

STATE OF VERMONT
AGENCY OF ENVIRONMENTAL CONSERVATION
DEPARTMENT OF WATER RESOURCES
AND ENVIRONMENTAL ENGINEERING

WATER POLLUTION ABATEMENT FACILITY
Operator Certification Regulations
Effective Date October 21, 1985

Section 1. Purpose

10 V.S.A., §1263 and §1265 provide that any permit for the discharge of waste into the waters of the state shall require operation and maintenance of the pollution abatement facility as approved by the Secretary of the Agency of Environmental Conservation, by qualified personnel in accordance with standards established by the Secretary. The Secretary has delegated this responsibility to the Commissioner of Water Resources and Environmental Engineering. These regulations are established to provide minimum standards of experience and knowledge required of chief and assistant chief operators of water pollution abatement facilities. A certified operator shall be present at a treatment plant when any operational activity is being undertaken. These standards are applicable to any Agency regulating activity which results in a requirement for a certified water pollution abatement facility operator.

Section 2. Definitions

- (a) "Assistant Chief Operator" means the person whose principal function is performance of operating duties under the supervision of the chief operator and is identified by the owner of the facility as the person who makes the daily operating decisions at the facility in the absence of the chief operator.
- (b) "Chemical Precipitation" as used in Section 7, means a method of wastewater treatment utilizing chemicals for flocculation and may include precipitation. Addition of these chemicals is specifically designed to remove Biochemical Oxygen Demand (BOD), suspended solids (SS), Chemical Oxygen Demand (COD), phosphorus, heavy metals or other deleterious constituents of wastewater and as distinguished from chemical addition to enhance sludge dewatering capabilities or to disinfect wastes.
- (c) "Chief Operator" means the person who is stationed on site and identified by the owner of the facility as the person who makes the daily operating decisions at the facility.
- (d) "Commissioner" means the Commissioner of the Department of Water Resources and Environmental Engineering.

- (e) "Department" means the Vermont Department of Water Resources and Environmental Engineering.
- (f) "Design Flow" means the design capacity of the facility.
- (g) "Experience in Operation" means time as an operator, assistant chief operator or chief operator, all as defined herein.
- (h) "Facility" means a pollution abatement facility permitted by the Department for the purpose of treating domestic sewage and /or industrial wastewaters.
- (i) "Operator" means a person whose principal function (greater than 50% of time) is operating process equipment/valves, etc., at a facility or performing laboratory testing and who is not a chief or assistant chief operator. Persons whose principal duty is maintenance or truck driving are not operators. An operator works under the direct supervision of a chief or assistant chief operator. The owner of the facility must identify the principal function of an employee applying for certification.
- (j) "Operator Certificate" means a certificate issued by the Department of Water Resources and Environmental Engineering certifying that a chief operator, assistant chief operator or operator has met the requirements of the Certification Program as provided for in these regulations.
- (k) "Owner" as used herein, refers to the discharge permit holder who is legally responsible for the operation of the pollution abatement facility and refers to a public, private, municipal or industrial treatment facility.

Section 3. General Policy

- (a) Any owner of a facility having a permit issued pursuant to 10 V.S.A., §1263 or §1265, or a permit or certificate of compliance issued pursuant to 18 V.S.A., §1218 or §1303, when such permit or certificate requires facility operation by certified operators, shall employ only a chief operator and an assistant chief operator who hold valid certifications of the grades required herein; or in the case of an owner unable to recruit a chief and assistant chief operator possessing or capable of obtaining a certificate in the required grade, a provisional certificate shall be issued as provided in Section 6 of these regulations. (The Agency fully encourages the employment of competent, experienced and certified operators.) Chief operators of domestic wastewater facilities are required to hold a certificate in the numerical grade equal to the numerical class of the facility at which they are employed. Assistant chief operators of domestic wastewater facilities are required to hold a certificate not more than two grades below the numerical class of the facility at which they are employed. Chief operators of industrial wastewater

facilities are required to hold a certificate in the numerical grade and industrial type equal to the numerical class and industrial type of the facility at which they are employed. Assistant chief operators of industrial wastewater facilities are required to hold a certificate in the industrial type and not more than two grades below the industrial class of the facility for which they are employed.

“The granting of a provisional certificate shall not be a defense for improper operation and maintenance of any treatment facility or equipment or for non-compliance with the terms and conditions of a permit issued pursuant to 10 V.S.A., §1263 or §1265 or a permit or certificate of compliance issued pursuant to 18 V.S.A., §1218 or §1303.”

- (b) The owner will require and permit each chief, assistant chief and operator to display prominently, his operator certificate in the office of the facility.
- (c) Certification is voluntary for operators.

Section 4. Certificate Grades

- (a) Operator certificates will be graded in accordance with the type, complexity and design flow of facilities as classified by the Department under Section 7.
- (b) Applicants in all classifications shall be able to read and write the English Language.
- (c) Education may be substituted for experience for up to one half of the experience requirement established in section 4(e) through 4(f). All education to be substituted for experience must be documented by a technical school completion certificate or college degree accompanied by a transcript detailing the courses completed. All course-work resulting in a degree must be in the field of sanitary engineering, environmental engineering, public health engineering, chemical engineering, chemistry or biology with specific course concentration in waste water treatment. A college or technical school certificate must be specifically in the field of wastewater treatment.

A list of certificates and degrees and the amount of education that can be substituted follows:

Type of degree	Experience
Technical school or college certificate	6 months
Two-year associates degree	1 year
Four-year Bachelors degree	2 years
Masters degree	3 years

- (d) Applicants for certification must be employed as an operator, assistant chief

operator or chief operator in Vermont at the time of application.

(e) Grade I Certificate (Domestic or Industrial)

Applicants for this grade must submit satisfactory evidence of at least two years experience in operation of a plant in this or higher class, and will be required to have passed a Grade I examination.

(f) Grade II Certificate (Domestic or Industrial)

Applicants for this grade must submit satisfactory evidence of at least two years experience in operation of a plant in Class I or higher and pass a Grade II examination.

(g) Grade III Certificate

Applicants for this grade must submit satisfactory evidence of at least three years experience in operation of a plant in Class I or higher and pass a Grade III examination.

(h) Grade IV Certificate (Domestic or Industrial)

Applicants for this grade must submit satisfactory evidence of at least four years experience in operation of a plant in Class I or higher and pass a Grade IV examination.

(i) Grade V Certificate

Applicants for this grade must submit satisfactory evidence of at least five years experience in operation of a plant in Class I or higher and pass a Grade V examination.

Section 5. General Procedure

(a) An operator , assistant chief operator or chief operator desiring to be certified shall

file an application for certification on a form approved by the Department.

(b) Application and supporting documents will be reviewed by the Department to ascertain whether or not the applicant possesses the requirements provided herein for the grade applied for, and will notify the applicant of his status in writing.

(c) The Department will prepare such written and oral examinations as will properly reflect the knowledge and ability required of the various classes. The Department will conduct examinations at such times and places as they may find necessary, but not less than once annually. Applicants will be notified of the results. Applicants may take the examination prior to meeting experience requirements.

(d) In the event an applicant fails to pass an examination, he may reapply to take the next scheduled examination.

(e) The Department may waive examination for applicants holding certificates or licenses in a comparable or higher classification issued by other states or certifying authorities which the Department determines have equivalent standards. The applicant's previous job description and experience in the wastewater field will be considered.

(f) The Department may waive the requirement for a certified chief or assistant chief operator based on the simplicity of operation of the facility involved.

Section 6. Issuance of Certificates

(a) Upon satisfactory fulfillment of the requirements provided herein, the Department will issue a suitable certificate. The certificate for domestic facility operators will state the grade for which the applicant is certified. For industrial grades, the grade and type of industry will be stated.

(b) A provisional certificate will be issued if the applicant meets the requirements of section 4(b) and (c) and in addition, Industrial and Domestic Grade III, IV and V provisional certificates will require experience in operation of a minimum of one, two or three years respectively.

A provisional certificate shall be valid only for the period of time, not to exceed two years, necessary for the applicant to acquire the training required as shown in the following table and to qualify for a certificate valid for the facility. In the event the requirements for training and for a full certificate are not met within two years, the provisional certificate will terminate and will not be reissued.

TRAINING REQUIREMENTS FOR PROVISIONALS

Grade I	8 hours
Grade II	10 hours
Grade III	12 hours
Grade IV	12 hours
Grade V	16 hours

Applicants holding provisional certificates must present evidence to the Department that demonstrates the completion of at least the above hours of courses, short courses, or seminars in order to be eligible for a full certificate. Such courses, short courses or seminars must relate directly to the field of wastewater treatment and be approved by the department. Attendance at these courses must be for at least 75 percent of the training hours involved in the course and be verified by a certificate signed by the instructor designating the total training hours involved.

(c) Certificates shall continue in effect for a period of five years after July 1 of the year in which issued or renewed, unless revoked prior to that time. The certificate may be renewed in the same grade by application to the Department on a approved form, sixty days prior to the date of expiration of the certificate, subject to the requirements of (d) immediately following.

(d) Applicants for renewal shall present evidence to the Department that demonstrates the completion of courses, short courses and/or seminars, the contents of which directly relate to the field of wastewater treatment. Within the five years preceding the application for renewal, the following number of completed ours is the minimum required to qualify the applicant for renewal.

RENEWAL TRAINING REQUIREMENTS

<u>Domestic</u>		<u>Industrial</u>	
Grade I	- 20 hours	Grade I	- 10 hours
Grade II	- 25 hours	Grade II	- 15 hours
Grade III	- 30 hours	Grade IV	- 30 hours
Grade IV	- 30 hours		
Grade V	- 40 hours		

Each short course, course or seminar attended for the purposes of certification renewal must be verified by a completion certificate designating the training hours involved and signed by the instructor. All training courses to be used for renewal training must be approved by the Department. Attendance at these courses must be at least 75 percent of the total classroom hours involved.

The Department assumes no responsibility to provide any training in conjunction with these training requirements.

(e) Certificates shall not be renewed if the training requirements are not met. In the case a certificate is not renewed due to lack of training, applicants seeking reissuance must pass a retest of a level at least equal to the level of the previously unrenewed certificate and meet the training requirements. Any reissued certificate shall terminate on the same date as would have occurred had the certificate been original renewed. All holders of unrenewed certificates are not eligible for provisional certification.

(f) Applicants for renewal must be employed as an operator, assistant chief operator or chief operator in Vermont at the time of application. If the applicant is not so employed, the certificate shall not be renewed. Such certificates may be reissued upon application to the Department provided the applicant is again employed as a chief, assistant chief or operator and has met the training requirements since his/her last renewal. Any reissued certificates shall terminate on the same date as would have occurred had the certificate been originally renewed.

(g) The Department may revoke a certificate if it finds that the certificate was obtained through fraud or deceit, or evidence is presented indicating the certificate holder knowingly provided inaccurate information on any documents or reports regarding the operation of the facility submitted to this Agency.

(h) If any applicant is aggrieved by the decision of the Department, he may request, in writing, a review of the decision by the Secretary of the Agency of Environmental Conservation. The Secretary may call a hearing within 10 days and shall render his decision within 30 days of the written request for review. The applicant may appeal the decision of the Secretary to the Vermont Water Resources Board as provided in 10 V.S.A., §1269.

Section 7. Facility Classification

(a) For the purpose of establishing chief and assistant chief operator certification requirements for every new or upgraded facility, the Department shall, upon completion of construction, classify the facility in accordance with the requirements stated herein. The Department may also establish the class of any facility which does not specifically fall into the categories below. Non-discharging facilities will be categorized on the basis of the treatment provided before disposal.

(b) Domestic Facilities Classification

1) Domestic Class I Facilities

1. Facilities with a design flow up to 1.5 MGD which do not employ any of the following.

- A. Separate sludge digestion with gas collection;
- B. Mechanical sludge dewatering;
- C. High rate trickling filters or RBCs;
- D. Highly mechanized or specialized methods of sewage treatment;
- E. Chemical precipitation;
- F. Activated sludge.

2) Domestic Class II Facilities

1. Those plants with a design flow under 0.5 MGD employing chemical precipitation or activated sludge.

2. Those plants with design flow under 1.5 MGD employing one or more of the methods contained in Section 7(b) (1) A thru D.

3. Those plants with design flow of 1.5 MGD to 4.99 MGD which do not employ

any of the methods contained in Section 7(b)(1) A thru F.

3) Domestic Class III Facilities

1. Those plants with design flow of 0.5 MGD to 1.49 MGD employing chemical precipitation of activated sludge.
2. Those plants with a design flow of 1.5 MGD to 4.99 MGD employing one or more of the methods contained in Section 7(b)(1) A thru D.
3. Those plants with a design flow of 5.0 MGD to 9.99 MGD which do not employ any of the methods contained in Section 7(b)(1) A thru F.

4) Domestic Class IV Facilities

1. Those plants with a design flow of 1.5 MGD to 4.99 MGD employing chemical precipitation or activated sludge.
2. Those plants with a design flow of 5.0 MGD to 9.99 MGD employing one or more of the methods contained in Section 7(b)(1) A thru D.

5) Domestic Class V Facilities

1. Those plants with a design flow of 5.0 MGD to 9.99 MGD employing chemical precipitation or activated sludge.
2. Those plants with a design flow greater than or equal to 10.0 MGD employing one or more of the methods contained in Section 7(b)(1) A thru D.

(c) Simplified Plant Classification

Plant Rating

<u>Grade</u>	<u>Specialized Methods*</u>	<u>Activated Sludge</u> <u>Chemical Precip.</u>	<u>Other</u>
I			Up to 1.5 MGD
II	Up to 1.5 MGD	Up to 0.5 MGD	1.5 to 4.99 MGD
III	1.5 to 4.99 MGD	0.5 to 1.49 MGD	5.0 to 9.99 MGD
IV	5.0 to 9.99 MGD	1.5 to 4.99 MGD	10.0 to MGD
V	10.0 to MGD	5.0 to 9.99 MGD	

*Including Sludge Digestion with Gas Collection
 Mechanical Sludge Dewatering
 High Rate Trickling Filter or RBCs

(d) Where at least any three of the following five aspects are involved at a treatment facility: the class of the facility will be one class higher than that determined by the above

classification system to a maximum of grade V.

1. Effluent filtration
2. Separate sludge digestion with gas collection
3. Mechanical sludge dewatering
4. Permit limit on ultimate oxygen demand or total kjeldahl nitrogen
5. Effluent spray irrigation

(e) Industrial Facilities Classification

1) Industrial Class I - Industrial Facilities

Facilities treating an industrial wastewater discharge requiring a certified operator under these rules, but not falling into the following industrial classifications.

2) Industrial Class II - Paper Facilities

Facilities treating paper industry discharges without biological treatment.

3) Industrial Class II - Dairy Facilities

Facilities pretreating dairy industry discharges before release to a municipal system.

4) Industrial Class II - Metals Facilities

Facilities treating metals industry discharges which include no more complex treatment processes than pH adjustment, precipitation, flocculation, settling and/or flotation with or without flocculant and to remove metals.

5) Industrial Class IV - Paper Facilities

Facilities treating paper industry discharges with biological treatment

6) Industrial Class IV - Dairy Facilities

Facilities treating dairy industry discharges for disposal on the land or to state waters.

7) Industrial Class IV - Metals Facilities

Facilities treating metals industry discharges using more complicated

processes than pH adjustment, precipitation, flocculation settling and/or flotation to remove metals.

Section 8. Status of Existing Certificates

- (a) From the effective date of these regulations, the 1974 Pollution Abatement Facility Operator Certification Program regulations are superceded by these regulations.
- (b) Certificates issued under the 1974 regulations will not expire when the new rules become effective but will lapse as they are replaced by certificates issued under the new rules.
- (c) All persons employed as chief operators, assistant chief operators and operators in Vermont on the effective date of these regulations, holding full certificates (not provisional) under the 1974 regulations, will be issued new certificates in the same grade. The certificates will be valid for a period of 5 years from July 1st of the year these regulations become effective as provided in Section 6(c).
- (d) All chief operators, assistant chief operators and operators who had been fully certified under the 1974 regulations but were not employed as such in Vermont on the effective date of these regulations will, upon application, be issued a new certificate of the same grade as the one previously held, if they become re-employed as a chief, assistant chief or operator at a Vermont wastewater facility within 5 years of the effective date of these regulations. Any such reissued certificates shall expire on July 1st five years from the year in which these regulations become effective if the renewal requirements of Section 6(d) have not been met.
- Chief operators, assistant chief operators and operators who had been fully certified under the 1974 regulations, but were not employed as such in Vermont on the effective date of these regulations who then gain employment at a Vermont wastewater facility after these regulations have been in effect for five years, must apply for a new certification as provided in Section 5 of these regulations.
- (e) All persons employed as chief and assistant chief operators in Vermont on the effective date of these regulations, holding provisional certification under the 1974 regulations will be issued new provisional certificates as provided by Section 6(b) of these regulations.
- (f) All operators holding provisional certification under the 1974 regulations will not be issued new certificates under these regulations, but may apply for full certification on a voluntary basis. Any such issued certificate shall expire on July 1st, five years from the year in which these regulations become effective. All requirements of these regulations, including the training requirements of Section 6(d), will apply to the renewal of the expired certificate.

