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State of New Jersey
Department of Labor and Industry
Division of Labor

**MECHANICAL
INSPECTION BUREAU**

29 E. Front Street
Trenton 25, New Jersey

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RULES AND REGULATIONS

Engineers' and Firemen's Licenses
Boiler Construction and Inspection
Refrigeration Installation and Inspection
Pressure Vessels, Fired and Unfired

(In accordance with Title 34, Chapters 1 and 7
of the Revised Statutes)

Effective June 20, 1962

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STATE OF NEW JERSEY

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FOR THREE CENTURIES

PEOPLE - PURPOSE - PROGRESS

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REGULATION SHELF

GUIDE RULES

1

The Mechanical Inspection Bureau, the Examining Board and the Board of Boiler, Pressure Vessel and Refrigeration Rules were instituted in the interest of safety and efficiency in construction, operation, use and inspection of such steam and power generators, heating plants, hoisting machines, refrigeration equipment, pressure vessels and such additional equipment assigned by statute to their jurisdiction; and to engineering practice in general throughout the State, for the protection of life and property. With that end in view, engineers, contractors, owners, lessees, operators, inspectors and others concerned should advise this Bureau of any existing dangerous hazards or law violations that come to their attention. Such reports will be considered confidential.

2

Operating engineers and firemen are issued licenses in various classifications and grades after examination in accordance with their qualifications. It is the duty of engineers and firemen on watch to give constant attention to the equipment entrusted to their care to the extent that they know at all times it is operating with safety. The length of time during which they can properly be away from this equipment varies according to its nature and size and to load conditions. Under no circumstances should an engineer or fireman be required by the owner or management to stay away from his equipment to the detriment of its safe operation.

It is the responsibility of the licensed operator to determine how long he can stay away and not jeopardize the safe operation of the equipment under his care.

Equipment requiring the attention of licensed operators is listed below:

1. Any steam boiler, steam generator, hot water boiler for service over 250° F., or similar equipment potentially capable of generating steam having safety valve or valves set higher than fifteen pounds per square inch gage and rated over six horsepower.
2. Any steam or hot water heating plant serving a building of public assembly and having more than 499 square feet of heating surface regardless of pressure.
3. Any steam turbine, steam engine or other steam driven prime mover, rated over six horsepower.
4. Any refrigerating system using a refrigerant which is either flammable or toxic and rated over six tons refrigerating capacity.
5. Any stationary internal combustion power generator rated over 149 horsepower.
6. Any hoisting machine with a boom exceeding 99 feet in length.

4

For purposes of interpretation the following definition of "Buildings of Public Assembly" has been accepted.

"Buildings of Public Assembly, for the purpose of enforcing Sections 34:7-1 and 34:7-14 of the Revised Statutes, shall be those wherein members of the public assembled therein are subjected to a potentially dangerous situation due to the nature or density of the assemblage.

Such buildings shall include those buildings open to the general public such as those used for educational, fraternal, governmental or religious activities, for sports or amusement or as hospitals, eleemosynary or penal institutions."

5

All engineers, contractors, suppliers, owners, operators, inspectors and others concerned should be conversant with the rules and regulations.

6

Always have all required certificates and licenses posted in a conspicuous place and available at all times as required by 34:7-5, R.S.

7

Manufacturer's data reports (and specifications, drawings and calculations when required) for boilers and unfired pressure vessels manufactured or used within the jurisdiction of this State must be filed with the Mechanical Inspection Bureau, Department of Labor and Industry, Trenton, N. J.

8

Users of boilers, pressure vessels and refrigeration plants and other objects subject to the inspection and licensing acts, should be guided by their authorized inspectors relative to the jurisdiction of the Bureau for purposes of registration, certification and licensing.

9

When contracting for or purchasing new or second-hand boilers, unfired pressure vessels, or boiler appliances always specify A.S.M.E. Code, which is approved in this State. Copies of the various sections of the Code may be obtained from the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York 17, N. Y.

10

When writing this Bureau in reference to a boiler, heating equipment, refrigerating system or unfired pressure vessel, always give New Jersey State inspection registration number in the upper left corner of the registration certificate, manufacturer's serial number, A.S.M.E. or National Board number and name of manufacturer.

11

When writing in reference to A.S.M.E. Boiler or Unfired Pressure Vessel Code always refer to edition, section, page and paragraph.

12

Address all communications to the Mechanical Inspection Bureau, Department of Labor and Industry, Trenton 25, New Jersey.

EXAMINING BOARD

John L. Sullivan, Deputy Director and Chief

Paul Ritchie, Assistant Chief

William F. Bonscher

Thomas C. Hughes

ENGINEERS' AND FIREMEN'S LICENSES

1

Application for license must be made on form provided by the Mechanical Inspection Bureau. The statements on the first or original application should be endorsed by two engineers each holding a valid New Jersey license. Substitution for the signatures of these endorsers may be a Marine Engineer's License, another State or City License, an honorable U. S. Service or Merchant Marine discharge establishing required engineering experience, or written statements from two former or present employers signed by responsible endorsers and showing required engineering experience. Endorsements are not required for "Low Pressure" or "Special" licenses.

2

Applications must be typewritten or neatly and legibly printed in ink. All applications must be carefully completed and notarized. Applicant's statement must indicate the actual experience as specified in the eligibility requirements. Nothing but pertinent and applicable paid, lawful and full-time experience should be listed, and should have been completed within seven

4

years of the filing of application. Incomplete or improper applications need not be accepted.

3

An "Original Application" will not be accepted from a non-resident unless accompanied by a letter from a prospective employer in the State of New Jersey indicating desire to employ applicant should he qualify.

4

Foreign-born applicants must have full citizenship papers and present them at time of examination.

5

No license will be granted to a person less than eighteen years of age.

6

The fee for examination for "Original License" is ten dollars (\$10.00), for "Raise of Grade" or "Additional Classification" is seven dollars (\$7.00) and must accompany application. No annual renewal fee is charged for additional classifications on any license.

7

FEE FOR APPLICATION FOR LICENSE SHALL BE IN THE FORM OF CHECK OR MONEY ORDER MADE PAYABLE TO THE ORDER OF THE MECHANICAL INSPECTION BUREAU. NO RISK WILL BE ASSUMED BY THIS OFFICE FOR LOSS IN TRANSMISSION OF FEE.

8

All correspondence relative to licenses or applications shall be addressed to the MECHANICAL INSPECTION BUREAU, DEPARTMENT OF LABOR AND INDUSTRY, TRENTON 25, N. J.

Notify the Bureau of any change of residence. When writing specify license number.

9

Applicants will be notified when and where to appear for examination. Failure to appear will be considered sufficient cause to discard the application, unless satisfactory reasons are given.

Failure to appear for examination or to obtain a passing grade shall not entitle the applicant to a refund of any fee.

10

Examinations will be held on the first Wednesday of each month, at the State House, Trenton, and at various other points throughout the State when warranted.

11

License classifications are indicated by numerals, as follows:

- 1—(A, B and C) Steam Stationary - Power and Industrial
- 3—(A, B and C) Steam Stationary - Boiler Plant-Heating
- 8—(A, B and C) Steam Portable - Locomotive
- 8—(C) Steam Portable - Bridges
- 8—(C) Steam Portable - Construction and Other
- 9—(A and B) Steam Portable - Locomotive Cranes
- 10—(A, B and C) Internal Combustion - Stationary
- 2—(A, B and C) Refrigeration
- 7—(C) Hoisting Machines, Long Boom
- Boiler Fireman in Charge - High Pressure
- Boiler Fireman - High Pressure
- Boiler Fireman in Charge -Low Pressure
- Boiler Fireman - Low Pressure

The letters "A", "B" and "C" are used to designate GRADE of license. "A" or Gold Seal, designates a first-grade license; "B" or Red Seal, a second-grade license; and "C" or Blue Seal, a third-grade license. A Black Seal designates Boiler Fireman. If "In-Charge", the license is so stamped on the face.

Licenses bearing merely the impression of the Department Seal are issued as Special Licenses and are limited to operation of equipment specified on the face of same. These licenses may be transferred to similar equipment upon Bureau approval following written request by applicant or employer.

To be eligible for "Fireman" or "Fireman in Charge" exam, applicant must have had at least three months' experience as a helper, apprentice or assistant to a licensed "Fireman in Charge". A licensed "Fireman" is eligible for examination for an "In-Charge" license after three months actual service in the operation of boilers.

To be eligible for a Hoisting Machine, Long Boom Operator's License (7—C) applicant must show at least six months experience as an operator of hoisting machines. At least three months of this must be verified experience on units equipped with long booms.

To be eligible for a Third Grade steam engineer's examination (1—C, 3—C or 8—C) applicant must have a Fireman in Charge license and show at least six months subsequent experience in the operation of the type of equipment required for such classification, or as an assistant in the operation of equipment requiring supervision by an engineer with the desired

classification; or, lacking these qualifications, must have served at least two years as a fireman or one year as a fireman and one year as an assistant to an engineer as specified above.

16

To be eligible for a Third Grade refrigeration engineer's examination (2—C) where the refrigerant used is flammable or toxic, applicant must have had at least one year's experience as an operator's assistant; or six months' experience as an operator of such equipment.

17

To be eligible for a Third Grade internal combustion engineer's examination (10—C) applicant must have had at least one year's experience as an operator's assistant; or six months' experience as an operator of such equipment.

18

An applicant for original license, of not higher grade than Third, or Blue Seal, may show in writing, as a substitute for a minor portion of the experience listed above, non-operating experience, such as servicing, maintenance, repair or installation of equipment affected by the license law; or satisfactory proof of completion of sufficient formal education or academic study embracing such equipment.

19

To be eligible for a Second Grade engineer's examination in any classification, applicant must have a Third Grade license and show at least one year's subsequent practical experience as an engineer in such grade or show experience of an equivalent amount and grade under some other jurisdiction.

20

To be eligible for a First Grade engineer's examination in any classification, applicant must have a

Second Grade license and shall have subsequently served one year as Supervising or Chief Engineer in a plant requiring supervision by a Second Grade engineer, or have two years' subsequent practical experience as an operating engineer in a plant requiring supervision by a First Grade engineer, or show experience of an equivalent amount or grade under some other jurisdiction.

21

When an applicant's engineering experience and background warrants, the Examining Engineer may determine the classification and grade of license most suitable.

22

Examinations for engineer's licenses shall be conducted in a written form and shall consist of as many questions and be of such nature as the Examiner shall consider appropriate for the license desired. The privilege of oral examination, to determine the experience of the applicant, his habits and general fitness to perform the duties of an engineer or fireman, shall be allowed the Examiner.

23

Examination for fireman's license shall consist of such questions as the Examiner shall consider proper and shall pertain to the safe operation of steam and hot water boilers, appliances, auxiliaries and such other equipment covered by statute.

24

An applicant, unable to qualify by written examination, may, upon satisfactory certified written request, be orally examined.

25

Questions used in an examination shall not be copied by any applicant or retained by the applicant after examination, or taken from the presence of the Examiner during the examination. Violation of this rule

will be sufficient cause for cancellation of application.
SMOKING IS NOT PERMITTED IN EXAMINATION ROOM.

26

When a license applicant fails to pass an examination in specified classification and grade, the Examiner may, at his discretion, assign to him the classification and grade considered appropriate. Applicant may not be re-examined for a period of at least three months. He may, however, be allowed one re-examination, without additional charge, within six months of the original. If again unsuccessful, he may request additional examinations, provided that each request be accompanied by a fee of five dollars (\$5.00).

27

A license will be given a designation as Grade "A" when an average of 80% or more is attained on Grade "A" examination.

A license will be given a designation as Grade "B" when an average of 70% or more is attained on Grade "B" examination.

A license will be given a designation as Grade "C" when an average of 60% or more is attained on Grade "C" examination.

No license will be granted on an average of less than 60%.

28

A fireman holding a "Fireman in Charge" license may act as Chief of an installation of 500 boiler horsepower or less. He may assume charge of a shift, under the supervision of a properly licensed Chief Engineer, in installations not over 1,000 boiler horsepower. When the total capacity exceeds 1,000 boiler horsepower, he may act as fireman, under the direction of, and responsible to, a properly licensed Engineer in charge of his shift.

A licensed fireman may operate on a shift as assistant to a licensed engineer or a licensed Fireman in Charge.

For interpretative purposes, total capacity shall be defined as the sum of the manufacturer's ratings of all units comprising the system. One Boiler Horsepower shall be considered as the evaporation of 34.5 pounds of water, from and at 212°F., or equivalent. Lacking other reliable means of determining, 40 sq. ft. of heating surface shall be deemed as exceeding 6 Boiler Horsepower.

An engineer holding a "C" or Third Grade License of the proper classification may act as Chief Engineer of any plant where the total capacity of the equipment involved does not exceed 1,000 boiler horsepower, 100 engine horsepower or 65 Tons refrigerating capacity. He may also act as operating engineer, under the supervision of a properly licensed Chief Engineer, in installations exceeding the above limits.

An engineer holding a "B" or Second Grade license of the proper classification may act as Chief Engineer of any plant where the total capacity of the equipment involved does not exceed 3,000 boiler horsepower, 500 engine horsepower or 300 Tons refrigerating capacity. He may also act as operating engineer, under the supervision of a properly licensed Chief Engineer in installations exceeding the above limits.

An engineer holding an "A" or First Grade license of the proper classification may act as Chief Engineer in any plant.

Any person using fraudulent means to obtain a license shall be subject to prosecution. Any license acquired through such means shall be invalid.

Any license may be suspended or revoked for incompetence, negligence, intoxication while on duty, or for any other valid reason establishing that the licensee is unfit to hold a license.

Any license or identification card shall be picked up and immediately revoked if, for any purpose, it is loaned, abandoned or allowed to pass from the personal control of the owner.

All licenses shall expire unless renewed on or before the anniversary date of the original license. Changing of grade or addition of classification shall not change this anniversary date.

A LICENSE IS AUTOMATICALLY CANCELLED ON THE DATE OF ITS EXPIRATION. ANY PERSON PERFORMING THE DUTIES OF A LICENSEE AND HOLDING AN EXPIRED LICENSE IS SUBJECT TO THE PENALTY PROVISIONS UNDER R. S. 34:7-6, AS IS HIS SUPERVISOR AND EMPLOYER. LICENSE MAY BE RENEWED WITHIN THIRTY DAYS PRIOR TO THE DATE OF ITS EXPIRATION.

APPLICATION FOR RENEWAL OF AN EXPIRED LICENSE (IF MADE WITHIN THREE YEARS AFTER EXPIRATION DATE, AND IF ALL PENALTIES LAWFULLY IMPOSED ON THE APPLICANT BY THE MECHANICAL INSPECTION BUREAU HAVE BEEN PAID) MUST BE ACCOMPANIED BY A FEE OF FIVE DOLLARS (\$5.00).

APPLICATION FOR RENEWAL OF A LICENSE EXPIRED MORE THAN THREE YEARS SHALL BE TREATED AS AN "ORIGINAL" APPLICATION. ALL RECORDS OF PREVIOUS LICENSE MAY BE DESTROYED.

38

Before returning license for renewal, tear off stub from license, and replace the stub in license frame, return balance of license, with fee of three dollars (\$3.00). Expired license will be stamped "Cancelled" and returned with subsequent issue.

39

An altered, defaced or otherwise mutilated license will be renewed only after review by the Bureau. Photostats, photographs or reproductions of a license have no status, and shall not be recognized.

40

Employers shall immediately notify the Mechanical Inspection Bureau, in writing, if for any reason of emergency it becomes necessary to employ an unlicensed person temporarily (not to exceed fifteen days) explaining fully the circumstances, and to again notify the Bureau when a licensed man is employed, giving the name, address, and license classification, grade and number of such employee.

41

A license issued after examination covering one or more classifications is valid in any plant where the class of engineering is within the scope of license issued.

42

All licenses must be framed and properly posted adjacent to the equipment involved, or in the engi-

neer's or plant office, whichever is suitable, and must be available when authoritatively required. Penalty may be imposed for violation.

43

Identification cards are issued to engineers who hold licenses under classification 7, 8 or 9.

44

FOR THE PURPOSE OF EXAMINATION OR INSPECTION OF ANY STEAM BOILER, PRESSURE VESSEL, REFRIGERATION SYSTEM, INTERNAL COMBUSTION ENGINE, POWER PLANT OR OTHER EQUIPMENT INCLUDED IN THESE STATUTES, THE COMMISSIONER OF LABOR AND INDUSTRY OR ANY MEMBER OF THE MECHANICAL INSPECTION BUREAU MAY ENTER SUCH PREMISES AT ALL REASONABLE HOURS.

45

"Any owner, lessee or operator of any steam or hot water boiler or similar equipment specified in section 34:7-14 of this Title, pressure vessel or refrigeration system who shall use, cause or allow to be used such steam or hot water boiler or similar equipment specified in section 34:7-14 of this Title, pressure vessel or refrigerating system in violation of any provisions of this article shall be liable to a penalty of not less than \$50.00 nor more than \$100.00 for each first offense and not less than \$100.00 nor more than \$500.00 for each subsequent offense, to be collected by a civil action or, in the Commissioner's discretion, to be imposed by the Commissioner as a compromise. . ." (34:7-26, R.S.)

BOILER CONSTRUCTION AND INSPECTION

1

"No steam boiler shall be installed or used in this State unless it conforms to such rules, regulations and standards as are from time to time adopted by the Board of Boiler, Pressure Vessel and Refrigeration Rules, and approved by the Commissioner". (34:7-23, R.S.)

2

All steam or hot water boilers or similar equipment covered by these statutes (34:7-14, et seq.) must be constructed and installed in accordance with New Jersey approved standards. To meet these requirements, the boiler should be constructed and installed in accordance with the American Society of Mechanical Engineers Code and stamped either New Jersey Standard, New Jersey Approved, A.S.M.E. or National Board. In the absence of applicable rules "New Jersey Special" construction and stamping may be requested.

3

All steam or hot water boilers for service over 250°F. or similar equipment having ten or more square feet of heating surface and carrying a pressure of more than 15 psig. and such equipment, regardless of pressure, having over three hundred square feet of heating surface and serving buildings of public assembly shall be inspected internally and externally at least annually. Inspections may be made more frequently, if desired, and must be made more frequently, if required.

4

(a) When an annual or additional inspection is made by an insurance company, a certificate fee of two dollars (\$2.00) shall be collected from the user by the inspector, for the State, and at the time of inspection.

(b) When there is no insurance company inspection, the State will inspect the boiler, for which a charge will be made to cover actual cost of travel, plus the following inspection fee:

10 and not over 60 sq. ft. of heating surface	\$5.00
Over 60 and not over 1,000 sq. ft. of heating surface	\$10.00
Over 1,000 sq. ft. of heating surface	\$20.00

5

The boiler to be inspected must be open, clean, cool and ready for the inspector. The inspector's recommendations must be complied with promptly.

6

Repairs to a boiler or its connected piping must be satisfactory to an authorized boiler inspector employed by an insurance company or the State and performed under his guidance.

7

Every boiler approved for use in the State is assigned a Registration Number, which may be found in the upper left-hand corner of the Boiler Certificate. At the direction of the inspector of the boiler, this number must be stamped directly on the boiler drum, near the manufacturer's stamping, in letters at least $\frac{1}{4}$ " high, or as otherwise directed. This number must also be attached to the front of the boiler, in such a manner as to be plainly visible.

8

The State Boiler Inspection Certificate must be properly framed and posted in the boiler or engine room, engineer's or plant office, whichever is suitable, providing the certificate is available when authoritatively required.

STEAM BOILER BLOWDOWN TANKS

The construction and installation of steam boiler blowdown receivers are regulated by the Board of Boiler, Pressure Vessel and Refrigeration Rules. Copies of rules affecting blowdown receivers may be obtained upon application.

10

"Any owner, lessee or operator of any steam or hot water boiler or similar equipment specified in section 34:7-14 of this Title. . . who shall use, cause or allow to be used such steam or hot water boiler or similar equipment specified in section 34:7-14 of this Title. . . in violation of any provision of this article shall be liable to a penalty of not less than \$50.00 nor more than \$100.00 for each first offense and not less than \$100.00 nor more than \$500.00 for each subsequent offense, to be collected by a civil action or, in the Commissioner's discretion, to be imposed by the Commissioner as a compromise. . . ." (34:7-26, R.S.)

REFRIGERATION INSTALLATION AND INSPECTION

1

"No. . . refrigeration system shall be installed or used in this State unless it conforms to such rules, regulations and standards as are from time to time adopted by the Board of Boiler, Pressure Vessel and Refrigeration Rules, and approved by the Commissioner. . . ." (34:7-23, R. S.)

2

All refrigeration systems using flammable or toxic refrigerants of over three Tons refrigerating capacity

or requiring over 6 driving horsepower, and all systems using non-flammable and non-toxic refrigerants of over eighteen Tons of refrigerating capacity or requiring over 36 driving horsepower, operating at a pressure greater than 15 psig. and at a temperature greater than 200°F., must be inspected annually by an authorized State or insurance company inspector.

3

(a) When an annual inspection is made by an insurance company, a certificate fee of two dollars (\$2.00) shall be collected by the inspector, at the time of inspection, for the State.

(b) When there is no insurance company inspection, the State will inspect the refrigeration system, for which a charge will be made to cover the actual cost of travel, plus the following inspection and certificate fee:

Over 3 and under 25 Tons of refrigerating capacity	\$8.00
Twenty-five Tons of refrigerating capacity, and over	\$12.00

4

It shall be the responsibility of the operator and inspector to carefully check for indication of irregular, faulty or hazardous conditions. This inspection shall include the liquid receiver, condenser, all safety valves and their discharge points, gages, controls and all other items which might be considered potentially critical.

5

The inspector should check operators' licenses where such are required, also State Registration Certificate, and make note of same on inspection report.

6

A relief device of proper size must be installed on the compressor discharge line, located between the

compressor outlet port and the discharge shut-off valve; this can discharge into the suction side. Such devices must also be installed to relieve from the gas space of the liquid receiver, condenser and other pressure vessels in the system.

7

These relief devices must discharge to the atmosphere at a safe point and through a diffuser. Where discharge to the atmosphere is impracticable or hazardous to the immediate neighborhood, said discharge may be into a receptacle through which the refrigerant can be safely disposed of.

8

Refrigeration systems specified in 34:7-15, R.S. shall be installed in accordance with the accepted requirements of the American Standard Safety Code for Mechanical Refrigeration, as published by the American Society of Refrigerating Engineers.

9

All pressure vessels used for refrigeration systems must meet the requirements of unfired pressure vessel regulations as shown on following pages.

10

"Any owner, lessee or operator of any refrigeration system who shall use, cause or allow to be used such refrigeration system in violation of any provision of this article shall be liable to a penalty of not less than \$50.00 nor more than \$100.00 for each first offense and not less than \$100.00 nor more than \$500.00 for each subsequent offense, to be collected by a civil action or, in the Commissioner's discretion, to be imposed by the Commissioner as a compromise. . . ." (34:7-26, R.S.)

19

PRESSURE VESSELS, FIRED AND UNFIRED

Amending and Supplementing Revision of

March 10, 1958

(P. L. 1935, Amended 1960)

1

"No pressure vessel , , , , shall be installed or used in this State unless it conforms to such rules, regulations and standards as are from time to time adopted by the Board of Boiler, Pressure Vessel and Refrigeration Rules, and approved by the Commissioner. . . ." (34:7-23, R.S.)

2

Scope—These rules and regulations govern the construction, inspection, installation, repair and alteration of pressure vessels.

3

Classification—Pressure vessels subject to these rules must meet or exceed the minimum requirements of their specific category, designated as CLASS I, CLASS II, CLASS III or CLASS IV.

Class I—Pressure vessels designated as CLASS I must conform in all respects to the pertinent sections of the A.S.M.E. Boiler and Pressure Vessel Code as formulated by the American Society of Mechanical Engineers and valid at the time of construction. All shop inspections of CLASS I vessels must be conducted by qualified inspectors who shall satisfy the requirements of the Code and shall be in possession of a valid National Board of Boiler and Pressure Vessel Inspectors' Commission. ALL CLASS I pressure vessels must be stamped and identified as prescribed by the Code. CLASS I pressure vessels should also be stamped as designated by the National Board.

Class II—Existing pressure vessels constructed previous to January 1, 1957 in accordance with the rules of the API-ASME Code and registered with the State.

Class III—Pressure vessels designated as Class III may fall into either of three groups, identified as NEW JERSEY STANDARD, NEW JERSEY SPECIAL and NEW JERSEY APPROVED.

New Jersey Standard—Constructed in accordance with the provisions of the latest edition of the A.S.M.E. Code Rules approved by the New Jersey Board of Boiler, Pressure Vessel and Refrigeration Rules, inspected by a New Jersey Authorized Inspector and subsequently stamped NEW JERSEY STANDARD.

New Jersey Special—Constructed as far as possible in accordance with the provisions of the A.S.M.E. Code Rules, deviating only in the absence of applicable provisions. Drawings and calculations, fully descriptive of such construction, with Code inapplicability noted, must be approved by the Bureau prior to construction. All such vessels shall be inspected by a New Jersey Authorized Inspector, in accordance with whatever test provisions the Bureau shall consider appropriate, following which the pressure vessel may be approved and stamped NEW JERSEY SPECIAL.

New Jersey Approved—Existing vessels which have been constructed contrary to the provisions of the A.S.M.E. Code or API-ASME Code. Such vessel may be adjudged eligible for such classification after appropriate evidence has been considered. Complete inspection and thorough testing to the satisfaction of a specifically assigned New Jersey Authorized Inspector is mandatory, as may be periodic re-inspection. If acceptable, such vessels may be stamped NEW JERSEY APPROVED.

Class IV—Pressure vessels designated as Class IV are "User-Inspected", where applicable, warranted and expressly permitted by the Mechanical Inspection Bureau. To qualify as such, a "User-Inspector" must be continuously employed as a full-time inspector by the inspection division of a user maintaining an adequate pressure vessel design and inspection section. A user-inspector must be approved by and registered

with the Bureau, which reserves the right to withdraw such approval at its absolute discretion. The Bureau shall also be furnished, upon request, such copies of design, material specification calculations and allied data as available or needed in such manner as it may require, and shall retain its prerogative of such supervision over user-inspections, joint inspections and/or re-inspections as it may deem necessary. Such vessels may be constructed and stamped in accordance with the "User-Inspection" provisions of the A.S.M.E. Code.

4

Inspection Fees—Fees not to exceed ten dollars (\$10.00) per vessel shall be charged, provided there be a minimum charge of not less than twenty-five dollars (\$25.00) nor more than fifty dollars (\$50.00) per visit, to which shall be added the inspector's actual travel expense.

5

State Registration of National Board or State Inspected Vessels—No original registration or registration fee required since registration is forwarded by the National Board or the State Inspector.

6

Registration Fees—In instances other than those of Item 5, manufacturer's data reports in duplicate, with a fee of two dollars (\$2.00) for each vessel, must be forwarded to the Bureau for approval and registration. One copy, when approved, will be returned to the user of the vessel. Where reports are not filed, the vessel will be subject to inspection and State Inspection fees.

7

Pressure Vessel Repairs and Alterations—Pressure vessel repairs and alterations shall be performed according to the applicable rules, under the guidance

of a National Board Inspector, a New Jersey Authorized Inspector or a User-Inspector as defined under paragraph 2, Class IV.

8

PARTIAL EXEMPTIONS

PE-1 Unfired pressure vessels in which steam is not generated, and which do not exceed the following volume and pressure limits, may be exempted from shop inspection by qualified inspectors, provided that they COMPLY IN ALL OTHER RESPECTS WITH THE REQUIREMENTS OF THESE RULES:

- (a) 5 cubic feet in volume and 250 pounds per square inch design pressure.
- (b) 1½ cubic feet in volume with no limit on pressure.

Vessels exempted from Code inspection by this rule shall be stamped with the "UM" symbol, or as otherwise provided for construction other than "Class I".

9

- E-1 Pressure vessels subject to Federal control.
- E-2 Vessels with a nominal water-containing capacity of 120 gallons or less for containing water under pressure, including those containing air, the compression of which serves only as a cushion.
- E-3 A hot-water supply storage tank heated by steam or any other indirect means when none of the following limitations is exceeded:
 - (a) A heat input of 200,000 BTU per hour.
 - (b) A water temperature of 200°F.
 - (c) A nominal water-containing capacity of 120 gallons.

- E-4 Vessels having an internal or external operating pressure not exceeding 15 psig. with no limitation on size.
- E-5 Vessels having an inside diameter not exceeding six inches with no limitation on pressure.
- E-6 "Interstate Commerce Commission" stamped vessels of five (5) cubic feet capacity and under, used within the State under I.C.C. regulations.
- E-7 "Interstate Commerce Commission" stamped vessels of over five (5) cubic feet capacity, and used in interstate service.

10

"Any owner, lessee or operator of any . . . pressure vessel who shall use, cause or allow to be used such pressure vessel in violation of any provision of this article shall be liable to a penalty of not less than \$50.00 nor more than \$100.00 for each first offense and not less than \$100.00 nor more than \$500.00 for each subsequent offense, to be collected by a civil action or, in the Commissioner's discretion, to be imposed by the Commissioner as a compromise" (34 :7-26, R.S.)