Proposed Amendments: N.J.A.C. 12:90-3.10, 4.2, 10.1, and 10.3

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Boilers, Pressure Vessels, and Refrigeration

Authorized By: Harold J. Wirths, Commissioner, Department of Labor and Workforce Development.


Calendar Reference: See Summary below for explanation of exception to calendar requirement.

Proposal Number: PRN 2015-018.

A public hearing on the proposed amendments will be held on the following date at the following location:

Tuesday, May 12, 2015
10:00 A.M. to 12:00 Noon
New Jersey Department of Labor and Workforce Development
John Fitch Plaza
2nd Floor Large Conference Room
Trenton, New Jersey 08625

Please call the Office of Legal and Regulatory Services at (609) 292-2789 if you wish to be included on the list of speakers.

Submit written comments by June 19, 2015, to:

David Fish, Executive Director
Office of Legal and Regulatory Services
PO Box 110, 13th Floor
Trenton, NJ 08625-0110
Fax: (609) 292-8246
The agency proposal follows:

Summary

The Department of Labor and Workforce Development (Department) is proposing an amendment to N.J.A.C. 12:90-3.10, which would change the frequency with which a licensed operator is required to monitor the conditions of a low pressure boiler plant. The existing rule states that, at a minimum, the operator must monitor the conditions of the low pressure boiler plant once every two hours. The rule as amended would require that, at a minimum, the operator monitor the conditions of the low pressure boiler plant twice every 24 hours, with no less than seven hours between each equipment check. It is the Department's reasoned judgment, following consultation with the Board of Boiler, Pressure Vessel and Refrigeration Rules, that the existing rule, which requires a physical equipment check every two hours, is unduly burdensome, not necessary for the effective operation of a low pressure boiler plant, and most importantly, is not required for the guarding of public safety. Rather, it has been determined that the amended rule, which would require two physical equipment checks every 24 hours (with no less than seven hours between each equipment check), strikes the appropriate balance between protection of public safety and sensitivity to the needs of facility owners and managers. That is, in facilities which contain a low pressure boiler plant, such as apartment complexes, the licensed boiler operator often has a great many maintenance responsibilities beyond boiler operation. The proposed amendment would permit the operator to devote his or her concentrated energies and effort to non-boiler-related responsibilities without having to physically return to the boiler plant every two hours in order to observe the equipment. It has been determined that this less frequent monitoring is consistent with industry standards and poses no threat to public safety.

In addition, the Department is proposing amendments to N.J.A.C. 12:90-3.10, 4.2, 10.1, and 10.3, which would make mandatory the American Society of Mechanical Engineers (ASME), National Fire Protection Association (NFPA), and other external industry standards, with which all those who construct, install, and operate boilers and refrigeration systems would be required to adhere and with which facility owners would be required to ensure compliance. These are industry standards which have always governed the responsible construction, installation, and operation of boilers and refrigeration systems. The Department expects the regulated community to comply with these standards, which are referenced throughout existing N.J.A.C. 12:90. The proposed amendments would explicitly adopt the standards by incorporating them by reference, as amended and supplemented, into the chapter. These standards are as follows:

1. ASME Section VI, Recommended Rules for the Care and Operation of Heating Boilers, 2010 Edition. The various ASME Codes are consensus standards that are adopted by the State of New Jersey for the construction, fabrication, installation, operation, maintenance, and safety of equipment under the jurisdiction of the Mechanical Inspection Bureau of Boiler and Pressure Vessel Compliance. This standard is mandatory and establishes necessary safety criteria for safe and efficient operation of steam-heating, hot water heating boilers, and hot water supply boilers after installation. It details accepted practices for the proper care and operation that the licensed operator, maintenance person, or technician must follow to ensure safe, efficient, and smooth operation.

2. ASME Section VII, Recommended Rules for the Care of Power Boilers, 2010 Edition. The purpose of Section VII is to promote safety in the use of power boilers. These guidelines are intended for use by those directly responsible for operating, maintaining, and inspecting power boilers. It provides material that is essential for power boiler operation, maintenance, and inspection.

3. ASME CSD-1, Control and Safety Devices for Automatically Fired Boilers, 2012 Edition, and all subsequent editions and addenda. The rules of this standard cover requirements for the assembly, installation, maintenance, and operation of controls and safety devices on automatically operated boilers directly fired with gas, oil, gas-oil, or electricity, subject to service exclusions, having a fuel input up to 12.5 million Btu/hr.

4. ANSI/ASHRAE Standard 15, Safety Code for Refrigeration Systems, 2007 Edition. This edition is a republication of ANSI/ASHRAE Standard 15-2004 with Addenda b and c incorporated. Addendum b provided modifications to enhance safety of pressure protection designed for relief internal to systems. Addendum c revised Informative Appendix F, which outlines a method for determining the required relieving capacity for positive displacement compressors. It also expanded the list of refrigerants and the corresponding properties required for determining compressor relief capacity. In addition, it revised the relief-capacity determination method to more clearly demonstrate calculations for positive displacement compressors equipped with capacity modulation. This standard specifies safe design, construction, tests,
installation, operation, and inspection of mechanical and absorption refrigeration systems, including heat pump systems used in stationary applications, to modifications including replacement of parts and components if they are not identical in functioning and capacity, and to substitutions of refrigerants having a different designation.

The various National Fire Protection Association (NFPA) codes and standards are consensus documents proposed to be adopted by the State of New Jersey to establish necessary criteria for the construction, fabrication, installation, training, operation, maintenance, and safety of equipment under the jurisdiction of the Bureau of Boiler and Pressure Vessel Compliance. These codes and standards are to be made mandatory to ensure a reasonable protection of life and property.

5. NFPA 58, Liquefied Petroleum Gas Code, 2011 Edition. NFPA 58 applies to the safe and efficient design, construction, installation, storage, handling, transportation, and use of all LP-Gas systems for buildings and terminals whose primary purpose is the receipt of LP-Gas for delivery to transporters, distributors, and users. Various systems under the jurisdiction of the Mechanical Inspection Bureau of Boiler and Pressure Vessel Compliance utilize LP-Gas as fuel, thus, proper familiarization is necessary to ensure safe operation by the owner, user, and licensed operator.

6. NFPA 85, Boiler and Combustion Systems Hazard Code, 2011 Edition. The purpose of NFPA 85 is to ensure the safe equipment operation of: the structure, operation, and maintenance procedures, for combustion and draft control equipment, safety interlocks, alarms, trips, and other related controls. This code applies to operation and training of personnel that operate, adjust, manipulate, and maintain boilers with a fuel input greater than 12.5 million Btu/hr, pulverized fuel systems of any heat input rate, and fired or unfired steam generators used to recover heat from combustion turbines.

7. NFPA 37, Standards for the Installation and Use of Stationary Combustion Engines and Gas Turbines, 2006 Edition. The purpose of NFPA 37 is to establish criteria for minimizing the hazards of fire during the installation and operation of stationary combustion engines and gas turbines. This standard applies to stationary combustion engines and gas turbines and also applies to portable engines that remain connected for use in the same location for a period of one week or more.

8. NFPA 2, Hydrogen Technologies Code, 2011 Edition. The purpose of NFPA 2 is to provide the fundamental safeguards for the generation, installation, storage, piping, use, and handling of hydrogen in compressed gas form or cryogenic liquid form. This code shall apply to the production, storage, transfer, and use of hydrogen in all occupancies and on all premises. The use of hydrogen shall include stationary, portable, and vehicular infrastructure applications. Various systems under the jurisdiction of the Mechanical Inspection Bureau of Boiler and Pressure Vessel Compliance utilize hydrogen as a fuel, thus, proper familiarization is necessary to ensure safe operation by the owner, user, and licensed operator. Various systems under the jurisdiction of the Mechanical Inspection Bureau of Boiler and Pressure Vessel Compliance utilize hydrogen as a fuel, thus, proper familiarization is necessary to ensure safe operation by the owner, user, and licensed operator.

9. NFPA 55 Compressed Gases and Cryogenic Fluids Code, 2013 edition. The purpose of NFPA 55 is to provide fundamental safeguards for the installation, storage, use, and handling of compressed gases and cryogenic fluids in portable and stationary cylinders, containers, and tanks. The requirements of this code shall apply to users, producers, distributors, and others who are involved with the storage, use, or handling of compressed gases or cryogenic fluids. The Mechanical Inspection Bureau of Boiler and Pressure Vessel Compliance authority includes boiler, pressure vessel, and refrigeration systems that utilize all forms of compressed gases and fluids that must comply with this safety standard.

10. NFPA 54, 2012 edition. This standard covers the installation and operation of fuel gas piping systems, appliances, equipment, and related accessories, with rules for piping systems, materials and components, piping system testing and purging, combustion and ventilation air supply, and venting gas fired appliances and equipment. NFPA 54 is a safety code that shall apply to the installation of fuel gas piping systems, appliances, equipment, and related accessories.

11. ANSI/IIAR 5-2013, Start-up and Commissioning of Closed-Circuit Ammonia Refrigeration Systems. The Start-up and Commissioning of Closed-Circuit Ammonia Refrigeration Systems ANSI/IIAR 5-2013 specifies criteria and procedures for the start-up and commissioning of closed-circuit ammonia mechanical refrigerating systems. It provides basic minimum requirements for the safe start-up and commissioning of completed closed-circuit mechanical refrigerating systems utilizing ammonia as a refrigerant and additions and modifications made to such systems.

and Installation of Closed-Circuit Ammonia Mechanical Refrigerating Systems. ANSI/IIAR 2-2008 has been written to serve as a standard for equipment, design, and installation of closed-circuit ammonia refrigeration systems.

13. ANSI/IIAR Standard 7-2013 Developing Operating Procedures for Closed-Circuit Ammonia Mechanical Refrigerating Systems. ANSI/IIAR 7-2013 defines the minimum requirements for developing operating procedures for closed-circuit ammonia mechanical refrigerating systems. The operating procedures were developed to be easy to understand, safe, effective, reliable, and to meet applicable regulatory requirements. The standard is intended for those who develop, define, and/or review operating procedures for ammonia refrigeration systems.

As the Department has provided a 60-day comment period on this notice of proposal, this notice is excepted from the rulemaking calendar requirement pursuant to N.J.A.C. 1:30-3.3(a)5.

Social Impact

The proposed amendments would have a positive social impact in that they would, in a reasonable manner, lessen the existing burden on owners and managers of facilities, as well as on boiler operators who work at those facilities, while continuing to ensure in the interest of public safety that licensed operators maintain the high standards of the National Board Inspection Code (NBIC), the ASME, the NFPA, and the other external standards referred to and set forth within N.J.A.C. 12:90.

Economic Impact

The proposed amendments would have a positive economic impact on facility owners and managers in that facility staff would be able to perform the full range of maintenance functions more effectively and more efficiently if not required to physically return to the boiler room every two hours. Of course, the Department would not even entertain the idea of these amendments, notwithstanding the obvious economic benefit to facility owners and managers, if it believed that the change would in any way jeopardize public safety. As indicated in the Summary above, it is the reasoned judgment of the Department, in consultation with the Board of Boiler, Pressure Vessel and Refrigeration Rules, that the proposed amendments are consistent with industry standards and do not in any way compromise public safety. Furthermore, in coupling the relaxation of the low pressure boiler plant monitoring requirement with the explicit adoption by reference of ASME, NFPA, and other external industry standards for the construction, installation, and operation of boilers and refrigeration systems, the Department seeks to emphasize that although it is willing to lessen the regulatory burden on operators and facility owners where it is reasonable to do so, the Department remains steadfastly committed to enforcing each and every existing safety standard, so as to ensure that the construction, installation, and operation of boilers and refrigeration systems in no way interferes with the health and well-being of those who work with this equipment, nor does it interfere with the health and well-being of those members of the public who live and work in proximity to it.

Federal Standards Statement

The proposed amendments are governed by N.J.S.A. 34:7-14 et seq., and are not subject to any Federal standards or requirements. Therefore, a Federal standards analysis is not required.

Jobs Impact

The Department does not anticipate that the proposed amendments would have an impact on either the generation or loss of jobs.

Agriculture Industry Impact

The proposed amendments would have an impact on the agriculture industry to the extent that those in the industry may own or operate facilities that house low pressure boiler plants, high pressure boiler plants, or refrigeration plant systems. The actual impact on such facility owners and managers is discussed in detail within the Summary, Social Impact, and Economic Impact statements above.

Regulatory Flexibility Analysis

The proposed amendments would not impose any reporting or recordkeeping requirements on small businesses, as that term is defined in the Regulatory Flexibility Act, N.J.S.A. 52:14B-16 et seq. The proposed amendments would, of
course, impose compliance requirements on all owners and operators of low pressure boiler plants, high pressure boiler plants, and refrigeration plant systems, including those which are small businesses, in that the amendments (1) would require, at a minimum, that the operator of a low pressure boiler plant monitor the conditions of the plant twice every 24 hours, with no less than seven hours between each equipment check, and (2) would require compliance with the external industry standards incorporated by reference, as amended and supplemented, at N.J.A.C. 12:90-3.10 and 4.2. The amendment to the low pressure boiler plant monitoring requirement, however, represents a lessening of the burden on facility owners and operators, including those which are small businesses, since the existing rule requires that operators perform a physical check of the equipment more frequently than twice every 24 hours; that is, the existing rule requires that they check the equipment every two hours. Furthermore, the incorporation by reference of the aforementioned external industry standards, as amended and supplemented, simply memorializes the Department's existing expectation that such vital safety standards are adhered to by those involved in the construction, installation, and operation of boilers and refrigeration systems.

**Housing Affordability Impact Analysis**

The proposed amendments would not evoke a change in the average costs associated with housing. The basis for this finding is that the proposed amendments pertain to the construction, installation, and operation of boilers and refrigeration systems, not housing, and the Department anticipates would have no impact on the costs associated with housing.

**Smart Growth Development Impact Analysis**

The proposed amendments would not evoke a change in housing production within Planning Areas 1 and 2, or within designated centers, under the State Development and Redevelopment Plan. The basis for this finding is that the proposed amendments pertain to the construction, installation, and operation of boilers and refrigeration systems, not housing, and the Department anticipates would have no impact on housing production.

Full text of the proposal follows (additions indicated in boldface thus; deletions indicated in brackets [thus]):

**SUBCHAPTER 3. ADMINISTRATION**

12:90-3.10 Duties of licensed persons

(a)-(c) (No change.)

(d) The length of time that the licensed person can be away from the equipment varies according to its nature, size, and load conditions. At a minimum, the operator shall monitor the conditions of the low pressure boiler plant [at least once every two hours, consistent with the requirements set forth in N.J.A.C. 12:90-3.5] twice every 24 hours, with no less than seven hours between each equipment check.

(e)-(f) (No change.)

(g) Persons licensed in accordance with this chapter for the operation of low pressure boilers shall comply with the following standards, which are incorporated herein by reference, as amended and supplemented:

1. ASME Section VI, Recommended Rules for the Care and Operation of Heating Boilers, 2010 Edition.


(h) Persons licensed in accordance with this chapter for the operation of high pressure boilers shall comply with the following standards, which are incorporated herein by reference, as amended and supplemented:

1. ASME Section VII, Recommended Rules for the Care of Power Boilers, 2010 Edition;

2. ASME CSD-1, Control and Safety Devices for Automatically Fired Boilers, 2012 Edition;


5. NFPA 55, Compressed Gases and Cryogenic Fluids Code, 2013 Edition; and


(i) Persons licensed in accordance with this chapter for the operation of refrigeration plants shall comply with the following standards, which are incorporated herein by reference, as amended and supplemented:


2. ANSI/IIAR 5-2013, Start-up and Commissioning of Closed Circuit Ammonia Refrigeration Systems;

3. ANSI/IIAR Standard 2-2008 Equipment, Design, and Installation of Closed-Circuit Ammonia Mechanical Refrigerating Systems; and


SUBCHAPTER 4. BOILERS

12:90-4.2 Compliance with referenced standards

(a) Construction and installation of boilers used solely for building service are regulated by the New Jersey Uniform Construction Code, N.J.A.C. 5:23-3.20, Mechanical Subcode. All boilers shall be maintained, altered, repaired, and inspected in accordance with the standards [referenced] in [(b) and (c) below] this subsection, which are incorporated herein by reference, as amended and supplemented. Except for boilers used solely for building service, which are regulated by the New Jersey Uniform Construction Code, N.J.A.C. 5:23-3.20, Mechanical Subcode, all boilers shall be constructed and installed in accordance with the standards [referenced] in [(b) and (c) below] this subsection.

[(b)] 1. The applicable sections of the ASME Boiler and Pressure Vessel Code--[current] 2015 edition [with addenda are adopted as safety standards under this subchapter and shall apply according to the provisions listed below, or their equivalent]:

[1.] (No change in text.)

[2.] ii. Section II, Materials [Specifications];


[4.] iv. (No change in text.)

[5.] v. Section VI, [Recommended Rules for] Care and Operation of Heating Boilers;

[6.] vi. Section VII, [Recommended Rules for] Care of Power Boilers;

Recodify existing 7. and 8. as vii. and viii. (No change in text.)

[9.] ix. Case Interpretation and Addenda of each section listed above, except as provided in [(g)] (e) below.

[(c)] 2. [The] NBBPVI National Board Inspection Code--[1995] 2013 edition [and all subsequent editions and addenda is adopted as the safety standard under this subchapter and shall apply according to the provisions thereof].


[(d)] (b) Each person engaged in the design, construction, fabrication, installation, repair, and alteration of boilers shall protect the public by complying with the standards prescribed in [(b) and (c)] (a) above.

[(e)] (c) Only standards relating to public safety (that is, substantive rules) are adopted by any incorporation by reference as prescribed in [(b) and (c)] (a) above.

[(f)] (d) Where any conflict occurs between the standards prescribed in [(b) and (c)] (a) above and [these rules, these rules] this chapter, this chapter shall prevail.

[(g)] (e) All [Sections] sections of the ASME Code referenced in [(b)] (a)1 above shall become mandatory six months after approval by the ASME Council as do published addenda and Code Cases, unless specific exception is taken by the Bureau of Boiler and Pressure Vessel Compliance administratively subject to confirmation by the Board.

[(h)] (f) (No change in text.)

SUBCHAPTER 10. STANDARDS AND PUBLICATIONS [REFERRED TO] INCORPORATED BY REFERENCE IN THIS CHAPTER

12:90-10.1 Documents [referred to] incorporated by reference

(a) The full title and edition of each of the standards and publications [referred to] incorporated by reference in this chapter, as amended and supplemented, are as follows:


[Section I, Power Boilers

Section II, Material Specifications

Part A--Ferrous Material Specifications

Part B--Nonferrous Material Specifications

Part C--Specifications for Welding Rods, Electrodes and Filler Metals

Part D--Properties

Section III, Nuclear Power Plant Components

Subsection NCA--General Requirements for Division 1 and Division 2

Division 1--Subsection NB--Class 1 Components

Division 1--Subsection NC--Class 2 Components

Division 1--Subsection ND--Class 3 Components

Division 1--Subsection NE--Class MC Components
Division 1--Subsection NF--Component Supports
Division 1--Subsection NG--Core Support Structures
Division 1--Appendices
Division 2--Code for Concrete Reactor Vessels and Containments

Section IV, Heating Boilers
Section V, Nondestructive Examination
Section VI, Recommended Rules for the Care and Operation of Heating Boilers
Section VII, Recommended Guidelines for the Care of Power Boilers
Section VIII, Pressure Vessels

Division 1
Division 2--Alternative Rules

Section IX, Welding and Brazing Qualifications
Section X, Fiber-Reinforced Plastic Pressure Vessels
Section XI, Rules for Inservice Inspection of Nuclear Power Plant Components--Division I

All Code Cases, Interpretations and Addenda]


3. NBIC--National Board Inspection Code, 1995 edition [and all subsequent editions and addenda].

4.-6. (No change.)

7. API-510, Pressure Vessel Inspection Code, 1995 edition [and all subsequent editions and addenda].


10. ANSI/ASHRAE 34, Designation and Safety Classification of Refrigerants, 1997 edition [and all subsequent editions and addenda].


12:90-10.3 Availability of documents from issuing organizations

(a) Copies of the standards and publications referred to in this chapter may be obtained from the organizations listed below. The abbreviations [proceeding] that precede these standards and publications have the following meanings, and are the organizations issuing the standards and publications listed in N.J.A.C. 12:90-10.1.

1. API--American Petroleum Institute
   Order Desk
   1220 1 Street, Northwest
   Washington, D.C. 20005

2. ASHRAE--American Society of Heating, Refrigerating, and Air-Conditioning Engineers
   Publication Sales
   1791 Tullie Circle NE
   Atlanta, GA 30329
   Phone Number: (404) 636-8400
   Fax Number: (404) 321-5478
   E-mail: orders@ashrae.org

3. ASME--American Society of Mechanical Engineers United Engineering Center
   [345 East 47th Street] Three Park Avenue
   New York, [New York] NY 10017
   Publications order:
   ASME
   22 Law Drive
   PO Box 2900
   Fairfield, NJ 07007-2900
   Phone: (800) 843-2763
   Fax: (973) 882-1717
   E-mail: infocentral@asme.org

4. [BOCA--] ICC - International Code Council (formerly Building Officials and Code Administrators International)
   4051 West Flossmoor Road
   Country Club Hills, [Illinois] IL 60477
5. IIAR-International Institute of Ammonia Refrigeration

1001 North Fairfax Street, Suite 503
Alexandria, VA 22314-1797

6. NBBPVI--National Board of Boiler and Pressure Vessel Inspectors

1055 Crupper Avenue
Columbus, [Ohio] OH 43229

7. NFPA--National Fire Protection Association

1 Battery March Park
PO Box 9101
Quincy, MA 02169
E-mail: custserv@NFPA.org

8. N.J.S.A.--New Jersey Statutes Annotated

Copies available from:

i. Bureau of Boiler and Pressure Vessel Compliance

1 John Fitch Way, 3rd Floor
PO Box 392
Trenton, [New Jersey] NJ 08625-0392

ii. New Jersey Uniform Construction Code--Bureau of Code Services

[New Jersey Department of Labor and Workforce Development
Division of Public Safety and Occupational Safety and Health
PO Box 392
3rd Floor
Trenton, New Jersey 08625-0392]
New Jersey Department of Community Affairs
Division of Codes and Standards
PO Box 816
Trenton, NJ 08625-0816