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RULE ADOPTIONS

**LABOR AND WORKFORCE DEVELOPMENT
PUBLIC SAFETY AND OCCUPATIONAL SAFETY AND HEALTH**

47 N.J.R. 3041(a)

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

Boilers, Pressure Vessels, and Refrigeration

Proposed: April 20, 2015, at *47 N.J.R. 760(a)*.

Adopted: November 2, 2015, by Harold J. Wirths, Commissioner, Department of Labor and Workforce Development.

Filed: November 2, 2015, as R.2015 d.179, **without change**.

Authority: *N.J.S.A. 34:7-18* and Reorganization Plan No. 002-2002.

Effective Date: December 7, 2015.

Expiration Date: October 1, 2017.

Summary of Hearing Officer's Recommendation and Agency's Response:

A public hearing regarding the proposed amendments was held on May 12, 2015, at the Department of Labor and Workforce Development. David Fish, Executive Director, Legal and Regulatory Services, was available to preside at the public hearing and to receive testimony. The Department received testimony at the public hearing. Written comments were also submitted directly to the Office of Legal and Regulatory Services. After reviewing the testimony and written comments, the hearing officer recommended that the Department proceed with the amendments without change. The record of the public hearing may be reviewed by contacting David Fish, Executive Director, Legal and Regulatory Services, Department of Labor and Workforce Development, P.O. Box 110, Trenton, New Jersey 08625-0110.

Summary of Public Comments and Agency Responses:

Oral Testimony

The following individual testified at the May 12, 2015, public hearing.

1. James Stiefel, Hartford Steam Boiler Inspection and Insurance Company.

The following individuals testified at a public hearing conducted on November 28, 2012, relative to the earlier November 5, 2012, notice of proposal (see *44 N.J.R. 2443(a)*), which notice of proposal later expired pursuant to *N.J.A.C. 1:30-6.2(c)*, after not having been adopted and filed with the Office of Administrative Law on or before November 5, 2013.

2. Robert Haitmanek, Local 68, International Union of Operating Engineers.
3. Raymond Simone, Local 68, International Union of Operating Engineers.
4. Anderson Johnson, Local 68, International Union of Operating Engineers.
5. Michael Morris, Local 68, International Union of Operating Engineers.

The number(s) in parentheses after each comment identifies the respective commenter(s) listed above.

[page=3042] 1. COMMENT: The commenter expresses concern that through the Department's adoption by reference of ASME CSD-1, Control and Safety Devices for Automatically Fired Boilers, 2012 Edition, and all subsequent additions and addenda (CSD-1), it has "unwritten expectations" that installation standards that are contained within CSD-1 will be applied to in-service boiler inspectors, rather than to owners, users, and installers of boilers. Specifically, in part by reference to an earlier submission by the American Insurance Association, a copy of which he provided during his testimony, the commenter asserts that boiler owners should be responsible for ensuring that (i) the installation, maintenance, operation, and testing of controls and safety devices is in accordance with CSD-1; and (ii) the maintenance and testing of controls and safety devices is conducted by an individual with a valid mechanical contractor license with the appropriate classification; whereas the responsibilities of boiler inspectors under CSD-1 should be limited to (i) reviewing evidence from a boiler owner or user as to which tests have been completed annually; and (ii) issuing a certificate of inspection for a shorter term if this evidence is not provided.

Furthermore, also by way of reference to the earlier submitted American Insurance Association letter, the commenter states that, as with CSD-1, National Fire Protection Association (NFPA) 58 and 85 contain construction and installation requirements that are outside the scope of the training, experience, and knowledge of inspectors commissioned to conduct in-service boiler inspections. Accordingly, the commenter suggests that the role of boiler inspectors under the NFPA 58 and 85 standards should be limited to (i) assuring that there are no major changes, alterations, or repairs to the pressure vessel or combustion system that would require re-evaluation by the owner to comply with the applicable standard; and (ii) determining that the owner has documented programs in place for training and maintenance, and that there is evidence the programs are implemented and current. (1)

RESPONSE: The Department agrees with the commenter's position relative to the appropriate role of boiler inspectors in ensuring compliance with ASME CSD-1, NFPA 58 and 85. As indicated in the notice of proposal, "[t]hese are industry standards that have always governed the responsible construction, installation and operation of boilers and refrigeration systems." None of the external industry standards adopted by reference within the amendments to *N.J.A.C. 12:90-3.10* or *4.2* is intended to change the manner in which inspections are conducted by either State inspectors or insurance company inspectors.

2. COMMENT: As indicated in Comment Number 1, the commenters had appeared before the Department to testify regarding the earlier November 5, 2012, notice of proposal (see *44 N.J.R. 2443(a)*), which notice of proposal later expired pursuant to *N.J.A.C. 1:30-6.2(c)*, after not having been adopted and filed with the Office of Administrative Law on or before November 5, 2013. Although the commenters did not appear before the Department to testify following publication of the April 20, 2015, notice of proposal (see *47 N.J.R. 760(a)*), it is fair and appropriate to incorporate their earlier testimony into this rulemaking through their inclusion and the inclusion of a Department response within this notice of adoption. Thus, the following is a summary of the commenters' testimony in response to publication of the November 5, 2012, notice of proposal.

The commenters assert that changing the minimum frequency with which a licensed operator must monitor the conditions of a low pressure boiler plant from once every two hours to twice every 24 hours, with no less than seven hours between each equipment check, would "present an unsafe condition." They add that because New Jersey has "one of the highest population densities in the country, if not the highest," the public safety concern is heightened, which "would mandate that you have operators around because of the close proximity of people to these operating boilers and equipment." The commenters maintain that New Jersey's infrastructure is rapidly aging, making water main breaks and similar events more frequent, thereby increasing the likelihood of resulting boiler failures. They claim that allowing low

pressure boiler plants to be "unattended" for the period of time set forth in the amended rule would, again, create an "unsafe condition." (2, 3, 4, and 5)

RESPONSE: As indicated in the notice of proposal (47 N.J.R. 760(a)), the Department consulted with the Board of Boiler, Pressure Vessel and Refrigeration rules prior to proposing the amendments to *N.J.A.C. 12:90-3.10*. It was based on the Department's consultation with the Board and with the approval of the Board that the Department concluded (as indicated in the notice of proposal) that "this less frequent monitoring is consistent with industry standards and poses no threat to public safety." The Department stands behind that statement and declines to make any change to the amendment on adoption.

3. COMMENT: A commenter objects to the amendment to *N.J.A.C. 12:90-3.10*, which would change the frequency with which operators must monitor the conditions of a low pressure boiler plant, on the basis that it will result in a loss of jobs. Specifically, he states that if low pressure boiler plants no longer must be physically inspected by a licensed boiler operator every two hours, the jobs of certain licensed boiler operators will be given to "other people that will be just trades people and not boiler operators, so there will be an impact on the loss of jobs because of that." (2)

RESPONSE: The Department is seeking to make reasonable changes to what is an overly burdensome rule, while ensuring both consistency with industry standards and no increased risk to occupational or public safety. As indicated in the notice of proposal, the Department does not anticipate that the proposed amendments will have an impact on either the generation or loss of jobs.

Written Comments

Written comments were submitted by the following individuals. The number(s) in parentheses after each comment identifies the respective commenter(s) listed above.

1. Nicholas J. Kikis, Vice President, Legislative and Regulatory Affairs, New Jersey Apartment Association, Monroe Township, New Jersey.

2. Kenneth Stoller, Assistant General Counsel, American Insurance Association, Washington, D.C.

The following individual submitted a written comment in response to the earlier November 5, 2012 notice of proposal (see 44 N.J.R. 2443(a)), which notice of proposal later expired pursuant to *N.J.A.C. 1:30-6.2(c)*, after not having been adopted and filed with the Office of Administrative Law on or before November 5, 2013.

3. Eric DeGesero, Executive Vice President, Fuel Merchants Association of New Jersey, Springfield, New Jersey.

4. COMMENT: The commenter supports the amendments, adding the following:

"It is a balanced proposal that would have a tremendous impact on apartment communities by freeing maintenance staff (for whom boiler operations are one of many responsibilities) from unnecessary boiler inspections each shift. It would protect public safety by continuing to ensure that all such boilers are monitored by 'black seal' licensees who are available to respond to issues as they occur."

The commenter also states the following:

"It is important to note that these maintenance checks are only a small part of a comprehensive regulatory framework that covers these boiler systems from manufacturing to operations. Manufacturers guarantee that all boilers are built to standardized nationwide codes and are equipped with safety devices in compliance with numerous safety codes and standards (many of which are updated by this very proposal). Furthermore, a comprehensive Statewide regulatory framework exists including: 'black seal' training and licensure, minimum safety and design standards, and third-party inspections and oversight performed by specialized insurance companies as required by State law." (1)

RESPONSE: The Department agrees with the remarks of the commenter.

5. COMMENT: The commenter is concerned with the proposed amendment to *N.J.A.C. 12:90-4.2*, which would add three external industry standards (ASME CSD-1, NFPA 58, and NFPA 85) to the existing two external industry standards with which those who maintain, alter, repair, or inspect boilers must adhere. Specifically, the commenter states the following relative to ASME CSD-1:

"CSD-1 is a new construction and installation standard, intended to be used by boiler manufacturers and installing contractors. CSD-1 requires the manufacturer to furnish detailed [page=3043] instructions for cleaning, maintenance

and testing of controls and safety devices, as well as testing the operation of control systems and safety devices before releasing the boiler to the owner/user. CSD-1 requires the installing contractor to satisfactorily complete testing of the controls and safety devices upon installation, and also requires periodic testing of the controls and safety devices in accordance with the manufacturer's instructions. However, CSD-1 does not require boiler inspectors to test these systems, and we believe that requiring testing to be performed in accordance with this standard would be inappropriate for several reasons."

The commenter suggests that the Department clearly delineate the respective obligations of boiler owners and inspectors under CSD-1 and recommends incorporating into New Jersey's rules some combination of the approaches taken in Michigan and Wisconsin:

"Michigan Boiler Rule 27 provides that boiler owners should be responsible for ensuring that (i) the installation, maintenance, operation and testing of controls and safety devices is in accordance with CSD-1; and (ii) the maintenance and testing of controls and safety devices is conducted by an individual with a valid mechanical contractor license, with the appropriate classification. There is a role for boiler inspectors in the CSD-1 process, but that role should be limited to (i) reviewing evidence from a boiler owner or user of which tests have been completed annually; and (ii) issuing a certificate of inspection for a shorter term if this evidence is not provided.

Wisconsin Administrative Code SPS 341.17 limits periodic inspection obligations under CSD-1 to verification of whether all of the following are available: (1) the manufacturer's instructions that are required in CSD-1 sections CG-430 and 510(c); (2) the manufacturer's and contractor's reports that are required in CSD-1 sections CG-510(a) and (b); (3) a boiler log, maintenance record, service invoice or other written record that shows the results of periodic testing, as required in CSD-1 sections CM-110 and CM-130; and (4) the operator's checklist that is required in CSD-1 section CM-130."

Relative to NFPA 58 and NFPA 85, the commenter states the following:

"As with CSD-1, NFPA 58 and NFPA 85 contain many construction and installation requirements that are outside the scope of the training, experience and knowledge of inspectors commissioned to conduct in-service boiler inspections. Accordingly, the role of boiler inspectors with respect to these standards should be limited to (i) assuring that there are no major changes, alterations or repairs to the pressure vessel or combustion system that would require re-evaluation by the owner to comply with the applicable standard; and (ii) determining that the owner has documented programs in place for training and maintenance, and that there is evidence the programs are implemented and current." (2)

RESPONSE: The Department agrees with the commenter's position relative to the appropriate role of boiler inspectors in ensuring compliance with ASME CSD-1, NFPA 58, and NFPA 85. The appropriate role of boiler inspectors in ensuring compliance with ASME CSD-1, NFPA 58, and NFPA 85 is evident within the external standards themselves. Therefore, no change to the amendments as proposed is necessary.

6. COMMENT: As indicated in a prior comment, the commenter had submitted a written response to the earlier November 5, 2012, notice of proposal (see *44 N.J.R. 2443(a)*), which notice of proposal later expired pursuant to *N.J.A.C. 1:30-6.2(c)*, after not having been adopted and filed with the Office of Administrative Law on or before November 5, 2013. Although the commenter did not submit a separate written comment following publication of the April 20, 2015, notice of proposal (see *47 N.J.R. 760(a)*), it is fair and appropriate to incorporate his earlier comment into this rulemaking through its inclusion and the inclusion of a Department response within this notice of adoption. Thus, the following is a summary of the commenter's written remarks in response to publication of the November 5, 2012, notice of proposal.

The commenter requests that the Department "explain the distinction between the rules that the NJDOL's Bureau of Boiler and Pressure Vessel Compliance operate under and those that the New Jersey Department of Community Affairs (DCA) operate under relative to the installation of boilers." He adds that he is "aware of numerous instances where an HVAC contractor installs a boiler at a commercial building which passes the code inspection of the local code official enforcing the Uniform Construction Code (UCC) and subsequently (be it a few months or years) that same location is visited by an insurance company or the Bureau and the same boiler fails the Bureau's [or insurance company's] inspection." The commenter asks, "[w]hat standard(s) is the Bureau enforcing that aren't covered under the UCC?" (3)

RESPONSE: The standards enforced by the Department's Bureau of Boiler and Pressure Vessel Compliance under *N.J.A.C. 12:90-4.2* relative to the construction and installation of boilers include: (1) the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code; (2) the National Board Inspection Code; (3) the ASME

CSD-1; (4) the NFPA 58; and (5) the NFPA 85, the latter three added through the amendments at issue in this notice of adoption. The Department has expressly adopted by reference these external industry standards within *N.J.A.C. 12:90-4.2*. The DCA's Division of Codes and Standards, enforces the UCC, *N.J.A.C. 5:23*. Within the UCC there is a mechanical subcode (*N.J.A.C. 5:23-3.20*), which in turn adopts by reference the model code of the International Code Council, Inc., known as the International Mechanical Code/2009. Relative to DCA inspections under the UCC, Chapter 10 of the International Mechanical Code/2009 apparently "governs the installation, alteration and repair of boilers, water heaters and pressure vessels." Within that Chapter 10, there is a Section 1004, pertaining specifically to boilers, which indicates that boilers "shall be designed and constructed in accordance with the requirements of ASME CSD-1 and as applicable, the ASME Boiler and Pressure Vessel Code, Sections I or IV; NFPA 8501; NFPA 8502 or NFPA 8504." The NFPA 85 (Boiler and Combustion Systems Hazards Code), which the Department has adopted by reference within *N.J.A.C. 12:90-4.2*, states that it "originated as a compilation of the following six standards: NFPA 8501, Standards for Single Burner Boiler Operation; NFPA 8502, Standards for the Prevention of Furnace Explosion/Implosions in Multiple Burner Boilers; NFPA 8503, Standard for Pulverized Fuel Systems; NFPA 8504, Standards on Atmospheric Fluidized-Bed Boiler Operations; NFPA 8505, Standard for Stoker Operations; and NFPA 8506, Standard on Heat Recovery Steam Generator Systems." Again, although the Department's Bureau of Boiler and Pressure Vessel Compliance and the DCA's Division of Codes and Standards may approach the adoption of governing standards in a slightly different manner (the former adopting the external standards by reference directly; the latter adopting an intervening model code, which in turn, adopts the external standards by reference), it does appear that relative to the installation of boilers, they ultimately rely on the same industry standards.

Regarding the commenter's assertion that he is aware of instances of inconsistency in code enforcement between the DCA and the Bureau of Boiler and Pressure Vessel Compliance, without knowing the details of the cases alluded to by the commenter, it is impossible to meaningfully respond.

Federal Standards Statement

The adopted 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.

Full text of the adoption follows:

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 twice every 24 hours, with no less than seven hours between each equipment check.

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

[page=3044] (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.
2. ASME CSD-1, Control and Safety Devices for Automatically Fired Boilers, 2012 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;

3. NFPA 37, Standards for the Installation and Use of Stationary Combustion Engines and Gas Turbines, 2006 Edition;
4. NFPA 2, Hydrogen Technologies Code, 2011 Edition;
5. NFPA 55, Compressed Gases and Cryogenic Fluids Code, 2013 Edition; and
6. NFPA 85, Boiler and Combustion Systems Hazard Code, 2011 Edition.

(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:

1. ANSI/ASHRA Standard 15, Safety Code for Refrigeration Systems, 2007 Edition;
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
4. ANSI/IIAR Standard 7-2013 Developing Operating Procedures for Closed-Circuit Ammonia Mechanical Refrigerating Systems.

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 in 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 in this subsection.

1. The applicable sections of the ASME Boiler and Pressure Vessel Code--2015 edition listed below, or their equivalent:
 - i. (No change in text.)
 - ii. Section II, Materials;
 - iii. Section III, Rules for Construction of Nuclear Facility Components;
 - iv. (No change in text.)
 - v. Section VI, Care and Operation of Heating Boilers;
 - vi. Section VII, Care of Power Boilers;

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

 - ix. Case Interpretation and Addenda of each section listed above, except as provided in (e) below.
2. NBBPVI National Board Inspection Code--2013 edition.
3. ASME CSD-1, Control and Safety Devices for Automatically Fired Boilers, 2012 Edition.

4. NFPA 58, Liquefied Petroleum Gas Code, 2011 Edition.

5. NFPA 85, Boiler and Combustion Systems Hazard Code, 2011 Edition.

(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 (a) above.

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

(d) Where any conflict occurs between the standards prescribed in (a) above and this chapter, this chapter shall prevail.

(e) All sections of the ASME Code referenced in (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.

(f) (No change in text.)

SUBCHAPTER 10. STANDARDS AND PUBLICATIONS INCORPORATED BY REFERENCE IN THIS CHAPTER

12:90-10.1 Documents incorporated by reference

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

1. ASME--Boiler and Pressure Vessel Code, 2013 edition.

2. BOCA National Mechanical Code, 1993 edition, specifically including the revisions identified in the Conference Report of Final Action on 1994 Proposed Changes to the BOCA National Codes.

3. NBIC--National Board Inspection Code, 1995 edition.

4.-6. (No change.)

7. API-510, Pressure Vessel Inspection Code, 1995 edition.

8. ASME CSD-1, Controls and Safety Devices for Automatically Fired Boilers, 2012 edition.

9. ANSI/ASHRAE 15, Safety Code for Mechanical Refrigeration, 1994 edition.

10. ANSI/ASHRAE 34, Designation and Safety Classification of Refrigerants, 1997 edition.

11. NFPA 54, National Fuel Gas Code, 2012 edition.

12. NFPA 58, Liquefied Petroleum Gas Code, 2011 edition.

13. NFPA 85, Boiler and Combustion Systems Hazard Code, 2011 edition.

14. NFPA 37, Standards for the Installation and Use of Stationary Combustion Engines and Gas Turbines, 2006 edition.

15. NFPA 2, Hydrogen Technologies Code, 2011 edition.

16. NFPA 55, Compressed Gases and Cryogenic Fluids Code, 2013 edition.

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

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

19. ANSI/IIAR Standard 7-2013 Developing Operating Procedures for Closed-Circuit Ammonia Mechanical Refrigerating Systems, 2013 edition.

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 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

Three Park Avenue
New York, NY 10017
Publications order:
ASME
22 Law Drive
[page=3045] PO Box 2900
Fairfield, NJ 07007-2900
Phone: (800) 843-2763
Fax: (973) 882-1717
E-mail: infocentral@asme.org

4. ICC - International Code Council (formerly Building Officials and Code Administrators International)

4051 West Flossmoor Road
Country Club Hills, 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, 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, NJ 08625-0392

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

New Jersey Department of Community Affairs
Division of Codes and Standards
PO Box 816
Trenton, NJ 08625-0816