

DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
DIVISION OF WATER
Surface Water Discharges Section

7204 Regulations for Licensing Operators Of Wastewater Facilities

1.0 Authority and Purpose

- 1.1 Authority - These regulations are adopted by the Secretary of the Department of Natural Resources and Environmental Control, under and pursuant to, the authorities set forth in 7 **Del.C.** Ch. 60, §6023.
- 1.2 Purpose - The purpose of these regulations is to protect the public health and to conserve and protect the water resources of the State; to provide for the classification of all public and private (including industrial) wastewater treatment facilities; to require the examination of operators and licensing of their competency to operate, on-location, such facilities; to create a Board of Certification; and to provide for reciprocal licensing arrangements with other states.

2.0 Definitions

The following words and terms, when used in this regulation, have the following meaning unless the context clearly indicates otherwise:

“Association of Boards of Certification For Operating Personnel in Water and Wastewater Utilities (ABC)” means that organization which: serves as an information center for certification activities; recommends minimum standards and guidelines for classification of Wastewater Facilities and certification of operators; aids in the establishment of reciprocity between State Programs; and assists authorities in establishing new certification programs and updating existing ones.

“Board” means the State Board of Certification (BOC) for Operators of Wastewater Treatment Facilities.

“Delaware Licensed Wastewater Operator” means an individual, who at a given time, through observation, interpretation, or decision, operates a Wastewater Treatment Facility or a segment of a system or facility.

“Department” means the Department of Natural Resources and Environmental Control.

“Direct Responsible Charge (DRC)” means on-location accountability for, and on-location performance of, active operation (including Technical Supervision, Administrative Supervision, or Maintenance Supervision) for a Wastewater Treatment Facility, an operating shift of a system or a facility, or a major segment of a system or facility, and is responsible for the operation and compliance of the facility according to the permit and laws of the State of Delaware.

“Multi-Plant Operator” means a Delaware Licensed Wastewater Operator who operates more than one (1) Wastewater Treatment Facility as a regular or back-up operator.

“On-Site Wastewater Disposal System” means a Wastewater Treatment Facility permitted under Delaware’s Regulations Governing the Design, Installation, and Operation of On Site Wastewater Treatment and Disposal Systems.

“Operate” means the actions necessary for the effective performance of a Wastewater Treatment Facility or a major segment of a system or 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.

“Publicly Owned Treatment Works (POTW)” means a sewage treatment plant that is owned by a government agency, and are usually designed to treat domestic sewage and not industrial wastewater.

“Responsible Management Entity (RME)” is a legal entity under contract to maintain responsibility for managing and operating multiple Wastewater Treatment Facilities (See Section 4.0).

“Secretary” means the Secretary of the Department of Natural Resources and Environmental Control or his/her duly authorized designee.

“Wastewater Treatment Facility (Facilities)” means the system of pipes, structures, equipment, or processes required to treat any wastewater, and dispose of the effluent; including the treatment, handling, and disposal of residuals and biosolids related thereto.

3.0 State Board of Certification For Operators of Wastewater Facilities

- 3.1 The Board shall be appointed by the Secretary to advise and assist the Secretary in the administration of the certification program. The Board will consist of five (5) members with the Chairman being a non-Departmental member: One (1) member who is currently certified as a Delaware Licensed Wastewater Operator of an individual NPDES permitted point source discharge facility; one (1) member who is currently certified as a Delaware Licensed Wastewater Operator of a non-point source discharge facility (less than 50,000 gallons per day (gpd) permitted plant design); one (1) member representing the Department's Surface Water Discharges Section, who shall be responsible for maintaining records; one (1) member who is currently certified as a Delaware Licensed Wastewater Operator of an industrial, commercial or other non-Publicly Owned Treatment Works facility; and one (1) member-at-large. The members of the Board shall serve at the discretion of the Secretary for three (3) year terms which will be staggered so that the term of not more than two (2) members will expire in any single year.
- 3.2 The Board, with the consent of the Secretary, shall establish such procedures and guidelines as may be necessary for the administration of these regulations, and shall include at least the following provisions:
- 3.2.1 procedures for examination of applicants and renewal of licenses
 - 3.2.2 procedures for the suspension and revocation of licenses
 - 3.2.3 guidelines for evaluating equivalency of training and examinations conducted by recognized agencies and institutions
 - 3.2.4 guidelines for evaluating equivalency of other certification and/or licensing programs for the purpose of according reciprocal treatment
 - 3.2.5 procedures for establishing regularly scheduled meetings
 - 3.2.6 procedures for evaluating continuing education requirements, in accordance with subsection 8.1.4
 - 3.2.7 procedures for evaluating applications to operate more than one (1) Wastewater Treatment Facility.
- 3.3 When taking action pursuant to these regulations, the Board may consider generally applicable criteria and guidelines developed by the Association of Boards of Certification for Operating Personnel in Water and Wastewater Utilities (ABC).

21 DE Reg. 900 (05/01/18)**4.0 Licensing Requirements**

- 4.1 Any Wastewater Treatment Facility (except those specifically exempted by the Department), whether publicly or privately owned, used or intended for use by the public or private persons, shall be under the supervision of a Delaware Licensed Wastewater Operator(s) in Direct Responsible Charge, whose competency is licensed by the Secretary in a classification corresponding to, or higher than, the classification of the Wastewater Treatment Facility.
- 4.2 No person shall perform the duties of a Delaware Licensed Wastewater Operator without obtaining a Delaware Wastewater Operator's License.
- 4.3 Any Wastewater Treatment Facility (except those specifically exempted by the Department), whether publicly or privately owned, used or intended for use by the public or private persons, shall at all times have available, a Delaware Licensed Wastewater Operator(s) capable of operating the Wastewater Treatment Facility.
- 4.4 In January (no later than January 31) of each year, any owner of a Wastewater Treatment Facility whether publicly or privately owned, used or intended for use by the public or private persons, *shall* register with the Department and list the type of facility, the average daily flow, and the name(s) of all Delaware Licensed Wastewater Operators on a standard form provided by the Department (commonly known as a Section 4.04 Report). Any personnel changes involving the Delaware Licensed Wastewater Operator(s), including operators in DRC, shall be reported to the Department within 30 days after the change.
- 4.5 On-Site Wastewater Disposal Systems with a design flow less than 2,500 gallons per day (gpd), are exempt from the provisions of these regulations. Other Wastewater Treatment Facilities may be granted exemption by the Department under subsection 5.2.
- 4.6 All persons must be operating or have documented evidence of promise of employment at a Wastewater Treatment Facility in Delaware, in order to be issued a Delaware Wastewater Operators License.

21 DE Reg. 900 (05/01/18)

5.0 Classification of Wastewater Facilities

- 5.1 The Department shall classify Wastewater Facilities which discharge into other wastewater systems, or to receiving bodies of water, or on land surface or subsurface. The classification shall consider the skill, knowledge, and experience required of a Delaware Licensed Wastewater Operator; and shall be in accordance with the criteria hereby established.
- 5.2 Classification of Wastewater Treatment Facilities: Wastewater Facilities shall be classified in one (1) of four (4) classes. These classifications shall be made in accordance with the Point System established in accordance with the "State Board of Certification Point System Classification of Wastewater Treatment Facilities" (included as Table 1 of these regulations), and the range of points for each class of facility as shown below:
- | | |
|-----------|----------------------|
| Class I | 11 - 30 Points |
| Class II | 31 - 55 Points |
| Class III | 56 - 75 Points |
| Class IV | 76 Points or greater |
- Wastewater Treatment Facilities other than those with on-site wastewater disposal systems, scoring fifteen (15) points or less, shall be exempt from the requirements of subsection 4.1 of these regulations, and the owner shall be so notified by the Department. Wastewater Treatment Facilities with on-site wastewater disposal systems only, scoring ten (10) points or less, shall be exempt from the requirements of these regulations (unless otherwise required by the Department), and the owner shall be so notified by the Department.
- 5.3 Any Wastewater Treatment Facility may be classified in a class other than indicated by the general criteria after determination by the Secretary. The Secretary may consider special features of design, characteristics or conditions of flow, or use of the receiving waters or combination of such conditions. The owner of the Wastewater Treatment Facility shall be given due notice of the Secretary's tentative determinations, and any comments shall be considered before making the final determination.
- 5.4 The classification of any Wastewater Treatment Facility may be changed at the discretion of the Secretary by reason of changes in condition or circumstances on which the original classification was predicated. Due notice of any such change shall be given to the owner of the Wastewater Treatment Facility.

21 DE Reg. 900 (05/01/18)

6.0 Operator Qualifications and Classifications

- 6.1 Applicants for Licensing shall be evaluated by the Board as to education, experience, and knowledge. Further, applicants may be required to give evidence of good character, dependability, interest in work, and other pertinent characteristics in relation to responsible operations. Any person seeking a license under this Section shall submit a complete application to the Department, on a standard form provided by the Department, pay the non-refundable application fee and must have passed the required written examination within the previous three (3) years, unless the Board determines that an alternate examination format is necessary, or when applying for a "Temporary License". Licenses issued pursuant to this Section are not transferrable and shall be issued for two (2) years.
- 6.2 Delaware Licensed Wastewater Operators - Four (4) Classes of operators are hereby established. The qualifications are intended to relate, as nearly as possible, to the corresponding classifications for Wastewater Treatment Facilities.
- 6.2.1 Level IV
- 6.2.1.1 A Bachelor's Degree in science or engineering from an accredited college or university, or equivalent credit hours in any other curriculum as approved by the Board and
- 6.2.1.2 Four (4) years of acceptable operating experience in Wastewater Treatment Facilities of Class III or higher; two (2) years of which must have been in a position of DRC.
- 6.2.2 Level III
- 6.2.2.1 An Associate's Degree in science or engineering from an accredited college or university, or equivalent credit hours in any other curriculum as approved by the Board, and
- 6.2.2.2 Four (4) years of acceptable operating experience in Wastewater Treatment Facilities of Class II or higher; two (2) years of which must have been in a position of DRC.
- 6.2.3 Level II
- 6.2.3.1 High School Diploma or equivalent and

TITLE 7 NATURAL RESOURCES & ENVIRONMENTAL CONTROL

DELAWARE ADMINISTRATIVE CODE

6.2.3.2 Three (3) years of acceptable operating experience in Wastewater Treatment Facilities of Class I or higher.

6.2.4 Level I

6.2.4.1 High School Diploma or equivalent and

6.2.4.2 One (1) year of acceptable operating experience in a Wastewater Treatment Facility.

6.3 Specialty License - where a Wastewater Treatment Facility is of a highly unusual character, requiring skills and techniques other than those indicated by the general criteria, the Board may, with the consent of the Secretary, provide a Specialty License to an operator. Such Specialty License shall only be valid for operating the specific Wastewater Treatment Facility for which it is issued. The requirements for a Specialty License shall be determined by the Board on a case-by-case basis.

6.4 In evaluating an applicant's qualifications, the Board will be guided by the following:

6.4.1 Experience requiring technical knowledge, and whether or not Direct Responsible Charge (DRC) was included. In large plants where responsibility is divided, operators of important divisions may be credited with having DRC, as long as the DRC designation appears on the annual Section 4.04 Form submission.

6.4.2 Experience, to be acceptable, must be the result of satisfactory accomplishment of work. Evaluation may be based on reports of the employers, or by state and local agencies having appropriate responsibilities for supervising systems and facilities.

6.4.3 Partial credit may be given for operating experience in maintenance, laboratories, or other work involving water or Wastewater Treatment Facilities.

6.4.4 Where applicable, education may be substituted for a portion of operating experience requirements as specified below:

6.4.4.1 Where education or training is substituted for operating experience, it shall not exceed an amount which would reduce the requirement of actual operating experience to less than one year for Level I, or less than two years actual operating experience for Levels II, III, and IV.

6.4.4.2 Education applied to the operating experience requirement cannot also be applied to the education requirement.

6.4.4.3 College Level education as approved by the Board, may be substituted year-for-year for operating experience (any Wastewater Treatment Facility Classification). College level education cannot be substituted for DRC experience at any Level.

6.4.4.4 Specialized Delaware Licensed Wastewater Operator training courses, correspondence courses, Seminars, workshops, etc., may be substituted for operating experience on a case by case basis; and the equivalency will be determined by the Board.

6.4.5 Where applicable, operating experience may be substituted for educational requirements as specified below:

6.4.5.1 Operating experience applied to educational requirement may not be applied to the operating experience requirement.

6.4.5.2 One (1) year of DRC operating experience may be substituted year-for-year for one (1) year of college level education.

6.4.6 Substitutions for formal education may be made as follows:

6.4.6.1 Specialized operator training courses, correspondence courses, seminars, workshops, etc., may be substituted for formal education on a case by case basis; and the equivalency will be determined by the Board.

6.4.7 Additionally, the Board may be guided by special circumstances, if appropriate.

21 DE Reg. 900 (05/01/18)

7.0 Examination

7.1 The Board, or its authorized designee, shall prepare written examinations to be used in determining knowledge, ability, and judgment of the applicant. Any person wishing to take the examination shall submit a completed application to the Department, on standard form provided by the Department, and pay the non-refundable fee no later than 14 calendar days prior to the examination, or as provided by the Board.

7.2 Examinations shall be held at places and times as set by the Board, with a suitable method of advance announcement made by the Board. Examinations shall be conducted at least semi-annually.

- 7.3 Examinations shall be written, unless the Board determines that an alternate format is necessary. All examinations will be graded by the Board, or by others designated by the Board, and the applicant notified of the outcome. Examinations will not be returned to the applicant. However, a method will be provided to review the results with a member of the Board or its authorized designee on request by the applicant. Examination results are valid for three (3) years from the date of the examination.
- 7.4 Separate examinations shall be prepared to cover each Level of operator, as established in subsection 6.2.
- 7.5 Any person who has failed the written examination for a particular Delaware wastewater operator level on two (2) consecutive occasions, must satisfactorily complete an approved educational examination review course prior to being allowed to take that particular level of written examination again.

21 DE Reg. 900 (05/01/18)

8.0 Licensing

- 8.1 Issuance of a License
 - 8.1.1 Upon satisfactory fulfillment of the requirements provided herein, and based on the recommendation of the Board, the Secretary may issue a license to the applicant. This license will indicate the level for which the Delaware wastewater operator has qualified.
 - 8.1.2 A license may be issued, without examination, in a comparable classification, to any person who holds a current valid certificate or license in any jurisdiction, if in the judgment of the Board, the requirements under which the person's certification or license was issued, are of a standard not lower than that specified by these regulations.
 - 8.1.3 A license shall be renewable every two (2) years unless revoked for cause, replaced by one of a higher level, or invalidated under subsection 8.1.4 below. Operator-In-Training and Temporary License renewals must be approved by the Board.
 - 8.1.4 An applicant for a license renewal shall submit a complete application to the Department, on a standard form provided by the Department, pay the non-refundable application fee, and provide proof that the applicant has in the preceding two years, attended or satisfactorily completed a minimum of twenty (20) hours of approved training, of which: a minimum of ten (10) hours directly related to Wastewater Treatment Facility operations or maintenance, and a maximum of ten (10) hours indirectly related training that are approved by the Board. Failure to do so shall be grounds for invalidation. This requirement applies to all Level licenses, including Operator-In-Training Licenses and Temporary Licenses.
 - 8.1.4.1 The Board will maintain and make available a report of approved/denied continuing education training courses. Approved courses will be reflected as directly or indirectly related to Wastewater Treatment Facility operations or maintenance.
 - 8.1.4.2 Duplication of directly related courses in consecutive renewal periods will be denied.
 - 8.1.4.3 Hours for approved on-line courses will be given for actual time of courses as indicated on the certificate of completion.
 - 8.1.4.4 Delaware Licensed Wastewater Operators who teach an approved continuing education training course will receive the advertised hours for the course.
 - 8.1.5 A Delaware Licensed Wastewater Operator whose license is invalidated, per subsection 8.1.4 above may be re-issued a license of like level, provided:
 - 8.1.5.1 Less than two (2) years from date of invalidation, the Wastewater Operator meets the requirements of subsection 8.1.4 above with the addition of a non-refundable late fee, (the license shall be issued on the date of approval); or
 - 8.1.5.2 Greater than two (2) years from date of invalidation, the Wastewater Operator shows appropriate proof of competency (i.e. operating experience) by submitting a complete application to the Department, on a standard form provided by the Department, pay the non-refundable application fee and provide proof of successful completion of a written examination within the previous three (3) years.
 - 8.1.6 Operator-In-Training License - An applicant who desires to become licensed and does not meet the experience or educational requirements may, with the approval of the Board, receive an Operator-In-Training (OIT) license, pending fulfillment of these requirements, provided the appropriate examination has been successfully passed within the previous three (3) years. A holder of an OIT license may, only with the recommendation of the Board be allowed to be in DRC (in accordance with Section 4.0) of a Wastewater

TITLE 7 NATURAL RESOURCES & ENVIRONMENTAL CONTROL

DELAWARE ADMINISTRATIVE CODE

Treatment Facility on a temporary basis, until the requirements are met; up to a maximum period of two years.

8.1.7 Emergency License - Based on the recommendation of the Board, the Secretary may issue an Emergency License, when it is demonstrated to the satisfaction of the Secretary, that the owner is unable to hire a Delaware Licensed Wastewater Operator in spite of good faith efforts. The applicant for an Emergency License shall meet specific requirements as set forth by the Board. Such licenses may be issued with special conditions or requirements deemed necessary to protect the public health and the water resources of the State. An emergency license shall be valid only for that facility or system for a period of one (1) year, and may be renewed for a maximum of one (1) additional year, when extreme extenuating circumstances are shown and concurred with by the Board.

8.1.8 Temporary Level I OIT License - Based on the recommendation of the Board, the Secretary may issue a Temporary License to an applicant who desires to become licensed and does not meet the experience or educational requirements, and has not successfully passed an appropriate examination within the previous three (3) years. Upon passing the State examination, and/or fulfillment of the educational requirement, applicant is eligible for the appropriate Level I License. In order to be considered for a Temporary Level I OIT License, the applicant:

8.1.8.1 Must be employed (or have documented evidence of promise of employment) as a Wastewater Operator in Delaware.

8.1.8.2 Must, at all times, work only under the immediate direction of a Delaware Licensed Wastewater Operator.

8.1.8.3 Must pass the Delaware Wastewater Operator State Examination within two (2) years of issuance of the Temporary License.

8.1.8.4 A Temporary Level I OIT License is valid for two (2) years, and may only be extended with Board approval.

8.2 Suspension and Revocation of License - The Secretary may suspend or revoke the license of a Delaware Licensed Wastewater Operator, after considering the recommendation of the Board, when it is found that the Delaware Licensed Wastewater Operator has practiced fraud or deception; that reasonable care, judgment, or the application of knowledge or ability, was not used in the performance of the Delaware Licensed Wastewater Operator's duties; or that the Delaware Licensed Wastewater Operator is incompetent or unable to perform duties properly. The Board shall hold a hearing before making its recommendations.

8.3 Additional Persons Licensed as DRC - The Secretary may determine, due to the size of the facility, shift operation, or other influencing factors, that more than one (1) operator shall be required to be in DRC at a given facility.

8.4 Additional Wastewater Facilities

8.4.1 Application may be made to the Secretary to operate more than one Wastewater Treatment Facility, and must include justification and capabilities. The Board will evaluate the application in accordance with the "Approval for a Wastewater Operator to Operate More Than One (1) Wastewater Treatment Facility" established in Table 2 of these regulations.

8.4.2 Any person considered in DRC of more than one (1) Wastewater Treatment Facility may be required to be licensed in a level higher than the classification of those facilities in the operator's charge. The level of a Delaware Wastewater Operator's license may be further increased depending upon the total number of facilities under the DRC of the Delaware Licensed Wastewater Operator. The Board will recommend, with the consent of the Secretary, the level of the Delaware Wastewater Operator's license in accordance with these factors.

21 DE Reg. 900 (05/01/18)

9.0 Fees

The fee schedule for Delaware Licensed Wastewater Operator applications, examinations, and licenses, shall be established by the General Assembly.

21 DE Reg. 900 (05/01/18)

10.0 Prohibited Acts

10.1 It shall be unlawful:

TITLE 7 NATURAL RESOURCES & ENVIRONMENTAL CONTROL

DELAWARE ADMINISTRATIVE CODE

7

10.1.1 To operate any Wastewater Treatment Facility (except those exempted under provisions of these regulations) unless the person(s) in DRC is (are) duly licensed under the provisions of these regulations; and

10.1.2 For any person to perform the duties of a Delaware Licensed Wastewater Operator without being duly licensed under the provisions of these regulations.

21 DE Reg. 900 (05/01/18)

11.0 Penalties

Any person who knowingly and willfully violates any provision of these regulations shall be subject to enforcement and penalties under 7 Del.C. §6005.

21 DE Reg. 900 (05/01/18)

12.0 Reciprocity

12.1 Certification or licensing of operators by any State, as determined by the Secretary, which accepts certifications made or certification requirements determined to be substantially equivalent to the requirements of these regulations or any rules promulgated hereunder, shall be recognized as valid and sufficient within the purview of these regulations.

12.2 In making determination pursuant to subsection 12.1, the Secretary shall consult with the Board, and may consider any generally applicable criteria and guidelines developed by the Association of Boards of Certification for Operating Personnel in Water and Wastewater Utilities (ABC).

21 DE Reg. 900 (05/01/18)

13.0 Repealer

The provisions of these regulations are intended to supersede existing regulations of this State insofar as they relate to the matters included in these regulations.

21 DE Reg. 900 (05/01/18)

14.0 Severability

If any part of these regulations, or the application of any part thereof, is held invalid or unconstitutional, the application of such part to other persons or circumstances and the remainder of these regulations shall not be affected thereby, and shall be deemed valid and effective.

21 DE Reg. 900 (05/01/18)

15.0 Department Contact Point

Department of Natural Resources and Environmental Control
State Board of Certification for Operators of Wastewater Treatment Facilities
Division of Water
89 Kings Highway
Dover, DE 19901
Telephone: (302) 739-9946

5 DE Reg. 1307 (12/01/01)

21 DE Reg. 900 (05/01/18)

TABLE 1 POINT CLASSIFICATION OF WASTEWATER TREATMENT FACILITIES

Definitions:

Activated Sludge: A secondary (biological) wastewater treatment process which utilizes micro-organisms suspended by aeration in an aerobic environment followed by clarification. Some common examples are: Conventional, Extended Aeration, Intermittent Cycle Extended Aeration System (ICEAS), Contact Stabilization, Oxidation Ditches, Sequential Batch Reactor (SBR), and Membrane Bioreactor (MBR).

TITLE 7 NATURAL RESOURCES & ENVIRONMENTAL CONTROL

DELAWARE ADMINISTRATIVE CODE

Aeration: The process of adding air to water. Air can be added to water by passing air through water or passing water through air.

Biological Nutrient Removal (BNR): The biological removal of nitrogen and phosphorus from wastewater.

Biological or Chemical/Biological Advanced Waste Treatment: The advanced treatment of wastewater for nutrient removal, including nitrification, denitrification, or phosphorus removal, utilizing biological or chemical processes or a combination thereof. If the Wastewater Treatment Facility is designed to nitrify based solely on detention time in an extended aeration system, only the points for nitrification by designed extended aeration, should be given.

Chemical Addition/Pretreatment: The addition of a chemical to wastewater, at an application point for the purposes of adjusting pH or alkalinity, improving solids removal, dechlorinating, removing odors, providing nutrients, or otherwise enhancing treatment, excluding chlorination for disinfection of effluent and the addition of enzymes or any process included in the Tertiary Chemical/Physical Processes. The capability to add a chemical at different application points for the same purpose, should be rated as one (1) application; the capability to add a chemical(s) to dual units, should be rated as one (1) application; and the capability to add a chemical at different application points for different purposes, should be rated as separate applications.

Chemical/Physical Advanced Treatment Following Secondary Treatment: The use of chemical or physical advanced treatment processes following (or in conjunction with) a secondary treatment process. This would include processes such as carbon adsorption, air stripping, chemical coagulation, and precipitation, etc.

Chemical/Physical Advanced Treatment Without Secondary Treatment: The use of chemical or physical advanced treatment processes without the use of a secondary treatment process. This would include processes such as carbon adsorption, air stripping, chemical coagulation, and precipitation, etc.

Dissolved Air Flotation (DAF)/Dissolved Nitrogen Flotation (DNF): Process of solids removal where dissolved air is added to the treatment unit from the bottom of the basin, and the air raises suspended particles to the top of the water, where the particles are removed by skimming.

Enhanced Nutrient Removal (ENR): Refines the Biological Nutrient Removal (BNR) process and removes total nitrogen to levels as low as 3 mg/L and total phosphorus to 0.3 mg/L or less.

Filtration: The advanced treatment of wastewater for removal of solids by sand or other media or mixed media filtration.

Fixed-Film Reactor: Biofiltration by trickling filters or rotating biological contactors, followed by secondary clarification.

Land Treatment and Disposal (surface or subsurface): The ultimate treatment and disposal of the effluent onto the surface of the ground by rapid infiltration or rotary distributor or by spray irrigation. Subsurface treatment and disposal would be accomplished by infiltration gallery, injection, or gravity or pressurized drain field.

Mechanical Dewatering: The removal of water from sludge by any of the following processes, and including the addition of polymers, vacuum filtration; frame, belt or plate filter presses; centrifuge; or Rotary Press.

Mechanical Post-Aeration: The introduction of air into the effluent by mechanical means such as diffused or mechanical aeration. Cascade aeration would not be assigned points.

Mechanical Thickening: To reduce the liquid content of the sludge by a thickening process and including the additional of polymers in any of the following common examples: Dissolved Air Flotation (DAF) or Gravity Belt Thickeners (GBT).

Membrane Bioreactor (MBR): A combination of two basic processes – biological degradation and membrane separation – into a single process where suspended solids and microorganisms responsible for biodegradation are separated from the treated water by membrane filtration unit.

Odor Control: Specific devices for reducing odors. Does not include “masking” devices.

Oil and Water Separator: Specific devices for the separation of oil from wastewater.

P.F.R.P.: Processes to “further” reduce pathogens in bioresiduals, prior to further use. Now currently known as Class A sludge which limits coliform bacteria to a single count of less than one (1) thousand per gram by analysis.

pH Adjustment: The alteration of the pH of the raw wastewater or pre-finished wastewater by mechanical or chemical procedures, to enhance the performance of the treatment process.

Population Equivalent (P.E.): Means the population computed by relating the total daily weight (W lbs.) of Biochemical Oxygen Demand (BOD) to the daily per capita BOD of 0.17 lb. as shown below:

P.E. = W/0.17

10,000 (per capita)

P.S.R.P.: Processes to “significantly” reduce pathogens in bioresiduals, prior to further use. Now currently known as Class B sludge which limits coliform bacteria to an average count of less than two (2) million per gram by analysis.

Rapid Infiltration Basin (RIB): means earthen basins designed for a repetitive cycle of flooding, infiltration/percolation, and drying of treated wastewater.

Reverse Osmosis (R.O.): Passage of wastewater from a concentrated solution through a semipermeable membrane, to finished water with the application of pressure.

SCADA Instrumentation: The Supervisory Control and Data Acquisition system is a computer-based system that monitors and controls remote wastewater treatment facility sites. A SCADA master control is typically located in a dedicated control center or treatment plant control room. Remote sites are equipped with remote terminal units to gather information and issue controls from the master station.

Secondary Treatment: A type of biological treatment of wastewater followed by secondary clarifiers.

Sequential Batch Reactor (S.B.R.): An activated sludge treatment process that takes place in a single vessel, cycling through stages.

Solids Composting: Biosolids treatment process whereby solids are combined with other organic matter and operated to promote thermophilic decomposition of wastes which may then be used as a soil conditioner or fertilizer.

Solids Stabilization: The processes to oxidize or reduce the organic matter in the sludge, to a more stable form. These processes reduce pathogens or reduce the volatile organic chemicals, and thereby reduce the potential for odor. These processes would include lime (or similar) treatment and thermal conditioning.

Spray Irrigation: A method for disposing of treated wastewater by spraying it on the land surface.

Subsurface Disposal: See definition for Land Treatment and Disposal (surface or subsurface) above.

Tertiary Treatment: Those processes commonly used after secondary treatment to meet water reuse requirements.

TITLE 7 NATURAL RESOURCES & ENVIRONMENTAL CONTROL

DELAWARE ADMINISTRATIVE CODE

Facility:		Date:	
Address:		Classifier:	
Permit No.:		Facility Representative:	
POINT SYSTEM CLASSIFICATION OF WASTEWATER TREATMENT FACILITIES¹			
(Assign points for every item that applies)			
ITEM		PTS	PTS
SIZE		2 point minimum to 20 point	
Maximum Population Equivalent (P.E.) served, peak (lbs. BOD) day, per 10,000 P.E. or part	P.E. = W/0.17 10,000 (per capita)	Per. Calc.	
Design daily flow or peak month's daily average flow, whichever is larger, per MGD or part		Per. Permit	
EFFLUENT DISCHARGE			
<i>Receiving Stream Sensitivity</i>			
Slight – “Effluent Limited Segment” in USA EPA Terminology; Secondary Treatment is adequate		2	
Moderate – More than Secondary Treatment is required		4	
Extreme – “Water Quality Limited Segment” in USA EPA Terminology; stream conditions are critical, and a very high degree of treatment is		6	
Discharge into Treatment System		1	
<i>Land Treatment</i>			
Spray/Rotary Irrigation			
Unlimited Public Access		2	
1 - 50,000 gallons per day		4	
50,001 - 250,000 gallons per day		6	
250,001 or greater gallons per day		8	
Rapid Infiltration Basin (RIB)		4	
Subsurface Disposal		4	
VARIATION IN RAW WASTE		0 point minimum to 6 point	
Variations do not exceed those normally or typically expected from the design parameters		0	
Variations of 100% to 200% in strength and/or flow		2	
Variations of more than 200% in strength and/or flow		4	
Raw wastes subject to toxicity		6	
<i>Impact of septage or truck-hauled waste</i>		0 point minimum to 4 point	
No septage received		0	
Less than one half of one percent (<0.5%) of the design flow		2	
Equal to or greater than one half of one percent (≥0.5%) of the design flow		4	

¹ Any technologies outside of those listed will be evaluated for point equivalencies.

POINT SYSTEM CLASSIFICATION OF WASTEWATER TREATMENT FACILITIES (Assign points for every item that applies)		
ITEM	PTS	PTS
PRETREATMENT (COLLECTION SYSTEM)		
Preaeration	3	
*Chemical Addition (pre-chlorination, pH, peroxide, permanganate, enzymes, etc.)	3	
Collection System (screens and/or comminution, pump and/or lift stations)	3	
PRELIMINARY TREATMENT		
Plant Pumping of Main Flow Maximum of 3 points for an entire Wastewater Treatment Facility	3	
Oil & Grease Removal (trap or skimmer)	3	
Screening	3	
Comminution	3	
Grit Removal	3	
Septage Receiving Station	3	
Equalization with or without aeration	3	
*Chemical Addition	3	
PRIMARY TREATMENT		
Settling Basin, Tanks or Lagoons	5	
Primary Clarifier(s)	5	
Combined Sedimentation and/or Digestion	5	
Oil and Water Separator	4	
Dissolved Air Flotation (DAF) Units	8	
Dissolved Nitrogen Flotation (DNF) Units	8	
*Chemical Addition	3	
SECONDARY TREATMENT		
Fixed Film with Secondary Clarifiers	10	
Activated Sludge Processes: Conventional Activated Sludge, Extended Aeration, Contact Stabilization, Oxidation, Ditches, SBRs, MBRs or equivalent with Secondary Clarification	15	
Biological Nutrient Removal (BNR) or Enhanced Nutrient Removal (ENR) or equivalent	5	
Stabilization Ponds without Aeration	5	
Aerated Lagoon or Tanks	8	

TITLE 7 NATURAL RESOURCES & ENVIRONMENTAL CONTROL

DELAWARE ADMINISTRATIVE CODE

POINT SYSTEM CLASSIFICATION OF WASTEWATER TREATMENT FACILITIES <i>(Assign points for every item that applies)</i>		
ITEM	PTS	PTS
SECONDARY TREATMENT (continued)		
Artificial Wetlands	5	
Recirculating Filter	4	
*Chemical Addition	3	
TERTIARY/ADDITIONAL TREATMENT		
Polishing Ponds	2	
Chemical/Physical without Secondary Treatment	10	
Physical – following Secondary Treatment (i.e., sand filters, other media, or mixed media filtration, etc.)	6	
Carbon Filtration	4	
Cartridge Filtration	2	
Dissolved Air Flotation (DAF)	8	
Biological or Chemical/Biological (including artificial wetland)	10	
Ion Exchange	10	
Reverse Osmosis	15	
Carbon Regeneration	4	
Air/Steam Stripping	3	
Oil and Water Separator	5	
Odor Control	3	
Post Aeration	2	
*Chemical Addition	3	
SOLIDS HANDLING		
Aerated Solids Holding Tank	3	
Non-Aerated Solids Holding Tank	1	
Thickening by Settling Methods	3	
Thickening by Mechanical Methods	5	
Mechanical Dewatering	8	
Anaerobic Digestion	10	
Aerobic Digestion	6	

POINT SYSTEM CLASSIFICATION OF WASTEWATER TREATMENT FACILITIES (Assign points for every item that applies)		
ITEM	PTS	PTS
SOLIDS HANDLING (continued)		
Biosolids Drying Beds	4	
Evaporative Drying	2	
Solids Reduction (incineration, wet oxidation)	12	
Landfilling of Biosolids on Permittee Property	3	
Land Application by Plant Personnel	8	
P.S.R.P. (Alkaline Stabilization, Composting, Other)	6	
P.F.R.P. (Alkaline Stabilization, Composting, Other)	10	
*Chemical Addition	3	
DISINFECTION		
<i>Chlorination</i>		
Gas	5	
Liquid	3	
Peroxide or Other	3	
Ultraviolet Disinfection	3	
Ozone Disinfection	8	
<i>Dechlorination</i>		
Gas	5	
Liquid	3	
Aeration	3	
LABORATORY CONTROL BY PLANT PERSONNEL 0 point min. to 15 point		
Assign one point for each test done (permit required test only)	1 ea.	
INSTRUMENTATION 0 point minimum to 6 point		
The use of SCADA or similar instrumentation systems to provide data with no process operation	0	
The use of SCADA or similar instrumentation systems to provide data with limited process operation	2	
The use of SCADA or similar instrumentation systems to provide data with moderate process operation	4	
The use of SCADA or similar instrumentation systems to provide data with extensive or total process operation	6	

**TITLE 7 NATURAL RESOURCES & ENVIRONMENTAL CONTROL
DELAWARE ADMINISTRATIVE CODE**

POINT SYSTEM CLASSIFICATION OF WASTEWATER TREATMENT FACILITIES (Assign points for every item that applies)	
TOTAL NUMBER OF POINTS	
CLASSIFICATION	
Class I (11 - 30 points)	
Class II (31 - 55 points)	
Class III (56 - 75 points)	
Class IV (76 points or greater)	
<i>Unless otherwise required by permit or regulations</i>	

***Chemical Addition – maximum of nine (9) points for an entire Wastewater Treatment Facility.**

Notes:

WASTEWATER TREATMENT FACILITY DIAGRAM

TABLE 2
APPROVAL FOR A DELAWARE LICENSED WASTEWATER OPERATOR TO
OPERATE MORE THAN ONE (1) WASTEWATER TREATMENT FACILITY

Section 1 - Basic Concept

Operation of a Wastewater Treatment Facility is intimately connected to the protection of the environment and therefore such operation requires training, experience, and a degree of commitment and care by the Delaware Licensed Wastewater Operator.

Performing the functions of a Delaware Licensed Wastewater Operator is not a custodial function, but is a professional activity that requires planning, scheduling and active intervention by the Delaware Licensed Wastewater Operator.

Section 2 – Delaware Licensed Wastewater Operator Eligibility

To be approved to operate more than one (1) Wastewater Treatment Facility, a regular DRC and/or backup DRC Delaware Licensed Wastewater Operator must meet the following requirements:

1. The Delaware Licensed Wastewater Operator shall have a minimum of a Level II license and shall be licensed for the highest class of Wastewater Treatment Facility being operated. Special circumstances will be considered by the Board. Note: A Level I operator may be approved to operate more than one treatment facility; however, this applies only to additional facilities that are Type E (septic tanks only).
2. The existing Wastewater Treatment Facility being operated by the Delaware Licensed Wastewater Operator shall show no violations (that are within the Delaware Licensed Wastewater Operator's control) of the same effluent parameter for more than two (2) consecutive months before the Board will consider the Delaware Licensed Wastewater Operator's written request to operate more than one (1) Wastewater Treatment Facility.
3. If the Delaware Licensed Wastewater Operator is employed full-time, then the Delaware Licensed Wastewater Operator shall provide a letter (on company letterhead) from the full-time employer stating the Delaware Licensed Wastewater Operator can maintain the Wastewater Treatment Facilities and be immediately available during normal working hours of the full-time employer to answer and immediately respond to emergency calls at the Wastewater Treatment Facilities being operated. The letter shall also state that the full-time employer will notify the Department in writing within five (5) calendar days if this approval changes.
4. The operator must include all facilities operated both in-state and out-of-state.

Section 3 - Limitations

1. A Delaware Licensed Wastewater Operator may serve as a regular and/or backup Wastewater Operator in Direct Responsible Charge (DRC) of a combination of Wastewater Treatment Facilities in accordance with the following table. A Delaware Licensed Wastewater Operator may be approved to operate in DRC any combination of Wastewater Treatment Facilities provided that the total accumulation of regular points from the table below does not exceed 25 regular points. A Delaware Licensed Wastewater Operator may serve as a backup Delaware Licensed Wastewater Operator at Wastewater Treatment Facilities other than the ones currently operated provided the total accumulation of backup points from the table below does not exceed 20 backup points. Special circumstances will be considered by the Board.

WASTEWATER		
Type	Points, Regulator Delaware Licensed Wastewater Operator	Points, Backup Delaware Licensed Wastewater Operator
A	15	8
B	10	5
C	5	3
D	3	2
E	2	1

Where the type of Wastewater Treatment Facility is determined by permitted plant design average flow as shown in the following table:

TYPES OF WASTEWATER TREATMENT FACILITIES BY PERMITTED PLANT DESIGN AVERAGE FLOW	
Types	Design Average Flow
A	Greater than 500,000 Gals/Day
B	200,001 – 500,000 Gals/Day
C	50,000 – 200,000 Gals/Day
D	<50,000 Gals/Day
E ***	<20,000 Gals/Day
***Limited to basic, conventional type on-site wastewater treatment and disposal systems utilizing a septic tank as the primary treatment process. Does not include any "enhanced" conventional septic tank systems.	

2. The Delaware Licensed Wastewater Operator's authority to operate more than one (1) Wastewater Treatment Facility may be immediately revoked by the Department if:
 - a) It is found that the Delaware Licensed Wastewater Operator has practiced fraud or deception; or
 - b) that reasonable care, judgment, or the application of knowledge or ability was not used in the performance of the Delaware Licensed Wastewater Operator's duties; or
 - c) that the Delaware Licensed Wastewater Operator is incompetent or unable to perform duties properly; or
 - d) if Discharge Monitoring Reports (DMRs) for any one (1) specific Wastewater Treatment Facility being operated show violations of the same effluent parameter for more than two (2) consecutive months that are within the Delaware Licensed Wastewater Operator's control.

The Delaware Licensed Wastewater Operator may recommend, for the Department's consideration, which one (1) of the Wastewater Treatment Facilities the Delaware Licensed Wastewater Operator would prefer to continue to operate, if approved.

3. The Delaware Licensed Wastewater Operator shall submit a schedule for operating and maintaining all Wastewater Treatment Facilities. A minimum of two (2) Wastewater Treatment Facility operation and maintenance visits per calendar week is required for the simplest of Wastewater Treatment Facilities, [except as noted in the table below]. More frequent visits may be required depending upon the operational complexity of each Wastewater Treatment Facility. In submitting the schedule, the Delaware Licensed Wastewater Operator shall note thereon that the Department shall be notified in writing with an amended schedule within five (5) calendar days of any change to the original or previously approved schedule. Failure to do so may result in

TITLE 7 NATURAL RESOURCES & ENVIRONMENTAL CONTROL

DELAWARE ADMINISTRATIVE CODE

revocation of the Delaware Licensed Wastewater Operator's privilege to operate more than one (1) Wastewater Treatment Facility.

The Delaware Licensed Wastewater Operator in DRC, or a Delaware Licensed Wastewater Operator approved by the facility DRC shall visit each Wastewater Treatment Facility for which he/she is responsible at least as frequently as shown on the following table or as approved by the Department:

ALL WASTEWATER TREATMENT FACILITY TYPES	
Types	Minimum Frequency
A	Daily
B	Daily
C	Three Times Per Week
D	Two Times Per Week
E ***	One Time Every Two Weeks
***Limited to basic, conventional type on-site wastewater treatment and disposal systems utilizing a septic tank as the primary treatment process. Does not include any "enhanced" conventional septic tank systems .	

4. The DRC Delaware Licensed Wastewater Operator or, in his/her absence a backup Delaware Licensed Wastewater Operator (or other approved Delaware Licensed Wastewater Operator), shall be on 24-hour call and shall be able to respond to any Wastewater Treatment Facility being operated and arrive at the Wastewater Treatment Facility within 60 minutes after receiving notification, whether during emergencies or normally scheduled operations and shall have a communication system which will provide for contact with the Delaware Licensed Wastewater Operator(s) during both working and off-duty hours. This communication system may be as fundamental as a list of telephone numbers where the Delaware Licensed Wastewater Operator(s) can most likely be reached during routine daily activities.
5. A schedule of routine visits to each Wastewater Treatment Facility, for which a Delaware Licensed Wastewater Operator is responsible, must be submitted with the request for approval to operate more than one (1) Wastewater Treatment Facility. The schedule should be updated if significant changes occur. Copies of the schedule shall be provided to the designated backup Delaware Licensed Wastewater Operator for each facility and shall be posted at each facility for which the Delaware Licensed Wastewater Operator is responsible.
6. The DRC Delaware Licensed Wastewater Operator shall assure that the backup Delaware Licensed Wastewater Operator (or other approved Delaware Licensed Wastewater Operator) is available to assume responsibility for the operation of each facility when the DRC Delaware Licensed Wastewater Operator is not available. The backup Delaware Licensed Wastewater Operator shall meet the requirements of a DRC Delaware Licensed Wastewater Operator during such period of service.
7. Delaware Licensed Wastewater Operators (not associated with an RME) must complete the following:
Approval for a Delaware Licensed Wastewater Operator to Operate More Than One (1) Wastewater Treatment Facility – Delaware Licensed Wastewater Operators Not Associated with a Responsible Management Entity (RME).
8. Authorization for the Delaware Licensed Wastewater Operator to be responsible for the operation of the Wastewater Treatment Facilities listed will be granted, upon approval of the Department in the form of an authorization letter.
9. Upon receiving official authorization, the Delaware Licensed Wastewater Operator must post a copy of the authorization letter, along with a copy of his/her certificate, at each Wastewater Treatment Facility listed on the

form.

Section 4 - Requirements/Exceptions for Responsible Management Entities (RME):

RME is a legal entity that contracts to maintain responsibility for managing and operating multiple Wastewater Treatment Facilities, and shall be guided by all of the requirements of this regulation, with the following additional requirements and/or exceptions:

1. A RME is defined as any legal entity (i.e.: company, corporation, partnership, etc.), consisting of six (6) or more employees, that is responsible for providing various management and operating services with the requisite managerial, financial, and technical capacity to ensure the long-term management of multiple Wastewater Treatment Facilities in accordance with all applicable regulations and performance requirements.
2. Any Wastewater Treatment Facility being managed and operated by a RME will continue to be required to send in a Section 4.04 Report whenever there is a change in the Delaware Licensed Wastewater Operator(s) as defined in "Regulations for Licensing Operators of Wastewater Facilities". The RME managing the Wastewater Treatment Facilities, however, will be required to send in a Quarterly Report to the Department. This Quarterly Report must list all Delaware Licensed Wastewater Operators employed by the RME (full-time and part-time), their assigned locations, dates assigned, points allocation, etc. The report will show DRC Delaware Licensed Wastewater Operators, backup Delaware Licensed Wastewater Operators, Wastewater Treatment Facility assignments, location of Wastewater Treatment Facilities, visit frequencies, etc. Any change in the Wastewater Treatment Facility listing must be communicated to the Department within 30 days (this includes any additions or deletions of Wastewater Treatment Facilities). This Quarterly Report will be used to track Delaware Licensed Wastewater Operator's and their experience.
3. The RME must maintain and track "Point Allocations" as specified in Section 3.1 of this Table 2. It will be the responsibility of the RME to ensure that the scope of work and responsibilities for all Delaware Licensed Wastewater Operators is guided by the "Point Allocations" and that the maximum allowable multi-plant points are not exceeded. If it is found that a Delaware Licensed Wastewater Operator(s) have or are operating beyond their maximum allowable points for multi-plant operations, this could be grounds for revocation of the Delaware Licensed Wastewater Operators authority to operate in more than one (1) Wastewater Treatment Facility. Additionally, if the RME is found to have practiced fraud or deception in tracking and/or allocating points for their Delaware Licensed Wastewater Operators, authority to operate multiple Wastewater Treatment Facilities for all Delaware Licensed Wastewater Operators working for the RME could be subject to revocation.
4. Employees (full-time and part-time) of a RME who will be assigned to multi-plant operations must complete the following: ***Approval for a Delaware Licensed Wastewater Operator to Operate More Than One (1) Wastewater Treatment Facility – Employee of a Responsible Management Entity (RME)***. This application must be filed on the initial assignment of any employee; thereafter, any changes to assignments will be included in the RME's required Quarterly Report to the Department.

5 DE Reg. 1307 (12/01/01)

21 DE Reg. 900 (05/01/18)