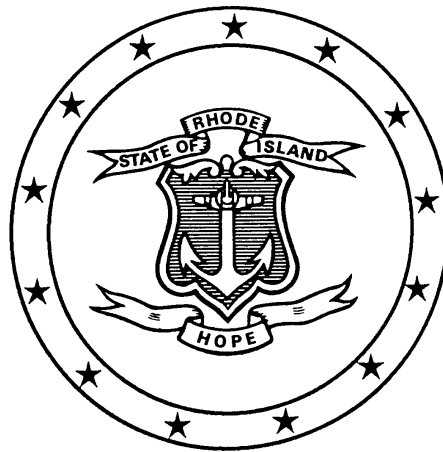


STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

BOARD OF CERTIFICATION OF OPERATORS
OF WASTEWATER TREATMENT FACILITIES

RULES AND REGULATIONS FOR WASTEWATER TREATMENT FACILITY OPERATORS



Regulation 12 190 007, September 1998

Authority: These regulations are adopted in accordance with § 42-35 pursuant to § 42-17.4 of the Rhode Island General Laws of 1956, as amended.

RULES AND REGULATIONS FOR WASTEWATER TREATMENT FACILITY OPERATORS

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**BOARD OF CERTIFICATION OF OPERATORS
OF WASTEWATER TREATMENT FACILITIES**

**RULES AND REGULATIONS FOR WASTEWATER
TREATMENT FACILITY OPERATORS**

SECTION 1. PURPOSE

The purpose of these regulations is to establish a system to classify all wastewater treatment facilities (WWTF's) as to size and type, and to establish specifications, including examinations, education, and work experience, for issuing certificates for operators of each class of WWTF to ensure the proper management, operation, and maintenance of Rhode Island WWTF's.

SECTION 2. LEGAL AUTHORITY

These regulations are adopted pursuant to the powers and duties of the Board of Certification of Operators of Wastewater Treatment Facilities as required and authorized by Chapter 42-17.4 of the Rhode Island General Laws of 1956, as amended (RIGL).

These regulations are promulgated pursuant to the provisions of the Administrative Procedures Act, RIGL, Chapter 42-35, and are effective twenty (20) days following the date of filing with the Secretary of State.

SECTION 3. SEVERABILITY

If any provision of these rules and regulations or the application thereof to any person or circumstance is held invalid by a court of competent jurisdiction, the remainder of the rules and regulations shall not be affected thereby. The invalidity of any section or sections or parts of any section or sections shall not affect the validity of the remainder of these rules and regulations.

SECTION 4. SUPERSEDED REGULATIONS

These regulations supersede "Rules and Regulations for Wastewater Treatment Facility Operators" dated September 17, 1991.

SECTION 5. PROHIBITIONS

- (a) It shall be unlawful after June 30, 1979, for any person to operate or to cause to be operated a wastewater treatment facility unless the superintendent and assistant

superintendent of such facilities hold a certificate issued by the Board. The board may waive the requirement of a certified assistant superintendent at a wastewater treatment facility designed for a flow of less than 100,000 gallons per day.

- (b) It shall be unlawful after June 30, 1979 for any person to hire an individual as an operator unless he holds a certificate as required under regulations adopted pursuant to this chapter; except that the operator may be hired without such certificate provided that he obtains such certificate within one (1) year of the date of employment.

SECTION 6. DEFINITIONS

"Assistant Superintendent" means the individual who is an operator who is assigned the direct responsibility for the management, operation and maintenance of an entire wastewater treatment facility in the absence of the superintendent and who shall have a certificate equal to the grade or classification of the wastewater treatment facility. This person is the next person in line of authority in the absence of the superintendent and, therefore, there can be only one assistant superintendent for each facility.

"Board" means the Board of Certification of Operators of Wastewater Treatment Facilities established by RIGL section 42-17.4-1 to ensure the proper management, operation and maintenance of wastewater treatment facilities by certifying an individual to be qualified to be an operator.

"Certificate" means a certificate issued by the Board to an individual to operate one or more specified grades of wastewater treatment facilities.

"Direct Responsible Charge" is defined as the authority exercised by a superintendent, assistant superintendent, operations supervisor or shift supervisor.

"In Good Standing" refers to the status of any employee of a wastewater treatment facility who has exhibited continued reasonable care, judgement and the application of his/her knowledge and ability. Any certified employee of a wastewater treatment facility will not be considered to be in good standing if he/she has been found, after such an individual has been granted a hearing, to have performed his/her duties in a negligent manner or that he/she has practiced fraud or deception.

"Laboratory Technician" means any employee of and at a wastewater treatment facility who is not an operator but whose employment is directly involved with the day-to-day process control of the facility due to their full-time duties performing, analyzing and ensuring quality control for the testing of chemical, physical and biological parameters.

"Licensee" means any operator, maintenance technician or laboratory technician who has rightfully obtained an operator's certificate.

"Maintenance Technician" means any employee of and at a wastewater treatment facility who is not an operator but whose employment is directly involved in the day-to-day maintenance of major process equipment. This individual's full-time duties must be such that he/she is required to obtain a working knowledge of wastewater treatment process control, necessary to ensure the safety of the individual as well as the efficiency of the treatment process.

"Operations Supervisor" means an individual who is an operator who works under the superintendent, or assistant superintendent and is in direct responsible charge. This person must be responsible for two (2) or more shift supervisors.

"Operator" means an individual who is assigned the responsibility on one or more mechanical treatment units, processes, or other process functions at a wastewater treatment facility.

"Person" means any individual, partnership, firm, association, joint venture, public or private corporation, trust estate, commission, board, public or private institution, utility, cooperative, municipality or any other political subdivision of this state, any interstate body, or any other legal entity.

"Shift Supervisor" means an individual who is an operator who works under the superintendent, assistant superintendent, or operations supervisor who is assigned full time direct responsibility of a shift operation of a specific process or collection of processes, such as sludge dewatering, etc. This person must be in responsible charge for two (2) or more operators.

"Superintendent" means the individual who is an operator who is assigned the direct responsibility for the management, operation and maintenance of an entire wastewater treatment facility during all work shifts at the facility and who shall hold a certificate equal to the grade or classification of the wastewater treatment facility. It does not apply to any official who does not work at the wastewater treatment facility as an operator.

"Wastewater" means used water delivered to a wastewater treatment facility. From the standpoint of source, it may be a combination of the liquid and water-carried wastes from residences, commercial buildings, industrial plants, and institutions, together with any groundwater, surface water, and/or storm water that may be present.

"Wastewater Treatment Facility" means an arrangement of devices and structures, excluding septic tanks, constructed and installed for the purpose of treatment of wastewater from domestic, commercial or industrial sources or combinations thereof. Privately-owned wastewater treatment facilities which treat predominantly industrial wastes shall be excluded from the provisions of these regulations.

SECTION 7. CLASSIFICATION OF WASTEWATER TREATMENT FACILITIES

- (a) Each wastewater treatment facility in the state of Rhode Island subject to these regulations shall be classified by the Board as Grade 1, 2, 3, or 4 based on the complexity of the

wastewater treatment facility, and the equivalent population served. See Table I: POINT VALUES FOR CLASSIFICATION OF WASTEWATER TREATMENT FACILITIES.

- (b) Classification of any treatment plant may be changed at the discretion of the Board by reason of changes in any condition or circumstance on which the original classification was predicated. Due notice of any such change shall be given to the owner, superintendent, and assistant superintendent of the treatment plant.

SECTION 8. OPERATOR QUALIFICATIONS AND CLASSIFICATIONS FOR WWTF's

- (a) Approved applicants shall be examined by the Board as to education, experience, and knowledge as related to the classification of plants. Applicants must pass the required written examination.
- (b) In evaluating qualifications of applicants, the Board will be guided by the following:
 - (1) Experience requiring technical knowledge and whether direct responsible charge of work was included. In larger plants where direct responsibility is divided, shift supervisors of important sections or their equivalent may be credited with having direct responsible charge in accordance with the definitions.
 - (2) Experience, to be acceptable, must be the result of satisfactory accomplishment of work. Evaluation may be based on reports of the Department of Environmental Management, or other agencies having appropriate responsibilities for regulating systems or facilities.
 - (3) Where applicable, education may be substituted for a portion of experience requirements as specified below:
 - (i) Two (2) years of college studies in science, engineering, or related fields may be considered as equivalent to a maximum of one (1) year of experience.
 - (ii) Where education is substituted for experience, it shall not exceed an amount which would reduce the requirement of actual experience to less than one (1) year for Grade 1 or less than two (2) years actual experience for Grades 2 and 3 and three (3) years for Grade 4.
 - (iii) Education applied to the experience requirement cannot also be applied to the education requirement.
 - (4) Where applicable, experience may be substituted for a portion of educational requirements as specified below:

- (i) One (1) year of experience may be considered as equivalent to a maximum of two (2) years of college.
 - (ii) Experience applied to educational requirement may not also be applied to the experience requirement.
- (5) Substitutions of formal education may be made as follows:
 - (i) Satisfactory completion of applicable courses of study approved by the Board such as correspondence courses or short courses, will be equivalent to a maximum of six (6) months of college or one (1) year of high school;
 - (ii) An acceptable high school equivalency certificate may be used to substitute for a high school diploma.
- (c) Four (4) grades of licensees are hereby established. Licensees qualifications are intended to relate to the corresponding classifications for wastewater treatment facilities.

(1) GRADE 1

All applicants for this grade must submit satisfactory evidence of a high school or high school equivalency certificate, the completion of one (1) year employment in good standing at a wastewater treatment facility and:

- (i) a passing grade on the Grade 1 examination offered by the Board; or
- (ii) successful completion of a Board-approved training course within two (2) years prior to application.

(2) GRADE 2

All applicants for this grade must pass a Grade 2 examination and must submit satisfactory evidence of:

- (i) Graduation from high school and one (1) year of experience in operation of treatment facilities of Grade 1 or higher; or
- (ii) A holder of a Grade 1 license and two (2) years of high school and successful completion of two (2) or more specialized courses, approved by the Board, related to wastewater treatment operation, and the completion of two (2) years of employment, in good standing, at a wastewater treatment facility of Grade 1 or higher; or
- (iii) A holder of a Grade 1 license and successful completion of two (2) or more specialized courses, approved by the Board, related to wastewater treatment operation, and the completion of three (3) years of employment, in good standing, at a wastewater treatment facility of Grade 1 or higher.

(3) GRADE 3

All applicants for this grade must pass a Grade 3 examination and must submit satisfactory evidence of:

- (i) Bachelor's or Master's degree in science, engineering, or related fields and two (2) years of employment in good standing in direct responsible charge at a wastewater treatment facility of Grade 2 or higher; or
- (ii) Successful completion of a two (2) year college curriculum, with the equivalent of one (1) full year consisting of courses with a passing grade in science, engineering, or related fields; and four (4) years of employment as an operator in good standing, two (2) of which are to be in direct responsible charge at a wastewater treatment facility of Grade 2 or higher; or
- (iii) Graduation from high school or holder of Grade 2 certificate and five (5) years of employment as an operator in good standing, of which three (3) are in direct responsible charge at a wastewater treatment facility of Grade 2 or higher.

(4) GRADE 4

All applicants for this grade must pass a Grade 4 examination and must submit satisfactory evidence of:

- (i) Bachelor's or Master's degree in science, engineering, or related fields and three (3) years of employment in good standing in direct responsible charge at a wastewater treatment facility of Grade 3 or higher; or
 - (ii) Successful completion of at least two (2) years of college, the equivalent of one (1) full year consisting of courses with a passing grade in science, engineering, or related fields; and five (5) years of employment as an operator in good standing, three (3) of which are direct responsible charge at a wastewater treatment facility of Grade 3 or higher; or
 - (iii) Graduation from high school and holder of a Grade 3 certificate and six (6) years of employment as an operator in good standing, of which three (3) are in direct responsible charge at a wastewater treatment facility of Grade 3 or higher.
- (d) Any individual employed full-time as either a maintenance technician or a laboratory technician, while not required to become certified, may be allowed to become certified up to Grade 2 only. However, any individual's experience while employed as a maintenance

technician or laboratory technician cannot be considered for the experience requirements of the Grade 3 or Grade 4 license.

- (e) The following positions are required to be certified as follows:

<u>Position</u>	<u>Minimum Grade</u>
Superintendent	Grade of the Facility
Assistant Superintendent	Grade of the Facility
Operations Supervisor	One grade less than facility or Grade 2 whichever is higher
Shift Supervisor	Grade 2

All operators not otherwise specified shall be required to have at least a Grade 1 certificate.

- (f) All persons holding the positions of Operations Supervisor or Shift Supervisor as of September 17, 1991, shall be exempt from Section 8(e); however such exemption shall be valid only at the facility where such person was employed as of such date.

SECTION 9. ISSUANCE OF OPERATOR-IN-TRAINING CERTIFICATE

- (a) The Board may permit an applicant for any grade to take an examination in a given grade, if the individual has submitted evidence of education and experience satisfactory to the Board for the purpose of becoming an "operator-in-training." OIT Certificates may be valid for up to two (2) years, therefore any applicant for examination must at the time of examination require only a maximum of two (2) years additional experience.
- (b) Upon successfully passing the examination the applicant shall be issued an "operator-in-training certificate" for the grade applied for.
- (c) A holder of an operator-in-training certificate may, with the consent of the Board, be allowed in certain circumstances to operate a treatment facility of his examined grade on a temporary basis until his/her experience requirements are met.

SECTION 10. ISSUANCE OF A PROVISIONAL CERTIFICATE

A non-renewable six (6) month provisional certificate may be issued to a superintendent or assistant superintendent, operations supervisor, or shift supervisor only in specific instances:

- (a) Where the Board deems necessary, and;

- (b) Where the Board is satisfied that such individual is able to meet all requirements of a particular grade including, but not limited, to experience and education.

SECTION 11. APPLICATIONS

- (a) Any individual desiring to be certified shall file an application with the Board not less than thirty (30) days before the date of the examination, on an application form provided by the Board.
- (b) The application shall be accompanied by a fee of ten dollars (\$10.00). The bi-annual renewal fee will be ten dollars (\$10.00).
- (c) The Board shall review applications and supporting documents, determine the eligibility of the applicant for examination and notify the applicant of the same.
- (d) The application fee will not be returned upon failure to pass the examination.

SECTION 12. EXAMINATIONS

- (a) The Board shall prepare written examinations to be used in determining knowledge, ability and judgment of the operators.
- (b) Examinations shall be held at least twice annually at a place and time set by the Board. Notification of examination shall be posted at least sixty (60) days in advance of the examination date.
- (c) Except in such cases as the Board may decide, all examinations shall be written. All examinations shall be graded by the Board or by its designees, and the applicant shall be notified of the outcome in writing. Papers used in the examination will not be returned to the applicant, but the results may be reviewed with a member of the Board, or its designee, upon request by the applicant up to thirty (30) days after notification of the results.
- (d) The Board will grade all exams with a minimum passing grade of 70 percent (70%). No examination will be scaled.
- (e) Applicants who fail to pass an examination may apply to be re-examined at a regularly scheduled examination.
- (f) A Grade 2 operator meeting all of the requirements of the Grade 3 examination except being in direct responsible charge may apply to take the Grade 3 examination. If passed, that person would receive a notice of passing valid for a period of two (2) years from the examination date. If within the two (2) years that individual secures a position of direct responsible charge at a Grade 2 or higher wastewater treatment facility, he/she would not be required to take the examination to be eligible for an OIT certificate.

SECTION 13. CERTIFICATION

- (a) Upon satisfactory fulfillment by an applicant of the provisions of the Rules and Regulations adopted by the Board, the Board shall issue a suitable certificate designating competency. This two (2) year certificate shall expire at the end of every other calendar year and may be renewed thereafter for additional two (2) year periods. The certificate shall indicate the grade of treatment facility for which the operator is qualified. The certificates for superintendent and assistant superintendents shall be prominently displayed in the office of the wastewater treatment facility.
- (b) A newly issued certificate shall expire at the end of the calendar year and may be renewed for additional two (2) year periods thereafter.
 - (1) Licensees who are no longer employed at a Rhode Island wastewater treatment facility may continue to renew their certificate.
 - (2) Licensees will be notified as to the expiration of their certificate, and the necessity to renew. All renewals must be received by December 31 of the year of expiration. Any individual who does not apply for renewal upon receipt of the first (1st) notice will be sent a second (2nd) notice by certified mail stating the individual has until February 15th to apply for renewal and pay a late fee of fifteen dollars (\$15.00) in addition to the renewal fee. A copy of the second (2nd) notice will be sent to the superintendent. If an application for renewal is not received by February 15, a third (3rd) notice will be sent to the wastewater treatment facility owner, superintendent, and the licensee by certified mail. This will be the final notice. Payment of a late fee of fifty dollars (\$50.00) plus the renewal fee of ten dollars (\$10.00) will be required. The licensee license will be revoked if the renewal is not received within fifteen (15) calendar days of receipt of the third (3rd) notice, and as such said individual will no longer be able to work at a wastewater treatment facility in the State of Rhode Island. Re-certification will be through examination only.
 - (3) Should the Board determine that a substantial number of acceptable training courses are available to all grades of Rhode Island licensees, then the Board may institute a **Mandatory Retraining for Renewal** (MRR) requirement which will operate with the following guidelines:
 - (i) The Board must notify licensees, within ninety (90) days of the close of a two year licensure period, that the MRR is presently in effect. Hence, in order to renew an operator license for the next renewal date (i.e., in approximately two (2) years) a minimum amount of training will be required.
 - (ii) All licensees must satisfactorily attain twenty (20) hours of acceptable training within the two year period.

- (iii) Training hours, to be considered acceptable and to be applied to an licensee's training hours, must be achieved from a course, seminar, or other curriculum which has been approved by the Board. Any course, seminar or curriculum will be reviewed by the Board or its designees for purposes of granting prior approval.
 - (iv) The licensee is responsible for ensuring that a course, seminar or other curriculum is approved by the Board, and that those hours with that course can be accredited to the operator's training requirements.
 - (v) The burden of proof lies with the licensee to satisfy the Board that any course, seminar, or other curriculum not previously approved by the Board meets Board criteria and should be approved for credit.
 - (vi) The Board is not responsible for notifying licensees of their individual status and/or the number of credited hours which they have attained. Additionally, it is ultimately the individual licensee's responsibility to inform the Board of any training hours to be applied to their training hours.
 - (vii) At the close of the two year renewal period, the Board will determine if each licensee has been credited with the required hours of acceptable training.
 - (viii) If a licensee has not acquired the required hours, as specified above, then the license will not be renewed and the license will then be invalid. With an invalid license, the licensee will not be able to work as an operator at a wastewater treatment facility in the State of Rhode Island. Recertification will be by examination only.
- (c) As a condition of certification, licensees are responsible for informing the Board in writing as to a change of address or a change in employment status. Said notification must be within thirty (30) calendar days of said change.
- (d) Superintendents of a facility are responsible for notifying the Board when their facility hires a new operator. Said notification must be within thirty (30) calendar days of the hiring and must include the operator's full name, address, social security number and starting date.
- (e) Should a facility be upgraded or reclassified, the superintendent and assistant superintendent must become certified through examination equal to the new grade of the treatment facility prior to the initiation of operations or start-up procedures for the facility. Operations and shift supervisor reclassification, if necessary, must also occur prior to the start-up of the facility.
- (f)

- (i) Certificates may be issued, upon application, without examination, in a comparable classification to an individual who holds a certificate issued by any state that is recognized by the Association of Boards of Certification, if in the judgment of the Board, the requirements for certification of operators under which such individual's certificate was issued are equivalent to the requirements of these regulations. A certificate issued under the provisions of this subsection is valid at any wastewater treatment facility.
- (ii) In order for an applicant to obtain a Rhode Island Grade 4 wastewater treatment facility ("WWTF") operator's license on the basis of the applicant's possession of an operator's license issued by another state which is deemed by the Board to have requirements for licensure equivalent to that of a Rhode Island Grade 4 WWTF operator's license, the applicant must also demonstrate the following to the satisfaction of the Board:
 - (aa) that he/she is employed or has been accepted for employment as an assistant superintendent or a superintendent at a grade 4 WWTF in the state of Rhode Island;
 - (bb) that his/her employment as an equivalent Grade 4 WWTF operators at a WWTF located in the state which issued the equivalent Grade 4 WWTF operator's license must have terminated no earlier than one (1) year prior to the filing of his/her application with the Board; and
 - (cc) that his/her employment as an equivalent grade 4 WWTF operator in the state which issued the equivalent grade 4 WWTF operator's license should be considered to have been accomplished with an overall favorable rating and that he/she should have been terminated his/her service in the other state in good standing.
- (g) Certificates issued without examination to those operators so employed as of June 30, 1979 shall be valid only in that facility at which the operator was employed at the time of certification.

SECTION 14. REVOCATION OF CERTIFICATES

- (a) The Board may revoke the certificate of a superintendent, assistant superintendent, operator, laboratory technician or maintenance technician when it finds that he/she performed his/her duties in a negligent manner that produced an effluent below the standards normal for the particular facility operated; or that he/she has practiced fraud or deception; or that reasonable care, judgment or the application of his/her knowledge or ability was not used in the performance of his/her duties; or that an individual is incompetent or unable to perform his/her duties properly.

- (1) The Board will provide the individual whose certificate is being considered for revocation with a written request to submit a response whether in writing or orally at a Board Meeting to allegation received.
- (2) If, after due consideration, the Board determines that an individual's certificate should be revoked, the Board will issue a certified Letter of Intent to revoke the subject certificate.
- (3) The individual shall be afforded ten (10) calendar days to request an adjudicatory hearing considering the proposed revocation of his/her certificate.
- (4) If no request for a hearing is received within the ten (10) calendar days provided, the Board shall then issue a Letter of Revocation.
- (5) Request for an adjudicatory hearing can be made to:

**Office of Administrative Adjudication
Department of Environmental Management
235 Promenade Street – Room 310
Providence, Rhode Island 02908**

TABLE I. CLASSIFICATION OF WASTEWATER TREATMENT FACILITIES - POINT VALUES

Assign points for every item that applies:

<u>Item</u>	<u>Points</u>
Size	
Maximum population equivalent (P.E.) served (peak days)	1 pt. per 10,000 P.E. or part. _____ (Max. 10 Points)
Design flow (avg. day) or peak month's flow (avg. day), whichever is larger.....	1 pt. per MGD or part. _____ (Max. 10 Points)
Effluent Discharge	
Receiving stream (sensitivity).....	1-6* _____
Land disposal-evaporation.....	2 _____
Subsurface disposal.....	4 _____
Variation in Raw Wastes (slight to extreme).....	0-6* _____
Preliminary Treatment	
Flow equalization.....	3 _____
Screening comminution.....	3 _____
Grit removal.....	3 _____
Plant pumping of main flow.....	3 _____
Primary Treatment	
Primary clarifiers.....	5 _____
Combined sedimentation/digestion.....	5 _____
Chemical addition (except chlorine, enzymes).....	4 _____
Secondary Treatment	
Trickling filter w/sec. clarifiers.....	10 _____
Activated sludge w/sec. clarifiers..... (including ext. aeration and oxidation ditches with or without sand filters)	15 _____
Rotating Biological Contactors.....	10 _____
Stabilization ponds without aeration.....	5 _____
Aerated lagoon.....	8 _____
Advanced Waste Treatment	
Polishing pond.....	2 _____
Chemical/physical-without secondary.....	15 _____
Chemical/physical - following secondary.....	10 _____
Biological or Chemical/biological.....	12 _____
Ion exchange.....	10 _____
Reverse osmosis, electrodialysis.....	15 _____
Chemical recovery carbon regeneration.....	4 _____
Microstrainers.....	4 _____
Solids Handling	
Thickening.....	5 _____
Anaerobic digestion.....	10 _____
Aerobic digestion.....	6 _____
Mechanical dewatering.....	8 _____
Evaporative sludge drying.....	2 _____
Solids reduction (incineration, wet oxidation).....	12 _____
Sludge composting.....	5 _____
Disinfection	
Chlorination or comparable.....	5 _____
On-site generation of disinfectant.....	5 _____
Dechlorination.....	5 _____
Ultra-violet.....	5 _____
Laboratory Control by plant personnel	
Bacteriological (complexity).....	0-10* _____
Chemical/physical (complexity).....	0-10* _____

FINAL TOTAL

* See attached Variable Point Guide, Table II

** If unique treatment plant conditions distort the point total, the certification board will adjust the facility classification.

TABLE II. WASTEWATER TREATMENT PLANT CLASSIFICATION - VARIABLE POINT GUIDE

EFFLUENT DISCHARGE

Receiving stream sensitivity (1-6)

The key concept is the degree of dilution provided under low flow conditions. Suggested point values are:

"Effluent limited segment" in EPA terminology; secondary treatment is adequate:	1
More than secondary treatment is required	2
"Water quality limited segment" in EPA terminology: stream conditions are very critical (dry run, for example) and a very high degree of treatment is required	3
Effluent used in a direct recycle and reuse system	6

Variation in Raw Wastes, slight to extreme (0-6)

The key concept is frequency and/or intensity of deviation or typical fluctuations; such deviation can be in terms of strength, toxicity, shock loads, I/I, etc. Suggested point values are:

Variations do not exceed those normally or typically expected	0
Recurring deviations or excessive variations of 100 to 200 percent in strength and/or flow	2
Recurring deviations or excessive variations of more than 200 percent in strength and/or flow	4
Raw wastes subject to toxic waste discharges	6

LABORATORY CONTROL BY PLANT PERSONNEL

Bacteriological/biological, complexity 0-10

The key concept is to credit bacteriological/biological lab work done on-site by plant personnel. Suggested point values are:

Lab work done outside the plant	0
Membrane filter procedure	3
Use of Fermentation tubes or any dilution method: fecal coliform determination	5
Biological identification	7
Virus studies or similarly complex work conduct on-site	10

Chemical/physical, complexity (0-10)

The key concept is to credit chemical/physical lab work done on-site by plant personnel. Suggested point values are:

Lab work done outside the plant	0
Push-button or visual methods for simple tests such as pH, Settleable solids	up to 5
More advanced determinations such as specific constituents: nutrients, total oils, phenols, etc.	up to 7
Highly sophisticated instrumentation such as atomic absorption and gas chromatography	10

Range of Points	30 and less.	31 - 55	56 - 75	76 and greater.
Resulting Facility Grade	1	2	3	4

The foregoing "Rules and Regulations for Wastewater Treatment Facility Operators", after due public notice and hearing, are hereby adopted in accordance with the provisions of Chapter 42-17.4 and Chapter 42-35 of the General Laws of Rhode Island of 1956, as amended.

Edward S. Szymanski, Chairman

BOARD OF CERTIFICATION OF OPERATORS
OF WASTEWATER TREATMENT FACILITIES

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