

**CHAPTER 90**

**BOILERS, PRESSURE VESSELS AND REFRIGERATION**

**Authority**

N.J.S.A. 34:1-20, 34:1-47, 34:1A-3, 34:7-18;  
and Reorganization Plan 002-2002

**Source and Effective Date**

R.2005 d.80, effective January 27, 2005.  
See: 36 N.J.R. 5083(a), 37 N.J.R. 614(b).

**Chapter Expiration Date**

Chapter 90, Boilers, Pressure Vessels and Refrigeration, expires on January 27, 2010.

**Chapter Historical Note**

Chapter 90, Boilers, Pressure Vessels and Refrigeration, was filed and became effective prior to September 1, 1969. Amendments became effective March 11, 1976 as R.1976 d.79. See: 8 N.J.R. 41(a), 8 N.J.R. 197(c). Chapter 90, Boilers, Pressure Vessels and Refrigeration, was repealed and new rules became effective December 17, 1984. See: 16 N.J.R. 1172(a), 16 N.J.R. 3454(a).

Pursuant to Executive Order No. 66(1978), Chapter 90, Boilers, Pressure Vessels and Refrigeration, was readopted as R.1990 d.24, effective December 15, 1989. See: 21 N.J.R. 3247(a), 22 N.J.R. 235(a).

Pursuant to Executive Order No. 66(1978), Chapter 90, Boilers, Pressure Vessels and Refrigeration, was readopted as R.1994 d.599, effective November 9, 1994. See: 26 N.J.R. 3810(a), 26 N.J.R. 4828(a).

Pursuant to Reorganization Plan 002-1998, Chapter 90, Boilers, Pressure Vessels and Refrigeration, was recodified as N.J.A.C. 5:11, effective July 1, 1998. See: 30 N.J.R. 1347(a), 30 N.J.R. 2644(a).

Administrative change: Office of Boiler and Pressure Vessel Compliance changed to Bureau of Boiler and Pressure Vessel Compliance. See: 31 N.J.R. 1061(b).

Subchapter 7, Pressure Relief Valves, was adopted as new rules, and former Subchapter 7, Licensing of Operating Engineers and Boiler Operator, former Subchapter 8, Violations and Penalties, and former Subchapter 9, Standards and Publications Referred to in this Chapter, were recodified as Subchapters 8 through 10 by R.1999 d.304, effective September 7, 1999. See: 31 N.J.R. 1556(a), 31 N.J.R. 2604(b).

Pursuant to Executive Order No. 66(1978), Chapter 11, Boilers, Pressure Vessels and Refrigeration, was readopted as R.1999 d.394, effective October 21, 1999. See: 31 N.J.R. 2024(a), 31 N.J.R. 3626(a).

Pursuant to Reorganization Plan No. 003-2002, Chapter 11 of Title 5, Boilers, Pressure Vessels and Refrigeration, was recodified as Chapter 90 of Title 12, effective February 5, 2003. See: 34 N.J.R. 4245(a), 35 N.J.R. 1275(b)

Chapter 90, Boilers, Pressure Vessels and Refrigeration, was readopted as R.2005 d.80, effective January 27, 2005. See: Source and Effective Date. See, also, section annotations.

**CHAPTER TABLE OF CONTENTS**

**SUBCHAPTER 1. GENERAL PROVISIONS**

- 12:90-1.1 Title and citation
- 12:90-1.2 Authority
- 12:90-1.3 Purpose
- 12:90-1.4 Scope

- 12:90-1.5 Documents referred to by reference
- 12:90-1.6 Validity

**SUBCHAPTER 2. DEFINITIONS**

- 12:90-2.1 Definitions

**SUBCHAPTER 3. ADMINISTRATION**

- 12:90-3.1 Scope of subchapter
- 12:90-3.2 Right of entry
- 12:90-3.3 Equipment requiring a licensed operator
- 12:90-3.4 Licenses for high pressure boilers
- 12:90-3.5 Licenses for low pressure boilers
- 12:90-3.6 (Reserved)
- 12:90-3.7 Licenses for power generating plants
- 12:90-3.8 Licenses for refrigeration plants
- 12:90-3.9 Chief engineer and scope of certain licenses
- 12:90-3.10 Duties of licensed persons
- 12:90-3.11 Duties of others involved
- 12:90-3.12 Qualification of inspectors
- 12:90-3.13 Renewal of Certificates of Competency

**SUBCHAPTER 4. BOILERS**

- 12:90-4.1 Scope of subchapter
- 12:90-4.2 Compliance with referenced standards
- 12:90-4.3 Classification of boilers
- 12:90-4.4 High pressure boilers
- 12:90-4.5 Low pressure boilers
- 12:90-4.6 Relief device settings
- 12:90-4.7 Steam boiler blowdown tanks and receivers
- 12:90-4.8 Welded repairs and alterations to boilers
- 12:90-4.9 Qualification of authorized repair firms
- 12:90-4.10 Inspection of boilers
- 12:90-4.11 Ultrasonic testing
- 12:90-4.12 Fee and visit charge for shop inspection
- 12:90-4.13 Fee for field inspection
- 12:90-4.14 Registration of boilers
- 12:90-4.15 through 12:90-4.16 (Reserved)

**SUBCHAPTER 5. UNFIRED PRESSURE VESSELS**

- 12:90-5.1 Scope of subchapter
- 12:90-5.2 Compliance with referenced standards
- 12:90-5.3 Classification of unfired pressure vessels
- 12:90-5.4 Class I unfired pressure vessels
- 12:90-5.5 Class II unfired pressure vessels
- 12:90-5.6 Class III unfired pressure vessels
- 12:90-5.7 Class III unfired pressure vessels—New Jersey Standard
- 12:90-5.8 Class III unfired pressure vessels—New Jersey Special
- 12:90-5.9 Class III unfired pressure vessels—New Jersey Approved
- 12:90-5.10 Class IV unfired pressure vessels
- 12:90-5.11 Design criteria
- 12:90-5.12 Welded repairs and alterations to unfired pressure vessels
- 12:90-5.13 Shop inspection of unfired pressure vessels
- 12:90-5.14 Field inspection of unfired pressure vessels
- 12:90-5.15 Fee and visit charge for shop inspection
- 12:90-5.16 Fee for field inspection
- 12:90-5.17 Registration of unfired pressure vessels and fees
- 12:90-5.18 Qualification of inspectors
- 12:90-5.19 Registration of owner-user inspection agencies

**SUBCHAPTER 6. REFRIGERATION SYSTEMS**

- 12:90-6.1 Scope of subchapter
- 12:90-6.2 Compliance with referenced standards
- 12:90-6.3 Relief devices
- 12:90-6.4 Inspection of refrigeration systems
- 12:90-6.5 Fee for field inspection

## SUBCHAPTER 7. PRESSURE RELIEF VALVES

- 12:90-7.1 Scope of subchapter  
12:90-7.2 Requirements for certification

## SUBCHAPTER 8. LICENSING OF OPERATING ENGINEERS AND BOILER OPERATORS

- 12:90-8.1 Scope of subchapter  
12:90-8.2 Application for licenses  
12:90-8.3 Classification of licenses for operators  
12:90-8.4 Eligibility for boiler operator's license (black seal)  
12:90-8.5 Eligibility for low pressure boiler operator's license (black seal)  
12:90-8.6 Eligibility for high pressure boiler operator's license  
12:90-8.7 Eligibility for third grade steam engineer's license (blue seal)  
12:90-8.8 Eligibility for third grade refrigeration engineer's license (blue seal)  
12:90-8.9 Eligibility for nuclear engineer's license  
12:90-8.10 Eligibility for long boom crane operator's license  
12:90-8.11 Eligibility for second grade engineer's license (red seal)  
12:90-8.12 Eligibility for first grade engineer's license (gold seal)  
12:90-8.13 Other eligibility considerations  
12:90-8.14 Examinations  
12:90-8.15 Granting of license  
12:90-8.16 Re-examination  
12:90-8.17 Posting of license  
12:90-8.18 Suspension or revocation of license  
12:90-8.19 Renewal of license  
12:90-8.20 Employment of unlicensed person in emergency

## SUBCHAPTER 9. VIOLATIONS AND PENALTIES

- 12:90-9.1 Violations  
12:90-9.2 Settlements  
12:90-9.3 Final agency decisions  
12:90-9.4 Enforcement  
12:90-9.5 Appeals

## SUBCHAPTER 10. STANDARDS AND PUBLICATIONS REFERRED TO IN THIS CHAPTER

- 12:90-10.1 Documents referred to by reference  
12:90-10.2 Availability of documents for inspection  
12:90-10.3 Availability of documents from issuing organizations

## SUBCHAPTER 1. GENERAL PROVISIONS

**12:90-1.1 Title and citation**

This chapter shall be known and may be cited as N.J.A.C. 12:90, Boilers, Pressure Vessels and Refrigeration.

**12:90-1.2 Authority**

These rules are promulgated pursuant to the authority of the Operating Engineers and Firemen Licensing Act, N.J.S.A. 34:7-1 et seq. and the Boiler, Pressure Vessel and Refrigeration Act, N.J.S.A. 34:7-14 et seq.

**12:90-1.3 Purpose**

(a) The purpose of this chapter is to provide reasonable standards for:

1. The protection of life and property in the use of boilers, pressure vessels and refrigeration systems; and

## 2. The licensing of engineers and boiler operators.

Amended by R.1999 d.304, effective September 7, 1999.  
See: 31 N.J.R. 1556(a), 31 N.J.R. 2604(b).

In (a)2, substituted a reference to boiler operators for a reference to firemen.

**12:90-1.4 Scope**

(a) This chapter shall apply to:

1. The design, construction, alteration, repair, operation, use and inspection of boilers, pressure vessels and refrigeration systems; and

2. The examination and licensing of operating engineers, boiler operators and operators of long boom cranes.

Amended by R.1999 d.304, effective September 7, 1999.  
See: 31 N.J.R. 1556(a), 31 N.J.R. 2604(b).

In (a)2, substituted a reference to boiler operators for a reference to firemen.

**12:90-1.5 Documents referred to by reference**

The availability of standards and publications referred to in this chapter is explained in N.J.A.C. 12:90-9.

Amended by R.1996 d.588, effective December 16, 1996.  
See: 28 N.J.R. 4060(a), 28 N.J.R. 5224(a).  
Changed N.J.A.C. reference.

**12:90-1.6 Validity**

Should any section, paragraph, sentence or word of this chapter be declared for any reason to be invalid, such decision shall not affect the remaining portions of this chapter.

## SUBCHAPTER 2. DEFINITIONS

**12:90-2.1 Definitions**

The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise.

“Act” (“Inspection Act”) means the Boiler, Pressure Vessel and Refrigeration Act, N.J.S.A. 34:7-14 et seq.

“Act” (“Licensing Act”) means the Operating Engineers and Firemen Licensing Act, N.J.S.A. 34:7-1 et seq.

“Alteration” means any change in the item described on the original manufacturer's data report which affects the pressure containing capability of the boiler or pressure vessel. Nonphysical changes such as an increase in the maximum allowable working pressure (internal or external) or design temperature of a boiler or pressure vessel shall be considered an alteration. A reduction in minimum temperature such that additional mechanical tests are required shall also be considered an alteration.

“ANSI” means American National Standards Institute.