

INDEX

RULES AND REGULATIONS

ON

LICENSING

OF

SUPERINTENDENTS

OR OPERATORS

OF

PUBLIC WATER TREATMENT PLANTS, AND

**PUBLIC SEWAGE TREATMENT PLANTS, AND
PUBLIC WATER SUPPLY SYSTEMS**

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PREFACE

This booklet has been prepared for the purpose of assisting those interested in becoming a licensed operator or superintendent of a Public Water Supply System, Public Water Treatment Plant or Public Sewage Treatment Plant.

Public health is rapidly expanding both in scope and in the application of technical methods. The necessity for training was an important reason for the passage of laws in 1918 requiring licenses for persons employed as superintendents or operators. The necessity for employing trained and qualified personnel has become imperative.

Various universities and colleges offer courses in the sanitary and biological sciences.

In addition to courses giving collegiate credits, special courses are offered from time to time in particular aspects for those interested in operations of Public Water Supply Systems Public Water Treatment Plants and Public Sewage Treatment Plants.

In evaluating applications for admissions to examinations the New Jersey High School Equivalent Certificate will be recognized as the equivalent to graduation from an accredited high school. Information concerning the securing of such Certificate can be obtained from the Division of Academic Credentials, State Department of Education, Trenton, New Jersey.

Field experience and training under qualified supervisor is an important supplement to formal education.

Examination inquiries should be addressed to State Department of Health, Bureau of Examination and Licensing, P. O. Box 1540, Trenton 25, New Jersey.



RULES AND REGULATIONS

1. **EXAMINING BOARD.** A Board of Examiners is hereby established to advise the Department in the preparation and administration of examinations conducted under authority of R.S. 58:11-18.11.

This Board shall be comprised of certain engineering personnel of the Department and actively engaged superintendents or operators having at least five years experience in the operation of public water treatment plants, public water supply systems, or public sewage treatment plants, in the State of New Jersey and possessing a current license for one or all at the time of appointment. The members of the Board of Examiners shall be appointed by the State Commissioner of Health and shall be comprised of not more than three (3) representatives from the Water Works field and not more than three (3) from the Sewage Works field and at least three (3) from department engineering personnel at least one of whom shall be the holder of a Professional Engineer license and shall serve for at least a three (3) year period or at the discretion of the Commissioner.

No compensation shall be paid for the services of the members of the Board of Examiners but they shall be reimbursed for their necessary expenses incurred in performing the services herein prescribed.

The Board of Examiners shall keep minutes of its meetings and it shall transmit its recommendations through the Bureau of Examination and Licensing to the Commissioner.

2. **EXAMINATIONS** for licenses to operate public water treatment plants, public water supply systems, and public sewage treatment plants shall be given at least twice annually and at such other times as the Department may deem necessary. They shall be prepared, be conducted and scored in accordance with department standard operating procedures by the Bureau of Examination and Licensing with the advice of the Board of Examiners.

Unassembled examinations may be administered upon recommendation of the Board.

Oral examinations conducted for any of the classifications of licenses established under these rules and regulations shall be for the purpose of obtaining from applicants their general knowledge of the licensing act and their concepts of the responsibilities of licensees.

3. **APPLICATIONS** for admission to examinations shall be made on forms to be furnished by the Department. Applications shall be filed with the Bureau of Examination and Licensing of the Department on or before February 28, and September 30. All applications shall be accompanied by documentary evidence supporting educational and experience data. Applicants will be advised at least two weeks in advance regarding admission to examinations.

4. **FILING FEE.** The required statutory fee shall accompany each application.

5. **EXAMINATION ADMITTANCE REQUIREMENTS.**

EDUCATION
Limits of allowable substitution of education for experience are indicated in the requirements for each license classification.

EXPERIENCE

Credit will be given for experience obtained in actual operation of a utility equivalent to that to be covered by the license sought. Some credit may be given for experience in allied lines of work. Credit may be given for full time experience through in-service training under a person possessing a license of the proper classification issued by the Department. (For additional information See Appendix IV) Education and Experience requirements for admission to examinations are set forth below for each type license.

License Classifications T-1, W-1, and S-1

Education

Operating Experience

- | | |
|---|----------------|
| 1. College Degree | 1. Two years |
| 2. N. J. Professional Engineers License | 2. Two years |
| 3. College Training | 3. Three years |
| 4. High School Graduate or Equivalent | 4. Four years |
| 5. High School Training with Successful Completion of Basic Short Course(s) or Correspondence Course(s) acceptable to the Department. | 5. Five years |

Note: Successful completion of a short course of an advanced nature will be considered the equivalent of one year operating experience.

License Classifications T-2, W-2, and S-2 and 3

Education

Operating Experience

- | | |
|---|---------------------------|
| 1. College Degree | 1. One and one half years |
| 2. N. J. Professional Engineers License | 2. One and one half years |
| 3. College Training | 3. Two years |
| 4. High School Graduate or Equivalent | 4. Three years |
| 5. High School Training with Successful Completion of Basic Short Course(s) or Correspondence Course(s) acceptable to the Department. | 5. Four years |
| 6. Grammar School Completion | 6. Five years |

Note: Successful completion of a short course of an advanced nature will be considered the equivalent of one year operating experience. S-2 Plants 50,000 gallons or less. Education and Experience acceptable to Department.

NEW JERSEY STATE DEPARTMENT

OF HEALTH

The State Department of Health of the State of New Jersey pursuant to the authority vested in it by Chapter 177, Laws of 1947, hereby promulgates the following Rules and Regulations governing the examination and licensing of superintendents or operators of Public Water Treatment Plants, Public Sewage Treatment Plants, and Public Water Supply Systems. All prior Rules and Regulations in these matters adopted on various dates by the Department of Health of the State of New Jersey are hereby rescinded.

STATE DEPARTMENT OF HEALTH OF

THE STATE OF NEW JERSEY

ROSCOE P. KANDLE, M.D., M.P.H.

State Commissioner of Health

Filed Secretary of State: April 13, 1962

Effective date: October 1, 1962

ABSTRACTS OF N.J.S.A. TITLE 58, CHAPTER 11
ARTICLE 5 AS AMENDED

Definitions

58:11-18.10 Definitions. As used in this act (58:11-18.10 et seq.):

(a) "Public water treatment plant" means any structure or structures by means of which water prior to discharge into a public water supply system is subjected to the addition or abstraction of a substance or substances in order to enhance the safety, palatability, public health or aesthetic qualities, or reduce the corrosive or hazardous properties of the water used for potable or domestic purposes.

(b) "Public sewage treatment plant" means any structure or structures by means of which domestic wastes are subjected to any artificial process in order to remove or so alter constituent as to render the wastes less offensive or dangerous to the public health, comfort or property of any of the inhabitants of this state before the discharge of the plant effluent into any of the waters of this state; this definition includes plants for the treatment of industrial wastes as well as a combination of domestic and industrial wastes.

(c) "Public water supply system" means a system comprising structures which operating alone or with other structures result in the derivation, conveyance or (transmission) or distribution of water for potable or domestic purposes to consumers in twenty or more dwellings or properties; this definition does not include a public water treatment plant.

(d) "Superintendent or operators" means all persons under any local titles or other designations who are now or shall hereafter be in direct general charge of public water treatment plants, public sewage treatment plants or public water supply systems and who are responsible for and supervise the condition operation and effectiveness of the structures comprising the said plants or systems and who are responsible for the safety or quality of the effluents discharged or delivered from said plant or said systems and who are experienced in the operation of the structures and have knowledge of the methods and control used in the treatment of water or sewage or the deliveries or conveyance of water for potable or domestic purposes.

(e) "Department" means the department of health of the State of New Jersey.

(f) "Rules and regulations" means the rules and regulation adopted by the department of health of the State of New Jersey for the conduct of examinations for the licensing of superintendents or operators and may include qualifications for admittance to examinations and classifications based upon: the capacity of the plant or system, the amount of water supplied or sewage treated, the method of treatment, the source of water supply, the method of water distribution, the method of sewage collection, the nature or use of the waters prior to the use of said waters for potable or domestic purposes, the nature or use of the waters receiving the effluents from sewage treatment plants and, the limitation of the use of licenses issued pursuant to this act. (58:11-18.10 et seq.).

Successful completion of basic Short Course(s) or Correspondence Course(s) by persons in categories 3 and 4 will be considered the equivalent of six months operating experience.

License Classifications T-3 and W-3

Education	Operating Experience
1. College Degree	1. Acceptable to the Department
2. N. J. Professional Engineers License	2. Acceptable to the Department
3. College Training	3. Acceptable to the Department
4. High School Graduate or Equivalent	4. One and one half years
5. High School Training	5. Two years
6. Grammar School Completion	6. Three years

Note: Successful completion of basic Short Course(s) or Correspondence Course(s) will be considered the equivalent of six months operating experience and if a short course of an advanced nature is successfully completed an additional six months operating experience will be credited.

License Classification S-In

This classification shall be limited to Industrial Waste Treatment Plants. Educational requirements and/or experience shall be acceptable to the Department.

6. EXAMINATION WEIGHTS. In order to qualify in examination for a license, each applicant must receive a minimum rating of 70%.

7. LICENSES. Applicants who attain a passing grade in their examination will be notified and a license issued upon payment of the required license fee. Applicants so notified shall forward the license fee within 60 days.

8. CLASSIFICATION OF LICENSES. Licenses are classified as set forth below.

(a) Water Treatment Plants.

1. T-1 All water treatment plants employing sedimentation and/or coagulation, filtration, disinfection and other processes such as defined in T-2.

2. T-2 All water treatment plants employing aeration, iron and/or manganese removal, fluoridation, phosphate compound treatment, pH adjustment, softening and disinfection.

3. T-3 All water treatment plants employing disinfection only.

(b) Water Supply Systems.

1. W-1 All water supply systems delivering more than approximately 1,000,000 gallons per day.

2. W-2 All water supply systems delivering less than approximately 1,000,000 gallons per day.

3. W-3 All water supplies delivering water to not more than approximately 50 services. Such licensees shall be limited in their use to the particular water supply system to which they apply, except as permitted in Section 9 hereof.

(c) Sewage Treatment Plants.

1. S-1 All biological and/or chemical coagulation treatment plants with approved design capacities of more than 250,000 gallons per day. All plants comprising primary treatment only with an approved design capacity of 5,000,000 gallons per day or more.

2. S-2 All biological and/or chemical coagulation treatment plants with approved design capacities of less than 250,000 gallons per day.

3. S-3 All primary treatment plants with approved capacities of less than 5,000,000 gallons per day.

4. S-In All industrial waste treatment plants. This classification of license shall be limited to use for the particular treatment facility to which it applies, except as permitted in Section 9 hereof.

9. RESTRICTION ON USE OF LICENSES. No licensee shall serve as the superintendent or operator of a public water treatment plant, public water supply system, or public sewage treatment plant at which the classification of license required is not covered by the license held by the licensee.

Permission to operate more than one utility shall be obtained from the Department. The Department reserves the right to limit the number of plants or systems a licensee may operate. Permits granted under this regulation shall be for a period of time at the discretion of the Department.

Licenses shall notify the Bureau of Examination and Licensing of the Department immediately upon changing their position.

10. VIOLATION OF REGULATIONS. Violation of these regulations subjects licensee to penalties provided by statute.

(g) "Waters of this state" means the ocean and its estuaries, all springs, streams and bodies of surface waters, whether natural or artificial, within the boundaries of this state or subject to its jurisdiction.

(h) All other words or phrases shall be defined and construed as provided by chapter one of Title 1 of the Revised Statutes.

Licensing by Examination

58:11-18.11. In order to protect and preserve public health, safety and welfare, by providing that municipalities, corporations or persons owning or operating public water treatment plants, public sewage treatment plants or public water supply systems may secure the services of capable superintendents or operators, the department is hereby authorized to cause examinations to be made at least twice annually, by such persons and at such times and places as it may appoint and under such rules and regulations as it may adopt, for the purpose of determining the qualifications of applicants for licenses as superintendents or operators. Such examinations shall be in such subjects and conducted in such a manner as the department shall direct. Every applicant whose examination shall be approved by the department shall receive a license as superintendent or operator of public water treatment plants or public water supply systems or public sewage treatment plants, as the case may be.

Source: L. 1946, c. 295, section 2. Approved May 6, 1946, effective immediately.

58:11-18.12. No municipality, corporation or person shall appoint any person as superintendent or operator in charge of any public water treatment plant or of any public sewage treatment plant or of any public water supply system, or permit any person to discharge the duties of superintendent or operator of any such plant or system who is not a holder of a license issued by the department under the provisions of this act (58:11-18.10 et seq.); provided, however, that nothing herein contained shall prevent any municipality, corporation or person from continuing in office any person now occupying the office of superintendent or operator in charge of such plant or system, and the department upon certification from the proper municipal officer, corporation or individual, that such person held the office of superintendent or operator in charge of such plant or system at the time this act (58:11-18.10 et seq.) became effective, shall issue a license to said person to operate such plant or system in the same manner as if he had passed an examination held by the department; provided, further, however, that this act (58:11-18.10 et seq.) shall not affect the validity of licenses already issued by the department to superintendents or operators to operate such plants or systems under the provisions of chapter twenty-three, laws of one thousand nine hundred and eighteen (now sections 58:11-14 to 58:11-18 of the Revised Statutes) and chapter two hundred six, laws of one thousand nine hundred and thirty-eight (now sections 58:11-18.1 to 58:11-18.6 of the Revised Statutes).

License and Renewal Fees; Expiration of Licenses

58:11-18.13. The department shall issue a license upon payment of a license fee to any applicant who, in the opinion of the

department, has satisfactorily met all the requirements of this act (58:11-18.10 et seq.). The license fee shall be ten dollars (\$10.00), of which five dollars (\$5.00) shall accompany the application, the remainder to be paid upon notification that the applicant is entitled to a license. Should the department deny admittance to the examination or the issuance of a license to any applicant the initial fee of five dollars (\$5.00) shall be retained. Licenses shall expire on the thirtieth day of September following issuance or renewal. Licensees shall apply for renewal on or before the thirtieth day of September of each year. Renewal may be effected at any time during the month of September by the payment of a fee of five dollars (\$5.00). The failure on the part of the licensee to renew his license annually in the month of September as required shall not deprive such person of the right of renewal but the fee to be paid for renewal of a license after the thirtieth day of September shall be one dollar (\$1.00) for every three months or fraction thereof that payment of renewal is delinquent in addition to the annual renewal fee of five dollars (\$5.00). The failure on the part of the licensee to renew his license within two years from the date of expiration of said license will automatically revoke such license.

Revocation of Licenses

58:11-18.14. The department may revoke or suspend the license of any superintendent or operator of a public water treatment plant or public sewage treatment plant or public water supply system if, after a hearing held by the department or its director at which the superintendent or operator shall have had an opportunity to be heard, either in person or by counsel, the department determines that the superintendent or operator is incompetent to manage the plant or system, or that he has willfully neglected his duty in supervising the operation of the plant or system, or that he has disregarded or disobeyed the lawful orders, rules or regulations of the department. Any person whose license shall have been revoked shall be ineligible for admission to any examination authorized by this act (58:11-18.10 et seq.) for a period of not less than six months nor more than two years.

Penalties

58:11-18.15. Any municipality, corporation or person owning or operating a public water treatment plant, or a public sewage treatment plant or a public water supply system who shall violate any of the provisions of this act (58:11-18.10 et seq.), or any person commencing or continuing to discharge the duties of a superintendent or operator of a public water treatment plant, a public sewage treatment plant or a public water supply system without first having obtained a license or having failed to renew his license as provided in this act (58:11-18.10 et seq.), or discharging the duties of a superintendent or operator of such plant or system contrary to any of the provisions of this act (58:11-18.10 et seq.), shall be subject to a fine of ten dollars (\$10.00) for each day on which the violation has occurred. The penalty shall be recovered in the manner hereinafter provided. Source: L. 1946, c. 295, section 6. Approved May 6, 1946, effective immediately.

Prior-to Section

58:11-18.18. Nothing herein contained shall be held to abate or render invalid any notice or proceeding, or suit at law or in equity, which may have been served, begun or instituted by the department, prior to the date hereof, in accordance with the powers and duties heretofore conferred upon it, but the same shall continue in full force and effect, and be further advanced and prosecuted in the name of the department; no shall anything in this act (58:11-18.10 et seq.) be construed to anyway affect the tenure, term or status of any person holding a position requiring a license under the provisions of this act (58:11-18.10 et seq.) at the time of the passage of this act (58:11-18.10 et seq.).

Source: L. 1946, c. 295, section 9. Approved May 6, 1946, effective immediately.

Act Supersedes Prior Statutes; Tenure Act Applies

58:11-18.21. In so far as the provisions of this act (58:11-18.10 et seq.) are inconsistent with the provisions of an act, general or special, the provisions of this act (58:11-18.10 et seq.) shall be controlling, but nothing in this act (58:11-18.10 et seq.) contained shall be construed to repeal or in anyway impair the provisions of chapter two hundred thirty-four of the laws of one thousand nine hundred and forty-one, and said laws mentioned act shall also be applicable to persons licensed under this act (58:11-18.10 et seq.).

Source: L. 1946, c. 295, section 12. Approved May 6, 1946, effective immediately.

The Tenure Act — Chapter 234, Laws of 1941

58:11-18.7. *Tenure for persons in charge; removal; hearing.* No person now or hereafter licensed under the provisions of article five of chapter eleven of Title 58 of the Revised Statutes having direct general charge of the operation and maintenance of public water systems or sewage disposal or treatment plant after five years' consecutive service in any such position shall be removed from his position or subjected to a reduction of salary except for good cause and after a public hearing. In computing such five years' service the time served before the passage of this act shall be included, as well as time served after the passage hereof. The public board, officer or commission having power of appointment of any such person o

having the power to appoint a successor of any such person whom it is sought to remove or whose salary it is sought to reduce, shall formulate or receive charges, in writing, against such person and shall fix a time and a place for a hearing thereon. A written copy of the charges and a written notice of the time and place of the hearing shall be served upon the person sought to be removed at least five days prior to the hearing. At the hearing the public board, officer or commission shall hear all witnesses and receive all evidence produced and if the charges are found to be true in fact and just cause be shown the public board, officer or commission may remove or reduce the salary of the person against whom charges are made.

Source. L. 1941, c. 234, section 1, p. 654. Approved June 28, 1941, effective immediately.

58:11-18.8. *Purpose; persons not affected.* The purpose of this act (58:11-18.7 et seq.) is to prevent the unwarranted removal or reduction of salary without just cause of the individual who is now or shall hereafter be directly responsible for and in direct charge of the maintenance and operation of public water systems and sewage disposal or treatment plants. This act (58:11-18.7) shall not, however, affect any public officer whose term of office is now or shall hereafter be fixed by statute.

Source. L. 1941, c. 234, section 2, p. 655. Approved June 28, 1941, effective immediately.

58:11-18.9. *Private corporations not affected.* This act (58:11-18.7 et seq.) shall not apply to private corporations engaged in selling water to the public, either at wholesale or retail or to private corporations owning and operating public sewage disposal or treatment plants.

Source. L. 1941, c. 234, section 4, p. 655. Approved June 28, 1941, effective immediately.

Note: L. 1941, c. 234, section 4, p. 655, approved June 28, 1941, effective immediately, provided for the repeal of all acts or parts of acts inconsistent with chapter 234 (58:11-18.7 to 58:11-18.9).

Appendix II

WHAT CANDIDATES SHOULD KNOW IN PREPARING FOR EXAMINATIONS

The following are to be considered as general guides in preparing for various licensing examinations. However, it is expected all candidates will prepare themselves by studying and reviewing all aspects even though some plants or systems may not presently require full treatment facilities etc.

Water Supply System Operator Candidates

1. Statutes pertinent to Water Supplies.
2. Statutes pertinent to Licensing of Operators.
3. Elementary Bacteriology and Chemistry.
4. Physical (cross) connections.
5. Water Well maintenance and operation.
6. Various aspects of Water Distribution.
7. Public Health considerations.
8. Administration, including monthly records and reports.

Water Treatment Plant Operator Candidates

1. Statutes pertinent to Water Supplies.
2. Statutes pertinent to Licensing of Operators.
3. Bacteriology and Chemistry.

4. Physical (cross) connections.
5. Various methods of Water Treatment.
6. Plant Operations and maintenance.
7. Public Health considerations.
8. Administration, including monthly records and reports.
9. Sewage Treatment Plant Operator Candidates
10. Statutes pertinent to Stream Pollution and Sewage Facilities.
11. Statutes pertinent to Licensing of Operators.
12. Definitions of commonly used Sewerage terms.
13. Computation and Analysis of Mathematical Data.
14. Principles of Sedimentation, Filtration, Chemical Treatment, Activated Sludge, Sludge Digesting, Handling, Conditioning and Disinfection.
15. Laboratory Procedures, Field Tests and Interpretations.
16. Public Health aspects of Sewage Treatment.
17. Sewerage Facilities Administration aspects.
18. Treatment Plant Operating difficulties, causes and remedies.
19. Monthly Records and Reports.

Appendix III

SUGGESTED TEXTS FOR REVIEW BY PROSPECTIVE LICENSEES

Water Treatment and Water Supply

- Manual of Instruction for Water Treatment Plant Operators—New York State Department of Health, Albany, New York
- Manual for Water Works Operators—Texas Water and Sewage Works Association, Austin, Texas
- Operators Manuals of the American Water Works Association, 2 Park Avenue, New York, New York
- Water Supply Engineering (Babbitt and Doland) McGraw-Hill Book Company, New York, New York

Sewage Treatment

- Manual of Instruction for Sewage Treatment Plant Operators, New York State Department of Health, Albany, New York
- Manual for Sewage Treatment Plant Operators—Texas Water and Sewage Works Association, Austin, Texas
- Operators Manuals of the Water Pollution Control Federation, 4435 Wisconsin Avenue, N.W., Washington 16, D. C.
- Sewage Treatment (Imhoff and Fair)—John Wiley & Sons, New York, New York

Laboratory

- Analysis of Water and Sewage (Theroux, Eldridge and Mallman), McGraw-Hill Book Company, New York, New York
- Standard Methods for the Examination of Water, Sewage and Industrial Wastes—American Public Health Association, Inc., 1790 Broadway, New York, New York

Note: There are many fine texts on the above subjects and prospective licensees may obtain additional references from other sources.

Appendix IV

CRITERIA FOR EVALUATING EXPERIENCE OF APPLICATIONS FOR LICENSING EXAMINATION ADMITTANCE REQUIREMENT FOUND ON PAGE 8

Applicants possessing college degrees in the sciences and or New Jersey Professional Engineers licenses and who indicate full time working experience in a position requiring administrative responsibility for operation of utility equivalent to that to be covered by license sought, or experience in design, construction, and responsibility of placing public water supply systems, public water treatment plants, and public sewage treatment plants into operation will be considered operating experience for the periods indicated for the various license classifications shown below:

Other applicants will be given credit for experience obtained in the actual complete operation of a utility equivalent to that to be covered by the license sought provided, however such experience has been obtained under a person appointed by this Department for this purpose.