

COMMONWEALTH OF KENTUCKY

BOILER PRESSURE VESSEL AND PRESSURE PIPING

KENTUCKY REVISED STATUTES
KENTUCKY ADMINISTRATIVE REGULATIONS



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DEPARTMENT OF HOUSING, BUILDINGS
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DIVISION OF PLUMBING – BOILER SECTION
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UNOFFICIAL TEXT OF STATUTES AND
ADMINISTRATIVE REGULATIONS
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KENTUCKY STATE LAW

KENTUCKY REVISED STATUTES KRS 236.005 – 236.990

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236.005 Title

This chapter shall be known and may be cited as the Boiler and Pressure Vessel Safety Act, and, except as otherwise provided herein, shall apply to all boilers and pressure vessels.

236.010 Definitions for chapter.

As used in this chapter:

- (1) “Boiler” or “boilers” means and includes a closed vessel in which water or other liquid is heated, steam or vapor is generated, steam is superheated, or in which any combination of these functions is accomplished, under pressure or vacuum, for use externally to itself, by the direct application of energy from the combustion of fuels, or from electricity, solar or nuclear energy. The term “boiler” shall include fired units for heating or vaporizing liquids other than water where these units are separate from processing systems and are complete within themselves:
 - (a) “Power boiler” means a boiler in which steam or other vapor is generated at a pressure of more than fifteen (15) pounds per square inch gauge;
 - (b) “High pressure, high temperature water boiler” means a water boiler operating at pressures exceeding one hundred sixty (160) pounds per square inch gauge or temperatures exceeding two hundred fifty (250) degrees Fahrenheit;
 - (c) “Heating boiler” means a steam or vapor boiler operating at pressures not exceeding fifteen (15) pounds per square inch gauge or a hot water boiler operating at pressures not exceeding one hundred sixty (160) pounds per square inch gauge or temperatures not exceeding two hundred fifty (250) degrees Fahrenheit; and
 - (d) “Portable boiler” means a boiler which is primarily intended for a temporary location, construction and usage of which allows the boiler to be readily removed from one (1) location to another;
- (2) “Pressure vessel” means a vessel in which the pressure is obtained from an external source or by the application of heat other than those vessels defined in subsection (1) of this section;
- (3) “Commissioner” means the commissioner of housing, buildings and construction;
- (4) “Department” means the Department of Housing, Buildings and Construction;
- (5) “ASME” means American Society of Mechanical Engineers;
- (6) “Board” means Board of Boiler and Pressure Vessel Rules;
- (7) “Certificate inspection” means an inspection, the report of which is used by the chief boiler inspector to determine whether or not a certificate, as provided by subsection (1) of KRS 236.120, may be issued;

- (8) “Rule” or “regulation” means a general regulation adopted by the commissioner upon advisement of the board and filed and approved in accordance with KRS Chapter 13A designed to insure the safety of boilers and pressure vessels that affects or may affect property rights of a designated class of owners, or designed for the prevention of loss or damage to property, loss of life, or personal injury from boiler or pressure vessel explosion or from certain indicated hazards related thereto;
- (9) “Order” or “emergency order” means an order of the department, chief boiler inspector, or boiler inspector issued in accordance with this chapter for the prevention of:
 - (a) Loss or damage to property;
 - (b) Loss of life from boiler or pressure vessel malfunction or explosion; or
 - (c) Personal injury from boiler or pressure vessel malfunction or explosion;
- (10) “Division” means the Division of Plumbing in the department;
- (11) “Qualified welder” means a welder or welding machine operator who has successfully passed the tests required by the appropriate ASME boiler, pressure vessel, or piping code;
- (12) “Person” or “firm” means any individual, firm, partnership, or corporation;
- (13) “Chief boiler inspector” means the person employed by the department who shall serve as the boiler section supervisor within the Division of Plumbing;
- (14) “Boiler inspector” means a duly authorized employee of the Department of Housing, Buildings and Construction who is charged with the responsibility of inspecting boilers and pressure vessels and with the enforcement of the state boiler laws;
- (15) “Special boiler inspector” means any person employed by an insurance company authorized to insure boilers and pressure vessels in the Commonwealth and who holds a commission as provided in KRS 236.080. This term shall apply to both in-service inspectors and authorized inspectors of repairs, alterations, and shop work;
- (16) “Domestic water” means potable water delivered by a piping system for personal use or consumption;
- (17) “Potable water” means water free from impurities present in amounts sufficient to cause disease or harmful physiological effects and conforming in its bacteriological and chemical quality to the requirements of the Division of Water or the administrative regulations of the Department of Housing, Buildings and Construction;
- (18) “Cryogenic service” means a fluid held under pressure and having a boiling point below one hundred degrees below zero (-100) Fahrenheit at one (1) atmospheric pressure, which upon release results in auto-refrigeration or cooling effect;
- (19) “Oil refinery” means a facility used primarily for the refinement of petroleum products;

- (20) “Qualified welding procedure” means a welding procedure that has passed tests required by the applicable ASME boiler, pressure vessel, or piping code;
- (21) “Boiler external piping” means boiler piping as defined in ASME Section I, which shall conform to ASME B31.1 and ASME Section I;
- (22) “Non-boiler external piping” means boiler piping and boiler proper connections as defined in ASME Section I and applicable figures, and shall conform to either ASME B31.1 or ASME B31.3, including steam, boiler feedwater, blowdown, vents and drains, and chemical injection piping outside the boiler boundary;
- (23) “MAWP” means the maximum allowable working pressure for a boiler, pressure vessel, or piping system;
- (24) “Owner facility” means any facility licensed pursuant to KRS 236.097(1);
- (25) “Owner’s piping inspector” means any person licensed pursuant to KRS 236.097(2);
- (26) “Independent inspection agency” means a person or company licensed under KRS 236.097(3) who is retained by an owner facility to conduct inspections under KRS 236.097(1); and
- (27) “Owner-user facility” means any facility that operates pressure vessels and is accredited as an owner-user inspection organization by the national board.

236.020 Board of Boiler and Pressure Vessel Rules.

- (1) In the Department of Housing, Buildings and Construction, Division of Plumbing, there shall be a Board of Boiler and Pressure Vessel Rules, which shall hereafter be referred to as the board, consisting of seven (7) members including the chief boiler inspector who shall serve as chairman. The other members shall be appointed to the board by the Governor for terms of four (4) years each. The Governor may at any time remove any member of the board. Upon the death or incapacity of any member, the Governor shall fill the vacancy for the remainder of the vacated term and until a successor is appointed and qualified, with a representative of the same interests with which his or her predecessor was identified. Of these six (6) appointed members, one (1) shall be a practical steam operating engineer of high pressure boilers, or any other representative of owners and users of high pressure boilers or pressure vessels within the state; one (1) shall be a representative of the boiler manufacturers or pressure vessel manufacturers within the state; one (1) shall be a representative of a boiler insurance company licensed to do business within the state; one (1) shall be a representative of the boilermakers within the state selected from a list of five (5) names submitted by the Kentucky State Building and Construction Trades Council; one (1) shall be a representative of pipe erecting concerns doing business within the state; and one (1) shall be a metallurgist, welder, or a person representing the welding industry. The board shall meet at least four (4) times each year at the Capitol or other place designated by the board. No approval, decision, or ruling of the board shall be effective unless supported by the vote of at least five (5) members thereof.
- (2) The members of the board shall serve without salary and shall receive their actual necessary expenses, incurred while in the performance of their duties as members of the board, to be paid in the same manner as in the case of other state officers.
- (3) The division shall provide such administrative support and assistance as may be necessary for the board to carry out its duties and responsibilities under this chapter.

236.030 Administrative regulations; review, comment, and approval process.

- (1) After reasonable notice and opportunity to be heard in accordance with KRS Chapter 13A, the commissioner of housing, buildings and construction, upon advisement and subject to comment by the board under the requirements of KRS 198B.030(8) and (9) and 198B.040(11), shall, by administrative regulation, fix reasonable standards for the safe construction, installation, inspection, and repair of boilers, pressure vessels, and associated pressure piping in this state. Such administrative regulations shall be enforced by the Department of Housing, Buildings and Construction, Division of Plumbing.
- (2) The department may adopt any other administrative regulation necessary to administer this chapter if the regulation has been subject to review and comment by the board under the requirements of KRS 198B.030(8) and (9) and 198B.040(11). No administrative regulations so approved by the board shall become effective except upon adoption by the department, in conformance with KRS Chapter 13A.
- (3) The department shall furnish to the board proposed amendments to administrative regulations for the board's review and comment prior to their adoption by the department. The department shall not promulgate any administrative regulations related to this chapter without granting the board the opportunity to comment on the administrative regulation.

236.040 Conformity required of boilers, pressure vessels, and connecting piping; inspections.

- (1) No boiler or pressure vessel which fails to conform to the rules and regulations formulated by the commissioner governing new construction and installation shall be installed and operated in this state.
- (2) Subject to exemptions established in this chapter, all new connecting piping subjected to pressure emanating from a power boiler, heating boiler, hot water supply boiler, or pressure vessel shall be considered part of the boiler or pressure vessel installation, subject to the same boiler or pressure vessel code requirements, and shall be designed in accordance with the rules of ASME piping codes B31.1, B31.3, B31.5, B31.9, or B31.12 or their subsequent revisions, and ASME boiler and pressure vessel code Sections I, III, IV, VIII (Division 1, 2, or 3), or X or subsequent revisions of each. Inspection of such piping shall be performed by an inspector qualified under KRS 236.070, 236.080, or 236.097.
- (3) Pressure vessels for human occupancy shall comply with subsection (2) of this section and ASME requirements for pressure vessels for human occupancy. Inspection of such piping shall be performed by a boiler inspector qualified under KRS 236.070, 236.080, and 236.097.

236.050 Maximum working pressure allowed; construction of chapter.

- (1) The maximum allowable working pressure of a boiler or pressure vessel carrying the ASME code symbol shall be determined by the applicable sections of the code under which it was constructed and stamped.
- (2) The maximum allowable working pressure of a boiler or pressure vessel which does not carry the ASME code symbol shall be computed in accordance with the American Petroleum Institute 579/ASME FFS-1 (Fitness for Service) evaluation as adopted by the department and the regulations adopted in accordance with KRS 236.030.
- (3) This chapter shall not be construed as in any way preventing the use or sale of a boiler referred to in this section, provided it has been made to conform to the rules and regulations of the commissioner governing existing installations; and provided, further, it has not been found upon inspection to be in an unsafe condition.

236.060 Application of chapter and KRS 236.005 to 236.150.

- (1) This chapter applies to all boilers, pressure vessels, and related piping in the Commonwealth unless statutorily exempted.
- (2) KRS 236.005 to 236.150 shall not apply to boilers or pressure vessels or related piping under federal control.
- (3) KRS 236.005 to 236.150 shall not apply to the following:
 - (a) Portable boilers or pressure vessels located on land dedicated to agricultural use, as defined in KRS 100.111, and used solely for agricultural purposes;
 - (b) Boilers or pressure vessels located at any oil refineries;
 - (c) Steam or vapor boilers used for heating purposes carrying a pressure of not more than fifteen (15) pounds per square inch gauge, and which are located in private residences;
 - (d) Hot water heating boilers carrying a pressure of not more than thirty (30) pounds per square inch gauge or hot water heaters which are located in private residences;
 - (e) Any pressure vessels used as containers for liquefied petroleum gases and subject to the jurisdiction of the Department of Housing, Buildings and Construction under KRS Chapter 234;
 - (f) Pressure vessels used for transportation of compressed gases if constructed and operated in compliance with specifications and regulations of another state or federal authority;
 - (g) Pressure vessels containing air located on vehicles operating under the regulations of another state or federal authority;
 - (h) Pressure vessels having an internal or external operating pressure of fifteen (15) PSI or less;
 - (i) Single wall pressure vessels having an inside diameter, width, height, or cross-section diagonal not exceeding six (6) inches;
 - (j) Any combination unit having an internal or external pressure in each chamber not exceeding fifteen (15) PSI and differential pressure on the common element not exceeding fifteen (15) PSI;
 - (k) Pressure vessels with a nominal water containing capacity of one hundred twenty (120) gallons or less, to be used for domestic supply purposes, for containing water under pressure, including those containing air, the compression of which serves only as a cushion;

- (l) Pressure vessels not exceeding the design pressure at the top of the vessel and with no limitation in size, not exceeding the following:
 - 1. Vessels having an internal or external pressure of fifteen (15) PSI (100 kilopascals);
or
 - 2. Combination units having an internal or external pressure in each chamber of fifteen (15) PSI (100 kilopascals) and differential pressure on the common elements not exceeding fifteen (15) PSI (100 kilopascals);

- (m) Pressure vessels containing water heated by steam or other indirect means when none of the following are exceeded:
 - 1. Heat input of two hundred thousand (200,000) BTU/Hr.;
 - 2. Water temperature of two hundred ten (210) degrees Fahrenheit;
 - 3. Water storage capacity of one hundred twenty (120) gallons;

- (n) Coil type hot water boilers without a steam space and where no steam is generated within the confines of the unit but where water flashes into steam when released to atmospheric pressure by the operation of a manually operated nozzle, unless one (1) of the following is exceeded:
 - 1. Three quarter (3/4) inch inside diameter tubing or pipe size with no drum or header attached;
 - 2. Six (6) gallon water containing capacity;
 - 3. Three hundred fifty (350) degrees Fahrenheit water temperature;

- (o) Water heaters, hot water supply boilers, or hot water storage tanks, which are directly fired with oil, gas, or electricity, when none of the following limitations are exceeded:
 - 1. Heat input of two hundred thousand (200,000) BTU/Hr.;
 - 2. A water temperature of two hundred ten (210) degrees Fahrenheit;
 - 3. A water containing capacity of one hundred twenty (120) gallons;

- (p) Pressure vessels which may be classified as:
 - 1. Pressure containers which are integral parts of components of rotating or reciprocating mechanical devices such as pumps, compressors, turbines, generators, engines, and hydraulic or pneumatic cylinders where the primary design considerations, stresses, or both are derived from the functional requirements of the device; or

2. Structures whose primary function is the transport of fluids from one location to another within a system of which it is an integral part, that is, piping system; or
- (q) Pressure vessels ASME “UM” stamped, registered with the national board, and which do not exceed the following:
1. One and one-half (1-1/2) cubic feet in volume and six hundred (600) PSI MAWP;
 2. Three (3) cubic feet in volume and three hundred fifty (350) PSI MAWP; or
 3. Five (5) cubic feet in volume and two hundred fifty (250) PSI MAWP.
- (4) This chapter shall apply only to piping associated with boilers and pressure vessels operating in the Commonwealth in the following applications and fluid services:
- (a) All boiler external piping, conforming to ASME B31.1;
 - (b) Non-boiler external piping, including steam, boiler feedwater, blowdown, vents, drains, and chemical injection outside the boiler boundary conforming to ASME B31.1 or B31.3;
 - (c) All building services piping conforming to ASME B31.9;
 - (d) All compressed air piping emanating from a pressure vessel conforming to ASME B31.1, B31.3, or B31.9;
 - (e) All hot oil piping conforming to ASME B31.1 or B31.3;
 - (f) All anhydrous ammonia piping conforming to ASME B31.3 or B31.5;
 - (g) All cryogenic service piping conforming to ASME B31.3 or B31.5;
 - (h) All hydrogen piping used for vehicle transportation fuel conforming to ASME B31.12;
 - (i) All piping associated with a pressure vessel for human occupancy conforming with ASME B31.1 or B31.3; and
 - (j) Refrigeration service piping in safety group A3, B1, B2, and B3 fluids as defined by ASME and conforming to ASME B31.5.
- (5) Piping associated with boilers and pressure vessels exempted in subsection (2) of this section shall conform to the appropriate ASME piping code. The owner of the piping shall assume all oversight and responsibilities as established in the appropriate ASME piping code.

236.070 Boiler inspectors.

The department shall employ boiler inspectors who shall have had at the time of appointment not less than five (5) years practical experience in the construction, maintenance, repair, or operation of high pressure boilers and pressure vessels as a mechanical engineer, practical steam operating engineer, boilermaker, pressure vessel inspector or boiler inspector, and who shall have passed the examination provided for in KRS 236.090.

236.080 Special boiler inspectors; state salary prohibited; duties; report.

- (1) In addition to the boiler inspectors authorized by KRS 236.070, the department shall, upon the request of any company authorized to insure against loss from explosion of boilers and pressure vessels in this state, issue to any boiler inspectors of said company commissions as special boiler inspectors, provided that each such special boiler inspector before receiving such commission, shall satisfactorily pass the examination provided for in KRS 236.090, or, in lieu of such examination, shall hold a commission or certificate of competency as an inspector of boilers and pressure vessels for a state that has a standard of examination substantially equal to that of this Commonwealth or a commission as an inspector of boilers and pressure vessels issued by the National Board of Boiler and Pressure Vessel Inspectors.
- (2) Such special boiler inspectors shall receive no salary from, nor shall any of their expenses be paid by, the state and the continuance of a special inspector's commission shall be conditioned upon his or her continuing in the employ of an insurance company duly authorized as aforesaid and upon his or her maintenance of the standards imposed by this chapter.
- (3) Such special boiler inspectors shall inspect all boilers and pressure vessels insured by their respective companies, and, when so inspected and reported as required, the owners and users of such insured boilers and pressure vessels shall be exempt from the payment to the state of the inspection fees as provided for in KRS 236.120 and 236.130.
- (4) Each company employing such special boiler inspectors shall within thirty (30) days following each certificate inspection made by such inspectors, file a report of such inspection with the division upon appropriate forms prescribed by the division. Other than the certificate inspection report, no reporting of other inspections shall be required except when such inspections disclose that the boiler or pressure vessel is in a dangerous condition.

236.090 Examination.

Examination for a certificate of competency or a national board commission for boiler inspectors or special boiler inspectors shall be in writing and shall be given and monitored by the boiler inspection section of the division. Examinations are given on the first Wednesday and Thursday of the months of March, June, September and December of each year. The record of an applicant's examination shall be accessible to said applicant and his employer.

236.095 Owner-user inspectors; issuance of commission; requirements; reports; state salary prohibited.

- (1) In addition to boiler inspectors authorized by KRS 236.070, the department shall issue an owner-user inspector commission to any inspector commissioned by a company operating a pressure vessel within the Commonwealth, provided that:
 - (a) The company has an established and regular inspection program;
 - (b) The company is listed as an accredited Owner-User Inspection Organization in compliance with the National Board of Boiler and Pressure Vessel Inspectors Accreditation of Owner-User Inspection Organizations;
 - (c) The inspection program, personnel, equipment, and supervision meet the requirements established by the department after recommendation by the board; and
 - (d)
 1. The owner-user inspector applicant has successfully passed the examination provided for in KRS 236.090; or
 2. The owner-user inspector applicant holds a commission as an inspector of boilers and pressure vessels issued by the National Board of Boiler and Pressure Vessel Inspectors.
- (2) A commission as an owner-user inspector shall be issued only if, in addition to meeting the requirements of this section, the inspector is continuously employed by the company for the purpose of making inspections of pressure vessels used or to be used by the company, not of pressure vessels to be resold.
- (3) A licensed owner-user inspector is not authorized to inspect boilers within the Commonwealth.
- (4) A licensed owner-user inspector may inspect all pressure vessels insured by the inspector's employing company. When the vessels are inspected and reported as required, the owners and users of insured pressure vessels shall be exempt from payment to the state of inspection fees as provided in KRS 236.130.
- (5) Each company employing a licensed owner-user inspector shall, within thirty (30) days following each certificate of inspection, file a report of inspection with the department. Reports are to be submitted upon forms prescribed by the department.
- (6) No reporting of inspections other than the certificate of inspection reports shall be required unless an inspection reveals that the pressure vessel is in a dangerous condition.
- (7) A licensed owner-user inspector shall receive no salary from, nor shall any expenses be paid by, the Commonwealth.
- (8) Continuance of an owner-user inspector's commission shall be conditioned upon the inspector continuing employment for an owner-user company meeting requirements of subsection (1) of this section.

236.097 Owner facility license; owner's piping inspector license; independent inspection agency license; application of licensing requirements.

- (1) An owner facility subject to piping inspection by the department under this chapter may apply for a license from the department to allow the facility to conduct its own site piping inspections, other than for boiler external piping, in lieu of an inspection by the department.
 - (a) No piping inspections shall be conducted under an owner facility license unless the owner's piping inspector is licensed pursuant to subsection (2) of this section, or the contracted independent inspection agency is licensed pursuant to subsection (3) of this section. The department shall be notified of the owner facility's retention of the owner's piping inspector or independent inspection agency.
 - (b)
 1. The department shall develop and make available on the department's Web site an application for a license described in this subsection.
 2. The application shall require the owner facility to:
 - a. List all owner's piping inspectors retained by the facility;
 - b. List all independent inspection agencies retained by the facility; and
 - c. Provide evidence that the facility has employees who hold, or retains a contractor who holds, a license issued under KRS 236.210 for the facility and the facility has general liability insurance through a company permitted to transact insurance in Kentucky.
 3. The list of owner's piping inspectors and independent inspection agencies shall be updated and provided to the department within thirty (30) days of a change.
 - (c) The department shall issue or deny a license under this subsection within forty-five (45) days of receiving a complete application.
 - (d) With the application, the applicant shall submit a fee of one thousand dollars (\$1,000). If the application is denied by the department, the department shall refund five hundred dollars (\$500) of the application fee to the applicant.
 - (e) An owner facility license shall be issued for a period of two (2) years.
 - (f) To renew a license the applicant shall submit a completed renewal application no later than sixty (60) days prior to license expiration with a nonrefundable renewal fee of five hundred dollars (\$500).
 - (g) Prior to renewal, the department shall conduct an audit of piping at owner-licensed facilities. The audit shall verify that the piping conforms to standards prescribed by the ASME adopted by the department. An owner facility license shall continue in effect until approved or denied by the department so long as a renewal application is submitted as required by paragraph (f) of this subsection.

- (h) Each licensed owner facility shall maintain records of all piping inspections, including identification of the owner's piping inspector or independent inspection agency, for a period of five (5) years following the inspection. Records of inspections shall be made available to the department upon request.
- (2) An owner's piping inspector shall be licensed by the department prior to conducting piping inspections, other than for boiler external piping.
- (a) The department shall develop and make available on the department's Web site an application for an owner's piping inspector license.
 - (b) The department shall issue or deny a license under this subsection upon review of a completed application demonstrating that the applicant meets the following criteria:
 - 1. For inspections of piping repairs, the applicant is certified as defined under American Petroleum Institute Standard 570, Piping Inspection Code: Inspection, Repair, Alteration, and Rerating of In-Service Piping Systems; or
 - 2. For all other inspections of piping, the applicant qualifies under owner inspection requirements pursuant to ASME piping code B31.1 or B31.3, as applicable, or the applicant holds a commission from the National Board of Boiler and Pressure Vessel Inspectors.
 - (c) With the application, the applicant shall submit an initial nonrefundable license application fee of one hundred dollars (\$100) for a two (2) year license.
 - (d) The initial license fee may be prorated for not less than thirteen (13) months or more than thirty-six (36) months.
 - (e) An initial owner's piping inspector license shall expire on the final day of the applicant's birth month in the second year following the issue date.
 - (f) To renew a license, the applicant shall submit a completed renewal application and a nonrefundable renewal fee of fifty dollars (\$50) to the department.
- (3) Any independent inspection agency that employs licensed owner's piping inspectors shall be licensed by the department as an independent inspection agency.
- (a) The department shall develop and make available on the department's Web site an independent inspection agency license application.
 - (b) With the application, the applicant shall submit a fee of one thousand dollars (\$1,000) and a list of all owner's piping inspectors employed by the independent inspection agency. If the application is denied, five hundred dollars (\$500) shall be refunded to the applicant.
 - (c) The list of owner's piping inspectors employed by the independent inspection agency shall be updated and provided to the department within thirty (30) days of change.

- (d) An independent inspection agency license shall be effective for a period of two (2) years following the date of issuance.
 - (e) To renew a license, the applicant shall submit a completed renewal application and a nonrefundable renewal fee of five hundred dollars (\$500).
 - (f) Each licensed independent inspection agency shall maintain a record of all piping inspections for a period of five (5) years following the inspection, including identification of the owner's piping inspectors. Records of inspections shall be made available to the department upon request.
- (4) The licensing requirements of this section shall only apply to piping otherwise required to be inspected by a boiler inspector employed by the department pursuant to this chapter.

236.100 Suspension or revocation of appointment or commission; notice and hearing; reinstatement; penalty for falsification of application or inspection report.

- (1) Any boiler inspector's, special inspector's, owner-user inspector's, or owner's piping inspector's appointment or commission may be suspended or revoked by the department, after due investigation and hearing thereon, for the incompetence or untrustworthiness of the holder thereof, or for willful falsification of any matter or statement contained in his or her application or in a report of any inspection made by him or her. Written notice of and an opportunity for a hearing on any suspension or revocation under this subsection shall be given by the department to the inspector, and in the case of a special boiler inspector, also to his or her employer in accordance with the provisions of KRS Chapter 13B.
- (2) A person whose appointment or commission has been suspended shall be entitled to apply to the commissioner, after ninety (90) days from the date of the suspension, for reinstatement of the appointment or commission.
- (3) Any willful falsification of an application or inspection report shall constitute a misdemeanor and shall subject the inspector or special inspector to the penalties provided in KRS 236.990.

236.110 Inspection of boilers and pressure vessels required; certificate of inspection; periods of inspection; penalty for falsifying certificate of inspection.

- (1) Each boiler or pressure vessel used or proposed to be used within this state, except boilers or pressure vessels exempt under KRS 236.060, shall be thoroughly inspected as to their construction, installation, and condition as follows:
 - (a) Power boilers shall receive a certificate of inspection annually which shall be an internal inspection where construction permits; otherwise it shall be as complete an inspection as possible. Such boilers shall also be externally inspected while under pressure if possible.
 - (b) Low pressure steam or vapor heating boilers, hot water heating boilers, and hot water supply boilers shall receive a certificate of inspection biennially; said inspection shall include internal inspection where construction permits. External inspections are required where construction does not permit internal inspection.
 - (c) Pressure vessels shall be inspected at time of installation to ascertain that they are in conformance with KRS 236.040. Subsequent re-inspections, if any, shall be set by regulation of the department.
 - (d) A grace period of two (2) months beyond the periods specified in paragraphs (a), (b), and (c) of this subsection may elapse between inspections.
 - (e) The department may at its discretion permit longer periods between inspections.
 - (f) All new boiler or pressure vessel installations to be used within this state, excepting boilers or pressure vessels exempted under KRS 236.060, shall be inspected during the installation period to ascertain that all pressure piping conforms to the requirements of KRS 236.040. A certificate of inspection may not be issued on any new installation until these requirements are fulfilled.

- (g) It shall be the responsibility of the installing contractor to request the above inspection by notifying the boiler inspection section that the installation is ready for such inspection. Notification must be accomplished prior to covering of any welded or mechanical joints on pressure piping or valves by insulation, paint, or structural materials. The contractor shall provide ready access for the inspector to all parts of the piping system.
 - (h) Inspection of pressure piping applies only to new boiler, pressure vessel, or new pressure piping system installations, or reinstallations, or installation of secondhand boilers (as defined under "Boiler Rules and Regulations"). No annual or biennial re-inspection is required once the system has been approved.
 - (i) "Existing installations," as applied to inspection of piping systems is defined as any boiler and piping system completed and approved for operation prior to July 1, 1970, or pressure vessels and associated piping systems completed and approved for operation prior to July 15, 1980. Such existing installations will not be subject to the foregoing piping inspection unless adjudged patently unsafe for operation by a boiler inspector holding a commission issued by the National Board of Boiler and Pressure Vessel Inspectors, or by an owner's piping inspector, when authorized. If an existing installation is so adjudged, the owner or user will be granted full rights of appeal as set forth under KRS 236.150.
 - (j) At such time as an existing installation undergoes extensive overhaul or more than fifty (50) linear feet of pressure piping requires renewal or is added to the existing system, the entire system of piping carrying pressure emanating from the boilers shall be subject to inspection and will be brought up to standards required by KRS 236.040.
 - (k) The installing contractor of a piping system carrying pressure emanating from a boiler or pressure vessel subject to inspection under provisions of this chapter, shall pay to the department, upon completion of inspection, fees in accordance with a schedule set up by the board and approved by the commissioner.
 - (l) Operation of a pressure piping system in conjunction with a boiler or pressure vessel, either of which has not been inspected and approved as set forth above, shall be subject to fines and penalties as set forth in KRS 236.990.
 - (m) For any boiler or pressure vessel used by a utility to generate power, and operating under a certificate issued pursuant to KRS 278.020, if the boiler or pressure vessel is inspected by a special boiler inspector pursuant to this section, the inspection interval shall be extended to eighteen (18) months.
- (2) The inspections required in this section shall be made by a boiler inspector or by a special boiler inspector, except that all new installations shall be inspected by a boiler inspector employed by the department. However, an owner's piping inspector may inspect new, repaired, and replaced ASME B31.3 process piping.
 - (3) If at any time a hydrostatic, pneumatic, or any other nondestructive test shall be deemed necessary for ascertaining acceptability of a boiler, pressure vessel, or associated piping, the same shall be made by the contractor or owner-user, whoever is responsible for the condition, and be witnessed by a boiler inspector, special boiler inspector, or owner's piping inspector in authorized locations.

- (4) All boilers to be installed in this state after July 1, 1970, and all pressure vessels installed in this state after July 15, 1980, shall be inspected during construction as required by the applicable rules and regulations of the department by a boiler inspector authorized to inspect boilers and pressure vessels in this state, or, if constructed outside of the state, by an inspector holding a commission from the national board as an inspector of boilers and pressure vessels.
- (5) No person shall willfully falsify any statement designed to secure the issuance, renewal or reinstatement of a certificate of inspection. Violation of this subsection shall subject such a person to the penalties stated in KRS 236.990.

236.120 Certificate of inspection; fee; term; posting; termination; suspension; reissuance.

- (1) If, upon inspection, a boiler or pressure vessel is found to comply with the administrative regulations of the department, the owner, user, or insurance company of it shall pay to the department the sum of fifteen dollars (\$15). When the inspection is made by a special inspector, the inspector shall attach the certificate fee to his or her report. The chief boiler inspector, or his or her duly authorized representative, shall issue to the owner or user a certificate of inspection for the boiler or pressure vessel bearing the date of inspection and specifying the maximum pressure under which the boiler or pressure vessel may be operated. An inspection certificate shall be valid for not more than fourteen (14) months from its date in the case of power boilers, and twenty-six (26) months in the case of low pressure steam or vapor heating boilers, hot water heating boilers, or hot water supply boilers. The most recently issued certificate of inspection shall be posted in the room containing the boiler inspected or, in the case of a portable boiler, shall be kept in a tool box accompanying the boiler. The most recently issued certificate of inspection for each pressure vessel shall be kept in the owner's files.
- (2) No certificate of inspection issued for an insured boiler, inspected by a special inspector, shall be valid after the insurance on the boiler for which it was issued terminates. Boilers shall be insured by a company duly authorized by this state to carry the insurance.
- (3) The commissioner or his or her authorized representative may at any time suspend a certificate of inspection if, in his or her opinion, the boiler or pressure vessel for which it was issued cannot be operated without menace to the public safety, or if the boiler or pressure vessel is found not in compliance with this chapter or the administrative regulations of the department. A special boiler inspector shall have corresponding powers with respect to suspending certificates of inspection for boilers or pressure vessels insured by the company employing him or her. The suspension of a certificate of inspection shall continue in effect until the boiler or pressure vessel conforms to this chapter and administrative regulations of the board, and until the inspection certificate is reinstated.
- (4) A suspended certificate of inspection shall be reissued on the recommendation of the boiler inspector or special boiler inspector who first caused the suspension or at the discretion of the chief boiler inspector.

236.130 Inspection fees.

- (1) The owner or user of a boiler or pressure vessel required by this chapter to be inspected shall pay to the department, upon completion of inspection, reasonable fees not to exceed the cost of inspection as established by the commissioner upon advice of the board pursuant to KRS Chapter 13A.
- (2) All other inspections, including shop inspections and inspection of secondhand or used boilers made by the boiler inspector shall be charged for at the rate set by regulation promulgated by the commissioner upon advice of the board pursuant to KRS Chapter 13A.
- (3) All fees received by the department shall be held in a trust and agency fund from which the expenses of administering this chapter and other department responsibilities may be paid and no portion of said fund shall lapse into the general fund at the end of each fiscal year.

236.150 Appeal to commissioner; judicial review.

- (1) Any person aggrieved by an order or act of a boiler inspector, under this chapter, may, within fifteen (15) days of notice thereof, appeal from the order or act to the commissioner who shall schedule and conduct an administrative hearing in accordance with KRS Chapter 13B.
- (2) Any person aggrieved by a final order of the commissioner may file a petition in the Franklin Circuit Court for judicial review in accordance with KRS Chapter 13B.

236.210 License required for installing, erecting, or repairing boilers or pressure vessels; issuance; renewal; exception.

- (1) No person shall engage in the business of installing, erecting, or repairing boilers or pressure vessels unless he or she first obtains a license from the commissioner on recommendation of the board.
- (2) Each person, firm or corporation must pass an examination prepared by the board and administered by the department.
- (3) A license shall be issued by the commissioner or the chief boiler inspector upon recommendation of the board and payment of a reasonable fee not to exceed the cost of examination and other expenses involved as established by the commissioner upon advice of the board pursuant to KRS Chapter 13A.
- (4) The license shall be renewable annually, not later than the first of the month following the expiration date, upon payment of a reasonable fee not to exceed the costs involved in such renewal as established by the commissioner upon advice of the board pursuant to KRS Chapter 13A.
- (5) All individuals in the employ of a licensee shall not be required to be licensed.

236.220 Procedure for suspension or revocation of license.

- (1) A license issued under KRS 236.210 to 236.260 may be suspended or revoked for falsification of any information contained in the application. Written notice of a suspension shall be given to the licensee by the chief boiler inspector within ten (10) days of the first notification of the violation. A person whose license has been suspended may appeal to the board, and a hearing shall be conducted in accordance with KRS Chapter 13B.
- (2) If the board has reason to believe that a licensee is no longer qualified to hold his license, the board shall hold a hearing to be conducted in accordance with KRS Chapter 13B. If, as a result of the hearing, the board finds that the licensee is no longer qualified to hold his license, the board shall state in a final order that the license is revoked or suspended.
- (3) A person whose license has been suspended may apply for reinstatement of the license after ninety (90) days from the date of the suspension.

236.230 Reissue of lost or destroyed license.

If a license is lost or destroyed, a new license shall be issued in its place, without submitting another application, upon request and payment of a fee of five dollars (\$5).

236.240 Permit required for installation, erection, or repair; fees.

- (1) No person shall install, erect, or make repairs affecting the strength of a boiler or pressure vessel without first securing a permit from the department. Permits shall be issued only to persons licensed under KRS 236.210 to 236.260.
- (2) No work shall be performed except by or under the supervision of such licensed person. The permit fees shall be set by the board.
- (3) The permit fees will include one (1) interim inspection and one (1) final inspection for issuance of a boiler or pressure vessel certificate of inspection.
- (4) Special inspections and more than two (2) inspections requested by the licensee for each permit will be charged fees in accordance with KRS 236.130.

236.250 Exceptions to permit requirements; payment of permit to repair fees; emergency repairs.

- (1) No person shall make repairs affecting the strength or safety of boilers or pressure vessels without first securing a permit from the department unless repairs have been authorized by a boiler inspector or special boiler inspector pending issuance of the permit or unless such repairs are emergency repairs authorized by the department, a special boiler inspector or a boiler inspector pending issuance of the permit. No permit will be required for emergency items not affecting the strength of the boiler or pressure vessel, when performed by qualified welders regularly employed by firms utilizing properly qualified welding procedures. Permits shall only be issued to persons licensed under the provisions of this chapter. A permit fee shall be paid directly to the department, and shall accompany the repair application.
- (2) Payment of permit to repair fees shall be required from operating companies performing pressure vessel repairs in accordance with the National Board of Boiler and Pressure Vessel Inspectors inspection code and utilizing properly qualified welding procedures and regularly employing qualified welders to weld on boilers owned and operated by such firm.
- (3) For emergency repairs authorized by a boiler inspector or special boiler inspector, a repair permit shall be obtained and filed with the department within thirty (30) days of repair completion.

236.260 Access to premises.

The commissioner, the chief boiler inspector, any boiler inspector, or any special boiler inspector shall have free access, during reasonable hours, to any premises in the state where a boiler or pressure vessel is being constructed, operated, installed, or repaired for the purpose of ascertaining whether the work being performed is in accordance with the provisions of KRS Chapter 236 or any orders or regulations made thereunder.

236.990 Penalties.

- (1) It shall be unlawful for any person, firm, partnership, or corporation to operate in this state a boiler or pressure vessel without a valid certificate of inspection. The operation of a boiler or pressure vessel without a valid certificate, or at a pressure exceeding that specified in an inspection certificate, shall constitute a Class B misdemeanor on the part of the owner, user, or operator. Each day of unlawful operation shall constitute a separate offense.
- (2) Any person who violates the provisions of KRS 236.040(1); 236.080(4); 236.110(1), (4) and (5); 236.210(1); 236.220(1); 236.240(1) and (2); 236.250(1); or any proper order or administrative regulation made or promulgated thereunder; or who hinders or obstructs an authorized inspector in the performance of his or her duties under this chapter, shall be subject to the penalties in subsection (1) above.
- (3) Any person who willfully violates any provision of this chapter, or any administrative regulation, emergency order, order of the state fire marshal, order of an authorized deputy state fire marshal, order of the chief boiler inspector, or order of any authorized boiler inspector, promulgated or made pursuant to this chapter, shall be subject to suspension or revocation of any appointment, commission, certification, registration, license, or permit made or issued by the department and held by that person, in accordance with the procedures specified in KRS 236.220, or in lieu of a suspension or revocation, shall be subject to an administrative fine of not less than ten dollars (\$10) and not exceeding five hundred dollars (\$500) after notice and hearing by the board in accordance with KRS 236.220. Each day these violations exist shall, in the discretion of the board, be considered as a separate violation.
- (4) As an aid to enforcement of the provisions of this chapter, or of any administrative regulation or order relating thereto, the department or chief boiler inspector may take any administrative action or bring any authorized legal action designed to prevent or correct any condition constituting or threatening to constitute a violation of any provision of this chapter.

KENTUCKY STATE CODE

KENTUCKY ADMINISTRATIVE REGULATIONS 815 KAR 15:010 – 815 KAR 15:080

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815 KAR 15:010. Definitions for 815 KAR Chapter 15.

RELATES TO: KRS Chapter 236

STATUTORY AUTHORITY: KRS 236.030

NECESSITY, FUNCTION, AND CONFORMITY: KRS 236.030 authorizes the commissioner, through the Board of Boiler and Pressure Vessel Rules, to fix reasonable standards for the safe construction, installation, inspection, and repair of boilers, pressure vessels, and pressure piping. This administrative regulation establishes the definitions used in the boiler and pressure vessel safety rules.

Section 1. Definitions.

(1) "Act" means the Kentucky Boiler and Pressure Vessel Safety Act, KRS Chapter 236.

(2) "ANSI" means the American National Standards Institute.

(3) "ASME" is defined by KRS 236.010(5).

(4) "ASME Boiler and Pressure Vessel Code or ASME Code" means the American Society of Mechanical Engineers Boiler and Pressure Vessel Codes as follows, including all cited code cases, appendices, and addenda, which are incorporated by reference in of 815 KAR 15:025:

(a) Section I, rules for construction of power boilers;

(b) Section II, material specifications:

1. Part A specifications for ferrous materials;

2. Part B specifications for nonferrous materials;

3. Part C specifications for welding rods, electrodes, and filler metals; and

4. Part D Properties (Customary);

(c) Section III, Nuclear Vessel Code;

(d) Section IV, Rules for construction of heating boilers;

(e) Section V, nondestructive examination;

(f) Section VIII, rules for construction of pressure vessels, Division 1, Division 2, and Division 3;

(g) Section IX, welding and brazing qualifications; and

(h) Section X, Fiber-Reinforced Plastic Pressure Vessels.

(5) "Authorized inspector" means an inspector holding the appropriate endorsement on the National Board Commission to perform new construction shop inspections.

(6) "Board" is defined by KRS 236.010(6).

(7) "Boiler" is defined by KRS 236.010(1).

(8) "Boiler Inspection Section" means the section within the Division of Plumbing, Department of Housing, Buildings and Construction.

(9) "Boiler inspector" is defined by KRS 236.010(14).

(10) "Certificate inspection" is defined by KRS 236.010(7).

(11) "Chief boiler inspector" is defined by KRS 236.010(13).

(12) "Code boiler or pressure vessel (or standard boiler or pressure vessel)" means a boiler or pressure vessel which bears the ASME Code Symbol stamp and designator, and the National Board stamp. (See also "state special".)

(13) "Commission" means the written credential issued by the department to a boiler inspector, special inspector, or owner-user inspector under the provisions of KRS 236.070, 236.080, or 236.095.

(14) "Commissioner" is defined by KRS 236.010(3).

(15) "Condemned boiler or pressure vessel" means a boiler or pressure vessel that has been inspected and declared unsafe or disqualified by legal requirements by a commissioned inspector who has applied a stamping or marking designating its rejection.

(16) "Department" is defined by KRS 236.010(4).

(17) "Electric boiler" means a power boiler, heating boiler, high or low-temperature water boiler in which the source of heat is electricity.

(18) "Existing installations" means any boilers and associated piping systems completed and approved for operation prior to July 1, 1970, or pressure vessels and associated piping systems completed and approved for operation prior to July 15, 1980.

(19) "Expansion tank" means a pressure vessel, unfired but directly connected to a hot water heating boiler, to absorb or cushion expansion therein and subject to comparable pressure with the boiler itself.

(20) "External inspection" means an inspection made when a boiler or pressure vessel is in operation and under pressure.

(21) "Fired jacketed steam kettle" means a vessel in which steam pressure is generated and shall be classified as a boiler.

(22) "Heat recovery boiler" means "process steam generator" as defined by this administrative regulation.

(23) "Heating boiler" is defined by KRS 236.010(1)(c).

(24) "High pressure, high temperature water boiler" is defined by KRS 236.010(1)(b).

(25) "Hot water heating boiler" means a nonsteam generating boiler from which hot water is circulated for heating purposes and returned to the boiler, and which operates at a pressure not exceeding 160 psig or a temperature of 250 degrees Fahrenheit at or near the boiler outlet.

(26) "Hot water storage tank" means a pressure vessel, unfired but directly connected to and subject to the same pressures as a companion hot water supply boiler, the combination being used to heat and store hot water for use externally to itself.

(27) "Hot water supply boiler" means a boiler completely filled with water that furnishes hot water to be used externally to itself at pressures not exceeding 160 psig or at temperatures not exceeding 210 degrees Fahrenheit at or near the boiler outlet.

(28) "Hydrostatic test" means the activity of filling a boiler and associated piping with water and raising the pressure within the system to check for tightness or safety.

(29) "Internal inspection" means an inspection made under circumstances that the boiler or pressure vessel is not operating, and handholes or manways are open for inspection of internal portions of the boiler or pressure vessel as construction permits.

(30) "Lined potable water heater" means a water heater with a corrosion resistant lining used to supply potable hot water.

(31) "Miniature boiler" means a power boiler or high temperature water boiler not exceeding any of the following:

- (a) Sixteen (16) inches inside diameter of shell (not applicable to electric boilers);
- (b) Twenty (20) square feet heating surface;
- (c) Five (5) cubic feet gross exclusive of casing and insulation; or
- (d) 100 pounds PSI maximum allowable working pressure.

(32) "National Board (NB)" means the National Board of Boiler and Pressure Vessel Inspectors, 1055 Crupper Avenue, Columbus, Ohio, 43229, which group has also issued a National Board Inspection Code.

(33) "Noncode boiler or pressure vessel (or nonstandard boiler or pressure vessel)" means a boiler or pressure vessel that does not bear the ASME code symbol stamp and designator or the National Board stamp. (See also "state special".)

(34) "Nuclear energy system" means that portion of a power plant that serves the purpose of producing and controlling output of thermal energy from nuclear fuel.

(35) "Nuclear power plant" means a nuclear power plant consisting of one (1) or more nuclear power systems and containment systems.

(36) "Nuclear power systems" means a system which serves the purpose of producing and controlling an output of thermal energy from nuclear fuel and those associated systems essential to the functions of the power system. The components of the system include such items as pressure vessels, piping system, pumps, valves, and storage tanks.

(37) "Nuclear vessel" means a pressure vessel designed and constructed in accordance with Section III of ASME Boiler and Pressure Vessel Code.

(38) "Owner-user inspector" means an inspector commissioned by the department and employed by a company operating a pressure vessel within the commonwealth and meeting the requirements set forth in KRS 236.095(1).

(39) "Owner's piping inspector" is defined by KRS 236.010(25).

- (40) "Owner or user" means any person, firm, or corporation owning or operating a boiler or pressure vessel within this commonwealth.
- (41) "Power boiler" is defined by KRS 236.010(1)(a).
- (42) "Pressure piping" means the boiler and pressure vessel external and connecting piping emanating from the associated boiler or pressure vessel and includes code piping as covered under the ASME Boiler and Pressure Vessel Code, Sections I and IV; Pressure Vessel Code, Section VIII, Division I, 2, or 3. These piping codes include:
- (a) Power Piping Code ASME B31.1;
 - (b) Process Piping Code ASME B31.3;
 - (c) Refrigeration Piping and Heat Transfer Components Code ASME B31.5;
 - (d) Building Services Piping Code ASME B31.9; and
 - (e) Hydrogen Piping and Pipelines Code ASME B31.12.
- (43) "Pressure vessel" is defined by KRS 236.010(2).
- (44) "Pressure vessels for human occupancy" or "PVHO" means all pressure vessels that enclose a human within its pressure boundary while under internal or external pressure exceeding a differential pressure of 2 psi. PVHOs include decompression or recompression chambers, high altitude chambers, hypobaric or hyperbaric chambers, hyperbaric stretchers, medical hyperbaric oxygenation facilities, and personnel transfer capsules.
- (45) "Process steam generator" means a vessel or system of vessels comprised of one (1) or more drums and one (1) or more heat exchange surfaces as used in waste heat or heat recovery type steam boilers.
- (46) "PSI (psi)" means pounds per square inch.
- (47) "PSIG (psig)" means pounds per square inch gauge.
- (48) "Reinstalled boiler or pressure vessel" means a boiler or pressure vessel removed from its original setting and re-erected at the same location or erected at a new location without change of ownership.
- (49) "Repair" means the work necessary to restore pressure-retaining items to a safe and satisfactory operating condition to comply with the National Board Inspection Code incorporated by reference in 815 KAR 15:026.
- (50) "Secondhand boiler or pressure vessel" means a boiler or pressure vessel in which both the location and ownership have been changed after initial use.
- (51) "Special boiler inspector" is defined by KRS 236.010(15).
- (52) "State special" means a boiler or pressure vessel which carries neither the ASME Boiler and Pressure Vessel Code symbol nor National Board stamping but has been accepted by the Department of Housing, Buildings and Construction pursuant to 815 KAR 15:025, Section 5.

(53) "Unfired steam boiler" means a vessel or system of vessels intended for operation at a pressure in excess of fifteen (15) psig for the purpose of producing and controlling an output of thermal energy.

(54) "V-R stamp holder" means the holder of a certificate issued by the National Board to repair pressure relief valves.

(55) "Water heater" means a closed vessel in which water is heated by the combustion of fuels, electricity or any other source and withdrawn 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 degrees Fahrenheit.

(56) "Waste heat boiler" means "unfired steam boiler" as defined by this administrative regulation.

(Recodified from 806 KAR 50:151, 7-5-1978; Am. 7 Ky.R. 259; eff. 10-1-80; 16 Ky.R. 55; eff. 8-22-89; 20 Ky.R. 2728; 2973; eff. 5-18-1994; TAm eff. 8-9-2007; 42 Ky.R. 1618; 2108; eff. 2-5-2016.)

815 KAR 15:025. New installations, general design, construction, and inspection criteria for boilers, pressure vessels, and pressure piping.

RELATES TO: KRS Chapter 236

STATUTORY AUTHORITY: KRS 236.030, 236.120

NECESSITY, FUNCTION, AND CONFORMITY: KRS 236.030 and 236.120 authorize the commissioner, through the Board of Boiler and Pressure Vessel Rules, to fix reasonable fees and standards for the safe construction, installation, inspection, and repair of boilers, pressure vessels, and associated pressure piping. This administrative regulation establishes the design, construction, and inspection criteria requirements of the boiler inspection section for all boilers and pressure vessels not exempted by KRS 236.060.

Section 1. Minimum Standards.

(1) Boiler and pressure vessels. All new boilers and pressure vessels, except those approved pursuant to Section 5 of this administrative regulation as "state specials," shall comply with applicable provisions of 815 KAR Chapter 15 and the ASME Boiler and Pressure Vessel Code, 2013 Edition, as established by KRS 236.040(2). All pressure vessels for human occupancy shall comply with the ASME Safety Standard for Pressure Vessels for Human Occupancy, 2012 Edition, as established by KRS 236.040(3).

(a) The ASME Boiler and Pressure Vessel Code is published by and available from the American Society of Mechanical Engineers (ASME), Two Park Avenue, New York, New York 10017.

(b) A copy is also available to be inspected, subject to applicable copyright law, at the Department of Housing, Buildings and Construction, 101 Sea Hero Road, Suite 100, Frankfort, Kentucky 40601-5412, Monday through Friday from 8 a.m. to 4:30 p.m.

(c) Compliance with a later edition of this code shall be deemed equivalent and may be used in lieu of the edition specified.

(2) Installation of all boilers and pressure vessels shall conform to the National Board Inspection Code Part 1, 2013 edition.

(3) Details of vessels of special design not covered by the code or not fully complying with the ASME Code shall be submitted to the Boiler Section of the Division of Plumbing and approval secured before field erection or construction shall begin.

(4) Pressure piping.

(a) All new pressure piping installations connected to the boiler or pressure vessel shall conform to the National Board Inspection Code Part 1, 2013 edition, and the applicable standards referenced in this subsection, as established by KRS 236.040(2):

1. ASME Code for Power Piping, B31.1, 2012 edition;
2. ASME Code for Process Piping, B31.3, 2012 edition;
3. ASME Code for Refrigeration Piping and Heat Transfer Components, B31.5, 2013 edition;
4. ASME Code for Building Services Piping, B31.9, 2011 edition; and
5. ASME Code for Hydrogen Piping and Pipelines, B31.12, 2014 edition.

(b) The Piping Codes are published by and available from the American Society of Mechanical Engineers, Two Park Avenue, New York, New York 10017.

(c) Copies are also available to be inspected at the Department of Housing, Buildings and Construction, 101 Sea Hero Road, Suite 100, Frankfort, Kentucky 40601-5412, Monday through Friday from 8 a.m. to 4:30 p.m.

(d) Compliance with a later edition of a code referenced in this subsection shall be deemed equivalent and may be used in lieu of the edition specified.

(e) The maximum allowable design temperature and pressure of the piping system and all of its component parts shall meet or exceed the operating control settings of the boiler or pressure vessel.

(f) If the maximum allowable design temperature or pressure of the boiler exceeds the maximum design limits of the piping system or any of its component parts, the pipe or its components shall not be used unless the temperature and pressure controls on the boiler are permanently set to prevent operation in excess of the design limits of the piping system and safety valves are added to activate at the maximum design limits of the piping system.

(5) Welded joints. Welded joints shall be installed by qualified welders in accordance with the ASME Code, Section IX, as required by the standards referenced in subsection (4) of this section. Welded joints shall be visually inspected for complete and full root penetration, soundness of the weld and freedom from undercutting, cracking and other surface imperfections in accordance with Section 3(6) of this administrative regulation.

Section 2. Manufacturer's Data Report.

A manufacturer's data report on all boilers of steel construction and all pressure vessels constructed in accordance with the ASME Boiler and Pressure Vessel Code shall be filed with the National Board of Boiler and Pressure Vessel Inspectors unless the boiler or pressure vessel is exempted by KRS 236.060.

Section 3. Installation Inspection or First Inspection and Stamping of New Boilers and Pressure Vessels.

(1) Stamping. Upon completion of the installation or at the time of first inspection, a Commonwealth of Kentucky serial number shall be assigned to the boiler or pressure vessel and shall be applied to the boiler or pressure vessel as follows:

(a) Steel boilers and pressure vessels shall be stamped with the letters "KY" followed by the state serial number assigned. The stamping shall be accomplished as established in subparagraphs 1. and 2. of this paragraph.

1. Stamping shall be applied in the immediate area of code stamping on the boiler or pressure vessel and shall be in letters and numbers not less than five-sixteenths (5/16) inch in height.

2. A metal tag shall be used showing identical lettering and serial number as used in the stamping. This tag shall be securely affixed in the area of the manufacturer's name plate or data plate.

(b) Cast iron boilers shall have securely attached to the boiler (preferably adjacent to the manufacturer's data plate or in the most conspicuous area) a metal tag not less than one (1) inch in height on which the letters "KY" and the state serial number shall be stamped.

(c) Hot water supply boilers shall have securely attached to the heater (preferably adjacent to the manufacturer's data plate or in the most conspicuous area) a metal tag not less than one (1) inch in height on which the letters "KY" and the state serial number shall be stamped.

(d) A boiler or pressure vessel having the standard stamping of another state that has adopted a standard of construction equivalent to the standard of the Commonwealth of Kentucky may be accepted by the department if the person desiring to install the boiler or pressure vessel shall make application for the installation and shall file with this application the manufacturer's data report covering the construction of the boiler in question.

(2) Shop or field inspection. Any new power boiler, steel heating boiler, pressure vessel or piping being constructed for installation in the Commonwealth of Kentucky shall be shop or field inspected in accordance with the provisions of the applicable section of the ASME Boiler and Pressure Vessel Code and shall be stamped with the applicable ASME code stamp and the applicable national board registration number. Upon request, copies of the data sheets shall be supplied to the Boiler Inspection Section.

(3) Installation inspection. New installations of boilers and of pressure vessels and associated pressure piping shall be inspected by the department for compliance with applicable ASME Boiler and Pressure Vessel Code requirements and this administrative regulation. The owner may inspect B31.3 piping systems. The inspector shall notify the department as established in subsection (4) of this section.

(4) Non-registered boilers and non-registered pressure vessels. Boiler inspectors, special boiler inspectors, and owner-user inspectors shall notify the department within thirty (30) days of locating any non-registered boiler or non-registered pressure vessel.

(5) General welding. If welded assembly has been used, the installing contractor shall present for the boiler inspector's, special inspector's, or owner's piping inspector's review the installing contractor's welding procedures and proof of qualification and continuity records of the welders and welding operators. The contractor shall be responsible for the quality of the welding done by the contractor's organization.

(6) Welded joints. If applicable codes or engineering specifications require additional tests or if the visual inspection reveals a potential defect or if joints have been insulated prior to inspection, the boiler inspector, special inspector, or owner's piping inspector may require other nondestructive tests, such as radiography, to be performed by the contractor to verify the soundness of the weld. All tests or retests required by the boiler inspector, special inspector, or owner's piping inspector shall be at the owner's or contractor's expense.

(7) Hydrostatic pressure test.

(a) A hydrostatic pressure test, when applied to a boiler or pressure vessel of riveted or welded construction, shall conform to the testing procedures and pressures as specified in the original code of construction. The pressure shall be under proper control so that in no case shall the required test pressure exceed the testing requirements listed in the original code of construction.

(b) During the hydrostatic pressure test, the safety valve or valves shall be removed or each valve disc shall be held down by means of a testing clamp (hand tight) and not by screwing down the compression screw upon the spring.

(c) The minimum temperature of the water used to apply a hydrostatic test shall not be less than ambient temperature, but in no case less than seventy (70) degrees Fahrenheit and the maximum temperature shall not exceed 120 degrees Fahrenheit.

(d) If the only purpose of the test is to determine tightness, the test pressure shall be equal to the relieving pressure of the safety valve having the lowest relief setting.

(8) Pressure piping systems installed in association with the boiler or pressure vessel shall be inspected for proper materials, adequate pressure and temperature ranges for the boiler operation and for adequate support and tightness as established in paragraphs (a) and (b) of this subsection.

(a) Hydrostatic tests. Hydrostatic or other leak tests shall be performed on the pressure piping system connected to the boiler or pressure vessel and shall conform to the procedures and test pressures outlined in the original code of construction.

(b) Code compliance. Pressure piping inspection shall include determining compliance with design plans, material specifications and ASME Code for the piping and component parts. The contractor shall document to the boiler inspector, special inspector, owner's piping inspector, or owner-user inspector that:

1. The piping installation and each of its component parts conforms to the design;
2. The materials used and method of construction meets the manufacturer's procedures and specifications; and
3. The system is utilizing the materials and equipment specified within the temperature and pressure ranges set forth in the design and as required by Section 1(4)(f) of this administrative regulation.

Section 4. Notification of Inspection.

If an inspection is required by this administrative regulations, the owner or user shall prepare each boiler, pressure vessel, and pressure piping system for inspection and shall prepare for and apply a hydrostatic pressure or other leak test on the date specified by the boiler inspector, special inspector, or owner-user inspector. The inspection shall not be less than seven (7) days after the date of notification.

Section 5. State Special.

(1) Boilers and pressure vessels of special design that are equivalent to, but are not eligible to be stamped to, the ASME Code shall meet the requirements of this section. The prospective owner or user who desires approval of the boiler installation as a state special shall pursue in each individual case the procedures established in this section.

(a) Prior to installation and operation of the boiler or pressure vessel, the proposed owner, user, or the owner's authorized agent shall make written application for permission to install the boiler or pressure vessel in the state of Kentucky. The application shall be directed to the Chief Boiler Inspector, Division of Plumbing, Department of Housing, Buildings and Construction, 101 Sea Hero Road, Suite 100, Frankfort, Kentucky 40601-5412.

(b) To establish ASME Boiler and Pressure Vessel Code equivalency, the following data, material and information shall be submitted with the application for state special approval to the Boiler Inspection Section, Department of Housing, Buildings and Construction for review by the Board of Boiler and Pressure Vessel Rules:

1. Detailed shop drawings and welding details of the proposed construction. All materials shall be in the English language and United States units of measurements listed in the ASME Code.

2. Design calculations and supporting data which shall include pressure (psi), temperature (deg. F.), use, and other service conditions.

3. Specifications for all construction materials. The specifications shall conform to the applicable ASME Code standards or their suitable equivalent. If reference is made to a standard or specification of a country other than the United States, a copy shall be attached to indicate how the material is considered equivalent.

4. Copies of the welding procedures to be used and welding qualification test reports for each welding operator or welder to be used. The procedures and tests required in this paragraph shall be made in accordance with the ASME Boiler and Pressure Vessel Code, Section IX, "Welding Qualifications."

5. If the design exceeds ASME Boiler and Pressure Vessel Code limitation, API 579/ASME FFS-1, 2007 or later edition shall be identified in the submittal.

6. Design drawings and calculations shall be certified by a professional engineer holding a license acceptable to the boiler inspection section.

7. The manufacturer of the vessel shall identify the inspection agency responsible for the shop inspections and shall submit an equivalent ASME manufacturer's data report for the proposed vessel.

8. The shop inspection agency shall furnish the qualifications of the authorized boiler inspector or special inspector assigned to make the shop inspections.

(2) Upon completion of the boiler or pressure vessel, a manufacturer's data report, signed by the manufacturer and shop inspector, shall be submitted to the jurisdictional authorities containing the equivalent type data required by the ASME Boiler and Pressure Vessel Code. ASME Boiler and Pressure Vessel Code data report forms shall not be used.

(3) Upon arrival in the state of Kentucky, the boiler or pressure vessel shall be inspected before installation by a boiler inspector in the employ of the department to verify that the requirements of this section have been complied with and that the vessel is properly marked and stamped for identification.

Section 6. General Requirements.

(1) Low water fuel cutoff or water-feeding device (low pressure boilers).

(a) Automatically fired steam or vapor-system boilers shall have an automatic low-water fuel cutoff located to automatically cut off the fuel supply if the water falls to the lowest part of the water gauge glass. If a water-feeding device is installed, it shall be constructed so that the water inlet valve cannot feed water into the boiler through the float chamber and located to supply feed water.

(b) A fuel cutoff or water-feeding device may be attached directly to a boiler.

(c) A fuel cutoff or water-feeding device may also be installed in the tapped openings available for attaching a water glass directly to a boiler under the following conditions:

1. The connections shall be made to the boiler with nonferrous tees or Y's not less than one-half (1/2) inch pipe size between the boiler and the water glass so that the water glass is attached directly and as close as possible to the boiler;

2. The run of the tee and Y shall take the water glass fittings and the side outlet or branch of the tee or Y shall take the fuel cutoff or water-feeding device.

(d) The ends of all nipples shall be reamed to full-size diameter.

(e) Fuel cutoffs and water-feeding devices embodying a separate chamber shall have a vertical drain pipe and a blowoff valve not less than three-fourths (3/4) inch pipe size and located at the lowest point in the water equalizing pipe connections so that the chamber and the equalizing pipe can be flushed and the device tested.

(2) Safety appliances. The safety appliances established by these administrative regulations shall not be removed or tampered with except for the purpose of making repairs. The resetting of safety valves shall be done by a V-R stamp holder.

(3) Location of discharges to atmosphere. The discharge of safety valves, blowoff pipes, and other outlets shall be located so as to prevent injury to personnel.

(4) Pressure reducing valves (high pressure boilers).

(a) If pressure reducing valves are used, one (1) or more relief or safety valves shall be provided on the low pressure side of the reducing valve in case the piping or equipment on the low pressure side does not meet the requirements for the full initial pressure. The relief or safety valves shall be located either adjoining or as close as possible to the reducing valve.

(b) Proper protection shall be provided to prevent injury or damage caused by the escaping steam from the discharge or safety valves if vented to the atmosphere.

(c) The combined discharge capacity of the relief valve shall be such that the pressure rating of the lower pressure piping or equipment shall not be exceeded in case the reducing valve sticks open.

(d) The use of hand-controlled bypasses around reducing valves shall be permissible. The bypass, if used around a reducing valve, shall not be greater in capacity than the reducing valve unless the piping or equipment is adequately protected by relief valves or meets the requirements of the high pressure system.

(e) A pressure gauge shall be installed on the low pressure side of a reducing valve.

(5) Electric boilers. All appliances required for electric boilers shall be attached in accordance with the National Electrical Code and the following requirements:

(a) The grounding of the shell shall be permanently fastened on some part of the boiler and shall be grounded in accordance with the edition of the National Electrical Code in effect at the time the permit for the installation was made.

(b) A suitable screen or guard shall be provided around high tension bushings and a high voltage warning sign shall be posted. This screen or guard shall be located to prohibit anyone working around the boiler to accidentally come in contact with the high tension circuits. During the adjustment of safety valves, the power circuit to the boiler shall be open.

(c) The boiler may be under pressure, but the power line shall be open while the operator is making the necessary adjustments.

(d) Each KW of electrical energy consumed by an electric boiler operating at maximum rating shall be considered the equivalent of one (1) square foot of heating surface.

(6) Clearance.

(a) If boilers are replaced or new boilers installed in either existing or new buildings, a minimum of two (2) feet shall be provided on all service sides, unless the installation allows for proper maintenance without the separation. Vessels having manholes shall have five (5) feet clearance between the manhole opening and any wall, ceiling, or piping that will prevent a person from entering the boiler or vessel.

(b) Boilers shall be installed to:

1. Allow adequate space for their proper operation and their appurtenances;
2. Allow inspection of all surfaces, tubes, water walls, economizer, piping, valves, and other equipment; and
3. Allow for necessary maintenance and repair.

(7) Emergency devices for certain installations.

(a)

1. Installations of power boilers, heating boilers, or hot water supply boilers shall have a manually operated remote heating plant shutdown switch or circuit breaker located just outside the boiler room door and marked for easy identification. Consideration shall also be given to the type and location of the switch to safeguard against tampering.

2. If the boiler room door is on the building exterior, the switch shall be located just inside the door. If there is more than one (1) door to the boiler room, a switch shall be located at each door.

3. For an atmospheric gas burner, and an oil burner where a fan is on a common shaft with the oil pump, the complete burner and controls shall be shut off.

4. For a power burner with a detached auxiliary, only the fuel input supply to the firebox shall be shut off.

(b) A power boiler or heating boiler installed prior to July 1, 2015 shall be exempt from paragraph (a) of this subsection unless the power boiler or heating boiler installed prior to July 1, 2015 is located in a hospital, rest home, school, mental institution, or similar institutional facility.

(c) Paragraph (a) of this subsection shall not apply to manufacturing and power generating facilities.

Section 7. Incorporation by reference.

(1) The "National Board Inspection Code Part 1," 2013 Edition, is incorporated by reference.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Department of Housing, Buildings and Construction, Division of Plumbing, Boiler Section, 101 Sea Hero Road, Suite 100, Frankfort, Kentucky 40601-5412, Monday through Friday, 8 a.m. to 4:30 p.m.

(20 Ky.R. 2753; Am. 2975; eff. 5-18-1994; TAm eff. 8-9-2007; 42 Ky.R. 1621; 2109; eff. 2-5-2016.)

815 KAR 15:026. Existing boilers and pressure vessels; testing, repairs, inspection, and safety factors.

RELATES TO: KRS 236.010, 236.030, 236.110, 236.240, 236.250, 236.990

STATUTORY AUTHORITY: KRS 236.030

NECESSITY, FUNCTION, AND CONFORMITY: KRS 236.030 requires the commissioner, through the Board of Boiler and Pressure Vessel Rules, to establish reasonable standards for the inspection and repair of boilers and pressure vessels. This administrative regulation establishes the requirements for safe maintenance of boilers and pressure vessels.

Section 1. Frequency of Inspection of Existing Vessels.

Upon notification by a boiler inspector, special inspector, or owner-user inspector, a boiler or pressure vessel subject to an annual or semiannual inspection pursuant to KRS 236.110 shall be prepared for the inspection or hydrostatic or other leak test by the owner or user.

Section 2. Preparation for Inspections and Tests.

(1) The owner or user shall prepare the boiler or pressure vessel for internal inspection and apply the required hydrostatic or other leak test on the date specified by the boiler inspector, special inspector, or owner-user inspector. The date set for inspection shall be a minimum of seven (7) days following notification by the boiler inspector, special inspector, or owner-user inspector.

(2) The owner or user shall prepare a boiler for internal inspection pursuant to paragraphs (a) through (f) of this subsection.

(a) Water shall be drawn off and the boiler thoroughly washed.

(b) The manhole and handhole plates, washout plugs, and the plugs in water column connections shall be removed and the furnace and combustion chambers thoroughly cooled and cleaned.

(c) The grate of an internally fired boiler shall be removed.

(d) During the annual inspection, brickwork shall be removed as required by the boiler inspector or special inspector in order to determine the condition of the boiler, header, furnace, supports, or other parts.

(e) The steam gauge shall be removed for testing.

(f) Leakage of steam or hot water into the boiler shall be cut off by disconnecting the pipe or valve at the most convenient point.

(3) If the boiler is jacketed and the longitudinal seams of shells, drums, or domes are not visible, enough of the jacketing, setting wall, or other forms, casing or housing shall be removed so that the size of the rivets, pitch of the rivets, and other data necessary to determine the safety of the boiler can be obtained.

(4) If a boiler has not been prepared for an internal inspection in accordance with the requirements of this section or the owner or user fails to comply with the requirements for the hydrostatic or other leak test established in this administrative regulation, the boiler inspector or special inspector may decline to make the inspection or test and the inspection certificate shall be withheld until the owner or user complies with the requirements.

(5) Lap seam crack.

(a) A crack in the lap seam extending parallel to the longitudinal joint between or adjacent to rivet holes of the shell or drum of a boiler or pressure vessel shall cause the vessel to be immediately discontinued from use.

(b) If the boiler or pressure vessel is not more than fifteen (15) years of age, a complete new course of the original thickness may be installed at the discretion of the boiler inspector, special inspector, or owner-user inspector and shall be after approval by the chief boiler inspector.

(c) Patching shall be prohibited.

(6) Hydrostatic pressure tests. If a hydrostatic test shall be applied to an existing installation, the pressure shall be as established in paragraphs (a) through (d) of this subsection.

(a) For determining tightness, the pressure shall be equal to the release pressure of the safety valve or valves having the lowest release setting.

(b) For determining safety or the strength of a vessel and associated piping as well as tightness, the test shall conform to the procedures and the pressure shall conform to the test pressures established in the original code of construction but not exceed one and one-half (1 1/2) times the maximum allowable working pressure (MAWP), except for a locomotive type boiler in which case the pressure shall be one and one-fourth (1 1/4) times the maximum allowable working pressure (MAWP). The pressure shall be under proper control to prevent the required test pressure from exceeding testing requirements listed in the original code of construction.

(c) The temperature of the water used for the hydrostatic test shall not be less than ambient temperature, and shall not be less than seventy (70) degrees Fahrenheit for boilers or thirty (30) degrees Fahrenheit above the minimum design metal temperature for pressure vessels, nor high enough to allow the metal temperature to exceed 120 degrees Fahrenheit.

(d) Minimum test pressure shall not be less than eighty (80) percent of the maximum allowable working pressure (MAWP) or the set pressure of the pressure-relieving device, whichever is greater.

Section 3. Safety Factors in Existing Boilers and Pressure Vessels.

(1) Maximum pressure and temperature. The maximum allowable working pressure (MAWP) and temperature for standard pressure vessels and boilers shall be determined in accordance with the ASME Code Edition (year and addenda) under which the boiler or pressure vessel was constructed and stamped.

(2) Notice of accident or malfunction.

(a) If an accident or malfunction renders a boiler or pressure vessel inoperative, the owner, user, or insurer shall immediately notify the Boiler Inspection Section and submit a detailed report of the accident or malfunction.

(b) If there is a serious accident, including an explosion, resulting in property damage, injury to personnel, or loss of life, notice shall be given immediately by phone or electronic mail and the boiler, pressure vessel, or any of the parts shall not be removed or disturbed before an inspection has been made by a boiler inspector or special inspector, except for the purpose of saving a human life.

(3) Condemned boilers. A boiler or pressure vessel inspected and found unsafe for further use by the chief boiler inspector or boiler inspector shall be stamped by the chief boiler inspector or boiler inspector with the letters "XX" prior to the letters "KY" and after the numbers to designate a condemned boiler or pressure vessel, i.e., XX Kentucky 12345 XX.

(4) A person, firm, partnership, or corporation using or offering for sale a condemned boiler or pressure vessel for operation within this Commonwealth shall be subject to the penalties in KRS 236.990.

(5) Nonstandard boilers and pressure vessels. Shipment of a nonstandard boiler, pressure vessel, or hot water supply boiler into this state shall be prohibited, unless exempted under KRS 236.060.

(6) Used boilers. If a nonstandard boiler, pressure vessel, or hot water supply boiler is removed from use, the boiler, pressure vessel, or hot water supply boiler shall not be reinstalled.

(7) Removal of safety appliances.

(a) A person shall not attempt to remove or work on a safety appliance while a boiler or pressure vessel is in operation unless under the direction of a boiler inspector or special inspector or permitted under 815 KAR 15:040, Section 1(3)(j).

(b) If a safety appliance is repaired during an outage of a boiler or pressure vessel, the appliance shall be reinstalled and in proper working order before the vessel is returned to service.

(8) The boiler, pressure vessel, and pressure piping shall be maintained in accordance with the minimum requirements of the edition of the ASME Code that was in effect when the boiler, pressure vessel, and pressure piping was constructed and installed.

Section 4. Used Vessels.

(1) Used boilers or pressure vessels. Before a boiler or pressure vessel is brought into Kentucky for use, it shall be inspected by a boiler inspector or a special boiler inspector and the data shall be filed by the owner or user of the boiler or pressure vessel with the Boiler Inspection Section for approval.

(2) Reinstalled boilers or pressure vessels.

(a) If a boiler or pressure vessel is moved and reinstalled, the fittings and appliances shall comply with the ASME Boiler and Pressure Vessel Code, 2013 Edition, as established by KRS 236.040(2), and 815 KAR Chapter 15.

(b) All pressure vessels for human occupancy shall comply with the ASME Safety Standard for Pressure Vessels for Human Occupancy, 2012 Edition, as established by KRS 236.040(3), and 815 KAR Chapter 15.

(3) Unsafe conditions.

(a) If the owner or user does not concur with the boiler inspector's or special inspector's decision regarding the condition of the boiler or pressure vessel, the owner or user may appeal to the commissioner who may request a joint inspection by the chief boiler inspector and the boiler inspector or special boiler inspector.

(b) Each boiler inspector or special inspector shall render a report to the commissioner, who shall render the final decision, based upon the data contained in all the inspectors' reports.

Section 5. Repairs and Alterations.

(1) Repairs.

(a) A repair shall require prior approval of a boiler inspector or special inspector and permits as required by KRS 236.240 and 236.250.

(b) Repair to a boiler, pressure vessel, and the appurtenances thereto shall conform to the requirements of the National Board Inspection Code Part 3, 2013 Edition. Compliance with a later edition of the National Board Inspection Code shall be deemed equivalent and may be used in lieu of the edition specified.

(c) Repairs to pressure relieving devices shall be made by a firm possessing the National Board Certificate of Authorization for Use of the Valve Repair (V-R) Stamp and the valve shall be stamped with the V-R stamp upon completion of the repair.

(d) Repair to a boiler or a pressure vessel shall not be initiated without the authorization of the inspector, who shall be satisfied that the welding procedures and welders are qualified and that the repair methods are in accordance with the standards established in this administrative regulation.

(e) The inspector may give prior approval for repairs of a routine nature. In every case, the inspector shall be advised of each repair under a prior agreement.

(2) Alterations.

(a) Except as permitted for owner-users, alterations to boilers and pressure vessels shall be performed by an authorized repairer.

(b) Alteration to a boiler or pressure vessel shall not be initiated without the authorization of an inspector, who shall be satisfied that the alteration methods and calculations are in accordance with the standards established in this administrative regulation.

(c) If the inspector considers it necessary, the inspector shall make an inspection of the object before granting authorization.

(3)

(a) It shall be the responsibility of the organization making the repair or alteration to coordinate the acceptance inspection of the repair or alteration.

(b) Authorized repairers shall submit the appropriate National Board Inspection Code form to the division upon completion of repairs or alterations.

(4) An owner-user inspector may perform acceptance inspections of repairs and alterations to boilers and pressure vessels if performed by the inspector's employer.

Section 6. Inspection by Special Inspectors.

(1) A special inspector shall submit an inspection report to the Boiler Inspection Section in the Division of Plumbing on the applicable National Board Inspection Code Report of Inspection standard form or its equivalent.

(2) An insurance company shall notify the Boiler Inspection Section of new or cancelled risks within thirty (30) days of each boiler or pressure vessel risk written, cancelled, or not renewed.

(3) If a special boiler inspector finds, upon the first inspection of a boiler or pressure vessel, the boiler or pressure vessel or an appurtenance, a condition causing the special boiler inspector's company to refuse or suspend insurance, the company shall immediately notify the Boiler Inspection Section and submit a report of the defect.

(4) If an external inspection reveals evidence of a leak or crack, enough of the covering of the boiler or pressure vessel shall be removed to satisfy the boiler inspector or special inspector of its safety. If the covering cannot be removed at that time, the boiler inspector or special inspector shall order the operation stopped until the covering may be removed and a proper examination made.

Section 7. Inspection by Owner-User Inspectors.

(1) An owner-user inspector shall submit an inspection report to the Boiler Inspection Section in the Division of Plumbing on the applicable National Board Inspection Code Report of Inspection standard form, or its equivalent.

(2) An owner-user company shall immediately notify the Boiler Inspection Section of a defective pressure vessel and submit a report of the defect.

(3) If an external inspection reveals evidence of a leak or crack, enough of the covering of the pressure vessel shall be removed to satisfy the owner-user inspector of the pressure vessel's safety. If the covering cannot be removed at that time, the owner-user inspector shall order the operation stopped until the covering may be removed and a proper examination made.

(4) If there is a disagreement as to the acceptance of any condition of a pressure vessel or repair by the owner-user inspector and owner-user company, the department shall make the final determination in accordance with the standards established in this administrative regulation.

Section 8. Inspection by Owner's Piping Inspector

(1) Owner's piping inspectors shall inspect all new, replacement, and repaired piping for compliance to the applicable ASME piping code to which the piping is installed. The owner's piping inspector shall sign the permit filed by the licensed contractor performing the piping installation or repair and forward it to the Boiler Inspection Section to show acceptance.

(2) The owner's piping inspector shall maintain copies of the material mill test reports and pressure test information including type of test, pressure at start and end of test, and duration of test. If welded joints are utilized, the file shall contain the qualified welder identification, weld procedure, and procedure qualification used.

(3) If there is a disagreement as to the acceptance of any condition of the piping installation or repair by the owner's piping inspector and owner's user facility, the department shall make the final determination in accordance with the standards established in this administrative regulation.

Section 9. Incorporation by Reference.

(1) The "National Board Inspection Code Part 3", 2013 Edition, is incorporated by reference.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Department of Housing, Buildings and Construction, Division of Plumbing, Boiler Section, 101 Sea Hero Road, Suite 100, Frankfort, Kentucky 40601-5412, Monday through Friday, 8 a.m. to 4:30 p.m.

(3) The National Board Inspection Code is also available, subject to applicable copyright law, from the National Board of Boiler and Pressure Vessel Inspectors, 1055 Crupper Avenue, Columbus, Ohio 43229.

(20 Ky.R. 2756; Am. 2978; eff. 5-18-94; 23 Ky.R. 3621; 24 Ky.R. 94; eff. 6-25-1997; TAm eff. 8-9-2007; 42 Ky.R. 1625; 2113; eff. 2-5-2016.)

815 KAR 15:027. Certificates and fees for boiler and pressure vessel inspection.

RELATES TO: KRS Chapter 236

STATUTORY AUTHORITY: KRS 236.030, 236.130

NECESSITY, FUNCTION, AND CONFORMITY: KRS 236.030 and 236.130 authorize the commissioner, through the Board of Boiler and Pressure Vessel Rules, to fix reasonable inspection fees for boilers and pressure piping. This administrative regulation establishes fees for boiler inspections.

Section 1. Boiler Certificates of Inspection.

(1) A boiler or pressure vessel complying with 815 KAR Chapter 15 shall be issued the certificate required by KRS 236.120 upon payment of a fifteen (15) dollar fee.

(2) If the owner or user of the boiler or pressure vessel required to be inspected refuses to allow an inspection to be made or refuses to pay the required fee, the certificate of inspection shall be suspended by the commissioner until the owner or user complies with the requirements.

(3) If the owner or user operates a boiler or pressure vessel without possessing a valid certificate of inspection, the owner or user shall be subject to the penalties provided for in KRS 236.990.

(4) Certificates of inspection shall be located as required by KRS 236.120(1).

(5) Validity of certificates of inspection.

(a) A certificate of inspection issued in accordance with KRS 236.120 shall be valid until expiration unless a defect or condition affecting the safety of the boiler or pressure vessel is disclosed.

(b) A certificate issued for a boiler or pressure vessel inspected by a special boiler inspector shall be valid only if the boiler for which the certificate was issued continues to be insured by an authorized insurance company.

(6) Suspension of certificate of inspection. Certificates shall be suspended in accordance with KRS 236.120(3).

(7) Pressure vessel inspections. Pressure vessels shall be inspected upon installation and reinspected in accordance with this subsection.

(a) Pressure vessels exceeding 200 psi maximum allowable working pressure (MAWP) shall be inspected every five (5) years.

(b) Hot water storage tanks, sterilizers, and autoclaves shall be inspected every four (4) years.

(c) Pressure vessels for human occupancy and hyperbaric chambers shall be inspected annually.

(d) All pressure vessels shall be re-inspected at the time of repair, alteration, or relocation.

Section 2. Fees.

(1)

(a) Following an inspection by a boiler inspector or owner-user inspector, the owner or user of a boiler, pressure vessel, or pressure piping, unless exempt under KRS 236.060, shall pay to the department fees in accordance with this section.

(b) The fees for new installations of boilers, pressure vessels, or pressure piping and fees for repairs shall be in accordance with the fees listed in subsection (5) of this section and shall be submitted by the contractor prior to installation.

(2)

(a) Shop inspections made by boiler inspectors for purposes of inspecting the fabrication of the vessel at the request of a boiler manufacturer, installer, engineering contractor, or owner shall be charged at the rates established in this subsection:

1. \$450 for one-half (1/2) day of four (4) hours or less;
2. \$600 for one (1) day of more than four (4) hours to eight (8) hours;
3. \$600 for any part of a day on Saturdays, Sundays or state holidays; and
4. Forty (40) dollars per hour for overtime in excess of eight (8) hours in any

one (1) day, plus itemized expenses of mileage, lodging, meals, and incidentals.

(b) The fees established in this subsection shall not void regular fees for inspection and certificates of inspection when the boilers or pressure vessels are completed.

(3) Charges for inspection of second-hand equipment shall be at the rates established in subsection (2) of this section plus itemized charges for mileage, lodging, meals, and incidentals. These charges shall not void regular fees for inspection and certificates of inspection when the boilers or pressure vessels are installed.

(4) ASME and National Board inspections. Inspections of a manufacturing facility, at the request of the manufacturer, for the issuance of ASME or National Board Certificates of Authorization shall be charged at the rates established in this subsection:

- (a) Initial inspection for ASME certificates - \$1,200;
- (b) Reviews for renewal of ASME certificates - \$950; and
- (c) Initial inspections and renewals for National Board R or V-R certificate - \$400.

(5) New installation inspections of pressure piping, boilers, and pressure vessels. Inspection of new installations of pressure piping, boilers, or pressure vessels shall be charged at the rates established in this subsection.

- (a) The fees charged for inspection of each newly installed boiler or pressure vessel and each pressure piping system shall be based upon the total dollar value of each installation, either actual or estimated. It shall be the obligation of the installing contractor to supply this value, which shall include both labor and material costs. An exact figure does not need to be quoted or divulged to the boiler inspector or department, only a designation that the true value lies within certain limits as listed in the left column of the table established in this paragraph. The fees for all new installations of boilers, pressure vessels, or pressure piping and fees for repairs are listed in the right column of the table.

Amount in Dollars	Fee
\$2,000 or less	\$70
\$2,001 to \$10,000	\$130
\$10,001 to \$25,000	\$200
\$25,001 to \$50,000	\$250
\$50,001 to \$75,000	\$300
\$75,001 to \$100,000	\$410
\$100,001 to \$150,000	\$520
\$150,001 to \$200,000	\$630
\$200,001 to \$250,000	\$740
\$250,001 to \$300,000	\$850
\$300,001 to \$400,000	\$960
\$400,001 to \$500,000	\$1,350
\$500,001 to \$600,000	\$1,500
\$600,001 to \$700,000	\$1,650
\$700,001 and over	\$1,850

(b) The fee for an initial inspection of a pressure vessel required by Section 1(7) of this administrative regulation shall be twenty-five (25) dollars.

(c) The installing contractor, owner, or user shall request an inspection of a boiler and pressure piping at least seven (7) days in advance. If the inspection is not made within this time limit, the installation may proceed. Requests for inspection shall be made by electronic mail, letter, or telephone to the department.

(6) Inspection of nuclear installations. Nuclear installation inspections shall be charged in accordance with the fee schedule established in subsection (2) of this section or as agreed upon through contracts between the installer and the department.

(7) Hydrostatic tests. If hydrostatic testing is used to ascertain acceptability pursuant to KRS 236.110(3), an additional fee shall be charged by the department for witnessing the hydrostatic test. The additional fee shall be in accordance with the fee schedule established in subsection (2) of this section if it is necessary to make a special trip to witness the application of a hydrostatic test.

Section 3. Fees for Re-inspection of Boilers and Pressure Vessels.

(1) Fees for re-inspection of power boilers shall be charged at the rates established in this subsection.

(a) INTERNAL INSPECTIONS OF POWER BOILERS	
Heating Surface (Square Feet)	Fee
100 or less	\$35
101 to 1,000	\$50
1,001 to 4,000	\$90
4,001 to 10,000	\$120
10,001 and over	\$200

(b) EXTERNAL INSPECTIONS OF POWER BOILERS	
Heating Surface (Square Feet)	Fee
100 or less	\$30
101 and over	\$35

(2) Fees for re-inspection of heating boilers shall be charged at the rates established in this subsection.

Boilers with manway where internal inspection required	\$55
Other heating boilers	\$35
Hot water supply boilers	\$25
Miniature boilers	\$25

(3) The fee for the re-inspection of a pressure vessel shall be twenty-five (25) dollars.

Section 4. Plan Review for Boiler and Pressure Vessel Installations.

(1) Prior to the construction and installation of any boiler or pressure vessel, the installing contractor shall submit shop drawings and fees for the installation to the chief boiler inspector of the department. Submission of plans shall be reviewed and released for construction upon department approval.

(2) Fees for plan review shall be:

Heating Surface (Square Feet)	Fee
100 and under	\$30
101 to 1,000	\$55
1,001 to 4,000	\$75
4,001 to 10,000	\$100
10,001 and over	\$150
Pressure vessels	\$45

(20 Ky.R. 2759; eff. 5-18-1994; Am. 24 Ky.R. 954; eff. 12-15-1997; 27 Ky.R. 3371; 28 Ky.R. 391; eff. 8-15-2001; TAm eff. 8-9-2007; 42 Ky.R. 1629; 2115; eff. 2-5-2016.)

815 KAR 15:040. Power boiler and pressure vessel supplemental requirements.

RELATES TO: KRS 236.030

STATUTORY AUTHORITY: KRS 236.030

NECESSITY, FUNCTION, AND CONFORMITY: KRS 236.030 authorizes the commissioner, through the Board of Boiler and Pressure Vessel Rules, to fix reasonable standards for the safe construction, installation, inspection, and repair of boilers and pressure piping. This administrative regulation establishes the specific requirements for power boilers that are within the scope of Section I of the ASME Boiler and Pressure Vessel Code.

Section 1. New Installations.

(1) Power boilers.

(a) A power boiler shall be constructed in accordance with applicable provisions of the ASME Boiler and Pressure Vessel Code incorporated in 815 KAR 15:025 and 815 KAR Chapter 15.

(b) Pressure piping beyond the first (or second) stop valve shall comply with the codes and standards applicable to pressure piping as established by 815 KAR 15:025, Section 1(4).

(2) Installation.

(a) A vessel subject to external corrosion shall be so installed that there is sufficient access to all parts of the exterior to permit proper inspection of the exterior surfaces, otherwise sufficient protection against corrosion shall be provided, or the vessel shall be of a size, dimension, and connection that the vessel can be readily removed from its location for inspection.

(b) A vessel having a handhole, manhole, or cover plate to permit inspection of interior surfaces shall be so installed that each opening is readily accessible.

(c) If a cylindrical vessel is installed in a vertical position and subject to corrosion, the bottom head, if dished, shall be concave to pressure to facilitate proper drainage.

(d) The installed vessel shall be so located that the stamping or marking shall be accessible to the boiler inspector, special inspector, or owner-user inspector and shall not be obstructed by insulation or other covering not readily removable.

(3) Pressure relieving devices (pressure vessels).

(a) A single pressure relieving device shall be set to operate at a pressure not exceeding the maximum allowable working pressure (MAWP) of the vessel.

(b)

1. A pressure vessel other than an unfired steam boiler shall be protected by a pressure relieving device that shall prevent the pressure within the vessel from rising more than ten (10) percent above the maximum allowable working pressure (MAWP) when full open and discharging, except as established in paragraphs (c), (d), and (j) of this subsection.

2. An unfired steam boiler shall have protective devices as required by this administrative regulation.

3. An unfired steam boiler shall be equipped with pressure relieving devices required by ASME Section I.

(c) The aggregate capacity of the pressure relieving devices connected to any vessel or system of vessels for the release of a liquid, air, steam, or other vapor shall be sufficient to discharge the maximum quantity that can be generated or supplied to the attached equipment without permitting a rise in pressure within the vessel or more than sixteen (16) percent above the maximum allowable working pressure (MAWP) of the vessel when all pressure relieving devices are full open and discharging.

(d) If an additional hazard can be created by exposure of a pressure vessel to fire or other unexpected sources of external heat, supplemental pressure relieving devices shall be installed capable of protecting against excessive pressure. These supplemental pressure relieving devices shall be capable of preventing the pressure from rising more than twenty-one (21) percent above the maximum allowable working pressure (MAWP).

(e) A pressure relieving device shall be constructed, located, and installed so that the device is readily accessible for inspection and repair and cannot be readily rendered inoperative and shall be selected on the basis of their intended service.

(f) Safety, safety relief, and relief valves shall be of the direct spring loaded type.

(g) Pilot operated pressure relief valves may be used. The pilot shall be self-actuated and the main valve shall open automatically at not over the set pressure and shall discharge the valve's full rated capacity if some essential part of the pilot should fail.

(h)

1. The spring in a pressure relief valve in service for pressures up to and including 250 psi shall not be reset for any pressure more than ten (10) percent above or below that for which the valve is marked.

2. For higher pressures, the spring shall not be reset for any pressure more than five (5) percent above or five (5) percent below that for which the safety or relief valve is marked.

(i) The set pressure tolerances, plus or minus, of pressure relief valves shall not exceed two (2) psi for pressures up to and including seventy (70) psi and three (3) percent for pressures above seventy (70) psi. All other requirements regarding over pressure protection devices shall be in accordance with UG-125 through UG-140 of ASME Pressure Vessel Code, Section VIII, Division 1.

(j)

1. If a pressure relieving device is omitted or removed, the device shall be omitted or removed in accordance with ASME Section VIII, Division 1, UG-140, Appendix M and ASME Section VIII, Division 2, Part 9, or Division 3, Part KR.

2. If a pressure relieving device is omitted or removed pursuant to the standards established in subparagraph 1. of this paragraph, except ASME Section VIII, Division 1, Appendix M., the Boiler Section shall be notified prior to the omission or removal, and prior to the pressure vessel being placed in service.

3. The required documentation shall be submitted to the Boiler Section for review and acceptance or rejection of the proposed omission or removal.

Section 2. Maximum Allowable Working Pressure for Existing Installations.

(1) Maximum allowable working pressure (MAWP) for standard boilers and pressure vessels. The maximum allowable working pressure (MAWP) for a standard boiler or pressure vessel shall be determined in accordance with the applicable provision of the edition of ASME Boiler and Pressure Vessel Code under which the boiler or pressure vessel was constructed and stamped.

(2) Maximum allowable working pressure (MAWP) for nonstandard boilers.

(a) The maximum allowable working pressure (MAWP) on the shell of a nonstandard boiler, pressure vessel, or drum shall be determined by the strength of the weakest section of the structure, computed from the thickness of the plate, the tensile strength of the plate, the efficiency of the longitudinal joint or tube ligaments, the inside diameter of the weakest course, and the factor of safety allowed by paragraph (h) of this subsection.

(b) Formulas. $(TS \times t \times E) \div (R \times FS)$ equals maximum allowable working pressure in psig; where:

TS = ultimate tensile strength of shell plates psi.

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

E = efficiency of longitudinal joint.

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

FS = factor of safety permitted.

(c) For riveted construction, E shall be determined under Paragraph A-30 of ASME Section I, Boiler and Pressure Vessel Code for Power Boilers.

(d) For tube ligaments, E shall be determined by rules given in Paragraphs PG-52 and 53 of ASME Section I, Boiler and Pressure Vessel Code for Power Boilers. For seamless construction, E shall be considered 100 percent.

(e) Tensile strength. If the tensile strength of steel or wrought iron shell plates is not known, the tensile strength shall be assumed to be 55,000 psi for steel and 45,000 psi for wrought iron.

(f) Crushing strength of mild steel. The resistance to crushing of mild steel shall be taken at 95,000 psi of cross section area.

(g)

1. Strength of rivets in shear. In order to compute the ultimate strength of rivets in shear, the following values in pounds psi of the cross sectional area of the rivet shank shall be used:

Iron rivets in single shear	38,000 lbs.
Iron rivets in double shear	76,000 lbs.
Steel rivets in single shear	44,000 lbs.
Steel rivets in double shear	88,000 lbs.

2. If the diameter of the rivet holes in the longitudinal joints of a boiler is not known, the diameter and cross sectional area of rivets, after driving, may be selected from the following table or as ascertained by cutting out one (1) rivet in the body of the joint:

SIZES OF RIVETS BASED ON PLATE THICKNESS (In Inches)						
Thickness of plate	1/4	9/32	5/16	11/32	3/8	13/32
Diameter of rivet after driving	11/16	11/16	3/4	3/4	13/16	13/16
Thickness of plate	7/16	15/32	1/2	9/16	5/8	-----
Diameter of rivet after driving	15/16	15/16	15/16	1 1/16	1 1/16	-----

(h) Factors of safety. Factors of safety shall be increased by the boiler inspector or special inspector if required by the condition and safety of the boiler.

1. The lowest factor of safety permissible on existing installations shall be four and one-half (4 1/2) except for horizontal return tubular boilers having continuous longitudinal lap seams more than twelve (12) feet in length where the factor of safety shall be eight (8), but if the boiler is removed from its existing setting, the boiler shall not be reinstalled for pressure in excess of fifteen (15) lbs. psig.

2. A reinstalled or secondhand nonstandard boiler shall have a minimum factor of safety of six (6) if the longitudinal seams are of lap riveted construction and minimum factor of safety of five (5) if the longitudinal seams are of butt and double strap construction.

(3) Age limit of fire tube boilers. The age limit of a horizontal return tubular, flue, or cylinder boiler having a longitudinal lap joint and operating at a pressure in excess of fifty (50) lbs. psig shall be twenty (20) years.

(4) Welded boilers. A boiler having either longitudinal or circumferential seams of fusion welded construction shall have been constructed and stamped in accordance with ASME Section I, Boiler and Pressure Vessel Code for Power Boilers or shall have the standard stamping of a state that has adopted a standard of construction equivalent to the standards of ASME Section I.

(5) Cast iron headers and mud drums. The MAWP 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 lbs. psig.

(6) Pressure on cast iron boilers. The maximum allowable working pressure (MAWP) for any cast iron boiler, except for hot water boilers, shall be fifteen (15) lbs. psig.

(7) Safety valve requirements for power boilers.

(a) A weighted lever safety valve shall not be used and the valve shall be replaced by a safety valve that conforms to the requirements of ASME Section I.

(b) A safety valve having either the seat or disc of cast iron shall not be used.

(c) Each boiler shall have at least one (1) safety valve, and, if the boiler has more than 500 square feet of water heating surface, the boiler shall have two (2) or more safety valves.

(d) A safety valve and a safety relief valve shall be installed with the valve's spindles vertical.

(e)

1. The method of computing the steam generating capacity of the boiler shall be as established in paragraph A-12 of ASME Section I.

2. The safety valve or valves shall be connected to the boiler, independent of any other steam connection, and attached to the boiler, without intervening pipe or fittings. If alteration is required to conform to this requirement, owners and users shall be allowed one (1) year in which to complete the work.

3. A stop valve shall not be placed between the safety valve and the boiler or on the discharge pipe (if used) between the safety valve and the atmosphere.

4. If a discharge pipe is used, it shall be full sized and fitted with an open drain to prevent water lodging in the upper part of the safety valve or discharge pipe and supported independently of the safety valve.

5. If an elbow is placed on a safety valve or discharge pipe, it shall be located close to the safety valve outlet.

6. A safety valve discharge shall be located or piped to avoid endangering persons using a walkway or platform used to control the main valves of a boiler or steam header.

(f) The safety valve capacity of each boiler shall be sufficient to allow the safety valve or valves to discharge all the steam generated by the boiler without allowing the pressure to rise more than six (6) percent above the maximum allowable working pressure (MAWP).

(g)

1. For each boiler, one (1) or more safety valves on the boiler shall be set at or below the maximum allowable working pressure (MAWP). If an additional valve is used, the highest pressure setting shall not exceed the maximum allowable working pressure (MAWP) by more than three (3) percent.

2. The complete range of pressure settings of all of the saturated steam safety valves on a boiler shall not exceed ten (10) percent of the highest pressure to which any valve is set.

3. If two (2) or more boilers operating at different pressures and safety valve settings are interconnected, the lower pressure boilers or interconnected piping shall be equipped with safety valves of sufficient capacity to prevent overpressure considering the generating capacity of all boilers.

4. If the boiler is supplied with feed water directly from a pressure main without the use of feeding apparatus (not to include return taps), the safety valve shall not be set at a pressure greater than ninety-four (94) percent of the lowest pressure obtained in the supply main feeding the boiler.

(h) The relieving capacity of the safety valves on any boiler may be checked by one (1) of the three (3) methods established in subparagraphs 1. through 3. of this paragraph; and, if found to be insufficient, additional capacity shall be provided.

1.

a. The accumulation test shall consist of shutting off all other steam discharge outlets from the boiler and forcing the fires to the maximum.

b. The safety valve capacity shall be sufficient to prevent a pressure in excess of six (6) percent above the maximum allowable working pressure (MAWP).

c. This method shall not be used on a boiler with a superheater or reheater.

2.

a. The maximum amount of fuel that can be burned shall be measured and the corresponding evaporative capacity (steam generating capacity) shall be computed upon the basis of the heating value of this fuel.

b. This computation may be made as outlined in the Appendix of the ASME Code for Power Boilers.

3. The maximum evaporative capacity shall be determined by measuring the feed water.

4. If either of the methods established in subparagraphs 1. through 3. of this paragraph is employed, the sum of the safety valve capacity shall be equal to or greater than the maximum evaporative capacity (maximum steam generating capacity) of the boiler. The minimum safety valve or safety relief valve relieving capacity for other than electric boilers shall be determined on the basis of the pounds of steam generated per hour per square foot of boiler heating surface and water wall heating surface, in accordance with the following table:

MINIMUM POUNDS OF STEAM PER HOUR PER SQUARE FOOT OF 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
Waterwall heating surface		
Hand-fired	8	8
Stoker-fired	10	12
Oil-, gas-, or pulverized-fuel-fired	14	16

a. If a boiler is fired only by a gas having a heat value in excess of 200 BTU per cubic foot, the minimum safety valve or safety relief valve relieving capacity shall be based on the values given for a hand-fired boiler in the table established in this subparagraph.

b. The minimum safety valve or safety relief valve relieving capacity for electric boilers shall be three and one-half (3 1/2) pounds per hour per kilowatt input.

(8) Boiler feeding and feed piping.

Except as established in paragraphs (b) through (f) of this subsection, a boiler having more than 500 square feet of water-heating surface shall have at least two (2) means of feeding water. Each source of feeding shall be capable of supplying water to the boiler at a pressure of three (3) percent higher than the highest setting of any safety valve on the boiler.

(a) Each boiler shall have a feed supply that allows the boiler to be fed at any time while under pressure.

(b) A boiler that is fired with solid fuel not in suspension or a boiler that the setting or heat source can continue to supply sufficient heat to cause damage to the boiler if the feed supply is interrupted, one (1) of the means of feeding water required by this subsection shall be steam operated.

(c)

1. A boiler that is fired by gas, liquid, or solid fuel in suspension may be equipped with a single means of feeding water if the boiler's heat input is immediately shut off by any interruption in the water feed.

2. If the boiler has a water-heating surface of not more than 100 square feet, the feed piping and connection to the boiler shall not be smaller than one-half (1/2) inch pipe size.

3. If the boiler has a water-heating surface more than 100 square feet, the feed piping and connection to the boiler shall not be less than three-fourths (3/4) inch pipe size.

(d) A high temperature water boiler shall be provided with means of adding water to the boiler or system while under pressure. The feed water shall be introduced into the boiler to prevent its discharge close to riveted joints of the shell, furnace sheets, directly against surfaces exposed to gases at high temperature or direct radiation from the fire.

(e)

1. The feed pipe to the boiler shall be provided with a check valve near the boiler and a stop valve or cock between the check valve and the boiler.

2. If two (2) or more boilers are fed from a common source, there shall also be a stop valve or regulating valve on the branch to each boiler between the check valve and source of supply. The stop valve or regulating valve shall be located as close to the boiler as is practicable.

3. If a globe valve is used on feed piping, the inlet shall be under the disc of the valve.

(f) If a de-aerating heater is not employed, the temperature of the feed water shall be no less than 120 degrees Fahrenheit to avoid the possibility of setting up localized stress. If a de-aerating heater is employed, the minimum feed water temperature shall be no less than 215 degrees Fahrenheit so that dissolved gases will be thoroughly released.

(9) Fusible plugs.

A fire-actuated fusible plug, if used, shall conform to the requirements of ASME Section I, Paragraphs A-19, A-20 and A-21.

(10) Water columns, gauge glasses, and gauge cocks.

(a)

1. An outlet connection, except for a damper regulator, feed water regulator, low-water fuel cutout, drain, steam gauge, or apparatus that does not permit the escape of an appreciable amount of steam or water, shall not be placed on the piping that connects the water column to the boiler.

2. The minimum size of the steam and water connection to the water column shall be one (1) inch pipe size, and each water column shall be provided with a valved drain of at least three-fourths (3/4) inch pipe size.

3. The drain shall be piped to a safe location.

(b) Each manually fired boiler shall comply with ASME Section I, except a manually fired boiler built before the publication of the 1991 Addenda to ASME Section I (1989 Edition), which shall have three (3) or more gauge cocks located within the range of the visible length of the water glass, except if the boiler has two (2) water glasses with independent connections to the boiler located on the same horizontal lines and not less than two (2) feet apart. Two (2) gauge cocks shall be sufficient for boilers not over thirty-six (36) inches in diameter in which the heating surface does not exceed 100 square feet.

(c) Each automatically fired boiler shall comply with ASME Section I.

(d) For an installation in which the water gauge glass or glasses are more than thirty (30) feet from the boiler operating floor, water level indicating or recording gauges shall be installed at eye height from the operating floor.

(11) Pressure gauges.

(a)

1. Each boiler shall have a pressure gauge connected to the steam space or to the water column or its steam connection.

2. The pressure gauge shall be connected to a siphon or equivalent device of sufficient capacity to keep the gauge tube filled with water and so arranged that the gauge cannot be shut off from the boiler except by a cock placed near the gauge 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.

3. The dial of the pressure gauge shall be graduated to approximately double the pressure at which the safety valve is set, but, in no case to less than one and one-half (1 1/2) times the pressure.

(b) If a pressure gauge connection longer than eight (8) feet becomes necessary, a shutoff valve shall be used near the boiler provided the valve is of the outside screw and yoke type and is locked or wired open.

(c) Each boiler shall be provided with a one-fourth (1/4) inch nipple and globe valve connected to the steam space for the exclusive purpose of attaching a test gauge if the boiler is in service so that the accuracy of the boiler pressure gauge may be ascertained.

(12) Stop valves.

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

(b)

1. If a boiler provided with a manhole is connected to a common main, the steam or high temperature water connection from the boiler shall be fitted with two (2) stop valves having an ample free blow drain between them.

2. The discharge of this drain shall be visible to the operator while manipulating the valves and shall be piped clear of the boiler setting.

3. The stop valves shall consist of one (1) automatic nonreturn valve (set next to the boiler) and a second valve of the outside screw and yoke type shall be installed in accordance with ASME Section I.

(13) Blow-off piping.

(a)

1. The construction of the setting around each blow-off pipe shall permit free expansion and contraction.

2. Attention shall be given to the problem of sealing the setting openings without restricting the movement of the blow-off piping.

3. All blow-off piping, if exposed to furnace heat, shall be protected by firebrick or other heat resisting material constructed to allow close inspection of the piping.

(b)

1. If the maximum allowable working pressure (MAWP) exceeds 100 psig, blow-off piping shall be extra heavy from the boiler to the valve or valves, and shall be run full size without use of reducers or bushings.

2. The piping shall be of extra heavy wrought iron or steel and shall not be galvanized.

3. All fittings between the boiler and blow-off valve shall be steel or extra heavy fittings of malleable iron.

4. In case of renewal of blow-off pipe or fittings, installation shall be in accordance with 815 KAR 15:025.

(14) Blowdown valves.

(a)

1. Ordinary type straight-run globe valves in which dams or pockets may exist for the collection of sediment shall not be used.

2. Straightway Y-type globe valves or angle valves may be used in vertical pipes or in horizontal runs of piping if the pipe is so constructed or installed allowing the lowest edge of the opening through the seat to be at least twenty-five (25) percent of the inside diameter below the center line of the valve.

(b)

1. The blow-off valve or valves and the pipe between them and the boiler shall be of the same size except if a larger pipe for the return of condensation is used as provided for by ASME Section I.

2. On all boilers, except those used for high temperature water, traction or portable purposes, if the allowable working pressure exceeds 100 psi, each bottom blow-off pipe shall have two (2) slow-opening valves, or one (1) slow-opening valve and a quick-opening valve, or a cock complying with the requirements of ASME Section I.

(c)

1. If a blow-off cock is used, the plug shall be held in place by a guard or gland and the plug shall be distinctly marked in line with the passage.

2. A slow-opening valve requires at least five (5) 360-degree turns of the operating mechanism to change from full-closed to full-opening, or vice versa.

(d)

1. If a boiler has multiple blow-off pipes, and has a single master valve placed on the common blow-off pipe from the boiler, only one (1) valve on each individual blow-off shall be required. In this case, either the master valve or the individual valves or cocks shall be of the slow-opening type, or a slow-opening valve and a quick-opening valve or cock may be combined in one (1) body and may be used if the combined fitting is the equivalent of two (2) independent slow-opening valves or a slow-opening valve and a quick-opening valve or cock and if the failure of one (1) to operate cannot affect the operation of the other.

2. The bottom blow-off pipes of every traction engine or portable boiler shall have at least one (1) slow-opening or quick-opening blow-off valve or cock conforming to the requirements of ASME Section I.

3. Only one (1) blow-off valve, which shall be of a slow-opening type, shall be required on forced circulation and electric boilers having a normal water content not exceeding 100 gallons.

(15) Boiler blowoff equipment.

The blowdown from a boiler or boilers that enters a sanitary sewer system or blowdown that is considered a hazard to life or property shall pass through some form of blowoff equipment that will reduce pressure and temperature as required hereinafter.

(a) The temperature of the water leaving the blowoff equipment shall not exceed 150 degrees Fahrenheit.

(b) The pressure of the blowdown leaving any type of blowoff equipment shall not exceed five (5) psig.

(c) The blowoff piping and fittings between the boiler or boilers and the blowoff tank(s) shall comply with ASME Section I, Paragraphs PG-58 and PG-59.

(d) The blowoff tank construction shall comply with ASME Section VIII.

(e) All materials used in the fabrication of boiler blowoff equipment shall comply with Material of ASME Section II.

(f) If a steam separator is used, the separator shall be designed to withstand at least twice the operating pressure of the separator and shall be equipped with a vent, inlet, outlet, and a pressure gauge.

(g) All blowoff equipment shall be fitted with openings to facilitate cleaning and inspection.

(h) A copy of a booklet for the design, construction and arrangement of boiler blowoff equipment may be obtained from the National Board of Boiler and Pressure Vessel Inspectors, whose address is 1055 Crupper Avenue, Columbus, Ohio 43229.

(16) Piping.

(a) Boiler external piping shall be attached in accordance with ASME Section I and B31.1.

(b)

1. If two (2) or more boilers with manholes are connected to a common steam or high temperature water main or header, all welded external piping from the boiler out to the second stop valve shall be installed by a manufacturer or contractor authorized to use any one (1) of the ASME Code symbol stamps for pressure piping, power boilers, or assembly stamps.

2. The piping or fittings, adjacent to the welded joint farthest from the boiler, shall be stamped with the pressure piping, power boiler, or assembly code symbol stamp of the ASME when approved by the boiler inspector, special inspector, or owner-user inspector.

(Recodified from 806 KAR 50:165, 7-5-1978; Am. 16 Ky.R. 67; eff. 8-22-1989; 20 Ky.R. 2731; 2981; eff. 5-18-1994; TAm eff. 8-9-2007; 42 Ky.R. 1631; 2116; eff. 2-5-2016.)

815 KAR 15:051. Heating boiler supplemental requirements - steam heating, hot water heating, and hot water supply boilers.

RELATES TO: KRS 236.030

STATUTORY AUTHORITY: KRS 236.030

NECESSITY, FUNCTION, AND CONFORMITY: KRS 236.030 authorizes the commissioner, through the Board of Boiler and Pressure Vessel Rules, to fix reasonable standards for the safe construction, installation, inspection, and repair of boilers and pressure piping. This administrative regulation establishes requirements for heating boilers which supplement the basic requirements for all vessels set forth in 815 KAR 15:025 and 815 KAR 15:026..

Section 1. New Installations.

(1) All hot water supply, hot water, and steam heating boilers, except reinstalled boilers and those approved under the "state special design" provisions of 815 KAR 15:025, Section 5, shall be constructed, stamped, inspected, and installed in conformity with the ASME Boiler and Pressure Vessel Code Section IV, as established by KRS 236.040(2). A boiler or pressure vessel shall comply with all other applicable provisions of 815 KAR Chapter 15.

(2) Safety valve requirements for steam boilers.

(a)

1. Each steam boiler shall have one (1) or more officially rated safety valve of the spring-pop type adjusted and sealed to discharge at a pressure not to exceed fifteen (15) psi.

2. A seal shall be attached in a manner to prevent the valve from being taken apart without breaking the seal.

3. A safety valve shall be arranged so that the valve cannot be reset to relieve at a higher pressure than the maximum allowable working pressure (MAWP) of the boiler.

4. A body drain connection below seat level shall be provided by the manufacturer, and this drain shall not be plugged during or after field installation.

5. For an iron or steel bodied valve exceeding two (2) inch pipe size, the drain hole, or holes, shall be tapped not less than three-eighths (3/8) inch pipe size.

6. For a valve two (2) inch pipe size or less, the drain hole shall not be less than one-fourth (1/4) inch in diameter.

(b) A safety valve for a steam boiler shall not be smaller than one-half (1/2) inch. A safety valve shall not be larger than four and one-half (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 a valve, or valves, shall be governed by the capacity-marking on the boiler.

(d)

1. The minimum valve capacity in pounds per hour shall be the greater value as determined by the methods established in this paragraph.

a. The maximum BTU output obtained at the boiler nozzle shall be divided by 1,000.

b. The pounds of steam generated per hour per square foot of boiler heating surface shall be calculated in accordance with Table A.

TABLE A			
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
Waterwall Heating Surfaces			
	Hand fired	8	8
	Stoker fired	10	12
	Oil, gas or pulverized fuel fired	14	16

2. If a boiler is fired only by a gas having a heat value not exceeding 200 BTU per cubic foot, the minimum safety valve or safety relief valve relieving capacity shall be based on the values given for hand fired boilers.

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

4. Heating surface determination shall be calculated in accordance with ASME Code for Heating Boilers, paragraph HG-403.

(e) The safety valve capacity for each steam boiler shall be sufficient to prevent the pressure from rising more than five (5) psi above the maximum allowable working pressure (MAWP) if the fuel-burning equipment is installed and operated at maximum capacity.

(f) If operating conditions are changed or additional boiler heating surface is installed, the valve capacity shall be increased, if necessary, to meet the new conditions and be in accordance with paragraph (e) of this subsection. If an additional valve is required, the valve may be installed on the outlet piping if there is no intervening valve.

(g) In all cases, the pressure relieving capacity of the safety valve or safety relief valve shall equal or exceed the maximum possible output capacity of the boiler.

(h) Materials that are likely to fail due to deterioration or vulcanization if subjected to saturated steam temperature corresponding to capacity test pressure shall not be used.

(3) Safety relief valve requirements for hot water heating boilers and hot water supply boilers.

(a) Each hot water heating boiler shall have at least one (1) officially rated pressure relief valve set to relieve at or below the maximum allowable working pressure (MAWP) of the boiler.

(b) Each hot water supply boiler shall have at least one (1) officially rated pressure and temperature safety relief valve of the automatic-reseating type, set to relieve at or below the maximum allowable pressure of the boiler.

(c) A safety relief valve officially rated as to capacity shall have pop opening action.

(d) If more than one (1) safety relief valve is used on either hot water heating or hot water supply boilers, the additional valve or valves shall be officially rated and may be set within a range not to exceed six (6) psi above the maximum allowable working pressure (MAWP) up to and including exceeding sixty (60) psi and five (5) percent for those having a maximum allowable working pressure (MAWP) exceeding sixty (60) psi, shall be spring loaded and shall be arranged to prevent resetting at a higher pressure than the maximum permitted in this subsection.

(e)

1. Except as provided in subparagraph 2. of this paragraph, a safety relief valve shall not be smaller than three-fourths (3/4) inch, nor larger than four and one-half (4 1/2) inches, standard pipe size.

2. A boiler having a heat input not greater than 15,000 BTU per hour may be equipped with a rated safety relief valve of one-half (1/2) inch, standard pipe size, if:

a. The inlet opening shall have an inside diameter approximately equal to, or greater than, the seat diameter; and

b. The minimum opening through any part of the valve shall not be less than one-fourth (1/4) inch diameter, or its equivalent area.

(f) The minimum relieving capacity of the safety relief valve shall be equal to or exceed the maximum BTU output of the boiler.

(g) If operating conditions are changed or additional boiler heating surface is installed, the valve capacity shall be increased, if necessary, to meet the new conditions and shall be in accordance with paragraph (h) of this subsection. The additional valves required may be installed on the outlet piping if there is no intervening valve.

(h) Safety relief valve capacity for each boiler with a single safety relief valve shall be sufficient to ensure that, with the fuel burning equipment installed and operated at maximum capacity, the pressure shall not rise more than ten (10) percent above the maximum allowable working pressure (MAWP) if more than one (1) safety relief valve is used, and the over pressure shall be limited to ten (10) percent above the set pressure of the highest set valve allowed by subsection (2) of this section.

Section 2. Mechanical Couplings for Heating and Hot Water Supply Boilers.

(1) Design limits. If mechanical pipe couplings are used, the pipe, fittings, couplings, and gaskets shall have design ratings by the manufacturer that meet or exceed the operating control settings of the boiler itself and shall comply with this section.

(2) Materials used and location.

(a) Piping materials listed in the ASME Code, Section IV, shall be used up to the first stop valve on supply and return piping. Mechanical pipe couplings shall not be used prior to the first stop valve.

(b) Mechanical pipe couplings tested and listed by a nationally recognized testing laboratory shall be permitted in lieu of flanged, threaded, or welded joints within the complete pressure piping system of boilers in which the operating temperature and operating pressure shall not exceed the manufacturer's designed pressure/temperature rating.

(c) All mechanical pipe couplings shall be fabricated and installed in accordance with the manufacturer's written procedures and using only factory approved tooling.

(d) A mechanical coupling shall not be installed unless the temperature controls on the boiler are permanently set to prevent operation in excess of the manufacturer's designed temperature rating.

(3) Tests. The mechanical coupling shall be subjected to the same hydrostatic pressures as are applied to test the strength of the boiler (for example, up to one and one-half (1 1/2) times the maximum allowable pressure of the boiler).

(4) Certification by the contractor. The contractor shall document to the boiler inspector, special inspector, or owner's piping inspector that the mechanical joints conform to the design and were installed to comply with the manufacturer procedures, utilizing the materials and equipment specified and that the temperature and pressure ranges comply with subsection (2)(b) of this section.

Section 3. Existing Installations, Heating Boilers.

(1) ASME Code boilers. The maximum allowable working pressure of a boiler built in accordance with the ASME Code shall not exceed the pressure indicated by the manufacturer's identification stamped or cast upon the boiler or upon a plate secured to it.

(2) Noncode riveted boilers. The maximum allowable working pressure (MAWP) on the shell of a noncode riveted heating boiler shall be determined in accordance with 815 KAR 15:040, Section 2 (power boiler installations) except that the maximum allowable working pressure (MAWP) of a steam boiler shall not exceed fifteen (15) psi or a hot water boiler shall not exceed 160 psi at a temperature not to exceed 250 degrees Fahrenheit.

(3) Noncode welded boilers. The maximum allowable working pressure (MAWP) of a noncode steel or wrought iron heating boiler of welded construction shall not exceed fifteen (15) psi. For other than steam service, the maximum allowable working pressure (MAWP) shall be calculated in accordance with Section IV of the ASME Boiler and Pressure Vessel Code, as established by KRS 236.040(2).

(4) Noncode cast iron boilers.

(a) The maximum allowable working pressure (MAWP) of a noncode boiler, composed principally of cast iron, shall not exceed fifteen (15) psi for steam service or thirty (30) psi for hot water service.

(b) The maximum allowable working pressure (MAWP) of a noncode boiler having cast iron shell or heads and steel or wrought iron tubes shall not exceed fifteen (15) psi for steam service or thirty (30) psi for water service.

(5) Hydrostatic tests.

(a) If a repair is necessary that affects the working pressure or safety of a boiler, the boiler repair shall be subjected to a hydrostatic test of the greater of sixty (60) psig or one and one-half (1 1/2) times the maximum allowable working pressure (MAWP) that is stamped on the boiler.

(b) In making a hydrostatic pressure test, the pressure shall be controlled to prevent the required test pressure from being exceeded by more than ten (10) psig.

(c) Hydrostatic test water shall be at no less than ambient room temperature, but in no case less than seventy (70) degrees Fahrenheit for boilers and thirty (30) degrees Fahrenheit above the minimum design metal temperature for pressure vessels, nor high enough to allow the metal temperature to exceed 120 degrees Fahrenheit.

(d) The safety valve or safety relief valve shall be removed or each valve disc shall be held to its seat by means of a testing clamp.

(e) To test for tightness, the test pressure shall be equal to the relieving pressure of the safety valve having the lowest relief setting.

(6) General.

If the boiler inspector or special inspector finds that a steam heating boiler is unsafe for operation at the pressure previously approved, the pressure shall be reduced, proper repair made, or the boiler retired from service.

(7 Ky.R. 386; eff. 11-6-1980; Am. 20 Ky.R. 2735; 2985; eff. 5-18-1994; TAm eff. 8-9-2007; 42 Ky.R. 1636; 2121; eff. 2-5-2016.)

815 KAR 15:060. Nuclear vessel requirements.

RELATES TO: KRS Chapter 236

STATUTORY AUTHORITY: KRS 236.030

NECESSITY, FUNCTION, AND CONFORMITY: KRS 236.030 authorizes the commissioner, through the Board of Boiler and Pressure Vessel Rules, to fix reasonable standards for the safe construction, installation, inspection, and repair of boilers and pressure piping. This administrative regulation establishes the basic requirements for nuclear vessels..

Section 1. Nuclear Vessels.

(1) ASME, National Board stamping. All nuclear vessels covered under the scope of Section III of the ASME Boiler and Pressure Vessel Code, as established by KRS 236.040(2), shall be constructed, stamped, and installed in accordance with the boiler safety rules of the latest edition of ASME Section III, together with the addenda and code cases. Each vessel shall be registered with the National Board and stamped to indicate the vessel's registration.

(2) Responsibilities of parties involved.

(a)

1. The various parties involved in the work of producing vessels under ASME Section III have definite responsibilities in meeting code requirements.

2. The owner requiring that a vessel or vessels be designed, constructed, tested, and certified to be a code vessel in compliance with the code shall provide a diagram of each vessel, a specification related to operating conditions in sufficient detail to provide a complete basis for design, construction, and inspection in accordance with the code.

3. The diagram shall be treated as a data report form and attached to the other data forms to create a master report, which shall be registered with the Boiler Inspection Section, Division of Plumbing, Department of Housing, Buildings and Construction, 101 Sea Hero Road, Suite 100, Frankfort, Kentucky 40601-5412.

(b) Design specifications certified. The design specifications shall be certified as to compliance with the above requirements and ASME Section III by a registered professional engineer experienced in nuclear pressure vessel design.

(3) Inspections and tests.

(a) The boiler inspector and the special inspector shall make all inspections specified by ASME Section III and other inspections and tests the boiler inspector or special inspector determines are necessary to verify that the equipment is fabricated and installed in accordance with requirements of the code.

(b) Inspections and tests of nuclear vessels shall be made only by a boiler inspector qualified as an authorized nuclear inspector pursuant to ASME Section III.

(4) Field inspections.

(a) Upon completion of installation, the vessel and associated piping shall be inspected by a boiler inspector qualified as an authorized nuclear inspector pursuant to Article N-612, ASME Section III and commissioned to inspect pressure vessels in this commonwealth. A vessel composed of two (2) or more pressure retaining compartments shall constitute one (1) complete unit for the purpose of assigning and stamping the serial number.

(b) Recurring inspections. Recurring inspections of nuclear vessels in service shall be made only by a boiler inspector or special inspector qualified as an authorized nuclear in-service inspector.

Recodified from 806 KAR 50:175, 7-5-1978; Am. 20 Ky.R. 2738; eff. 5-18-1994; TAm eff. 8-9-2007; 42 Ky.R. 1639; eff. 2-5-2016.)

815 KAR 15:080. Licensing for boiler and pressure vessel contractors, owner facilities, owner's piping inspectors, and independent inspection agencies.

RELATES TO: KRS 236.097, 236.210

STATUTORY AUTHORITY: KRS 236.030, 236.097, 236.210(3)

NECESSITY, FUNCTION, AND CONFORMITY: KRS 236.210 authorizes the commissioner, through the Board of Boiler and Pressure Vessel Rules to establish reasonable fees for the licensing of all new boiler and pressure vessel contractors. KRS 236.030 authorizes the commissioner, through the Board of Boiler and Pressure Vessel Rules, to fix reasonable standards for the safe construction, installation, and repair of boilers, pressure vessels, and associated pressure piping in Kentucky. KRS 236.097 requires criteria and fees for the issuance of owner facility, owner's piping inspector, and independent inspection agency licenses, and requires the department to develop the applications required for the issuance and renewal of these licenses. This administrative regulation establishes the fees, standards, and forms incident to the licensing of boiler and pressure vessel contractors, owner facilities, owner's piping inspectors, and independent inspection agencies.

Section 1. Boiler and Pressure Vessel Contractors.

(1) A boiler and pressure vessel contractor required by KRS 236.210 to be licensed shall comply with the requirements of this section.

(2) An applicant for a boiler and pressure vessel contractor license shall submit to the Boiler Inspection Section:

- (a) Proof that the applicant is eighteen (18) years of age or older;
- (b) A completed, signed, and notarized Boiler and Pressure Vessel Contractor License Application on Form PLB-BPV-1;
- (c) A passport-sized, color photograph of the applicant taken within the past six (6) months; and
- (d) A nonrefundable license fee of \$250 payable to the Kentucky State Treasurer.

(3)

(a) An applicant for a boiler and pressure vessel contractor license shall take and pass the examination required by KRS 236.210 before an initial license may be issued under this section.

(b) The applicant shall successfully complete the examination with a passing score of at least seventy (70) percent.

(c) A passing score on the examination shall be valid for a period of ten (10) years.

(4)

(a) A boiler and pressure vessel contractor license shall expire on the last day of the licensee's birth month unless renewed in accordance with subsection (6) of this section.

(b) If an initial license is for a period of less than twelve (12) months, the initial application and testing fee shall be reduced on a pro rata basis.

(c) The initial license fee shall not be prorated for less than seven (7) months.

(5) Termination of application.

(a) The initial application shall remain pending for up to one (1) year after the date the application is submitted, in order to afford the applicant additional time to satisfy the requirements of subsections (2) and (3) of this section.

(b) At the end of one (1) year, the application shall be void.

(6) License Renewal.

(a) Renewal of a license issued under this section shall be renewed on or before the expiration date of the license.

(b) An applicant for renewal of a boiler and pressure vessel contractor license shall submit to the Boiler Inspection Section:

1. A completed, signed, and notarized Boiler and Pressure Vessel Contractor Renewal Application on Form PLB-BPV-2; and

2. A nonrefundable annual renewal fee of \$175 payable to the Kentucky State Treasurer.

(7) A boiler or pressure vessel contractor shall provide general supervision to and be primarily responsible for all work performed by the licensee's employees.

(8) A boiler or pressure vessel contractor who is an employee of a company and whose license represents the company shall, within thirty (30) days of the occurrence, provide written notice to the department of:

(a) The termination of the licensee's employment by or representation of the company; or

(b) Any change in the name of the company.

Section 2. Owner Facilities.

(1) An owner facility seeking to be licensed pursuant to KRS 236.210(1) shall comply with the requirements of this section.

(2) An applicant for an owner facility license shall submit to the Boiler Inspection Section:

(a) A completed, signed, and notarized Owner Facility License Application on Form PLB-BPV-3; and

(b) The fee required by KRS 236.097(1)(d), payable to the Kentucky State Treasurer.

(3) An owner facility license shall expire after a period of two (2) years, on the last day of the month in which the license was initially issued, unless renewed in accordance with subsection (4) of this section.

(4) License Renewal.

An applicant for renewal of an owner facility license issued in accordance with this section shall, by no later than sixty (60) days prior to the expiration of the license, submit to the Boiler Inspection Section:

(a) A completed, signed, and notarized Owner Facility Renewal Application on Form PLB-BPV-4; and

(b) The fee required by KRS 236.097(1)(f), payable to the Kentucky State Treasurer.

(5) An owner facility licensed under this section shall be permitted to conduct that owner facility's own site piping inspections, other than for boiler external piping, in lieu of an inspection by the department, in accordance with KRS 236.097 and this administrative regulation.

(6) An owner facility shall not conduct, or allow to be conducted, any piping inspections under the owner facility's license unless the inspector performing the inspection is licensed pursuant to either Section 3 or Section 4 of this administrative regulation.

Section 3. Owner's Piping Inspectors.

(1) An owner's piping inspector required to be licensed pursuant to KRS 236.210(2) shall comply with the requirements of this section.

(2) An applicant for an owner's piping inspector license shall submit to the Boiler Inspection Section:

(a) Proof that the applicant is eighteen (18) years of age or older;

(b) A completed, signed, and notarized Owner's Piping Inspector License Application on Form PLB-BPV-5;

(c) A passport-sized, color photograph of the applicant taken within the past six (6) months; and

(d) The nonrefundable fee required by KRS 236.097(2)(c), payable to the Kentucky State Treasurer.

(3)

(a) An owner's piping inspector license shall expire on the last day of the licensee's birth month in the second year following the issue date unless renewed in accordance with subsection (4) of this section.

(b) If an initial license is for a period of less than twenty-four (24) months, the initial license fee shall be prorated in accordance with KRS 236.097(2)(d).

(4) License Renewal.

An applicant for renewal of an owner's piping inspector license issued in accordance with this section shall, on or before the expiration of the license, submit to the Boiler Inspection Section:

(a) A completed, signed, and notarized Owner's Piping Inspector Renewal Application on Form PLB-BPV-6; and

(b) The fee required by KRS 236.097(2)(f), payable to the Kentucky State Treasurer.

Section 4. Independent Inspection Agencies.

(1) An independent inspection agency required to be licensed pursuant to KRS 236.210(3) shall comply with the requirements of this section.

(2) An applicant for an independent inspection agency license shall submit to the Boiler Inspection Section:

(a) A completed, signed, and notarized Independent Inspection Agency License Application on Form PLB-BPV-7; and

(b) The fee required by KRS 236.097(3)(b), payable to the Kentucky State Treasurer.

(3) An independent inspection agency license shall expire after a period of two (2) years, on the last day of the month in which the license was initially issued, unless renewed in accordance with subsection (4) of this section.

(4) License Renewal.

An applicant for renewal of an independent inspection agency license issued in accordance with this section shall, on or before the expiration of the license, submit to the Boiler Inspection Section:

(a) A completed, signed, and notarized Independent Inspection Agency Renewal Application on Form PLB-BPV-8; and

(b) The fee required by KRS 236.097(3)(e), payable to the Kentucky State Treasurer.

Section 5. Incorporation by Reference.

(1) The following material is incorporated by reference:

- (a) Form PLB-BPV-1, "Boiler and Pressure Vessel Contractor License Application", December 2014;
- (b) Form PLB-BPV-2, "Boiler and Pressure Vessel Contractor Renewal Application", December 2014;
- (c) Form PLB-BPV-3, "Owner Facility License Application", December 2014;
- (d) Form PLB-BPV-4, "Owner Facility Renewal Application", December 2014;
- (e) Form PLB-BPV-5, "Owner's Piping Inspector License Application", December 2014;
- (f) Form PLB-BPV-6, "Owner's Piping Inspector Renewal Application", December 2014;
- (g) Form PLB-BPV-7, "Independent Inspection Agency License Application", December 2014: and
- (h) Form PLB-BPV-8, "Independent Inspection Agency Renewal Application", December 2014.

(2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Office of Housing, Buildings and Construction, Boiler Section, 101 Sea Hero Road, Suite 100, Frankfort, Kentucky 40601-5412, Monday through Friday, 8 a.m. to 4:30 p.m.

(13 Ky.R. 1211; eff. 1-13-1987; Am. 20 Ky.R. 2739; eff. 5-18-1994; 24 Ky.R. 956; eff. 12-15-1997; 27 Ky.R. 3373; eff. 8-15-2001; 31 Ky.R. 1748; 32 Ky.R. 83; eff. 7-27-2005; 42 Ky.R. 1641; eff. 2-5-2016.)

QUICK REFERENCE GUIDE

ACCESS TO PREMISES.....	KRS 236.260
ACCIDENT NOTIFICATION.....	815 KAR 15:026 section 3 (2)
ASME VESSEL REQUIRED.....	KRS 236.040 & 815 KAR 15:025 section 1
APPEAL.....	KRS 236.150
BLOWDOWN VALVES.....	815 KAR 15:040 section 2 (14)
BLOWDOWN EQUIPMENT.....	805 KAR 15:040 section 2 (15)
BOILER BOARD.....	KRS 126.020
CERTIFICATE (Operating).....	KRS 236.120 & 815 KAR 15:027 section 1
CERTIFICATE (Operating – void upon loss of insurance).....	KRS 236.120 (2)
CERTIFICATE (Suspension – not in compliance).....	KRS 236.120 (3)
CLEARANCE.....	815 KAR 15:025 section 6 (6)
DATA PLATE VISIBLE.....	815 KAR 15:040 section 2 (d)
DEFINITIONS.....	KRS 236.010 & 815 KAR 15:010
EMERGENCY STOP SWITCH.....	815 KAR 15:025 section 6 (7)
EXEMPTIONS.....	KRS 236.060
FEEDWATER SYSTEMS (power boilers).....	815 KAR 15:040 section 2 (8)
HYDROSTATIC TEST (existing boilers).....	815 KAR 15:026 section 2 (6)
INSPECTORS	
State Inspector.....	KRS 236.070
Insurance Inspector (in service).....	KRS 236.080
Owner-User Inspector.....	KRS 236.095
Owners Piping Inspector.....	KRS 236.097

INSPECTION REQUIRED.....KRS 236.110

INSPECTION FREQUENCY (in service)

 Boilers.....KRS 236.110

 Pressure vessels.....815 KAR 15:027 section 1 (7)

INSPECTION REQUEST (7 days).....815 KAR 15:025 section 4

INSPECTION FEES (shop & special).....815 KAR 15:027 section 2

KW to BTU conversion (heating boilers).....815 KAR 15:051 section 1 (2) (d) (3)

BTU to LB/HR conversion (heating boilers)...815 KAR 15:051 section 1 (2) (d) (1)

LICENSE.....KRS 236.210 & 815 KAR 15:080

LICENSE (revocation / suspension).....KRS 236.220

NATIONAL BOARD NUMBER (required).....815 KAR 15:025 section 2

NBIC (Part 1 “Installation”) *.....815 KAR 15:025 section 7

*Where the NBIC and KRS/KAR may disagree, KRS/KAR is to be followed.

NBIC (Part 3 “Repairs and Alterations”).....815 KAR 15:026 section 9

NDE (Non Destructive Examination).....815 KAR 15:025 section 3 (6)

PERMIT REQUIRED.....KRS 236.240

PERMIT (number of inspections allowed).....KRS 236.240 (3)

PERMIT (Emergency Repairs).....KRS 236.250

PENALTIES.....KRS 236.990

PIPING

ASME Code compliance.....	815 KAR 15:025 section 1 (4)
Systems Regulated.....	KRS 236.060 (4)
Materials Inspected.....	KRS 236.040 (2)
No paint / No covering.....	KRS 236.110 (f) & (g)
Mechanical Joints (heating boilers).....	815 KAR 15:051 section 2
Design Pressure & Temperature.....	815 KAR 15:025 section 1 (4) (e & f)
Welding.....	815 KAR 15:025 section 1 (5)
Inspection.....	815 KAR 15:025 section 3 (8)

PLAN REVIEW.....815 KAR 15:027 section 4

PRESSURE REDUCING VALVES.....815 KAR 15:025 section 6 (4)

REPAIRS.....815 KAR 15:026 section 5

National Board compliance / “R” stamp.....	815 KAR 15:026 section 5 (b)
Permit required.....	815 KAR 15:026 section 5 (a)

SAFETY VALVES

Pressure Vessels.....	815 KAR 15:040 section 1 (3) (a)
Discharge piping.....	815 KAR 15:025 section 6 (3)
Accessible.....	815 KAR 15:040 section 1 (3) (e)
Power Boilers.....	815 KAR 15:040 section 2 (7)
Heating Boilers.....	815 KAR 15:051 section 1 (2) & (3)

STATE SPECIAL.....815 KAR 15:025 section 5

STEAM STOP VALVES (non-return).....815 KAR 15:040 section 2 (12)

USED BOILERS / VESSELS.....815 KAR 15:026 section 4

WELDING / WELDER QUALIFICATIONS.....815 KAR 15:025 section 3 (5)

BOILER SECTION WEBSITE

dhbc.ky.gov/boilers

The boiler section website is a useful source of information. The following can be found there:

- a) Contact information for the office in Frankfort, KY.
- b) Map of assigned territories / counties for state boiler inspectors. Find the inspector for your location.
- c) The FORMS PAGE has all of the necessary forms that can be downloaded for:
 - I) License Application
 - II) License Renewal
 - III) Plan Review
 - IV) Permit Applications (Boiler, Pressure Vessel, & Pressure Piping)
 - V) Repair* Click on the (instructions) for each of the forms
- d) Most up-to-date OFFICIAL versions of KRS 236 and 815 KAR

ASME (AMERICAN SOCIETY OF MECHANICAL ENGINEERS)

Throughout this text, reference is made to the ASME Boiler and Pressure Vessel Code. Several sections require that in addition to compliance with the state code, work must also comply with the ASME code.

The sections of the ASME code which are most applicable are:

Section I:	Power Boilers
Section IV:	Heating Boilers
Section V:	Non-Destructive Testing
Section VIII (Div I):	Pressure Vessels
Section IX:	Welding
B31.1	Power Piping
B31.3	Process Piping
B31.5	Refrigeration Piping
B31.9	Building Services Piping
B31.12	Hydrogen Piping (if installing hydrogen fueling stations)

License holders are not required to have any of these in their possession. However, this list is a good place to start if needed.

NBIC (NATIONAL BOARD INSPECTION CODE)

Throughout this text, reference is made to the NBIC. The sections of the NBIC code are:

Part 1 – Installation

Part 2 – Inspection

Part 3 – Repairs and Alterations

License holders are not required to have any of these in their possession. However, license holders are required to meet the requirements of these parts, so it is advisable to have at least Part 1.

License holders that perform repairs are required to have a National Board “R” stamp. There are certain exceptions to the “R” stamp requirement. Please check the website for current exceptions (check instructions for repair permit).