AUTHORITY NOTE: Promulgated in accordance with R.S. 40:1725, R.S. 40:1726, R.S. 40:1727, R.S. 40:1728, R.S. 40:1729 AND R.S. 40:1730.

HISTORICAL NOTE: Promulgated by the Department of Public Safety and Corrections, Office of State Fire Marshal, LR 28:1598 (July 2002).

Chapter 50. Boiler Construction, Maintenance, Inspection and General Use

Subchapter A. General Provisions

§5001. Preface

A.1. The objective of these rules and regulations is to promote safe and efficient boiler practices for the construction, repair, alteration, operation and inspection of all boilers, and to provide for inspection during fabrication, assembly, modification, repair or alteration of those pressure vessels which are required by the owner or user to:

a. meet American Society of Mechanical Engineers (ASME) rules for construction, and the National Board Inspection Code (NBIC) rules for repair; and

b. be stamped as meeting those rules; thereby insuring better protection of life and property.

2. To this end we invite the cooperation of all boiler and pressure vessel manufacturers, owners, users, operators and insurance companies.

B. It is intended that these rules and regulations will effect reasonable and adequate regulations governing the construction, maintenance, inspection and use of boilers, and provide for the inspection during fabrication, repair or alteration of those pressure vessels that are required by the owner or user to:

1. meet ASME and NBIC requirements; and

2. be stamped as meeting those rules.

C. These rules and regulations are not designed to provide an inspection program for unfired pressure vessels, except as provided for by the Act, however, inspections will be provided when requested by the owner or user. They are intended to promote uniform standards for the design, fabrication, repair, alteration and inspection of steam and hot water boilers, and the inspection during fabrication, repair or alteration of those pressure vessels that are required by the owner or user to:

1. meet ASME and NBIC requirements; and

2. be stamped as meeting those rules.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1350 (July 2007).

§5002. Application

A.1. The rules and regulations herein promulgated apply to all boilers subject to the provisions of the Louisiana Revised Statutes of 1950, Title 23, Chapter 5, Part III, Sections 531 through 545, (Except boilers exempted by R.S. 23:540), and to those pressure vessels that are required by the owner or user to:

a. meet ASME and NBIC requirements; and

b. be stamped as meeting those rules, as provided for by R.S. 23:531.

2. These rules and regulations shall conform as nearly as practicable to the ASME Boiler and Pressure Vessel Codes; Section I Power Boilers, 2004 Edition, 2005 Addendum; Section IV Heating Boilers, 2004 Edition, 2005 Addendum; Section V Non Destructive Examination, 2004 Edition, 2005 Addendum; Section VI-Recommended Rules for the Care and Operation of Heating Boilers, 2004 Edition, 2005 Addendum; Section VII Recommended Guidelines for the Care of Power Boilers, 2004 Edition, 2005 Addendum; Section VIII Pressure Vessels to the extent the rules and regulations apply, 2004 Edition, 2005 Addendum; Section IX—Welding and Brazing Qualifications, 2004 Edition, 2005 Addendum; ASME B31.1 Power Piping, 2004 Edition, 2005 Addendum; ASME CSD.—1 Controls and Safety Devices for Automatically Fired Boilers, 2004 Edition (with the exception of Part CM-Testing and Maintenance), and NFPA 54 National Fuel Gas Code, 2002 Edition, adopted by the council of the American Society of Mechanical Engineers; and the National Board Inspection Code, 2004 Edition, 2005 Addendum.

B. Where the application of a rule would cause expense materially out of proportion to the increase of safety secured thereby, or would be unreasonable under the facts of the particular case, and safety can be secured in other ways, the assistant secretary may, upon adequate showing by the owner or user, grant an exemption of the rule complained of under such requirements as will secure a reasonable condition of safety.

C. The rules providing for inspection of new and existing installations shall apply to all boilers subject to the provisions of Act 264 of the Regular Session of 1938, as continued or substituted for by Title 23, Chapter 5, Part III, of the Louisiana Revised Statutes of 1950, regardless of whether inspected by an inspector employed by the Department of Public Safety or by an insurance company inspector, and shall apply to all boilers whether stationary or portable, insofar as is practical.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1351 (July 2007).

§5003. Definitions

Act—regulations affecting boilers, as enacted, amended and reenacted by the Legislature of Louisiana, herein referred to as the Louisiana Revised Statutes of 1950, Title 23, Chapter 5, Part III, Sections R.S. 23:531 through R.S. 23:545.

Alteration—a change in any item described on the original Manufacturers Data Report that affects the pressure containing capability of the boiler or pressure vessel. Non-physical changes such as an increase in maximum allowable working pressure (internal or external) or design temperature

shall be considered an alteration. A reduction in minimum temperature such that additional mechanical test are required shall also be considered an alteration.

ASME—the American Society of Mechanical Engineers.

ASME Code—the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code published by that society, including addenda and code cases, approved by its council and adopted by the assistant secretary, shall hereafter be known as the "Louisiana Boiler Construction Code." A copy of this code will be on file at the State of Louisiana, Department of Public Safety, Office of State Fire Marshal, Boiler Inspection Section, Baton Rouge, Louisiana.

Assistant Secretary—as used herein shall be the Fire Marshal for the State of Louisiana.

Authorized Inspection Agency—one of the following:

1. a department or division established by a jurisdiction which has adopted and does administer one or more sections of the ASME Code, one of which shall be Section I as a legal requirement, and whose inspectors hold valid commissions issued by the National Board of Boiler and Pressure Vessel Inspectors. For these rules this shall be the Boiler Inspection Section, Office of State Fire Marshal, State of Louisiana;

2. an insurance company which has been licensed or registered by the appropriate authority of a state of the United States or a Province of Canada, to write and does write boiler and pressure vessel insurance, and to provide inspection service of boilers and pressure vessels that they insure in such state or province, and whose inspectors meet the requirements of *Authorized Inspector* below.

Authorized Inspector—an inspector who holds a current commission as an inspector of boilers and other pressure vessels, issued by the National Board of Boiler and Pressure Vessel Inspectors; a certificate of competency and commission as a boiler inspector, issued by the Boiler Inspection Section, Office of State Fire Marshal, State of Louisiana.

Boiler—a vessel in which water is heated, steam is generated, steam is superheated, or any combination thereof, under pressure or vacuum for use external to itself, by the direct application of heat, that is heat resulting from the combustion of fuel, electrical elements, nuclear fuel, or waste gases. (Vessels known as evaporators or heat exchangers and vessels in which steam and other vapor is generated by the use of heat resulting from operation of a processing system containing a number of pressure vessels such as used in the manufacture of chemical and petroleum products, would be exempted from jurisdictional inspection requirements.) The term *boiler* shall include the following.

1. *Power Boiler*—a boiler in which steam is generated at a pressure of more than 15 psig.

2. *High Pressure/High Temperature Water Boiler*—a water boiler intended for operation at pressures in excess of 160 psig and/or temperatures in excess of 250° F.

3. *Heating Boiler*—a steam boiler operating at pressures not exceeding 15 psig, or a hot water boiler operating at pressures not exceeding 160 psig and/or temperatures not exceeding 250° F.

4. *Electric Boiler*—a power boiler or a hot water heating or supply boiler in which the source of heat is electricity.

5. *Miniature Boiler*—a power boiler or a high-temperature water boiler which does not exceed the following limits:

a. 16 inch inside diameter of shell;

b. 20 square feet heating surface (not applicable to electric boilers);

c. 5 cubic feet gross volume exclusive of casing and insulation;

d. 100 psig maximum allowable working pressure.

6. *Steam Heating Boiler*—a steam boiler for operation at pressures not exceeding 15 psig, used for heating purposes.

7. *Hot Water Heating Boiler*—a boiler in which no steam is generated, from which hot water is circulated for heating purposes and then returned to the boiler, and which operates at a pressure not exceeding 160 psig and/or a temperature of 250° F at or near the boiler outlet.

8. *Hot Water Supply Boiler*—a boiler completely filled with water that furnishes hot water to be used externally to itself at pressures not exceeding 160 psig or a temperature not exceeding 250° F at or near the boiler outlet.

9. *Potable Water Boiler*—a vessel in which water is heated and withdrawn for use external to itself at pressures not exceeding 160 psig and temperatures not exceeding 210° F. This shall include hot water heaters (fired and electric), supplying potable hot water, 50 gallons and over in capacity; coil water heaters and fired jacketed kettles.

10. *Portable Boiler*—a boiler which is primarily intended for temporary location and the construction and usage permits it to be readily moved from one location to another.

11. *Heat Recovery Boiler*—a vessel or system of vessels comprised of one or more heat exchanger surfaces used for the recovery of waste heat (Vessels known as evaporators or heat exchangers and vessels in which steam and other vapor is generated by the use of heat resulting from the operation of a processing system containing a number of pressure vessels such as used in the manufacture of chemical and petroleum products, are to be exempted from jurisdictional inspection requirements).

12. *Unfired Steam Boiler*—an unfired vessel intended for operation at a pressure in excess of 15 psig steam for the purpose of producing and controlling an output of thermal energy. (Vessels known as evaporators or heat exchangers and vessels in which steam and other vapor is generated by the use of heat resulting from the operation of a processing system containing a number of pressure vessels such as used in the

manufacture of chemical and petroleum products, are to be exempted from jurisdictional inspection requirements).

13. *Waste Heat Boiler*—an unfired vessel or system of unfired vessels intended for operation in excess of 15 psig steam for the purpose of producing and controlling an output of thermal energy. (Vessels known as evaporators or heat exchangers and vessels in which steam and other vapor is generated by the use of heat resulting from the operation of a processing system containing a number of pressure vessels such as used in the manufacture of chemical and petroleum products, are exempted from jurisdictional inspection requirements.)

Certificate Inspection—an inspection, the report of which is used by the chief inspector as justification for issuing, withholding or revoking the inspection certificate. This certificate inspection shall be an internal inspection when required; otherwise, it shall be as complete an inspection as possible.

1. *Internal Inspection*—as complete an examination as can be made of the internal and external surface of a boiler or pressure vessel while it is shut down and manhole plates, hand hole plates or other inspection opening closures are removed as required by the inspector.

2. *External Inspection*—an inspection made when a boiler or pressure vessel is in operation, if possible.

Certificate of Competency—a certificate issued to a person who has passed the examination prescribed by the assistant secretary.

Certificate of Inspection—a certificate issued by the chief inspector for the operation of a boiler or pressure vessel as required by the Act.

Commission-National Board—the commission issued by the National Board of Boiler and Pressure Vessel Inspectors to a holder of a certificate of competency who desires to make shop inspections or field inspections in accordance with the National Board Bylaws and whose employer submits the inspector application to the national board for such commission.

Condemned Boiler or Pressure Vessel—a boiler or pressure vessel that has been inspected and declared unsafe, or disqualified by legal requirements, by an inspector and a stamping or marking designating its condemnation has been applied by the chief inspector, deputy or special inspector.

Existing Installation—includes any boiler constructed, installed, placed in operation, or contracted for before July 7, 1938 and any pressure vessel (when required by the Act) before July 16, 1975.

Inspector—the chief inspector, any deputy inspector or special inspector.

1. *Chief Inspector*—the chief boiler and pressure vessel inspector, appointed under the Act.

2. *Deputy Inspector*—any inspector, employed by this state and appointed by the assistant secretary under the provisions of the Act.

3. *Special Inspector*—an inspector holding a Certificate of Competency, and who is regularly employed by an insurance company authorized to insure against loss from explosion of boilers or pressure vessels in this state.

Jurisdiction—a state, commonwealth, county or municipality of the United States or a province of Canada, which has adopted one or more sections of the ASME Code, or other codes and standards accepted by the National Board of Boiler and Pressure Vessel Inspectors, and maintains a duly constituted department, bureau or division for the purpose of enforcement of such Code.

National Board—the National Board of Boiler and Pressure Vessel Inspectors, 1055 Crupper Avenue, Columbus, Ohio 43229, whose membership is composed of the chief inspectors of jurisdictions, who are charged with the enforcement of the provisions of the ASME Code.

National Board Inspection Code—the manual for boiler and Pressure vessel inspectors published by the National Board of Boiler and Pressure Vessel Inspectors, from which copies may be obtained.

New Boiler or Pressure Vessel—includes all boilers constructed, installed, placed in operation or contracted for after July 7, 1938, or pressure vessels (when requested) after July 16, 1975.

Non-Standard Boiler or Pressure Vessel—a boiler or pressure vessel that does not bear the ASME stamp, the API-ASME stamp, or the stamp of any jurisdiction which has adopted a standard of construction equivalent to that required by these rules.

Owner or User—any person, firm or corporation legally responsible for the safe installation, operation and maintenance of any boiler or pressure vessel within this jurisdiction.

Pressure Vessel—a vessel in which the pressure is obtained from an external source, or by the application of heat from an indirect source, or from a direct source other than those boilers defined herein, and shall be those vessels within the scope of Section VIII of the ASME Code.

PSIG—pounds per square inch gauge.

Reinstalled Boiler or Pressure Vessel—a boiler or pressure vessel removed from its original setting and reinstalled at the same location or at a new location without change of ownership.

Repair—the work necessary to restore a boiler or pressure vessel to a safe and satisfactory operating condition, provided there is no deviation from the original design.

Repair/Pressure Relief Valve—the replacement, re-machining or cleaning of any critical part, lapping of seat and disk or any other operation which may affect the flow passage, capacity function or pressure retaining ability of the valve. Disassembly, reassembly and/or adjustments which affect the pressure relief valve function are also considered repair.

Second Hand Boiler or Pressure Vessel—a boiler or pressure vessel that has changed both locations and ownership since its primary use.

Standard Boiler or Pressure Vessel—a boiler or pressure vessel which bears the stamp of the state, the ASME stamp, the API-ASME stamp, both the ASME and National Board stamp, or the stamp of another jurisdiction which has adopted a standard of construction equivalent to that required by this state.

Water Heater—a vessel in which water is heated by combustion of fuel or electricity, for use external to the system at pressures not exceeding 160 psig and shall include all controls and devices necessary to prevent water temperatures from exceeding 210° F as well as storage vessels connected to the water heater (also defined as a potable water boiler).

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1351 (July 2007).

Subchapter B. Administration

§5006. Boilers to Comply with Code Requirements

A. No boiler shall be installed in this state unless it has been constructed, inspected and stamped in conformity with the ASME Code and registered with the National Board except:

1. those exempt by the Act;

2. those existing installations (see §5003.Definitions);

3. those potable water heaters exempted by Part HLW-101, Section IV of the ASME Code, that are required by the Act, to comply with these rules and regulations. (Those heaters must be designed and constructed according to Underwriters Laboratories or other Nationally Recognized Standards, and shall bear their label on the completed unit);

4. those approved as "Louisiana Special."

B. Louisiana Special. If, due to a valid impediment to compliance with the original code of construction, a boiler cannot bear the required construction code and national board stamping, details in the English language and United States customary units of the proposed construction, material specifications and calculations, approved by a registered professional engineer experienced in boiler systems design, shall be submitted to the chief inspector by the owner or user and approval as "Louisiana Special" obtained before construction is started.

C. A boiler having a standard or special stamping of another state that has adopted a standard of construction equivalent to that required for Louisiana, may be accepted by the assistant secretary. The owner/user desiring to install such a boiler shall make application for the installation of same and shall file with the application of a manufacturers data report covering the construction of the boiler in question and a copy of the approval for construction from the state in which the boiler was fabricated.

D. The stamping, ASME, NB, or Standard Label, shall not be concealed by lagging or paint and shall be exposed at all times unless a suitable cover is provided and identifies the stamping as beneath the cover, or a suitable record is kept of the location of the stamping so that it may be readily uncovered.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1353 (July 2007).

§5007. Inspections

A. Upon completion of installation, all boilers shall be inspected by an inspector commissioned to inspect boilers in this state, and shall be inspected thereafter as follows.

1. Power boilers shall receive an internal certificate inspection annually, with the exception of those covered by R.S. 23:536.A, and may receive an external inspection while under pressure at approximately six months following the internal inspection.

2. High temperature and high pressure water boilers shall receive an external inspection annually, with an internal inspection done every six years based on the date of manufacture.

3. Low Pressure Boilers and Potable Water Boilers shall receive a certificate inspection biennial as follows.

a. Steam heating boilers shall receive an internal inspection every two years where construction permits, otherwise, a thorough external inspection shall be performed.

b. Hot water heating and hot water supply boilers shall receive an external inspection every two years and where construction permits an internal inspection every six years based on the date of manufacture.

c. All potable water boilers/water heaters shall receive an external inspection, including the functions of all controls and devises, at the initial installation; except those located in privately owned residences. Those potable water boilers/water heaters 50 gallons in capacity and larger (including any attached storage vessels) and/or 100,000 BTU/HR heat input, shall be issued a state jurisdiction number and a certificate to operate. Those heaters issued an operating certificate will require an external inspection every two years thereafter.

B. In addition to a certificate inspection being conducted in accordance with R.S. 23:536 in a commercial laundromat, as defined by R.S. 47:305.17 the Deputy State Fire Marshal inspector shall verify that hot water is being supplied to each machine at a minimum temperature of 120° F or a sign shall be placed on the machine indicting that hot water is not available.

C. Upon application from the owner or user with the recommendation of a deputy inspector or special inspector, the chief inspector may authorize an extension of the internal inspection period, as provided for by the Act.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1353 (July 2007).

§5008. Second-Hand Installations to Comply with New Installation Requirements

A. In any case where a second-hand boiler is installed, that is, both the ownership and location of which is changed, all fittings and appliances must comply with the applicable ASME Code section for new installations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1354 (July 2007).

§5009. Application of State Serial Numbers

A. Upon completion of the installation of a boiler, or at the time of the initial certificate inspection of an already installed boiler that has not been inspected and decaled according to these rules. A decal with the state serial number shall be placed in a conspicuous location on the boiler/water heater for identification.

B. Pressure vessels when requested to be inspected by the owner or user shall have securely attached one of the decals provided by the boiler inspection section containing the state serial number, and shall be decaled under the same pressure and temperature guidelines provided for boilers by these rules and regulations.

C. State serial numbers that have been decaled or otherwise attached to a boiler shall not be defaced or removed except as provided for by these rules and regulations, and shall not be covered by insulation or other material.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1354 (July 2007).

§5010. Examination for an Inspectors Certificate of Competency

A. Examination for an inspectors certificate of competency shall be held at the Office of State Fire Marshal or any other location to be selected by the chief inspector, four times each year, namely the first Wednesday and 1/2 day Thursday in the months of March, June, September and December. An applicant for an examination shall have education and experience equal to at least one of the following:

1. from an accredited school, a degree in engineering plus one year of experience in design, construction, operation or inspection of high-pressure boilers and pressure vessels;

2. an associate degree in mechanical technology plus two years of experience in design, construction, operation or inspection of high-pressure boilers and pressure vessels;

3. a high school education or the equivalent plus three years of experience:

a. in high-pressure boiler and pressure vessel construction or repair; or

b. in charge of high-pressure boiler operation; or

c. in the inspection of high-pressure boilers and pressure vessels.

B. Applications for examination shall be in writing on a form to be furnished by the chief inspector stating the education of the applicant, a list of the applicant's employers, the applicant's period of employment and position held with each employer. Applications containing willful falsifications or untruthful statements shall be cause for rejection. Applications shall be submitted to the chief inspector at least 45 days prior to the date of examination. If the applicants education and experience are acceptable to the chief inspector, the applicant shall be given a written examination prepared by the National Board of Boiler and Pressure Vessel Inspectors or the American Petroleum Institute, as applicable, dealing with the construction, maintenance and repair of boilers and pressure vessels and appurtenances, and the applicant shall be accepted or rejected on the merits of this examination. If the applicant is successful in meeting the requirements, a certificate of competency will be issued by the chief inspector, when the applicant is employed on a full-time basis by an authorized inspection organization (see §5003.Definitions). Upon the expiration of 90 days, an applicant who failed to pass the examination will be permitted to take another written examination and applicant's acceptance or rejection will be determined on the basis of this examination.

C. An NDE Level II examiner of ASME code boilers and pressure vessels may be credited one year towards the experience requirements above provided the applicant has five years of documented experience in that position and meets all other requirements.

D. A quality control inspector of ASME code boilers and pressure vessels, applying under Subsection C above, may be credited with four months of experience under the experience requirements of such section for each year of documented, diversified experience he/she possesses in the implementation of an ASME accepted written quality control/assurance system, up to a maximum of 24 months of such credit, provided that the applicant meets all other applicable requirements and provided that he/she has the balance of experience required under Paragraph 3 above in actual work described in Subparagraps a, b, or c.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1354 (July 2007).

§5011. Examination Fees

A. A fee of $50 will be charged for each applicant taking the examination for a certificate of competency.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1355 (July 2007).

§5012. Certificate of Competency and Identification Card

A. Upon request of an employer, a certificate of competency and an identification card may be issued by the chief inspector to:

1. an inspector employed by the jurisdiction;

2. an inspector who is employed full-time by an insurance company which is authorized to insure and does insure against loss from explosions of boilers and pressure vessels in this jurisdiction;

3. an inspector employed as described in either Paragraph 1 or 2 above who conducts shop or field inspections of new boilers, pressure vessels, or nuclear components in accordance with the applicable ASME code requirements.

B. The request for the certificate of competency and identification card shall be completed on forms to be provided by the chief inspector and shall be accompanied by, when applicable, a facsimile of the applicant's commission and commission card, certificate of competency and identification card as named above, and a fee of $40.

C. The certificate of competency and valid identification card shall be returned to the chief inspector when the inspector to whom they were issued is no longer employed by the organization employing that inspector at the time that the certificate was issued. Each person holding a valid certificate of competency and who conducts inspections as provided by the Act shall apply to the chief inspector on forms provided and obtain a renewal identification card annually, not later than March 31 of each year. A fee of $20 for each card shall accompany each applicant.

D. An inspectors certificate of competency may be suspended by the chief inspector after due investigation for neglect of duty, in competency, untrustworthiness or conflict of interest of the holder thereof, or for willful falsification of any matter or statement contained in his/her application, or in a report of any inspection made by him/her. Written notice of any such suspension shall be given to the inspector and his/her employer by the chief inspector within not more than 10 days after the effective date of such suspension. Persons whose certificates of competency have been suspended shall be entitled to an appeal to the assistant secretary and to be present in person and represented by counsel at the hearing of the appeal.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1355 (July 2007).

§5013. Conflict of Interest

A. An inspector shall not engage in the sale of any services, article or device relating to boilers, pressure vessels, or their appurtenances.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1355 (July 2007).

§5014. Inspection Reports to be submitted by Inspectors

A. Reports shall be submitted on approved forms or format within 30 days from the date of the inspection. The copy of the report filed with the assistant secretary shall be filled out in ink or type-written, and shall be signed by the inspector.

B. External inspection reports are required when they are used to support a request for an extension of internal inspection, when the design of a vessel does not provide for an internal inspection an annual external certificate inspection shall be completed, and to report unsafe conditions or code violations which would affect the safety of the boiler.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1355 (July 2007).

§5015. Insurance Companies to Notify Chief Inspector of New, Canceled or Suspended Insurance on Boilers, Pressure Vessels, or Nuclear Systems

A. All insurance companies shall notify the chief inspector, within 30 days, of all boilers, pressure vessels, or nuclear systems, on which insurance is written, canceled, not renewed or suspended because of unsafe conditions.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1355 (July 2007).

§5016. Special Inspectors to Notify Chief Inspector of Unsafe Boilers

A. If a special inspector, upon first inspection of a new risk, finds that a boiler or any appurtenance thereof, is in such condition that the special inspectors company would refuse insurance, the company shall immediately notify the chief inspector and submit a report on the defects. if, upon inspection, a special inspector finds a boiler to be unsafe for further operation, the special inspector shall promptly notify the owner or user, stating what repairs or other corrective measures is required to bring the object into compliance with these rules and regulations. If the owner or user fails to make such repairs or adopt such other corrective measures promptly, the special inspector shall immediately notify the chief inspector. Until such corrections have been made, no further operation of the boiler involved shall be permitted. If an inspection certificate for the object is required and is in force, it shall be suspended by the chief inspector. When reinspection establishes that the necessary repairs have been made or corrective actions have been taken and that the boiler is safe to operate, the chief Inspector shall be notified. At that time an inspection certificate, where applicable will be issued.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1355 (July 2007).

§5017. Defective Conditions Disclosed at Time of External Inspection

A. If, upon an external inspection, there is evidence of a leak or crack, sufficient covering of the boiler shall be removed to permit the inspector to satisfactorily determine the safety of the boiler. If the covering cannot be removed at that time, he/she may order the operation of the boiler stopped until such time as the covering can be removed and proper examination made.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1356 (July 2007).

Subchapter C. Existing Installations—Power Boilers

§5020. Age Limits of Existing Boilers

A. The age limit of any boiler of nonstandard construction, installed prior to the date the Act became effective, shall be 30 years except that, a boiler having other than a lap-riveted longitudinal joint, after a thorough internal and external inspection, and when required by the inspector, a hydrostatic test of 1-1/2 times the allowable working pressure held for a period of at least 30 minutes during which no distress or leakage develops, may be continued in operation at the working pressure determined by calculation. The age limit on any non-standard boiler having lap-riveted longitudinal joins and operating at a pressure in excess of 50 psig shall be 20 years. This type of boiler, when removed from an existing setting shall not be reinstalled for a pressure in excess of 15 psig. A reasonable time for replacement, not to exceed one year, may be given at the discretion of the assistant secretary.

B. The age limit of boilers of standard construction installed prior to the date this law, Title 23, Chapter 5, Page III, of the Louisiana Revised Statutes of 1950, became effective shall be dependent on thorough internal and external inspection and where required by the inspector, a hydrostatic pressure test not exceeding one and 1/2 times the allowable working pressure, if the boiler, under these test conditions, exhibits no distress or leakage, it may be continued in operation at the working pressure determined by calculation.

C. The shell or drum of a boiler in which a lap seam crack develops along a longitudinal lap-riveted joint shall be condemned. A lap seam crack is a crack found in lap seams extending parallel to the longitudinal joint and located either between or adjacent to rivet holes.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1356 (July 2007).

§5021. Maximum Allowable Working Pressure for Standard Boilers

A. The maximum allowable working pressure for standard boilers shall be determined in accordance with the applicable provisions of the edition of the ASME Code under which they were constructed and stamped.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1356 (July 2007).

§5022. Maximum Allowable Working Pressure for Nonstandard Boilers

A. The maximum allowable working pressure for boilers fabricated by riveting shall be determined by the applicable rules of the 1971 Edition of Section I of the ASME Code.

B. The lowest factor of safety permissible on existing installations shall be 5, except for horizontal-return-tubular boilers having continuous longitudinal lap seams more than 12 feet in length, the factor of safety shall be 8. When this latter type of boiler is removed from its existing setting, it shall not be reinstalled for pressure in excess of 15 psig.

C. The maximum allowable working pressure for boilers of welded construction in service may not exceed that allowable in Section I of the ASME Code for new boilers of the same construction.

D. The maximum allowable working pressure on the shell of a boiler or drum shall be determined by the strength of the weakest course computed from the thickness of the plate, the tensile strength of the plate, the efficiency of the longitudinal joint, the inside diameter of the course, and the factor of safety allowed by these rules and regulations in accordance with the following formula.

$$\frac{TStE}{RFS} = \text{maximum allowable working pressure, psig}$$

where:

TS = specified minimum tensile strength of shell plate material, psi. When the tensile strength of steel or wrought-iron shell plate is not known, it shall be taken as 55,000 psi for steel and 45,000 psi for wrought iron.

t = minimum thickness of shell plate, in weakest course, inches.

E = efficiency of longitudinal joint, method of determining which is given in Paragraph PG-27 of Section I of the ASME Code.

R = inside radius of the weakest course of the shell of drum, inches.

FS = factor of safety which shall be at least 5.

E. The inspector may increase the factor of safety, if the condition and safety of the boiler warrant it.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1356 (July 2007).

§5023. Cast-Iron Headers and Mud Drums

A. The maximum allowable working pressure on a water tube boiler, the tubes of which are secured to cast-iron or

malleable-iron headers or which have cast-iron mud drums, shall not exceed 160 psig.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1357 (July 2007).

§5024. Pressure on Cast-Iron Boilers

A. The maximum allowable working pressure for any cast-iron boiler, except hot water boilers, shall be 15 psig.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1357 (July 2007).

§5025. Safety Valves

A. The use of weighted-lever safety valves or safety valves having either the seat or disk of cast-iron are prohibited; valves of this type of construction shall be replaced by direct, spring-loaded, pop-type valves that conform to the requirements of ASME Code, Section I.

B. Each boiler shall have at least one ASME/NB stamped and certified safety valve, and if it has more than 500 square feet of water-heating surface, or an electric power input of more than 1100 KW, it shall have two or more safety valves of the same type.

C. The valve or valves shall be connected to the boiler, independent of any other steam connection and attached as close as possible to the boiler without unnecessary intervening pipe or fittings. Where alteration is required to conform to this requirement, owner or user shall be allowed reasonable time in which to complete the work as permitted by the chief inspector.

D. No valves of any description shall be placed between the safety valve and the boiler nor on the escape pipe, if used. When an escape pipe is used, it shall be at least the full size of the safety valve discharge and fitted with an open drain to prevent water lodging in the upper part of the safety valve or in the escape pipe. When an elbow is placed on a safety valve escape pipe, it shall be located close to the safety valve outlet or the escape pipe shall be anchored and supported securely. All safety discharges shall be so located or piped as to be carried clear from walkways or platforms.

E. The safety valve capacity of each boiler shall be such that the safety valve or valves will discharge all the steam that can be generated by the boiler without allowing the pressure to rise more than 6 percent above the highest pressure to which any valve is set, and in no case to more than 6 percent above the maximum allowable working pressure.

F. One or more safety valves on every boiler shall be set at or below the maximum allowable working pressure. The remaining valves may be set within a range of 3 percent above the maximum allowable working pressure, but the range of setting of all the safety valves on a boiler shall not exceed 10 percent of the highest pressure to which any valve is set.

G. When boilers of different maximum allowable working pressures with minimum safety valve settings varying more than 6 percent are so connected that steam can flow toward the lower pressure units, the latter shall be protected by additional safety valve capacity, if necessary, on the lower pressure side of the system. The additional safety valve capacity shall be based upon the maximum amount of steam which can flow into the lower pressure system.

H. In those cases where the boiler is supplied with feed water directly from water mains without the use of feeding apparatus (not to include return traps), no safety valve shall be set at a pressure greater than 94 percent of the lowest pressure obtained in the supply main feeding the boiler.

I. The relieving capacity of the safety valves on any boiler shall be done by one of the three following methods and, if found to be insufficient, additional valves shall be provided:

1. by making an accumulation test, which consists of shutting off all other steam discharge outlets from the boiler and forcing the fires to the maximum. The safety valve capacity shall be sufficient to prevent a rise of pressure in excess of 6 percent of the maximum allow-able working pressure. This method should not be used on a boiler with a super heater or reheater;

2. by measuring the maximum amount of fuel that can be burned and computing the corresponding evaporative capacity (steam generating capacity) upon the basis of the heating value of this fuel. These computations shall be made as outlined in the Appendix of the ASME Code, Section I;

3. by measuring the maximum amount of feed water that can be evaporated. When either of the methods outlined in two or three is employed, the sum of the safety valve capacities shall be equal to or greater than the maximum evaporative capacity (maximum steam generating capacity) of the boiler.

J. Repairs to safety and safety-relief valves shall be conducted only by holders of the National Board VR Certificate of Authorization, or by owner/users that have obtained the state certificate of authorization to repair safety and safety-relief valves.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1357 (July 2007).

§5026. Boiler Feeding

A. Each boiler shall have a feed supply which will permit it to be fed at any time while under pressure.

B. A boiler having more than 500 square feet of water heating surface shall have at least two suitable means of feeding, at least one of which shall be a feed pump. A source of feed at a pressure 6 percent greater than the set pressure of the safety valve with the highest setting maybe considered one of the means. Boilers fired by gaseous, liquid, or solid fuel in suspension may be equipped with a single means of feeding water provided means are furnished for the shutoff of heat input prior to the water level reaching the lowest safe level.

C. The feed water shall be introduced into a boiler in such a manner that the water will not be discharged directly against surfaces exposed to gases of high temperature to direct radiation from the fire. For pressures of 400 psig over, the feed water inlet through the drum shall be fitted with shields, sleeves, or other suitable means to reduce the effects of temperature differentials in the shell or head.

D. The feed piping to the boiler shall be provided with a check valve near the boiler and a valve or cock between the check valve and the boiler. When two or more boilers are fed from a common source, there shall also be a valve on the branch to each boiler between the check valve and the source of supply. Whenever a globe valve is used on feed piping, the inlet shall be under the disk of the valve.

E. In all cases where returns are fed back to the boiler by gravity, there shall be a check valve and stop valve in each return line, the stop valve to be place between the boiler and the check valve, and both shall be located as close to the boiler as practicable. It is recommended that no stop valves be placed in the supply and return pipe connections of a single boiler installation.

F. Where deaerating heaters are not employed, it is recommended that the temperature of the feed water be not less than 120° F to avoid the possibility of setting up localized stress. Where deaerating heaters are employed, it is recommended that the minimum feed water temperature be not less than 215° F so that dissolved gases may be thoroughly released.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1357 (July 2007).

§5027. Water Level Indicators

A. Each boiler, except forced-flow steam generators with no fixed steam and waterline, and high-temperature water boiler of the forced circulation type that have no steam and waterline, shall have at least one water gage glass. Boilers operated at pressures over 400 psig shall be provided with two water gage glasses which may be connected to a single water column or connected directly to the drum.

B. Two independent remote level indicators may be provided instead of one of the two required gage glasses for boiler drum water level indication in the case of power boilers with all drum safety valves set at or above 400 psig. When both remote level indicators are in reliable operation, the remaining gage glass may be shut off, but shall be maintained in serviceable condition.

C. When the direct reading of gage glass water level is not readily visible to the operator in his/her working area, two dependable indirect indications shall be provided, either by transmission of the gage glass image or by remote level indicators.

D. The lowest visible part of the water gage glass shall be at least two inches above the lowest permissible water level, at which level there will be no danger of overheating any part of the boiler when in operation at that level. When remote level indication is provided for the operator in lieu of the gage glass, the same minimum level reference shall be clearly marked.

E. Connections from the boiler to the remote level indicator shall be at least 3/4 inch pipe size to and including the isolation valve and from there to the remote level indicator at least 1/2 inch O.D. tubing. These connections shall be completely independent of other connections for any function other than water level indication. For pressures of 400 psig or over, lower connections to drums shall be provided with shields, sleeves, or other suitable means to reduce temperature differentials in the shells or heads.

F. Boilers of the horizontal fire tube types shall be so set that when the water is at the lowest reading in the water gage glass there shall be at least 3 inches of water over the highest point of the tubes, flues, or crown sheets.

G. Boilers of locomotives shall have at least one water glass provided with top and bottom shutoff cocks and lamp, and two gage cocks for boilers 36 inches in diameter and under, and three gage cocks for boilers over 36 inches in diameter.

H. The lowest gage cock and the lowest reading of water glass shall not be less that 2 inches above the highest point of crown sheet on boilers 36 inches in diameter and under, nor less than 3 inches for boilers over 36 inches in diameter. These are minimum dimensions, and on larger locomotives and those operating on steep grades, the height should be increased, if necessary, to compensate for change of water level on descending grades.

I. The bottom mounting for water glass and for water column if used must extend not less than 1 1/2 inches inside the boiler and beyond any obstacle immediately above it, and the passage therein must be straight and horizontal.

J. Tubular water glasses must be equipped with a protecting shield.

K. All connections on the gage glass shall be not less than 1/2 inch pipe size. Each water gage glass shall be fitted with a drain cock or valve having an unrestricted drain opening of not less than 1/4 inch diameter to facilitate cleaning. When the boiler operating pressure exceeds 100 psig the glass shall be furnished with a connection to install a valved drain to the ash pit or other safe discharge point.

L. Each water gage glass shall be equipped with a top and bottom shutoff valve of such through-flow construction as to prevent stoppage by deposits of sediments. If the lowest valve is more than 7 feet above the floor or platform from which it is operated, the operating mechanism shall indicate by its position whether the valve is open or closed. The pressure-temperature rating shall be at least equal to that if the lowest set pressure of any safety valve on the boiler drum and the corresponding saturated-steam temperature.

M. Straight-run globe valves shall not be used on such connections.

N. Automatic shutoff valves, if permitted to be used, shall conform to the requirements of Section I of the ASME Code.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1358 (July 2007).

§5028. Water Columns

A. The water column shall be so mounted that it will maintain its correct position relative to the normal waterline under operating conditions.

B. The minimum size of pipes connecting the water column to a boiler shall be 1 inch. For pressures of 400 psig or over, lower water column connections to drums shall be provided with shields, sleeves or other suitable means to reduce the effect of temperature differentials in the shells or heads. Water glass fittings or gage cocks may be connected directly to the boiler.

C. The steam and water connections to a water column or a water gage glass shall be such that they are readily accessible for internal inspection and cleaning. Some acceptable methods of meeting this requirement are by providing a cross or fitting with a back outlet at each right-angle turn to permit inspection and cleaning in both directions, or by using pipe bends or fittings of a type which does not leave an internal shoulder or pocket in the pipe connection and with a radius of curvature which will permit the passage of a rotary cleaner. Screwed plug closures using threaded connections as allowed by Section I of the ASME Code are acceptable means of access for this inspection and cleaning. For boilers with all drum safety valves set at or above 400 psig, socket-welded plugs may be used for this purpose in lieu of screwed plugs. The water column shall be fitted with a connection for a drain cock or drain valve to install a pipe of at least 3/4 inch pipe size to the ash pit or other safe point of discharge. If the water connection to the water column has a rising bend or pocket which cannot be drained by means of the water column drain, an additional drain shall be placed on this connection in order that it may be blown off to clear any sediment from the pipe.

D. The design and material of a water column shall comply with the requirements of Section I of the ASME Code. Water columns made of cast-iron in accordance with SA-278 may be used for maximum boiler pressures not exceeding 250 psig. Water columns made of ductile iron in accordance with SA-395 may be used for maximum boiler pressures not exceeding 350 psig. For higher pressures, steel construction shall be used.

E. Shutoff valves shall not be used in the pipe connections between a boiler and a water column or between a boiler and the shutoff valves required for the gage glass, unless they are either outside-screw-and-yoke or lever-lifting type gate valves or stopcocks with lever permanently fastened thereto and marked in line with their passage, or of such other through-flow construction as to prevent stoppage by deposits of sediment, and to indicate by the position of the operating mechanisms whether they are in open or closed position; and such valves or cocks shall be locked or sealed open. Where stopcocks are used, they shall be of a type with the plug held in place by a guard or gland.

F. No outlet connections, except for control devices (such as damper regulators and feed water regulators), drains, steam gages, or apparatus of such form as does not permit the escape of an appreciable amount of steam or water there from shall be placed on the pipes connecting a water column or gage glass to a boiler.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1358 (July 2007).

§5029. Gage Glass Connections

A. Gage glasses and/or gage cocks that are not connected directly to a shell or drum of the boiler shall be connected by one or the following methods.

1. The water gage glass or glasses and gage cocks shall be connected to an intervening water column.

2. When only water gage glasses are used, they may be mounted away from the shell or drum and the water column omitted, provided the following requirements are met:

a. the top and bottom gage glass fittings are aligned, supported, and secured so as to maintain the alignment of the gage glass; and

b. the steam and water connections are not less than 1 inch pipe size and each water glass is provided with a valved drain; and

c. the steam and water connections comply with the requirements of the following:

i. the lower edge of the steam connection to a water column or gage glass in the boiler shall not be below the highest visible water level in the water gage glass. There shall be no sag or offset in the piping which will permit the accumulation of water; and

ii. the upper edge of the water connection to a water column or gage glass and the boiler shall not be above the lowest visible water level in the gage glass. No part of this pipe connection shall be above the point of connection at the water column.

B. Each boiler (except those not requiring water level indicators) shall have three or more gage cocks located within the visible length of the water glass, except when the boiler has two water glasses located on the same horizontal lines.

C. Boilers not over 36 inches in diameter in which the heating surface does not exceed 100 square feet need have but two gage cocks.

D. The gage cock connections shall be not less than 1/2 inch pipe size.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1359 (July 2007).

§5030. Pressure Gages

A. Each boiler shall have a pressure gage so located that it is easily readable. The pressure gage shall be installed so that it shall at all times indicate the pressure in the boiler. Each steam boiler shall have the pressure gage connected to the steam space or to the water column or its steam connection a valve or cock may be located near the boiler providing it is locked or sealed in the open position. No other shutoff valves shall be located between the gage and the boiler. The pipe connection shall be of ample size and arranged so that it maybe cleared by blowing out. For a steam boiler the gage or connection shall contain a siphon or equivalent device which will develop and maintain a water seal that will prevent steam from entering the gage tube. Pressure gage connections shall be suitable for the maximum allowable working pressure and temperature but, if the temperature exceeds 406° F, brass or copper pipe or tubing shall not be used. The connections to the boiler, except the siphon if used, shall not be less than 1/4 inch inside the diameter standard pipe size but where steel or wrought iron pipe or tubing is used they shall not be less than 1/2 inch. The minimum size of a siphon, if used, shall be 1/4 inch inside diameter. The dial of the pressure gage shall be graduated to approximately double the pressure at which the safety valve is set, but in no case to less than 1 1/2 times this pressure.

B. Each force-flow steam generator with no fixed steam and water line shall be equipped with pressure gages or other pressure measuring devices located as follows:

1. at the boiler or super heater outlet (following the last section which involves absorption of heat); and

2. at the boiler or economizer inlet (preceding any section which involves absorption of heat); and

3. upstream of any shutoff valve which may be used between any two sections of the heat absorbing surface.

C. Each high-temperature water boiler shall have a temperature gage so located and connected that it shall be easily readable. The temperature gage shall be installed so that it at all times indicates the temperature in degrees Fahrenheit of the water in the boiler, at or near the outlet connection.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1359 (July 2007).

§5031. Stop Valves

A. Each steam outlet from a boiler (except safety valve and water column connections) shall be fitted with a stop valve located as close as practicable to the boiler.

B. When a stop valve is so located that water can accumulate, ample drains shall be provided. The drainage shall be piped to a safe location and shall not be discharged on the top of the boiler or its settings.

C. When boilers provided with manholes are connected to a common steam main, the steam piping connected from each boiler shall be fitted with two stop valves having an ample free blow drain between them. The discharge of the drain shall be visible to the operator while manipulating the valves and shall be piped clear of the boiler setting. The stop valves shall consist preferably of one automatic non-return valve (set next to the boiler) and a second valve of the outside-screw-and-yoke type.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1360 (July 2007).

§5032. Blow Off Piping

A. A blow off as required herein is defined as a pipe connection provided with valves located in the external piping through which the water in the boiler may be blown out under pressure, excepting drains such as are used on water columns, gage glasses, or piping to feed water regulators, etc., used for the purpose of determining the operating conditions of such equipment. Piping connections used primarily for continuous operation, such as deconcentrators or continuous blow down systems, are not classed as blow offs but the pipe connections and all fittings up to and including the first shutoff valve shall be equal at least to the pressure requirements for the lowest set pressure of any safety valve on the boiler drum and with the corresponding saturated-steam temperature.

B. A surface blow off shall not exceed 2 1/2 inch pipe size, and the internal pipe and the terminal connection for the external pipe, when used, shall form a continuous passage, but with clearance between their ends and arranged so that the removal of either will not disturb the other. A properly designed steel bushing, similar to or the equivalent of those shown in Fig. PG-59.1 of Section I of the ASME Code or a flanged connection shall be used.

C. Each boiler except forced-flow steam generators with no fixed steam and waterline and high-temperature water boilers shall have a bottom blow off outlet in direct connection with the lowest water space practicable for external piping conforming to PG-58.3.6 of Section I of the ASME Code.

D. All water walls and water screens which do not drain back into the boiler and all integral economizers, shall be equipped with outlet connections for a blow off or drain line and conform to the requirements of PG-58.3.6 or PG-58.3.7 of the ASME Code.

E. Except as permitted for miniature boilers, the minimum size of piping and fittings shall be 1 inch, and the maximum size shall be 2-1/2 inches, except that for boilers with 100 sq. ft. of heating surface or less, the minimum size of pipe and fittings may be 3/4 inch.

F. Condensate return connections of the same size or larger than the size herein specified may be used, and the blow off may be connected to them. In such case, the blow off shall be so located that the connection may be completely drained.

G. A bottom blow off pipe when exposed to direct furnace heat shall be protected by firebrick or other heat resisting material which is so arranged that the pipe may be inspected.

H. An opening in the boiler setting for a blow off pipe shall be arranged to provide free expansion and contraction.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1360 (July 2007).

§5033. Repairs and Renewals of Boiler Fittings and Appliances

A. Whenever repairs are made to fittings or appliances or it becomes necessary to replace them, the work shall comply with the requirements for new installations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1360 (July 2007).

§5034. Repairs and Alterations to Boilers and Pressure Vessels

A. Repairs and alterations to boilers and pressure vessels shall be made, in accordance with the currently adopted version of the National Board Inspection Code (NBIC), only by, or on behalf of, an owner/user, a repair organization, or an individual having a valid certificate of authorization for use of the R Symbol stamp issued by the National Board of Boiler and Pressure Vessel Inspectors.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1360 (July 2007).

§5035. Conditions Not Covered by these Requirements

A. All cases not specifically covered by these requirements shall be treated as new installations or may be referred to the chief inspector for instructions concerning the requirements.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1360 (July 2007).

§5036. Standard Boilers

A. The maximum allowable working pressure of standard boilers shall in no case exceed the pressure indicated by the manufacturers identification stamped or cast on the boiler or on a plate secured to it.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1361 (July 2007).

§5037. Nonstandard Riveted Boilers

A. The maximum allowable working pressure on the shell of a nonstandard riveted heating boiler shall be determined in accordance with applicable rules of the 1971 Edition of Section I of the ASME code. Power boilers, except that in no case shall the maximum allowable working pressure of a steam heating boiler exceed 15 psig, or a hot water boiler exceed 160 psig or 250° F temperatures.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1361 (July 2007).

§5038. Nonstandard Welded Boilers

A. The maximum allowable working pressure of a nonstandard steel or wrought iron heating boiler of welded construction shall not exceed 15 psig for steam. For other than steam service, the maximum allowable working pressure shall be calculated in accordance with Section IV of the ASME Code, but in no case shall it exceed 30 psig.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1361 (July 2007).

§5039. Nonstandard Cast Iron Boilers

A. The maximum allowable working pressure of a nonstandard boiler composed principally of cast iron shall not exceed 15 psig for steam service or 30 psig for hot water service.

B. The maximum allowable working pressure of a nonstandard boiler having cast iron shell or heads and steel or wrought iron tubes shall not exceed 15 psig for steam service or 30 psig for hot water service.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1361 (July 2007).

§5040. Potable Water Heaters

A. A potable water heater shall not be installed or used at pressures exceeding 160 psig or water temperatures exceeding 210° F. Water heaters may be used to simultaneously provide potable hot water and space heat in combination, except in places of public assembly.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1361 (July 2007).

§5041. Safety Valves

A. Each steam boiler shall have one or more ASME/National Board stamped and certified safety valves of the spring pop-type adjusted and sealed to discharge at a pressure not to exceed 15 psig. Seals shall be attached in a manner to prevent the valve from being taken apart without breaking the seal. The safety valves shall be arranged so that they cannot be reset to relieve at a higher pressure than the maximum allowable working pressure on the boiler. A body drain connection below seat level shall be provided by the manufacturer and this drain shall not be plugged during or after field inspection. For valves exceeding 2 inches pipe size, the drain hole or holes shall be tapped not less than 3/8 inch pipe size. For valves less than 2 inches, the drain hole shall not be less than 1/4 inch in diameter.

B. No safety valve for a steam boiler shall be smaller than 1/2 inch. No safety valve shall be larger than

4 1/2 inches. The inlet opening shall have an inside diameter equal to, or greater than, the seat diameter.

C. The minimum relieving capacity of the valve or valves shall be governed by the capacity marking on the boiler. The minimum valve capacity in pounds per hour shall be the greater of that determined by dividing the maximum BTU output at the boiler nozzle obtained by the firing of any fuel for which the unit is installed by 1,000, or shall be determined on the basis of the pounds of steam generated per hour per square foot of boiler heating surface as given in Table EHB-6. In many cases a greater relieving capacity of valves than the minimum specified by these rules will have to be provided.

Table EHB-6. Minimum Pounds of Steam per Hour per Square Foot of Heating Surface

	Fire Tube Boilers	Water Tube Boilers
Boiler Heating Surface:		
Hand fired	5	6
Stoker fired	7	8
Oil, gas, or pulverized fuel fired	8	10
Water Wall Heating Surface:		
Hand fired	8	8
Stoker fired	10	12
Oil, gas, or pulverized fuel fired	14	16

1. When a boiler is fired only by a gas giving a heat value not in excess of 200 BTU per cu. ft., the minimum safety valve or safety relief valve relieving capacity may be based on the value given for hand fired boilers above.

2. The minimum safety valve or safety relief valve relieving capacity for electric boilers shall be 3-1/2 pounds per hour per kilowatt input.

3. For heating surface determination see ASME Code Section IV, Paragraph HG-403.

D. The safety valve capacity for each steam boiler shall be such that with the fuel burning equipment installed and operating at maximum capacity, the pressure cannot rise more than 5 psig above the maximum allowable working pressure.

E. When operating conditions are changed, or additional boiler heating surface is installed, the valve capacity shall be increased, if necessary, to meet the new conditions. When additional valves are required, they may be installed on the outlet piping provided there is no intervening valve.

F. If there is any doubt as to the capacity of the safety valve, an accumulation test shall be run (see ASME Code, Section VI, Recommended Rules for Care and Operation of Heating Boilers).

G. No valve of any description shall be placed between the safety valve and the boiler, nor on the discharge pipe between the safety valve and the atmosphere. The discharge pipe shall be at least full size and be fitted with an open drain to prevent water lodging in the upper part of the safety valve or in the discharge pipe. When an elbow is placed on the safety valve discharge pipe, it shall be located close to the safety valve outlet or the discharge pipe shall be securely anchored and supported. All safety valve discharges shall be so located or piped as not to endanger persons working in the area.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1361 (July 2007).

§5042. Safety Relief Valve Requirements for Hot Water Heating and Hot Water Supply Boilers

A. Each hot water heating and hot water supply boiler shall have at least one ASME/National Board stamped and certified safety relief valve set to relieve at or below the maximum allowable working pressure of the boiler. Each hot water supply boiler shall have at least one ASME/National Board stamped and certified safety relief valve of the automatic reseating type set to relieve at or below maximum allowable working pressure of the boiler. Safety relief valves ASME/National Board stamped and certified as to capacity shall have pop action when tested by steam. When more than one safety relief valve is used on either a hot water heating or hot water supply boiler, the additional valve or valves shall be ASME/National Board stamped and certified and may be set within a range not to exceed 6 psig above the maximum allowable working pressure of the boiler up to and including 60 psig and 5 percent for those having a maximum allowable working pressure exceeding 60 psig. Safety relief valves shall be spring loaded. Safety relief valves shall be so arranged that they cannot be reset at a higher pressure than the maximum indicated in this Paragraph.

B. No materials liable to fail due to deterioration or vulcanization when subject to saturated steam temperature corresponding to capacity test pressure shall be used for any part.

C. No safety relief valve shall be smaller than 3/4 inch nor larger than 4-1/2 inch standard pipe size, except that boilers having a heat input not greater than 15,000 BTU per hour may be equipped with a safety relief valve of 2 inch standard pipe size. The inlet opening shall have an inside diameter approximately equal to, or greater than, the seat diameter. In no case shall the minimum opening through any part of the valve be less than 1/4 inch in diameter or its equivalent area.

D. The required steam relieving capacity, in pounds per hour, of the pressure relieving device or devices on a boiler shall be the greater of that determined by dividing the maximum output in BTU at the boiler nozzle obtained by the firing of any fuel for which the unit is installed by 1,000 or shall be determined on the basis of pounds of steam generated per hour per square foot of boiler heating surface as given in Table EHB-6. In many cases, a greater relieving capacity of valves will have to be provided than the minimum specified by these rules.

E. When operating conditions are changed, or additional boiler heating surface is installed the valve capacity shall be increased, if necessary, to meet the new conditions. The additional valves required because of changed conditions may be installed on the outlet piping provided there is no intervening valve.

F. Safety relief valve capacity for each boiler shall be such that, with the fuel burning equipment installed and operated at maximum capacity, the pressure cannot rise more than 10 percent above the maximum allowable working pressure. When more than one safety relief valve is used, the over pressure shall be limited to 10 percent above the set pressure of the highest set value allowed.

G. If there is any doubt as to the capacity of the safety relief valve, an accumulation test shall be run (see ASME Code, Section VI, Recommended Rules for Care and Operation of Heating Boilers).

H. No valve of any description shall be placed between the safety relief valve and the boiler, nor on the discharge pipe between the safety relief valve and the atmosphere. The discharge pipe shall be not less than the diameter of the safety relief valve outlet and fitted with an open drain to prevent water lodging in the upper part of the safety relief valve or in the discharge pipe. When an elbow is placed on the safety relief valve discharge pipe, it shall be located close to the safety relief valve outlet or the discharge pipe shall be securely anchored and supported. All safety relief valve discharges shall be so located or piped as not to endanger persons working in the area.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1362 (July 2007).

§5043. Steam Gages

A. Each steam boiler shall have a steam gage or compound steam gage connected to its steam space or to its water column or to its steam connection. The gage or connection shall contain a siphon or equivalent device which will develop and maintain a water seal that will prevent steam from entering the gage tube. The connection shall be so arranged that the gage cannot be shut off from the boiler except by a cock placed in the pipe at the gage and provided with a tee or lever handle arranged to be parallel to the pipe in which it is located when the cock is open. The connections to the boiler shall be not less than 1/4 inch standard pipe size, but where steel or wrought iron pipe or tubing is used, they shall not be less than 2 inch standard pipe size. The minimum size of a siphon, if used, shall be 1/4 inch inside diameter. Ferrous and nonferrous tubing having inside diameters at least equal to that of standard pipe sizes listed above may be substituted for pipe.

B. The scale on the dial of a steam boiler gage shall be graduated to not less than 30 psig nor more than 60 psig. The travel of the pointer from 0 to 30 psig pressure shall be at least 3 inches.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1632 (July 2007).

§5044. Pressure or Altitude Gages and Thermometers

A. Each hot water boiler shall have a pressure or altitude gage connected to it or to its flow connection in such a manner that it cannot be shut off from the boiler except by a cock with tee or lever handle, placed on the pipe near the gage. The handle of the cock shall be parallel to the pipe in which it is located when the cock is open.

B. The scale on the dial of the pressure of altitude gage shall be graduated approximately to not less than 1-1/2 nor more than 3 times the pressure at which the safety relief valve is set.

C. Piping or tubing for pressure or altitude-gage connections shall be of nonferrous metal when smaller than 1 inch pipe size.

D. Each hot water boiler shall have a thermometer so located and connected that it shall be easily readable when observing the water pressure or altitude. The thermometer shall be so located that it shall at all times indicate the temperature in degrees Fahrenheit of the water in the boiler at or near the outlet.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1362 (2007).

§5045. Water Gage Glasses

A. Each steam boiler shall have one or more water gage glasses attached to the water column or boiler by means of valved fittings not less than 2 inch pipe size, with the lower fitting provided with a drain valve of a type having an unrestricted drain opening not less than 1/4 inch in diameter to facilitate cleaning. Gage glass replacement shall be possible under pressure. Water glass fittings may be attached directly to a boiler.

B. Boilers having an internal vertical height of less than 10 inches may be equipped with a water level indicator of the glass bulls-eye type provided the indicator is of sufficient size to show the water at both normal operating and low water cutoff levels.

C. The lowest visible part of the water gage glass shall be at least 1 inch above the lowest permissible water level recommended by the boiler manufacturer. With the boiler operating at this lowest permissible water level, there shall be no danger of overheating any part of the boiler.

D. Each boiler shall be provided at the time of manufacture with a permanent marker indicating the lowest permissible water level. The marker shall be stamped, etched, or cast in metal; or it shall be a metallic plate attached by rivets, screws, or welding; or it shall consist of material with documented tests showing its suitability as permanent marking for the application. This marker shall be visible at all times. Where the boiler is shipped with a jacket, this marker may be located on the jacket.

E. In electric boilers of the submerged electrode type, the water gage glass shall be so located to indicate the water levels both at startup and under maximum steam load conditions as established by the manufacturer.

F. In electric boilers of the resistance heating element type the lowest visible part of the water gage glass shall not

be below the top of the electric resistance heating element. Each boiler of this type shall also be equipped with an automatic low-water electrical power cutoff so located as to automatically cut off the power supply before the surface of the water falls below the top of the electrical resistance heating elements.

G. Tubular water glasses on electric boilers having a normal water content not exceeding 100 gallons shall be equipped with a protective shield.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1363 (July 2007).

§5046. Stop Valves

A. When a stop valve is used in the supply pipe connection of a single steam boiler, there shall be one used in the return pipe connection.

B. Stop valves in single hot water heating boilers shall be located at an accessible point in the supply and return pipe connections, as near the boiler nozzle as is convenient and practicable, to permit draining the boiler without emptying the system.

C. When the boiler is located above the system and can be drained without draining the system, stop valves may be eliminated.

D. A stop valve shall be used in each supply and return pipe connection of two or more boilers connected to a common system.

E. All valves or cocks shall conform to the applicable portions of HF-203 of Section IV of the ASME Code and may be ferrous or nonferrous.

F. The minimum pressure rating of all valves or cocks shall be at least equal to the pressure stamped upon the boiler, and the temperature rating of such valves or cocks, including all internal components, shall be not less than 250° F.

G. Valves or cocks shall be flanged, threaded or have ends suitable for welding or brazing.

H. All valves or cocks with stems or spindles shall have adjustable pressure type packing glands and, in addition, all plug type cocks shall be equipped with a guard or gland. The plug or other operating mechanism shall be distinctly marked in line with the passage to indicate whether it is opened or closed.

I. All valves or cocks shall have tight closure when under boiler pressure test.

J. When stop valves are used, they shall be properly designated substantially by tags of metal or other durable material fastened to them.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1363 (July 2007).

§5047. Feed Water Connections

A. Feed water, makeup water, or water treatment shall be introduced into a boiler through the return piping system. Alternatively, makeup water or water treatment may be introduced through an independent connection. The water flow from the independent connection shall not discharge directly against parts of the boiler exposed to direct radiant heat from the fire. Makeup water or water treatment shall not be introduced through openings or connections provided inspection or cleaning, safety valve, safety relief valve, blow off, water column, water gage glass, pressure gage, or temperature.

B. The makeup water pipe shall be provided with a check valve near the boiler and a stop valve or cock between the check valve and the boiler or between the check valve and the return pipe system.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1363 (July 2007).

§5048. Water Column and Water Level Control Pipes

A. The minimum size of ferrous or nonferrous pipes connecting a water column to a steam boiler shall be 1 inch. No outlet connections, except for damper regulator, feed water regulator, steam gages, or apparatus which does not permit the escape of any steam or water except for manually operated blow downs, shall be attached to a water column or the piping connecting a water column to a boiler (see HG-705 of Section IV of the ASME Code for introduction of feed water into a boiler). If the water column, gage glass, low-water fuel cutoff, or other water level control device is connected to the boiler by pipe and fittings, no shutoff valves of any type shall be placed in such pipe, and a cross or equivalent fitting to which a drain valve and piping may be attached shall be placed in the water piping connection at every right angle turn to facilitate cleaning.

B. The steam connections to the water column of a horizontal fire tube wrought iron boiler shall be taken from the top of the shell or the upper part of the head, and the water connection shall be taken from a point not above the center line of the shell. For a cast iron boiler, the steam connection to the water column shall be taken from the top of an end section or the top of the steam header, and the water connection shall be made on an end section not less than 6 inches below the bottom connection to the water gage glass.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1364 (July 2007).

§5049. Return Pump

A. Each boiler equipped with a condensate return pump shall be provided with a water level control arranged to automatically maintain the water level in the boiler within the range of the gage glass.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1364 (July 2007).

Subchapter D. Potable Water Heaters (Hot Water Heaters Other than Hot Water Supply Boilers)

§5052. Service Restrictions and Exceptions

A. Potable water heaters supplying potable hot water for commercial purposes that exceed a heat input of 200,000 BTU per hour or a nominal water-containing capacity of 120 gallons, shall be designed, constructed, inspected and stamped in conformity with Part HLW of the ASME Code, Section IV.

B. Potable water heaters supplying potable hot water for commercial purposes that do not exceed a heat input of 200,000 BTU per hour or a nominal water-containing capacity of 120 gallons, but has a nominal water-containing capacity of 50 gallons, shall be designed and constructed to underwriters laboratories or other nationally recognized standard and shall bear their label on the completed unit.

C. All other potable water heaters not otherwise exempted by the Act, shall be designed and constructed to underwriters laboratories or other nationally recognized standard and shall bear their label on the completed unit.

D. The maximum allowable working pressure of a potable water heater shall in no case exceed the pressure indicated by the manufacturer's identification stamped or cast on the heater or a plate or label secured to it. In no case shall the maximum allowable working pressure of a potable water heater exceed 160 psi or a water temperature of 210° F.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1364 (July 2007).

§5053. Safety Relief Valves

A. Each potable water heater shall have at least one ASME certified pressure temperature relief valve of the automatic reseating type set to relieve at or below the maximum allowable working pressure of the potable water heater and/or no greater than 210° F. Safety relief valves officially rated as to capacity shall have pop action when tested by steam. When more than one safety relief valve is used on a potable water heater, the additional valve or valves shall be ASME rated and may be set within a range not to exceed 10 percent of the set pressure of the first valve. Safety relief valves shall be spring-loaded. Safety relief valves shall be so arranged that they cannot be reset at a higher pressure.

B. When water supply to a potable water heater exceeds 75 percent of the design pressure of the water heater, a pressure reducing valve is required.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1364 (July 2007).

§5054. Controls

A. Each individual automatically-fired potable water heater, in addition to the operating control used for normal water heater operation shall have a separate high limit temperature actuated combustion control that will automatically cut off the fuel supply. The temperature range of the high limit temperature actuated control shall not allow a setting over 210° F.

1. On gas-fired water heaters, the high limit temperature control when actuated shall shut off the fuel supply with a shut off means other than the operating control valve. Separate valves may have a common body.

2. On electrically-heated potable water heaters, the high limit temperature control when actuated shall cut off all power to the operating controls.

3. On oil-fired potable water heaters, the limit temperature control when actuated shall cut off all current flow to the burner mechanism.

B. All potable water heaters shall be equipped with suitable primary (flame safeguards) safety controls, safety limit switches, and burners, or electrical elements as required by one of the following nationally recognized standards:

1. ANSI/UL 732 Standard for Safety Oil-Fired Water Heaters (UL 732);

2. ANSI Z 21.10.3 American National Standards for Gas Water Heaters, Volume III, Circulating Rank, Instantaneous and Large Automatic Storage Type water Heaters;

3. Underwriters Laboratories Inc. UL 795. Standards for Safety, Commercial-Industrial Gas-Heating Equipment;

4. Underwriters Laboratories Inc. UL 1453, Standards for Safety, Electric Booster and Commercial Storage Tank Water Heaters.

C. The symbol of the certifying organization which has investigated such as having complied with a nationally recognized standard shall be affixed to the equipment and shall be considered as evidence that controls and heat generating apparatus were manufactured in accordance with that standard. (A certifying organization is one that provides uniform testing, examination, and listing procedures under established, nationally recognized standards and that is acceptable to the jurisdiction.)

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1364 (July 2007).

§5055. Repairs

A. Whenever repairs are made to fittings or appliances, or it becomes necessary to replace them, the repairs must comply with Section IV of the ASME Code for new construction. Welded repairs must meet the additional requirements.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1365 (July 2007).

Subchapter E. General Requirements

§5058. Notice of Internal Inspection of Boilers

A. The owner or user of a boiler or boilers not exempted by the Act or by rules and regulations promulgated under the Act shall be provided 14 days notice of impending internal inspection requirements, by the inspector responsible for inspections of subject boiler(s). No such notice shall be required for external inspections. No inspection shall be made on Sunday or other legal holiday by an inspector employed by the Department of Public Safety except in case of accident or other emergency.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1365 (July 2007).

§5059. Preparation for Internal Inspection

A. The owner or user shall prepare each boiler for internal inspection, and shall prepare for and apply a hydrostatic pressure test, whenever necessary, on the date arranged by the inspector. The boiler shall be prepared for internal inspection as follows.

1. Water shall be drawn off and the boiler washed thoroughly.

2. Manhole and hand hole plates, washout plugs and inspection plugs in water column connections shall be removed as required by the inspector. The furnace and combustion chambers shall be cooled and thoroughly cleaned.

3. All grates of internally fired boilers shall be removed.

4. Insulation or brickwork shall be removed as required by the inspector in order to determine the condition of the boiler, headers, furnace, supports or other parts.

5. The pressure gauge shall be removed for testing, as required by the inspector.

6. Any leakage of steam or hot water into the boiler shall be prevented by disconnecting the pipe or valve(s) at the most convenient point or any appropriate means approved by the inspector.

7. Before opening the manhole or hand hole covers and entering any parts of the steam generating unit connected to a common header with other boilers, the non-return and steam stop valves must be closed, tagged and padlocked, and drain valves or cocks between the two valves opened. The feed valves must be closed, tagged and padlocked, and drain valves or cocks located between the two valves opened. After draining the boiler, the blow off valves shall be closed, tagged and padlocked. Blow off lines, where practicable, shall be disconnected between pressure parts and valves. All drain and vent lines shall be opened.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1365 (July 2007).

§5060. Boilers Improperly Prepared for Inspection

A. If a boiler has not been properly prepared for an internal inspection, or if the owner or user fails to comply with the requirements for a pressure test as set forth in these rules, the inspector may decline to make the inspection or test and the inspection certificate shall be withheld or the right to operate revoked, until the owner or user complies with the requirement. The owner or user shall be charged the applicable inspection fees as set by law for this missed inspection.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1365 (July 2007).

§5061. Removal of Covering to Permit Inspection

A. If the boiler is jacketed so that the longitudinal seams of shells, drums or domes cannot be seen, sufficient jacketing, setting wall, or other form of casing or housing shall be removed to permit reasonable inspection of the seams and other areas necessary to determine the condition and safety of the boiler, provided such information cannot be determined by other means.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1365 (July 2007).

§5062. Lap Seam Crack

A. The shell or drum of a boiler, in which a lap seam crack is discovered along a longitudinal riveted joint, shall be immediately condemned. Patching is prohibited.

B. *Lap Seam Crack*—a crack found in lap seams, extending parallel to the longitudinal joint and located either between or adjacent to rivet holes.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1365 (July 2007).

§5063. Pressure Test

A. A pressure test, when applied to boilers or pressure vessels, need not exceed the maximum allowable working pressure or the setting of the lowest set safety valves. The pressure shall be under proper control so that in no case shall the required test pressure be exceeded.

B. During a pressure test, the safety valve or valves shall be removed or each valve disk shall be held to its seat by means of a testing clamp and not by screwing down the compression screw upon the spring. A plug device designed for this purpose may be used.

C. The temperature of the water used to apply a hydrostatic test shall be no less than ambient temperature, but

in no case less than 70° F. The maximum temperature of the water during inspection shall not exceed 120° F.

D. When a hydrostatic test is applied to determine tightness, the pressure shall be equal to the normal operating pressure but need not exceed the release pressure of the safety valve having the lowest release pressure setting.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.
HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1366 (July 2007).

§5064. Inspection of Power Boilers

A. The internal and external inspections of power boilers shall meet the guidelines of Subsection C6 of the ASME Code, Section VII, Recommended Rules for Care of Power Boilers; and the National Board Inspection Code.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.
HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1366 (July 2007).

§5065. Inspection of Heating, Supply and Potable Water Boilers

A. The internal (when required), and the external inspections of steam and hot water heating, hot water supply and potable water boilers (hot water heaters), shall meet the guidelines of 7.09 and 8.09 of the ASME Code, Section VI, Recommended Rules for Care of Heating Boilers; and the National Board Inspection Code.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.
HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1366 (July 2007).

§5066. Changes from Louisiana Boiler Law/Rules and Regulations

A. On each inspection of a boiler, the inspector shall determine if changes or departures from the Louisiana Boiler Law/Rules and Regulations have taken place since the previous inspection was made.

B. If repairs have been made to a boiler, the owner or user shall provide documentation to the inspector determining if the repairs meet the requirements of these rules and regulations. In all cases where repairs and/or replacements are made or new fittings or appurtenances are installed, the material and workmanship must comply with the Louisiana Boiler Law/Rules and Regulations for new installations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.
HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1366 (July 2007).

§5067. Defective Conditions Disclosed at Time of External Inspection

A. If, upon an external inspection, there is evidence of a leak or crack, sufficient covering of the boiler shall be removed to permit the inspector to satisfactorily determine the safety of the boiler. If the covering cannot be removed at that time, the inspector may order the boiler taken out of service until such time as the covering can be removed and proper examination made.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.
HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1366 (July (July 2007).

§5068. Unsafe Boilers

A. Whenever the chief inspector, a deputy inspector or special inspector finds a boiler in operation or about to be placed in operation, the continued use of which constitutes an imminent hazard to life or limb, he shall order such boiler to be instantly taken out of service and/or not placed in service until proper repairs or changes have been made. He shall at that time serve a preliminary order on the owner or user ordering the use of such boiler discontinued. He shall have the owner or user sign the preliminary order, and submit the original copy to the chief inspector. He shall notify the chief inspector by telephone when a preliminary order is issued.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.
HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1366 (July 2007).

§5069. Condemned Boilers

A. A deputy inspector or special inspector, after having inspected a boiler and declared such boiler unfit for further service, shall notify the chief boiler inspector and submit a written report within seven calendar days of the inspection.

B. Any person, firm, partnership, or corporation using a condemned boiler shall be subject to the penalties provided by the Act.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.
HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1366 (July 2007).

§5070. Owner or User to Notify Chief Inspector of Accident

A. When an accident occurs to a boiler, the owner or user shall, within 7 calendar days, notify the chief inspector by submitting a detailed report of the accident. In the event of a personal injury or any explosion, notice shall be given within 12 hours by telephone, telegraph or messenger, and neither the boiler, nor any parts thereof, shall be removed or disturbed before permission has been given by the chief inspector, except for the purpose of saving human life and limiting consequential damage.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.
HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1366 (July 2007).

§5071. Automatic Low Water Fuel Cutoff and/or Water Feeding Device

A. Each automatically fired steam boiler shall have an automatic low-water fuel cutoff so located as to automatically cut off the fuel supply when the surface of the water falls to the lowest visible part of the water gauge glass. If a water

feeding device is installed, it shall be so constructed that the water inlet valve cannot feed water into the boiler through the float chamber and so located as to supply requisite feed water. Such a fuel cutoff or water feeding device shall comply with HG-606 of the ASME Code, Section IV.

B. Each automatically fired hot water heating boiler with heat input greater than 400,000 BTU/hr shall have an automatic low-water fuel cutoff which has been designed for hot water service, and it shall be located as to automatically cut off the fuel supply when the surface of the water falls to the lowest safe water level established by the boiler manufacturer. Such low-water fuel cutoff shall comply with HG-614 of the ASME Code, Section IV.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1367 (July 2007).

§5072. Pressure Reducing Valves

A. Where pressure reducing valves are used, one or more safety relief valves shall be provided on the low pressure side of the reducing valve when the piping or equipment on the low pressure side does not meet the requirements for the full initial pressure. The safety or safety relief valves shall be located adjoining or as close as possible to the reducing valve. Proper protection shall be provided to prevent injury or damage caused by the escaping fluid from the discharge of the safety relief valves if vented to the atmosphere. The combined discharge capacity of the safety or safety relief valves shall be such that the pressure rating shall not be exceeded in case the reducing valve fails in the open position.

B. The use of hand controlled bypasses around the reducing valves are permissible. If a bypass is used around the reducing valve, the safety valve required on the low pressure side shall be of sufficient capacity to relieve all the fluid that can pass through the bypass without over pressuring the low pressure side.

C. A pressure gauge shall be installed on the low pressure side of the reducing valve.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1367 (July 2007).

§5073. Boiler Blow Off Equipment

A. The blow down from a boiler that enters a sanitary sewer system or blow down which is considered a hazard to life or property shall pass through some form of blow off equipment that will reduce the pressure leaving the blow down equipment to not more than 5 psi, and the temperature to no more then 150° F.

B. All blow off equipment shall be fitted with openings to facilitate cleaning and inspection and shall conform to the recommended rules for National Board Boiler Blow off Equipment.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1367 (July 2007).

§5074. Location of Discharge Piping Outlets

A. The discharge of safety valves, blow off pipes and other outlets shall be located and supported so as to prevent injury to personnel.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1367 (July 2007).

§5075. Repairs or Alterations

A. Where repairs or alterations to a boiler are necessary, an authorized inspector shall be called for consultation and advice as to the best method of making such repairs or alterations. After such repairs or alterations are made, they shall be reviewed by and found acceptable to an authorized inspector. Organizations making repairs or alterations shall be qualified in accordance with the rules and regulations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1367 (July 2007).

§5076. Supports

A. Each boiler shall be supported by masonry or structural supports of sufficient strength and rigidity to safely support the boiler and its contents. There shall be no excessive vibration in either the boiler or its connecting piping.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1367 (July 2007).

§5077. Boiler Door Latches

A. A water tube boiler shall have the firing doors of the inward opening type, unless such doors are provided with substantial and effective latching or fastening devices or otherwise so constructed as to prevent them, when closed, from being blown open by pressure on the furnace side.

B. These latches or fastenings shall be of the positive self-locking type. Friction contacts, latches, or bolts actuated by springs shall not be used. The foregoing requirements for latches or fastening shall not apply to coal openings of downdraft or similar furnaces.

C. All other doors, except explosion doors, not used in the firing of the boiler, may be provided with bolts or fastenings in lieu of self-latching devices.

D. Explosion doors, if used and if located in the setting walls within 7 feet of the firing floor or operating platform, shall be provided with substantial deflectors to divert the blast.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1367 (July 2007).

§5078. Clearance

A. When boilers are replaced or new boilers are installed in either existing or new buildings, they shall be so located hat adequate space will be provided for the proper operation of the boilers and their appurtenances, for the inspection of all surfaces, tubes, water walls economizers, piping, valves and other equipment, and for their necessary maintenance and repair and replacement tubes.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1368 (July 2007).

§5079. Ladders and Runways

A. When necessary for safety, there shall be a steel runway or platform of standard construction installed across the tops of adjacent boilers or at some other convenient level for the purpose of affording safe access. All walkways shall have at least two means of exit, each to be remotely located from the other.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1368 (July 2007).

§5080. Exit from Boiler Room

A. All boiler rooms exceeding 500 square feet floor area and containing one or more boilers having a fuel burning capacity 1,000,000 BTU/hr., or equivalent electrical heat input, shall have at least two means of exit. Each shall be remotely located from the other. Each elevation in such boiler room shall have two means of exit, each remotely located from the other.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1368 (July 2007).

§5081. Air and Ventilation Requirements-Combustion Air Supply and Ventilation of Boiler Room

A. A permanent source of outside air shall be provided for each boiler room to permit satisfactory combustion of the fuel as well as proper ventilation of the boiler room under normal operating conditions.

B. The total requirements of the burners for all fired pressure vessels in the boiler room must be used to determine the louver sizes whether fired by coal, oil or gas; however, the minimum net free louvered area must not be less than 1 square foot. The following table or formula shall be used to determine the net louvered area in square feet.

Input (Btu/Hour)	Required Air (Cu/Ft/Min)	Minimum Net Louvered Area (Sq. Ft.)
500,000	125	1.0
1,000,000	250	1.0
2,000,000	500	1.6
3,000,000	750	2.5
4,000,000	1,000	3.3
5,000,000	1,250	4.1
6,000,000	1,500	5.0
7,000,000	1,750	5.8
8,000,000	2,000	6.6
9,000,000	2,250	7.5
10,000,000	2,500	8.3

(BTUH) 10,000) X 2.5 = CFM - 300 /dfm per sq. ft. of net required area.

C. When mechanical ventilation is used in lieu of Subsection A above, the supply of combustion and ventilation air to the boiler room and the firing device shall be interlocked with the fan so the firing device will not operate with the fan off. The velocity of the air through the ventilating fan shall not exceed 500 feet per minute and the total air delivered shall be equal to or greater than shown in Subsection B above.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1368 (July 2007).

§5082. Gas Burners

A. For installations which are gas fired, the burners used shall conform to the applicable requirements of the American Gas Association or other nationally recognized standards.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1368 (July 2007).

§5083. Attendance on Power Boilers

A. No power boiler while in active service, i.e., that portion of time when the main stop valves are open and the fires are burning, shall be left unattended longer than it will take the water level to drop from the normal operating level in the water gauge glass, or by indicating devices or recorders, when the feed water is shut off and the boiler is forced to its maximum capacity unless the following are complied with:

1. the boiler is equipped with an audible alarm that will operate when the water reaches the highest and/or the lowest permissible operating level, or, for boilers having no fixed steam or water line, when the highest permissible operating temperature is reached. The audible alarm shall be sufficiently loud that it can be plainly heard at the most remote point from the boiler that the attendant is required to work; and

2. the boiler is equipped with two independently connected low water safety devices that will shut off the fuel to the burner or burners when the water reaches the lowest permissible operating level, or, for boilers having no fixed steam or water line, when the highest permissible operating temperature is reached. These devices shall require manual resetting; or

3. the attendant shall personally check the operation of the boiler, the necessary auxiliaries, and the water level in the boiler at such intervals as are necessary to insure safe operation of the boiler, and in no case shall this exceed 120 minutes.

B. The operation of the automatic controls shall be checked at the beginning of each shift.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1368 (July 2007).

§5084. Restamping of Boilers

A. When the stamping on a boiler becomes indistinct, the inspector shall instruct the owner or user to have it restamped. Request for permission to restamp the boiler shall be made to the chief inspector and proof of the original stamping shall accompany the request. The chief inspector may grant such authorization. Restamping authorized by the chief inspector shall be done only in the presence of an authorized inspector, and shall be identical with the original stamping. If the ASME Code symbol is to be restamped, it may only be done by the original manufacturer of the boiler in the presence of the inspector who signed the manufacturers data report. Notice of completion of such restamping shall be filed with the chief inspector by the inspector who witnessed the stamping on the boiler, together with a facsimile of the stamping applied.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1369 (July 2007).

§5085. Moving of Boilers

A. When a boiler is moved from one setting to another setting, the owner or user thereof shall furnish the chief inspector with a notice of change in location, and shall have the boiler inspected by an authorized inspector prior to firing of the boiler at the new location.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1369 (July 2007).

§5086. Safety Appliances

A. No person shall attempt to remove or do any work on any safety appliance prescribed by these rules and regulations while the appliance is subject to pressure.

B. Should any of these appliances be removed for repair during an outage of the boiler, they must be reinstalled and in proper working order before the boiler is again placed in service.

C. No person shall alter any safety or safety relief valves or pressure relief devices in any manner to maintain a working pressure in excess of that stated on the boiler inspection certificate.

D. Repairs to safety or safety relief valves shall be made only by organizations qualified.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1369 (July 2007).

§5087. Variations

A. Any person who believes the rules and regulations promulgated by the assistant secretary are unreasonable or impose an undue burden upon the owner or user, may request a variation from such rule or regulation. The request shall be in writing and shall specify how equivalent safety is to be maintained. The assistant secretary, after investigation and such hearing as he may direct, may grant such variation from the terms of any rule or regulation provided such special conditions as may be specified are maintained in order to provide equivalent safety.

B. When there is a reason to believe, or upon receipt of a complaint that a variation does not provide freedom from danger equivalent to the published rule or regulation, the assistant secretary, after notice to the owner or user and complainant after such hearing and investigation as he may direct, may continue to in force, suspend, revoke or modify the conditions specified in any variation. No declaration, act or omission of the assistant secretary, or the chief inspector, deputy inspector or special inspectors other than a written order authorizing a variation as permitted above, shall be deemed to exempt, either wholly or in part, expressly or implied, any owner or user from full compliance with the terms of any rule or regulation.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1369 (July 2007).

§5088. Conditions not Covered by these Rules and Regulations

A. For any condition not covered by these rules and regulations, the applicable provisions of the ASME Code or the National Board Inspection Code shall apply.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1369 (July 2007).

§5089. Suggestions for Operations

A. It is suggested that the Recommended Rules for Care of Power Boilers, Section VII, and the Recommended Rules for Care and Operation of Heating Boilers, Section VI of the ASME Code, be used as a guide for proper and safe operating practices.

AUTHORITY NOTE: Promulgated in accordance with R.S. 23:531 and R.S. 51:1424.

HISTORICAL NOTE: Promulgated by the Department of Public Safety, Office of State Fire Marshal, LR 33:1369 (July 2007).