

MINNESOTA CODE OF AGENCY RULES

RULES OF THE WATER AND WASTE WATER TREATMENT OPERATORS CERTIFICATION COUNCIL

1982 Reprint



All rules as in effect on September 15, 1982

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WATER AND WASTE WATER TREATMENT OPERATORS
CERTIFICATION COUNCIL

6 MCAR S 5.001	Purpose; definitions.
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WATER AND WASTEWATER OPERATOR COUNCIL OF CERTIFICATION

Rules relating to operator certification and to system and facility classification. (*Effective May 26, 1979*).

6 MCAR § 5.001 This rule states the purpose for and the definitions which are to apply in the interpretation of 6 MCAR §§ 5.001, 5.002 and 5.003.

A. These rules are intended to:

1. serve as a vehicle by which persons desiring to demonstrate their competency in the operation and maintenance of water supply systems or wastewater treatment facilities may demonstrate such competency;

2. implement the requirements of Laws of 1971, ch. 828, as amended, (Minn. Stat. § 115.71 et seq.), that persons in direct responsible charge of a water supply system or wastewater treatment facility must obtain a certificate of competency from the Council in a class equal to or higher than the class of his or her system or facility; and

3. promote the employment of trained, experienced, reliable and efficient personnel in positions relating to the operation and maintenance of such systems and facilities, whether or not such personnel are required by these rules to obtain proper certification.

B. Definitions. Terms and abbreviations used in these rules shall have the meanings specified in this section. Terms and abbreviations used herein which are not specifically defined shall be construed in conformance with Minn. Stat., ch. 115 and 116, the context, and professional usage.

1. "Agency" means the Minnesota Pollution Control Agency;

2. "Department" means the Minnesota Department of Health;

3. "Facility" means wastewater treatment facility as defined in Minn. Stat. § 115.71;

4. "Population equivalent" is a means of expressing the strength of pollutational material in wastewater. For the purpose of these rules the population equivalent shall be determined by dividing a daily pound load of 5 day, 20 degree centigrade biochemical oxygen demand (BOD) of the raw waste by 0.17;

5. "Responsible experience" means

a. where shift operation is not required, permanent accountability for and performance of active daily on-site operation;

b. where shift operation is required,

(1) permanent accountability for active daily on-site technical and administrative supervision, and

(2) permanent, active, daily, on-site charge of an operating shift, or a major segment of a system or facility.

A city manager, superintendent of public works, or other administrative officials shall not be deemed to have direct responsibility of a system or facility unless their duties include the day-to-day operation of the system or facility;

6. "System" means water supply system as defined in Minn. Stat. § 115.71.

6 MCAR § 5.002 Classification of systems and facilities.

A. Classification of water supply systems. The commissioner hereby establishes the basis for classification of all public water supply systems based on the degree of hazard to the public health, together with the type and loading of plant and the population affected.

1. Water supply system classification shall be based on the following rating values:

ITEM	POINTS
a. Water Supply Source	
(1) Ground Water	3
(2) Surface Water	15
b. Quality of Water Supply	
(1) Less than 1.0 Coliform per 100 ml (milliliters)	2
(2) 1.0 to 100 Coliform per 100 ml	4
(3) 100 to 1,000 Coliform per 100 ml	6
(4) 1,000 to 5,000 Coliform per 100 ml	8
(5) 5,000 to 20,000 Coliform per 100 ml	10
(6) More than 20,000 Coliform per 100 ml	12

c. Unit Treatment Processes**(1) Ground Water Source**

(a) Aeration	2
(b) Chemical Precipitation (Softening)	16
(c) Filtration other than after softening process	10
(d) Ion Exchange	5
(e) Disinfection	5
(f) Chemical Oxidation	2
(g) Stabilization	2
(h) Fluoridation	5
(i) Ammoniation	5
(j) Taste and Odor Control	2

(2) Surface Water Source

(a) Aeration	2
(b) Coagulation	10
(c) Sedimentation	5
(d) Filtration	10
(e) Disinfection	5
(f) Ion Exchange	5
(g) Chemical Oxidation	2
(h) Stabilization	2
(i) Fluoridation	5
(j) Ammoniation	5
(k) Taste and Odor Control	2

d. Distribution Storage Capacity

(1) 0 to 5,000 gallons	1
(2) 5,001 to 50,000 gallons	2
(3) 50,001 to 500,000 gallons	3
(4) 500,001 to 5 MG (million gallons)	4
(5) Over 5 MG	5

e. Number of Wells

(1) 1 to 3	2
(2) 4 to 7	4
(3) 8 to 15	6
(4) Over 15	8

f. Population Affected

(1) 0 to 1,000 persons	2
(2) 1,001 to 5,000 persons	5
(3) 5,001 to 10,000 persons	11
(4) 10,001 to 20,000 persons	20
(5) 20,001 to 50,000 persons	32
(6) 50,001 to 100,000 persons	47
(7) 100,001 persons and over	70

2. Class of Water Supply System	Accumulated Point Value
a. Class A	76 or more
b. Class B	56 to 75
c. Class C	31 to 55
d. Class D	30 or less

B. Classification of wastewater treatment facilities. The director hereby establishes the basis for classification of all wastewater treatment facilities

actually used or intended for use by the public or by any considerable number of persons based on the degree of hazard to the public health, together with the type and loading of the facilities and the population served or the average population equivalent of the wastewater handled.

1. Wastewater treatment facility classification shall be based on the following rating values:

ITEM	POINTS
a. Size	
(1) Maximum population equivalent (P.E.) served	1 per 10,000 P.E. or part thereof
(2) Design flow, average day, or peak months flow, average day, whichever is greater	1 per million gallons daily or part thereof
b. Effluent Discharge:	
(1) Receiving stream sensitivity based on general standards applicable to all intra- and inter-state waters, as prescribed in WPC 14(d)* and WPC 15(d)*	
(a) Domestic consumption	
(i) Class B	6
(ii) Class C	5
(iii) Class D	4
(b) Fisheries and recreation	
(i) Class A	5
(ii) Class B	3
(iii) Class C	2
(2) Dechlorination	5
(3) Land disposal—evaporation	2
(4) Subsurface disposal	4

*adopted in 1973

c. Variation in Raw Wastes

(1) 1-5% industrial flow contributed to facility	1
(2) 6-10% industrial flow contributed to facility	2
(3) 11-25% industrial flow contributed to facility	3
(4) 26-50% industrial flow contributed to facility	4
(5) 51% or more industrial flow contributed to facility	5
(6) For special treatment of industrial wastes at the wastewater treatment facility	1

d. Pretreatment

(1) Screening, comminution	3
(2) Grit removal	3
(3) Plant pumping of main flow	3
(4) Preaeration with less than 2 hours' detention time	3
(5) Hydro sieve	4

e. Primary Treatment

(1) Primary clarifiers	5
(2) Combined sedimentation and digestion	5
(3) Chemical addition, except chlorine and enzymes	4

f. Secondary Treatment

(1) Trickling filter	5
(2) Activated sludge including pure oxygen activated sludge	10

(3) Stabilization ponds, designed for more than 180 days' detention time	5
(4) Aerated ponds designed for more than 2 hours' detention time	8
(5) Rotating biological surface	5
(6) Any number of secondary clarifiers	5
(7) On-site generation of oxygen	5
g. Advanced Waste Treatment	
(1) Aerated polishing ponds designed for less than 180 days' detention time	5
(2) Polishing ponds without aeration	2
(3) Chemical and physical	15
(4) Biological treatment for nitrogen removal	8
(5) Chemical addition for phosphorous and/or solids removal	8
(6) Multi-media filters and/or activated carbon beds	8
(7) Ion exchange	10
(8) Reverse osmosis, electrodialysis	15
(9) Chemical recovery, carbon regeneration	4
(10) Micro-strainers	4
h. Solids Handling	
(1) Thickening including chemical treatment	5
(2) Anaerobic digestion	10
(3) Aerobic digestion	6
(4) Evaporative sludge drying	2

(5) Mechanical dewatering	8
(6) Solids reduction, such as incineration, wet oxidation	12
(7) On-land disposal	5
i. Disinfection	
(1) Chlorination or comparable	5
(2) On-site generation of disinfectant	5
j. Laboratory Monitoring	
(1) Minimum required tests (pH, Cl ₂ , residual D.O., settleable solids, B.O.D. and T.S.S.)	2
(2) Bacteriology (fecal coliform, total coliform, fecal streptococcal, etc.)	3
(3) Activated sludge process control	3
(4) Nutrients	1
(5) Ground water monitoring	1

2. Class of Wastewater Treatment Facility

	Accumulated Point Value
a. Class A	76 or more points
b. Class B	56-75 points
c. Class C	31-55 points
d. Class D	30 and less

3. Type S treatment facility shall mean a system of collection, pumping and conveyance facilities which are distinctly separate in operation or maintenance from a wastewater treatment facility which treats, stabilizes or disposes of the wastewater collected, pumped or conveyed therein. Where such a conveyance facility is not so distinctly separate, it is considered to be part of the treatment facility for which the designated operator is responsible. A type S treatment facility shall be subclassified as follows:

- a. Class S-A. Serving a population of 50,000 or more;

- b. Class S-B. Serving a population of 15,000 or more but less than 50,000;
- c. Class S-C. Serving a population of 1500 or more but less than 15,000;
- d. Class S-D. Serving a population of less than 1500.

C. Reclassification. When the accumulated point value necessitates a change in the classification of a system or facility, or when unusual factors may affect the degree of hazard to the public health, the type and loading of the system or facility, or the average population served or population equivalent of the wastewater handled, the commissioner or director may modify the classification of a system or facility.

6 MCAR § 5.003 Certification.

A. Qualifications for certification of water supply system and wastewater treatment facility operators.

1. General: In order to be certified, an applicant must

- a. demonstrate that he or she possesses the skill, knowledge, experience and education that a person must have to operate a specified class of system or facility successfully, to maintain it economically, to safeguard the public health and protect the waters of the state, and

- b. have passed a written examination taken pursuant to this rule.

2. In addition, before applying to take an examination, a person who seeks certification in a particular class must meet the qualifications for that class as specified below:

a. Class A Certificate: An applicant shall

- (1) have been certified as a Class B operator for two years, and

- (2) have a

- (a) bachelor's degree in an appropriate branch of engineering or in a physical or biological science, and submit satisfactory evidence of at least four years of responsible experience in the operation and management of a Class A or B system or facility or a similar industrial facility, or

- (b) high school diploma with at least eight years of responsible experience in the operation and management of a Class A or B system or facility, or a similar industrial facility, and

- (3) take and pass an oral examination;

b. Class B Certificate: An applicant shall

(1) possess a bachelor's degree in an appropriate branch of engineering or in a physical or biological science, and submit satisfactory evidence of at least two years of experience in the operation of a Class A, B, or C system or facility, or similar industrial facility, or

(2) be a high school graduate with at least six years of experience in the operation of a Class A, B, or C system or facility, or a similar industrial facility;

c. Class C Certificate: An applicant shall be a high school graduate with a minimum of three years of experience in the operation of a water supply system, wastewater treatment facility, or similar industrial facility;

d. Class D Certificate: An applicant shall be a high school graduate

(1) who has a minimum of one year of experience in a water supply system, wastewater treatment facility or in a related field, or

(2) who has satisfactorily completed an approved, post-secondary program of courses in water and wastewater technology at an accredited institution.

e. An applicant for a type S wastewater treatment certificate shall possess the same educational and experiential qualifications as are required of one who applies for a regular wastewater certificate in the same class, with the following exceptions:

(1) experience shall have been gained in a regular wastewater or type S facility, and

(2) when one applies for an S-A type certificate, he or she shall have been certified as an S-B operator for two years.

3. Substitutions:

a. When a person applies for certification to operate

(1) a wastewater treatment facility, experience gained in a water supply system or a type S wastewater treatment facility may be given up to 50% credit towards meeting the experience requirement for that class of facility for which the applicant seeks the certificate, or

(2) a water supply system, experience gained in a wastewater treatment facility may be given up to 50% credit towards meeting the experience requirement for that class of system for which the applicant seeks the certificate. Experience gained in a type S wastewater treatment facility may not be substituted when one applies for a water supply system certificate.

b. Persons who apply for a Class A, S-A, B, S-B, C or S-C certificate may substitute education for experience according to the following formulae:

(1) Except as noted below, the Council may reduce the experience required in subsection A.2 above by up to six months for the successful completion of:

(a) each academic year beyond high school in which the applicant took courses relating to water supply and wastewater treatment, or in an appropriate branch of engineering, or in the chemical or biological sciences, or

(b) one hundred contact hours of courses relating to water supply or wastewater treatment.

(2) In no event shall such education be substituted for experience so as to reduce the experience requirement to less than one year.

(3) An applicant may be given credit for taking the same course more than once if there is a substantial difference in course content and only upon approval of the Council.

c. One year of experience in the operation of a water supply system or wastewater treatment facility may be considered as equivalent to one year of high school. Experience which is substituted for education cannot also be used to satisfy the experience requirements.

B. Examination procedure:

1. Application for examination:

a. Application for examination shall be made in writing to the commissioner or director on a prescribed form, and should be submitted at least 15 days prior to the date on which the examination will be given.

b. The examination fee shall accompany the application.

c. The appropriate reviewing authority shall review all information and documents needed to determine the eligibility for examination and notify the applicant of his or her status.

d. The applicant may be required to submit a copy of the school or college diploma, equivalency certificate or other proof of school or college attendance and/or graduation.

2. Examinations:

a. The council shall authorize the preparation of written and oral examinations to be used in determining the knowledge, ability and judgment of operators.

b. Separate written examinations shall be prepared for each designated water supply system and wastewater treatment facility class to cover

basic differences in the duties and responsibilities of operators, types of water and wastewater treatment, variations in water and wastewater characteristics, water distribution systems, and wastewater collection systems. The written examination shall test the applicant's knowledge in any one or more of the following areas, as they relate to either water or wastewater treatment: basic science, mathematics, operating procedures, treatment processes, equipment and its maintenance and applicable law and rules.

c. The oral examination for an A certificate will include questions concerning the scope of the applicant's experience, supervisory and managerial responsibilities, and operational capabilities. Such an examination may be conducted by a subcommittee of the council.

d. All examinations shall be closed-book.

e. For the written examination, a grade of 70% shall be considered a passing grade. For the oral examination, the grade shall be either PASS or FAIL.

f. The applicant shall be notified of the results. Papers shall not be returned to the applicant, but upon request within 60 days' notification of the results, the applicant may be allowed to review the written examination.

g. An applicant who fails to pass may not retake the same examination for a period of three months.

C. Restricted certificate:

1. The operator of a system or facility which is reclassified to a higher class pursuant to 6 MCAR § 5.002 C. is eligible for a restricted certificate in the higher class, except as noted in 6 MCAR § 5.002 C. 2. A restricted certificate shall be issued upon receipt of the certificate fee and shall be effective for three years from the date of issue. A restricted certificate may be renewed in the same manner as an unrestricted certificate. A restricted certificate shall specify that the operator named therein is certified to operate only the reclassified system or facility for which the restricted certificate is issued.

2. No restricted certificate will be granted if reclassification was the result of a major alteration to the system or facility, the operation of which would require considerably more training, knowledge or experience than that required by the system or facility as it was formerly classified.

D. Issuance of certificates: Certificates shall be issued by the commissioner or director when all the conditions prescribed in these rules have been satisfied.

E. Renewal:

1. A certificate in any given classification must be renewed within 30 days of its expiration date. Except as provided in 6 MCAR § 5.003 E. 2., a

renewal certificate will be issued upon receipt of the application, renewal fee and evidence of the fact that the operator has, during the preceding three years, obtained credit for attending approved water and wastewater training courses, or participated in substantially similar educational activities, for the number of hours specified in the following schedule:

Class A and S-A, 32 contact hours;
 Class B and S-B, 24 contact hours;
 Class C and S-C, 16 contact hours;
 Class D and S-D, 8 contact hours.

2. A person who has obtained a Class D or S-D certificate pursuant to 6 MCAR § 5.003 A. 2. d. (2) who has not worked as an operator for at least one year during the time the certificate was in effect shall not be eligible to renew such a certificate.

3. The council shall annually prepare and make available to operators and the public a list of accredited training courses and approved educational activities for which credit may be obtained.

F. Reinstatement: A person whose certificate has expired may apply to the commissioner or director for reinstatement of the certificate in the same classification. Before a certificate will be issued, such person must submit the following:

1. the application for reinstatement,
 2. the fee for a reinstatement certificate, which fee is non re-fundable,
- and
3. evidence of the fact that he or she had complied with the continuing education requirements imposed in 6 MCAR § 5.003 E. 1. during the entire time since the expired certificate was last issued or renewed.

4. A person who is denied reinstatement will be required to follow the procedure imposed for a new applicant. In such case the reinstatement fee already paid shall be credited towards the fees for examination and a new certificate.

G. Fees:

1. Fees for certification shall be as follows:

- | | |
|---|---------|
| a. Application for examination | \$15.00 |
| b. Issuance of certificate | \$15.00 |
| c. Re-examination resulting from failure to pass an examination | \$15.00 |

- d. Renewal of certificate \$15.00
- e. Replacement certificate \$5.00
- f. Reinstatement or reciprocity certificate \$20.00

2. Only fees from persons who are rejected for examination will be returned to them.