.5	12.6	6.9
(h) Soda	27.4	14.2	8.0	49.0	26.4	14.6
(i) Deink	36.2	18.8	10.6	48.1	25.9	14.2
(j) Paper Grade Sulfite (Drum Wash)	53.4	27.8	15.6	87.9	47.3	26.0
(2) (a) Fine Paper	16.4	8.5	4.8	22.0	11.8	6.5
(b) Tissue Paper	22.8	12.5	7.0	20.5	10.0	5.7
(c) Tissue Paper (FWP)	27.4	14.2	8.0	34.1	18.4	10.1
(3) (a) Dissolving Kraft	47.2	24.5	13.8	74.6	40.1	22.1
(b) Bleached Kraft	30.9	16.1	9.0	60.8	32.8	18.0
(c) Dissolving Sulfite	82.8	43.1	24.2	141.3	76.1	41.8

Limitations are in pounds per ton. For kg/1000 kg, divide by 2.

TABLE 2

Subcategory	Activity/Process	BOD			TSS			Zinc		
		Daily Max.	30-day Ave.	Annual Ave.	Daily Max.	30-day Ave.	Annual Ave.	Daily Max.	30-day Ave.	Annual Ave.
(1) (a) BCT Bleached Kraft	1. wet barking	4.5	2.4	1.3	11.5	6.2	3.4			
	2. log, chip washing	0.5	0.3	1.0	1.3	0.7	0.4			
	3. log fluming, ponding	0.9	0.5	0.2	2.6	1.4	0.7			
(b) Fine Bleached Kraft	1. wet barking	3.9	2.0	1.1	10.6	5.7	3.1			
	2. log, chip washing	0.4	0.2	0.1	1.1	0.6	0.3			
	3. log fluming, ponding	0.7	0.4	0.2	2.3	1.2	0.6			
(c) Papergrade Sulfite (Blow-Pit)	1. wet barking	5.4	2.9	1.6	15.0	7.9	4.4			
	2. log, chip washing	0.3	0.2	0.1	5.1	2.7	1.5			
	3. log fluming, ponding	0.7	0.4	0.2	3.4	1.8	1.0			
	4. bisulfite cooking, barometric condensing	5.8	3.0	1.7	16.5	8.9	4.9			
	5. acid sulfite cooking, surface condensing	1.0	0.5	0.3						
	6. acid sulfite cooking, barometric condensing	7.5	3.0	2.2	16.5	8.9	4.9			
(d) Groundwood Chemi-Mechanical	1. wet barking	1.8	0.9	0.5	5.2	2.9	1.6			
	2. log, chip washing	0.1	0.1	0.1	0.5	0.3	0.2			
	3. log fluming, ponding	0.3	0.1	0.1	1.1	0.6	0.3	0.68	0.34	0.23
	4. zinc hydrosulfite bleaching									
(e) Groundwood Thermo-Mechanical	1. wet barking	1.8	0.9	0.6	5.4	2.9	1.5			
	2. log, chip washing	0.1	0.1	0.1	0.6	0.3	0.1			
	3. log fluming, ponding	0.3	0.2	0.1	1.2	0.7	0.3	0.52	0.26	0.17
	4. zinc hydrosulfite bleaching									
(f) CMN Groundwood	1. wet barking	2.3	1.1	0.6	4.0	2.2	1.2			
	2. log, chip washing	0.3	0.1	0.1	0.4	0.3	0.2			
	3. log fluming, ponding	0.5	0.2	0.1	0.9	0.5	0.3			
	4. zinc hydrosulfite bleaching							0.60	0.30	0.20
(g) Fine Groundwood	1. wet barking	2.2	1.1	0.7	3.9	2.2	1.2			
	2. log, chip washing	0.3	0.1	0.1	0.4	0.3	0.2			
	3. log fluming, ponding	0.4	0.1	0.1	0.8	0.5	0.3			
	4. zinc hydrosulfite bleaching							0.55	0.27	0.18