TITLE 680 BOILER AND PRESSURE VESSEL RULES BOARD

NOTE: Originally adopted by the Indiana Boiler and Pressure Vessel Board. Name changed by P.L.245-1987, SECTION 1, effective July 1, 1987.

ARTICLE 1. GENERAL PROVISIONS (REPEALED)

(Repealed by Boiler and Pressure Vessel Rules Board; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1138)

ARTICLE 2. GENERAL PROVISIONS

Rule 1. Adoption by Reference; Title; Scope; Applicability; Classification; Availability of Rule; Violations; Penalties; Appeals

680 IAC 2-1-1 Adoption by reference; approval of revisions

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-12-7; IC 22-13-2; IC 22-15-5; IC 22-15-6

Sec. 1. (a) Those certain four (4) documents, being titled:

(1) the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, 1992 edition, published by the American Society of Mechanical Engineers, 345 East 47th Street, New York, New York 10017-2392;

(2) the American Petroleum Institute - American Society of Mechanical Engineers Code for Unfired Pressure Vessels, 1951 edition, published by the American Society of Mechanical Engineers and the American Petroleum Institute, 345 East 47th Street, New York, New York 10017-2392;

(3) the National Board of Boiler and Pressure Vessel Inspectors Inspection Code, 1992 edition, published by the National Board of Boiler and Pressure Vessel Inspectors, 1055 Crupper Avenue, Columbus, Ohio 43229; and

(4) the American Petroleum Institute 510 Pressure Vessel Inspection Code, Seventh Edition 1992, published by the American Petroleum Institute, 2101 L Street, NW, Washington, D.C. 20037;

are hereby adopted by reference, as provided for in other sections of this article, and as if fully set out in this rule for new construction, and as specifically set forth in subsection (b).

(b) As incorporated by reference in Sec. (a)(1) *[sic., subsection (a)(1)]*, the adoption of the American Society of Mechanical Engineers Code shall be limited to the following sections:

(1) Section I Power Boilers.
(2) Section II Material Specifications.
(3) Section III Nuclear Power Plant Components.
(4) Section IV Low Pressure Heating Boilers.
(5) Section V Nondestructive Examination.
(6) Section VIII Division 1 and Division 2 Pressure Vessels.
(7) Section IX Welding Qualifications.

(c) No revision, amendment, or interpretation of any of the codes adopted by the rules board as specified in IC 22-12-4 shall apply in any way to regulated boilers or unfired pressure vessels unless and until it shall have been approved and adopted by the rules board under IC 22-13-2-8.

(d) The adoption of documents by reference in subsection (a) shall not allow a delegation of authority in conflict with that for the rules board as set forth at IC 22-12-7, IC 22-13-2, and IC 22-15-6 nor for the office of the state building commissioner as set forth at IC 22-12-7, IC 22-5-2 *[sic.]*, and IC 22-15-5. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-1-1; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1110; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-1-2 Title; scope; applicability

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-12-7; IC 22-13-2-11

Sec. 2. (a) This rule shall be known as the Indiana Boiler and Pressure Vessel Rules.

(b) The purpose of this article shall be to specify minimum standards that govern the construction, installation, inspection, and repair of regulated boilers and unfired pressure vessels in Indiana.

(c) This article does not presume to limit in any way the builder's right to choose any method of design or form of construction that conforms to the standards prescribed, or provided for in this article, as such standards cover certain fundamental features of construction and leave a number of details to the judgment of designers and acceptance of inspectors.

(d) Any condition not covered by this article shall comply with the applicable provisions of the ASME code or the API-ASME code. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-1-2; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1110; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-1-3 Classification; availability of rule

Authority: IC 22-13-2-8
Affected: IC 22-12-1-11; IC 22-12-4; IC 22-12-7; IC 22-13-2-11

Sec. 3. (a) This article is classified as an equipment rule as set forth in IC 22-12-1-11.

(b) This article and documents incorporated therein are available from the Department of Fire and Building Services, Indiana Government Center-South, 402 West Washington Street, Room W246, Indianapolis, Indiana 46204. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-1-3; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1110; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-1-4 Violations; appeals

Authority: IC 22-13-2-8
Affected: IC 4-21.5-3; IC 22-12-4; IC 22-12-7; IC 22-13-2-11; IC 22-15-6-3

Sec. 4. (a) Any person violating any of the provisions of this article is subject to action by the appropriate entity under the provisions of IC 22-12-7.

(b) Any person aggrieved or adversely affected by any order issued by the office or the board shall have the right to an administrative review as set forth in IC 22-12-7 and IC 4-21.5-3. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-1-4; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1110; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-1-5 Exemptions

Authority: IC 22-13-2-8
Affected: IC 22-12-1-20; IC 22-12-4; IC 22-12-7; IC 22-13-2-11; IC 22-15-6-1

Sec. 5. (a) Boilers and pressure vessels are exempt from this article as set forth in IC 22-12-1-20.

(b) Regulated boilers and pressure vessels are exempt from inspection programs and operating permit requirements as set forth in IC 22-15-6-1.

(c) The following regulated objects are covered under the scope of the permit for the system of which they are a part and do not require separate operating permits; however, they must meet all other requirements of IC 22-15-6 and this article:

(1) Expansion tanks located within a system wherein the boiler in that system is regulated with the division.

(2) Hot water storage tanks which contain only water under pressure under the following conditions:

(A) Temperature not to exceed two hundred ten degrees Fahrenheit (210°F).

(B) Protected from overpressure.

(3) Refrigeration vessels located in a system of refrigeration wherein said system is regulated with the division.

(Boiler and Pressure Vessel Rules Board; 680 IAC 2-1-5; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1111; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)

Rule 2. Variances

680 IAC 2-2-1 Purpose

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-12-7; IC 22-13-2-11

Sec. 1. The purpose of this rule is to establish administrative procedures and general provisions for the rules board in the

exercising of its variance authority under IC 22-13-2-11. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-2-1; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1111; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-2-2 Statutory authority

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-12-7; IC 22-13-2-11

Sec. 2. (a) The rules board may grant a variance to a rule it has adopted under the provisions of IC 22-13-2-11.

(b) Where special designs do not comply with the standards provided in this article, their construction shall be approved in accordance with the variance procedure established in IC 22-13-2-11 and set forth in this rule. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-2-2; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1111; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-2-3 Application process

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-12-6-6; IC 22-12-7; IC 22-13-2-11

Sec. 3. (a) An applicant for a variance shall do the following:

(1) Submit request to the rules board containing the information required by section 4 of this rule.

(2) Pay the fee required under IC 22-12-6-6 by a check or money order payable to the Boiler and Pressure Vessel Safety Division.

(b) An applicant may be the owner or user.

(c) An application may be submitted by the applicant or on the applicant's behalf by a representative designated by the applicant.

(d) Any revision in design of a boiler or pressure vessel made after the original application shall be resubmitted as a new application. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-2-3; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1111; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-2-4 Application

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-12-7; IC 22-13-2-11

Sec. 4. An application for a variance shall include the following:

(1) The name and address of the applicant and the name and address of the person submitting the application if it is not submitted by the applicant.

(2) The address of the premises for which the variance is being sought.

(3) Identification (by specific citation) of the rule of the rules board from which the applicant requests a variance.

(4) Two (2) of the following:

(A) A specific description of the undue hardship that compliance with this rule will impose on the applicant; and

(B) Either:

(i) a statement that noncompliance with the rule will not be adverse to the public health, safety, or welfare and a specific explanation as to why that is so; or

(ii) alternative action(s) that the applicant would be willing to undertake in lieu of compliance with the rule to ensure that the granting of the variance will not be adverse to the public health, safety, or welfare and a specific explanation as to why it or they would be adequate.

(5) Written request for permission to install a boiler or pressure vessel of special design in a specific location.

(6) Detailed shop drawings furnished to the rules board with all materials and dimensions in the English language and USA units of measurement.

(7) Calculations furnished to the rules board that are made in accordance with the applicable section of the ASME code and certified by a professional engineer licensed in Indiana.

(8) When the variance involves the use of non-ASME code approved materials, data for substitute materials.

(9) A data sheet, similar to an ASME manufacturer's data report, signed by the designated representative after fabrication is complete.

(10) Any information which the applicant believes may be helpful to the rules board and its staff in evaluating a variance request such as photographs.

(11) If the application is submitted on the applicant's behalf, a signed statement by the applicant that the applicant is aware of the variance request and that it is made on the applicant's behalf.

(12) A signed statement by the person submitting the application or the applicant that the information contained in the application is accurate.

(Boiler and Pressure Vessel Rules Board; 680 IAC 2-2-4; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1111; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)

Rule 3. Administration

680 IAC 2-3-1 Duties of director of the division

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-2-3; IC 22-15-6

Sec. 1. The director of the division shall be responsible for the conduct of the division's office and the supervision of the other employees and shall perform all other administrative functions assigned by the commissioner as set forth in IC 22-15-2-3. The director shall perform the duties of the secretary of the rules board. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-1; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1112; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-2 Registration of owner or user inspection agencies; applications; certificates of authority

Authority: IC 22-13-2-8
Affected: IC 22-12-7; IC 22-15-6; IC 25-31

Sec. 2. (a) Any person operating boilers or pressure vessels in Indiana may seek approval and licensing as an owner or user inspection agency. Application for approval consideration must be in a letter written on such applicant's own letterhead, stating the qualifications and experience of its personnel responsible for inspections of regulated equipment. This letter shall be submitted to the office of the state building commissioner. Each such application shall be accompanied by a fee of twenty-five dollars ($25) and a surety bond as set forth at IC 22-15-6-6(c)(3), which shall continue to be valid during the time the approval and certification of the firm, partnership, or corporation as an owner or user inspection agency is in effect.

(b) Application for certification shall show the name of such agency and its principal address in this state, and the name and address of the person or persons having supervision over inspections made by said agency. Such supervisory personnel shall be professional engineers licensed under IC 25-31, and regularly employed by the applicant. Changes in supervisory personnel shall be reported to the chief inspector within thirty (30) days of any such change.

(c) Each owner or user inspection agency as required by the provisions of this article shall do the following:

(1) Conduct inspections of boilers or pressure vessels not exempt by statute, utilizing only qualified inspection personnel, as provided in IC 22-15-6-5(a).

(2) Retain inspection records on file in its principal offices and at the location where the equipment is inspected, comprised of a true record or copy of each of the latest inspection reports, signed by the inspector or indicating the inspector responsible for the inspection.

(3) Do one (1) of the following:

(A) Execute and deliver to the chief inspector an annual report, or individual reports as set forth at IC 22-15-6-4(d), of the inspections made by such owner or user inspection agency during the twelve (12) month period beginning on July 1 in the preceding calendar year, and ending on June 30 in the current year, and each such report shall be filed with the chief inspector within sixty (60) days after the expiration of the period covered. All the aforementioned forms shall be printed on eight and one-half (8½) by eleven (11) inch sheets, and each inspection agency shall provide such supplies of said forms as are needed for the reports it makes unless provided by the division.

(B) Promptly notify the chief inspector in writing of any boiler or pressure vessel which does not meet the requirements

for safety.

(C) Maintain inspection records which will include a list of each boiler or pressure vessel covered by statute, showing a serial number and such abbreviated descriptions as may be necessary for identification, the date of last inspection of each item, and approximate date for next inspection, arrived at by applying the appropriate rules to all data available at the time such inspection record is compiled. Regarding frequency and type of inspection, see section 9 of this rule. Such inspection record shall be readily available for examination by the chief inspector or his authorized representative during regular business hours.

(D) Owner or user inspection agencies shall be subject to audit by the boiler and pressure vessel division prior to initial approval and at triennial intervals thereafter, at a time which is mutually agreeable to the owner or user inspection agency and the division. The audit team shall use an audit checklist as a guide in the performance of such audit. This checklist is available upon request from the division. The initial audit results shall be included as a part of the application for certificate of authority to act as an owner or user inspection agency. Successful audit results shall be included with the annual owner or user inspection report for the year in which such audit is performed and shall form a basis for continuance to act as a certified owner or user inspection agency.

(d) Any person approved by the office of the state building commissioner as an owner or user inspection agency shall be issued a certificate to act in the state as an authorized inspection agency of boilers and pressure vessels owned and operated by the person.

(e) An approved inspection agency that violates this section is subject to disciplinary action under IC 22-12-7. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-2; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1112; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-3 Inspector's license; examination; application for license

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 3. (a) Examination to determine the qualifications of a person or persons for an inspector's license shall be held at the office of the division, or at any location to be selected by the division, four (4) times each year namely, the first Wednesday of the months of March, June, September, and December. To receive consideration for taking a stated examination, an applicant must have his or her application received by the division not later than the tenth day of the month preceding the one in which the examination is scheduled to be held.

(b) Applicants for an inspector's license shall meet one (1) of the following minimum requirements for education and experience:

(1) A bachelor's degree in engineering plus one (1) year experience in design, construction, operation, or inspection power boilers and pressure vessels.

(2) An associate degree in mechanical technology plus two (2) years experience in design, construction, operation, or inspection of high pressure boilers and pressure vessels.

(3) A high school education or the equivalent plus three (3) years experience in one (1) of the following:

(A) High pressure boiler and pressure vessel construction or repair.

(B) In charge of high pressure boiler and pressure vessel operation.

(C) The inspection of high pressure boilers and pressure vessels.

(c) A Nondestructive Examination Level II examiner of ASME code boilers and pressure vessels may be credited with one (1) year towards the experience requirements of this section provided the applicant has five (5) years of documented experience in that position and meets all of the other requirements listed in this section.

(d) A quality control inspector of ASME code boilers and pressure vessels applying under subsection (b)(3) may be credited with four (4) months of experience under the experience requirements of this section for each year of documented, diversified experience he or she possesses in the implementation of an ASME accepted written quality control/assurance system as put forth in the referenced document at 680 IAC 2-1-1(a)(1), up to a maximum of twenty-four (24) months of such credit, provided that he or she has the balance of experience required under subsection (b)(3) in actual work described in subsection (b)(3)(A), (b)(3)(B), or (b)(3)(C).

(e) Application for an inspector's license shall be in writing upon a form to be furnished by the director stating the age and

education of applicant, a list of his or her employers, and his or her period of employment and positions held with each employer. If the applicant's history and experience meet with the approval of the division, the applicant shall be given a written examination issued by the division, which the applicant shall be required to pass in order to be accepted. If the applicant is successful in meeting the requirements of the division, an inspector's license will be issued by the division. After the expiration of ninety (90) days, an applicant who fails to pass the examination will be permitted to take another written examination which the applicant is required to pass in order to be accepted. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-3; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1113; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-4 Application fee for an inspector's license

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 4. A fee of ten dollars ($10) will be charged each applicant for an inspector's license. Such fee shall be payable at the time of filing the application. If an applicant fails to pass the examination, this fee shall be good for a period of three (3) consecutive examinations offered by the division during which reexamination may be taken. All remittances for application fees shall be made by check or money order, payable to the Boiler and Pressure Vessel Safety Division. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-4; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1113; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-5 Issuance of license; record of qualifications; identification card; suspension or revocation

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-12-7; IC 22-15-6-5

Sec. 5. (a) The director shall issue a boiler and pressure vessel inspector license to an applicant who qualifies as set forth in IC 22-15-6-5.

(b) The director shall maintain a record of the qualifications of each person applying for such authorization and of the results of any examination of such person by the rules board, which record shall be available during regular business hours to the applicant.

(c) The license and identifying card issued to an inspector in the employ of an authorized inspection agency shall be forwarded by the director to the home office of such agency.

(d) The agency shall retain the license in its home office and shall forward the identifying card to the inspector. Both the license and the identifying card shall be returned to the director when the inspector to whom the license was issued is no longer in the employ of the agency.

(e) The validity of the identifying card shall expire on December 31 of each year and may be renewed without charge upon application of the employing agency to the director.

(f) The license issued to an inspector in the employ of an authorized inspection agency may be subject to sanction by the office of the state building commissioner in accordance with the provisions of IC 22-12-7. If the license is revoked, the license and identifying card shall be returned to the director. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-5; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1114; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-6 Reciprocal license; waiver of examination

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6-5

Sec. 6. Applicants may be exempted from taking the examination if they qualify under IC 22-15-6-5(c). *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-6; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1114; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-7 Inspectors' conflict of interest

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 7. Inspectors licensed by the state of Indiana shall not engage in any activity which constitutes a conflict of interest with

their inspection function. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-7; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1114; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-8 Manufacturers' data reports

Authority: IC 22-13-2-8
Affected: IC 22-12-1-20; IC 22-12-4; IC 22-15-6

Sec. 8. Manufacturers' data reports for boilers and unfired pressure vessels not exempted by IC 22-12-1-20 shall be filed by the manufacturer with the National Board of Boiler and Pressure Vessel Inspectors before installation. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-8; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1114; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-9 Frequency of inspections

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 9. (a) All boilers subject to inspection, other than steam generating equipment which is an integral part of a continuous processing unit such as used in chemical manufacture or petroleum refining, shall be inspected at the interval specified as follows:

(1) Power boilers and miniature boilers shall be given certificate inspections at twelve (12) month intervals internally where construction permits, and externally while not under pressure; and shall also be inspected externally while under pressure, if possible, approximately six (6) months from the date of the certificate inspection.

(2) The certificate inspection period for a specific boiler may be extended to a maximum of six (6) months beyond the certificate expiration date with the approval of the inspection agency having jurisdiction and the office of the state building commissioner in order to allow for unexpected plant operational difficulties. A written request for an extension beyond the certificate expiration date in the form of a letter stating the operational difficulties shall be submitted by the owner to the office. An extension shall be permitted at the discretion of the office.

(3) A power boiler with rated steaming capacity of three hundred thousand (300,000) pounds per hour or more shall be permitted to be inspected internally at a greater interval provided the conditions of subsection (3)(A), (B), and (C) *[sic., this subdivision]* are met; however, external inspections shall continue to be conducted at approximately six (6) month intervals, while the boiler is under pressure.

(A) A written request for an extension beyond the certificate expiration date shall be submitted by the owner to the board.

(B) A report of inspection indicating that a certificate inspection has been completed is submitted to the board by the inspection agency.

(C) A document, such as a letter from the inspection agency, signed by a responsible person of that agency shall accompany the report of inspection attesting to:

(i) The use of the boiler.

(ii) The nameplate data, state number, and any national board numbers.

(iii) The name and pertinent qualifications of the person(s) in charge of water treatment.

(iv) Adequacy of the laboratory facilities and a review of written procedures and data for water chemistry analysis and treatment of boiler water. The written procedure for sampling water is to include the method, frequency, parameters, and limits.

(v) A review of the record of boiler outages occurring since the last internal inspection.

(vi) The acceptability of the documentation reviewed and acceptance of the extended interval.

If the request for an extended certificate in subsection (a)(3) *[sic., this subdivision]* is granted, the certificate shall not exceed twenty-four (24) months. At the end of the interval, the boiler for which the request was made shall revert to the twelve (12) month inspection requirement of subsection (a)(1) *[sic., subdivision (1)]* for power boilers unless a request is submitted to, and approved by, the office.

(4) Low pressure steam heating boilers, hot water heating boilers and hot water supply boilers, and service water heaters shall be given a certificate inspection biennially externally and, where construction will permit, internally. The internal inspection of low pressure hot water heating boilers, hot water supply boilers, and service water heaters shall be at the direction of the

inspector.

(b) All unfired pressure vessels subject to inspection under IC 22-15-6, and any steam generating equipment subject to such inspection that is an integral part of any continuous processing unit such as used in chemical manufacture or petroleum refining, shall be given a certificate inspection at intervals not exceeding three (3) years. Where systematic corrosion data are available, the maximum period between certificate inspections shall be five (5) years, or such shorter period as the inspection agency having jurisdiction deems proper. The maximum period between certificate inspections shall be indicated on the inspector's report.

(c) The periods specified in subsections (a) and (b) shall be subject to a two (2) month grace period.

(d) Owner or user inspection agencies shall observe the same frequencies of inspection as outlined in subsections (a) (b) and shall be permitted a corresponding two (2) month grace period on intervals between inspections; however, inspection certificates are not required in such cases. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-9; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1114; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-10 Preparation for inspection; notice

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 10. The owner or user shall prepare each boiler or unfired pressure vessel for internal inspection and shall prepare for and apply a hydrostatic pressure test whenever necessary, on the date specified by the inspector responsible for inspection of the equipment in question, which date shall be no less than fourteen (14) days after the date of notification. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-10; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1115; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-11 Reports by inspection agencies

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6-4

Sec. 11. (a) State inspectors and owner or user inspectors shall report their first inspection of each nonstandard boiler or unfired pressure vessel on a form patterned after Form NB-5 set forth in the document referenced at subsection 1-1(a)(3) of this article *[sic., 680 IAC 2-1-1(a)(3)]*. Subsequent internal or certificate inspections of those objects may be reported on a form patterned after Form NB-6 set forth in the document referenced at subsection 1-1(a)(3) of this article *[sic., 680 IAC 2-1-1(a)(3)]*. On all standard boilers or unfired pressure vessels, the first internal or certificate inspection performed by state inspectors and owner or user inspectors shall be submitted on a form patterned after Form NB-6 of the NBIC code. Subsequent internal or certificate inspections of those objects may be reported on a form patterned after Form NB-6 of the NBIC. Reports shall be submitted to the chief inspector within thirty (30) days of the date of the inspection. External inspections shall be reported on a form patterned after Form NB-6 of the NBIC immediately when hazardous conditions affecting the safety of the boiler or unfired pressure vessel are found to exist.

(b) Owner or user inspection agencies may report subsequent inspections annually or on a form patterned after Form NB-6 set forth in the document referenced at subsection 1-1(a)(3) of this article *[sic., 680 IAC 2-1-1(a)(3)]* or, at their option, upon special forms approved by the division. Such reports shall be filed in accordance with the requirements of IC 22-15-6-4(e). Each annual report of an owner or user inspection agency shall cover the inspections made by such agency during the twelve (12) month period beginning on July 1, in the preceding calendar year and ending on June 30, in the current year; and each such report shall be filed with the chief inspector within sixty (60) days after the expiration of the period covered thereby.

(c) All of the aforementioned forms shall be printed on eight and one-half (8½) by eleven (11) inch sheets, and each inspection agency shall provide such supplies of said forms as are needed for the reports it makes unless provided by the division. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-11; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1115; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-12 Notice of unsafe boilers and pressure vessels; corrective measures; suspension of inspection certificate

Authority: IC 22-13-2-8
Affected: IC 4-21.5-4; IC 22-12-4; IC 22-12-7-6

Sec. 12. If, upon inspection, a boiler or unfired pressure vessel is found to be unsafe for further operation, the inspector shall issue an order to stop operation as set forth in IC 22-12-7-6 and IC 4-21.5-4 to the owner or user stating what repairs or other corrective measures are required. Until such repairs and other corrective measures have been made or adopted, no further operation of the boiler or pressure vessel involved shall be permitted, and, if an inspection certificate for the equipment is then in force, it shall be suspended. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-12; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1115; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-13 Notice of new, canceled, or suspended insurance risks

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-12-7; IC 22-15-6

Sec. 13. Insurance inspection agencies shall notify the director of the division in writing when an installation of a regulated boiler or pressure vessel requires assignment of a state number on forms provided by the secretary. The secretary upon receipt of notification shall assign a state employed inspector to perform the initial inspection of the installation and assignment of the state number. All insurance companies shall notify the director within thirty (30) days of all boiler or unfired pressure vessel risks written, canceled, or not renewed. If coverage on a boiler or unfired pressure vessel is rejected or suspended because of unsafe conditions, the chief inspector shall be notified in accordance with the requirements of this article. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-13; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1116; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-14 Fees for reports, inspections, and inspection certificates

Authority: IC 22-12-6-10; IC 22-13-2-8
Affected: IC 22-12-4; IC 22-12-6-10; IC 22-12-6-11; IC 22-12-7; IC 22-15-6-4

Sec. 14. (a) At the time of forwarding each inspection report under IC 22-15-6-4, an owner or user inspection agency shall remit directly to the division the filing fee due as specified in IC 22-12-6-11. In the case of annual reports made by such agencies, the amount of such fee shall be determined on the basis of the number of boilers and unfired pressure vessels required to be inspected during the year and covered in the report.

(b) After completion of an inspection by a state inspector under this article, the director shall send an invoice, in duplicate, to the owner or user of the boiler or pressure vessel upon which such inspection was made for the applicable inspection fee or fees specified in IC 22-12-6-10, and the owner or user shall promptly pay the amount of such invoice to the division, accompanying its remittance with a copy of the invoice. If the equipment qualifies for an inspection certificate, the director shall issue said certificate upon receipt of said remittance and no further fee will be charged.

(c) If, upon inspection by an inspector in the employ of an insurance company, a boiler or pressure vessel is found to qualify for the issuance of an inspection certificate, the director shall, upon receiving the inspector's report covering such inspection, send an invoice, in duplicate, to the owner or user of said boiler or pressure vessel for the fee required in IC 22-12-6-11(b) for such a certificate; and the owner or user shall promptly pay the amount of such invoice to the division, accompanying its remittance with a copy of the invoice, upon receipt of which the director shall issue such certificate.

(d) Remittances required in this section shall be made by check or money order, payable to the Boiler and Pressure Vessel Safety Division.

(e) If the owner or user of a boiler or unfired pressure vessel required to be inspected refuses to allow an inspection to be made or refuses to pay the fees described in this article, the inspection certificate shall be withheld until the owner or user complies with the requirements. If such owner or user causes a boiler or unfired pressure vessel to be operated without possessing a valid inspection certificate, the owner or user shall be subject to the penalty or penalties provided for in IC 22-12-7. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-14; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1116; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-15 Posting of inspection certificates; retention of inspection reports

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6-4

Sec. 15. Inspection certificates required or provided for either boilers or unfired pressure vessels shall be posted under glass

in the room containing the equipment to which they apply; or, in the case of outdoor or portable boilers or vessels, shall be kept in a metal container fastened to the equipment or be kept on file indoors in a place convenient to the equipment. Inspection certificates are provided for unfired pressure vessels inspected by an owner or user inspection agency by means of filing the annual report as set forth at IC 22-15-6-4. Such agency shall keep on file in its office in the establishment where the equipment is located a true record or copy of the report of the latest of each such inspection signed by the inspector who made such inspection. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-15; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1116; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-16 Validity of inspection certificate; expiration; suspension

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6-2; IC 22-15-6-4

Sec. 16. (a) An inspection certificate issued in accordance with IC 22-15-6-2 shall be valid until expiration, unless some defect or condition affecting the safety of the boiler or unfired pressure vessel causes the certificate to be revoked or suspended.

(b) The office of the state building commissioner or its authorized representative may at any time suspend an inspection certificate issued in accordance with IC 22-15-6-2 and IC 22-15-6-4.

(c) No inspection certificate issued for an insured boiler or unfired pressure vessel inspected by an insurance company inspector shall be valid after the boiler or unfired pressure vessel for which it was issued ceases to be insured by a company duly authorized by this state to insure against loss from explosion. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-16; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1116; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-17 Replacement of boilers and unfired pressure vessels

Authority: IC 22-13-2-8
Affected: IC 4-21.5-3-6; IC 22-12-4; IC 22-12-7; IC 22-15-6

Sec. 17. If, upon the inspection of any boiler or unfired pressure vessel in service, it is found that the same does not fully conform to the standards prescribed in this article for the service in which said boiler or vessel is being used, and if, in the opinion of the inspector making the inspection and the owner or user of the equipment involved, it would be safe to continue operation thereof for a limited period of time, an order shall be issued as set forth at IC 22-12-7 and IC 4-21.5-3-6 granting a reasonable time in which to correct the violation covered by the order. In such case, the inspector or his or her employing inspection agency shall advise the chief inspector of such order. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-17; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1117; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-18 Assignment of state serial numbers

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 18. Where state serial numbers are to be applied on boilers and unfired pressure vessels as hereinafter provided in this article, the director will assign such serial numbers in blocks to state inspectors and owner or user inspectors upon their request. The director will furnish metal tags to be used where construction does not permit stamping on the equipment. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-18; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1117; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-19 Restamping

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 19. When the stamping on a boiler or unfired pressure vessel becomes indistinct, the inspector shall instruct the owner or user to have it restamped. Request for permission to restamp the boiler or unfired pressure vessel shall be made to the chief inspector, and proof of the original stamping shall accompany the request authorized by the inspector. Restamping authorized by the chief inspector shall be done only by an inspector and shall be identical with the original stamping except that it will not be

permitted to restamp the code symbol. Notice of the completion of such stamping together with a facsimile of the stamping applied shall be filed with the chief inspector within thirty (30) days after the restamping is completed, by the inspector who restamped the boiler or unfired pressure vessel. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-19; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1117; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-20 Condemned boilers and pressure vessels; stamp; penalties for use or sale

Authority: IC 22-13-2-8
Affected: IC 4-21.5-3-6; IC 22-12-4; IC 22-12-7; IC 22-15-6

Sec. 20. (a) Any boiler or unfired pressure vessel that fails an inspection and is determined by the inspector to be irreparable shall be reported to the chief inspector who shall declare it prohibited from further use or operation. An order shall be issued appropriate to this circumstance and as set forth at IC 22-12-7 and IC 4-21.5-3-6.

(b) Any boiler or unfired pressure vessel declared prohibited from further use by the chief inspector shall be stamped by a state inspector with the letters "XXX" and the letters "IND", as shown by the following facsimile, which will designate a condemned boiler or unfired pressure vessel:

XXX IND XXX

(c) Any person using or offering for sale a boiler or unfired pressure vessel declared prohibited from further use for operation within the purview of this article shall be subject to the penalties provided in IC 22-12-7. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-20; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1117; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-21 Incident reports

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 21. When an incident occurs which serves to render a boiler or pressure vessel inoperative, the owner or user or authorized inspection agency responsible for the inspection of the boiler or pressure vessel shall immediately notify the chief inspector and submit a detailed report of the incident. In case of a serious incident such as an explosion, notice shall be given immediately by telephone, telegraph, or messenger and neither the boiler nor pressure vessel nor any of the parts thereof shall be removed or disturbed before an inspection has been made unless for the purpose of saving human life. The inspector shall submit a detailed report of the incident to the director. Such report shall include the cause and the origin of the incident, where determinable, and recommendations to prevent a recurrence of the incident. If major repairs are required, the inspector responsible shall also submit a repair report on the form approved by the division. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-21; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1117; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-22 Used installations

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 22. Before a used boiler or unfired pressure vessel that is located outside the state can be used in this state, an inspection must be made by an *[sic.]* licensed inspector. The original copy of the report of inspection shall be submitted by the owner or user of the boiler or pressure vessel to the chief inspector for his or her review and approval. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-22; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1118; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-23 Reinstallations

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 23. In any case where a stationary boiler or unfired pressure vessel is moved and reinstalled, the fittings and appliances must comply with the rules for new installations. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-23; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1118; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-24 Nonstandard boilers and pressure vessels
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 24. The use of nonstandard boilers and pressure vessels that are located outside the state and shipped into this state for use is prohibited. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-24; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1118; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-3-25 Safety factors for regulated equipment
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 25. An inspector may increase the factors of safety in accordance with the standard for new construction of an obje *[sic.]* if the condition of a used boiler or unfired pressure vessel warrants. If the owner or user does not concur with the inspector's report, the owner or user may appeal to the rules board who may request a joint inspection by the inspector who specified the increased factor of safety and the chief inspector or another state inspector. Each inspector shall render his or her own report to the office, and the state building commissioner shall render the final decision based upon all the data received. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-3-25; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1118; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

Rule 4. Definitions

680 IAC 2-4-1 Boiler and unfired pressure vessel terms; applicability
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 1. The definitions in this rule apply throughout this article. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-1; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1118; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-2 "API-ASME" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 2. "API-ASME" means the code for unfired pressure vessels for petroleum liquids and gases, as set forth in 680 IAC 2-1-1(a)(2). *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-2; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1118; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-3 "API 510" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 3. "API 510" means the pressure vessel inspection code as set forth in 680 IAC 2-1-1(a)(4). *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-3; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1118; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-4 "ASME code" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 4. "ASME code" means the boiler and pressure vessel code as set forth in 680 IAC 2-1-1(a)(1). *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-4; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1118; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-5 "Boiler" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 5. (a) "Boiler" means a closed vessel in which water is heated, steam is generated, steam is superheated, or any combination thereof, under pressure or vacuum for external use by the direct application of heat caused by the combustion of fuels, by electricity, or by nuclear or solar energy.

(b) 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.

(c) It is not intended to include steam cleaners in this definition which are defined in section 49 of this rule. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-5; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1118; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-6 "Btu" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 6. "Btu" means British thermal units. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-6; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1119; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-7 "Certificate inspection" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 7. "Certificate inspection" means an inspection upon which an inspection certificate may be issued. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-7; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1119; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-8 "Chief inspector" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 8. "Chief inspector" means the person employed and so designated by the commissioner, who shall have direct supervision over the work of other state inspectors, under the general supervision of the director, and perform such other duties as the director may prescribe. At the discretion of the commissioner, the positions of director and chief inspector may be combined. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-8; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1119; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-9 "Commercial toy boiler" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 9. "Commercial toy boiler" means any commercial boiler not exceeding any of the limitations which define a model boiler as defined in section 30 of this rule. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-9; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1119; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-10 "Commission" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-2-1; IC 22-12-4; IC 22-15-6

Sec. 10. "Commission" means the fire prevention and building safety commission established in IC 22-12-2-1. *(Boiler and*

Pressure Vessel Rules Board; 680 IAC 2-4-10; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1119; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)

680 IAC 2-4-11 "Commissioner" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 11. "Commissioner" means the state building commissioner. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-11; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1119; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-12 "Boiler or unfired pressure vessel prohibited from further use or operation" defined

Authority: IC 22-13-2-8
Affected: IC 4-21.5-3-6; IC 22-12-4; IC 22-12-7; IC 22-15-6

Sec. 12. "Boiler or unfired pressure vessel prohibited from further use or operation" means a boiler or unfired pressure vessel that has been inspected and declared irreparable and cited as such as set forth at IC 22-12-7 and IC 4-21.5-3-6. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-12; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1119; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-13 "Director" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-2-3; IC 22-15-6

Sec. 13. "Director" means the director of the boiler and pressure vessel safety division established in IC 22-15-2-3. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-13; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1119; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-14 "Division" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-2-3; IC 22-15-6

Sec. 14. "Division" means the division of boiler and pressure vessel safety established in IC 22-15-2-3. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-14; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1119; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-15 "Domestic water heater" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 15. "Domestic water heater" means a water heater which consists of a coil or a closed tank, heated either by direct flame or electrical heating elements, for supplying potable water used external to itself and not exceeding any of the following limits:

(1) Eighty (80) gallons nominal water containing capacity.
(2) One hundred thousand (100,000) Btu per hour heat input.
(3) One hundred fifty (150) psig pressure.
(4) Two hundred ten degrees Fahrenheit (210°F) outlet water temperature.

(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-15; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1119; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)

680 IAC 2-4-16 "Exhibition traction engine boiler" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 16. "Exhibition traction engine boiler" means a boiler that is an integral part of a traction engine, threshing machine, or similar piece of equipment used exclusively for exhibition purposes. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-16; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1119; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-17 "Existing installation" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 17. "Existing installation" means and includes any boiler or unfired pressure vessel installed and placed in operation before the first day of July 1953, the effective date of the Indiana Boiler and Pressure Vessel Law, which accepted already installed boilers and unfired pressure vessels not constructed or installed to any standard. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-17; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1120; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-18 "External inspection" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 18. "External inspection" means an inspection that does not involve examination of the interior surfaces of pressure parts of a boiler or unfired pressure vessel. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-18; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1120; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-19 "Hot water heating boiler" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 19. "Hot water heating boiler" means a boiler which is used for heating water primarily for space heating purposes and is operated at a pressure not exceeding one hundred sixty (160) psig and a temperature not exceeding two hundred fifty degrees Fahrenheit (250°F). *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-19; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1120; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-20 "Hot water supply boiler" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 20. "Hot water supply boiler" means a boiler which is as follows:

(1) Used primarily for heating an expendable (normally nonreturnable) supply of hot water for distribution in plumbing systems, or for consumption in industrial processes, or for other comparable uses.

(2) Operated at a pressure not exceeding one hundred sixty (160) psig and temperature not exceeding two hundred fifty degrees Fahrenheit (250°F).

(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-20; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1120; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)

680 IAC 2-4-21 "Inspection agency" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6-4

Sec. 21. "Inspection agency" means an authorized inspection agency described in IC 22-15-6-4. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-21; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1120; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-22 "Inspection certificate" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6-2

Sec. 22. "Inspection certificate" means an operating permit as set forth at IC 22-15-6-2(a) and IC 22-15-6-2(c). *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-22; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1120; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-23 "Inspector" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-2

Sec. 23. "Inspector" means the chief inspector, any other state inspector, or any special inspector. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-23; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1120; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-24 "Inspector commission" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 24. "Inspector commission" means the license issued to an inspector by the National Board and referred to as a National Board Commission. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-24; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1120; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-25 "Inspector's license" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6-5

Sec. 25. "Inspector's license" means the license issued as set forth at IC 22-15-6-5. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-25; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1120; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-26 "Internal inspection" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 26. "Internal inspection" means an inspection that includes the examination of the interior surface of pressure parts of a boiler or unfired pressure vessel. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-26; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1120; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-27 "Low pressure heating boiler" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 27. "Low pressure heating boiler" means a boiler which is operated at a pressure not exceeding fifteen (15) psig for steam, or at a pressure not exceeding one hundred sixty (160) psig and temperature not exceeding two hundred fifty degrees Fahrenheit (250°F) for water. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-27; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1120; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-28 "Major repair" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 28. "Major repair" means a repair upon which the strength of a boiler or unfired pressure vessel would depend. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-28; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1121; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-29 "Miniature boiler" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 29. "Miniature boiler" means any boiler which does not exceed any of the following limits:
(1) Sixteen (16) inches inside diameter of shell.
(2) Five (5) cubic feet gross volume (exclusive of casing and insulation).
(3) Twenty (20) square feet of water heating surface.
(4) One hundred (100) psig maximum allowable working pressure.
(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-29; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1121; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)

680 IAC 2-4-30 "Model boiler" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 30. "Model boiler" means any boiler that does not exceed any of the following limits:
(1) Two (2) cubic feet total gross volume (exclusive of casing and insulation).
(2) One and one-half (1½) square feet of grate area.
(3) One hundred (100) psig maximum allowable working pressure.
(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-30; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1121; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)

680 IAC 2-4-31 "National Board" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 31. "National Board" means the National Board of Boiler and Pressure Vessel Inspectors as identified at 680 IAC 2-1-1(a)(3). *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-31; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1121; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-32 "NBIC" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 32. "NBIC" means the National Board Inspection Code as set forth in 680 IAC 2-1-1(a)(3). *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-32; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1121; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-33 "New installation" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 33. "New installation" means and includes any boiler or unfired pressure vessel installed and placed in operation after the first day of July 1953, the effective date of the Indiana Boiler and Pressure Vessel Law, which initially required boilers and unfired pressure vessels to be constructed, installed, inspected, and repaired to a standard. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-33; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1121; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-34 "Nonstandard boiler or unfired pressure vessel" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 34. "Nonstandard boiler or unfired pressure vessel" means a boiler or unfired pressure vessel that does not bear the ASME or the API-ASME stamp. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-34; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1121; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-35 "Operating permit" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6-2

Sec. 35. "Operating permit" means that as set forth at IC 22-15-6-2(a) and IC 22-15-6-2(c), and is referred to as inspection certificate throughout this article. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-35; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1121; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-36 "Owner or user" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 36. "Owner or user" means any person, firm, or corporation owning or operating any boiler or unfired pressure vessel within this state. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-36; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1121; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-37 "Owner or user inspection agency" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6-4

Sec. 37. "Owner or user inspection agency" means an authorized inspection agency of the kind described in IC 22-15-6-4. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-37; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1121; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-38 "Place of public assembly" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 38. "Place of public assembly" means:
(1) a location at which persons assemble for civic, educational, religious, social, or recreational purposes; or
(2) which is provided by a common carrier for passengers awaiting transportation; or
(3) in which persons are:
(A) housed to receive medical, charitable, or other care or treatment; or
(B) are held or detained for public, civic, or correctional purposes.
(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-38; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1121; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)

680 IAC 2-4-39 "Power boiler" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 39. "Power boiler" means a boiler exceeding the limits of a commercial toy boiler, a miniature boiler, a low pressure

heating boiler, a hot water supply boiler, a steam cleaner, or a model boiler, as defined in this rule. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-39; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1122; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-40 "Psi" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 40. "Psi" means pounds per square inch. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-40; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1122; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-41 "Psig" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 41. "Psig" means pounds per square inch gage. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-41; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1122; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-42 "Reinstalled boiler or unfired pressure vessel" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 42. "Reinstalled boiler or unfired pressure vessel" means a boiler or unfired pressure vessel removed from its original setting and erected at the same location, or erected at a new location without change of ownership. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-42; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1122; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-43 "Rules board" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 43. "Rules board" means the Indiana boiler and pressure vessel rules board established in IC 22-12-4. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-43; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1122; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-44 "Secondhand boiler or unfired pressure vessel" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 44. "Secondhand boiler or unfired pressure vessel" means a boiler or unfired pressure vessel of which both the location and ownership have been changed. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-44; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1122; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-45 "Service water heater" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 45. "Service water heater" means a water heater that exceeds any of the limits for domestic water heaters as defined in section 14 of this rule *[sic., section 15 of this rule]*, but does not exceed any of the following limits:
(1) One hundred twenty (120) gallons nominal water containing capacity.
(2) Two hundred thousand (200,000) Btu per hour heat input.
(3) One hundred sixty (160) psig pressure.

(4) Two hundred ten degrees Fahrenheit (210°F) outlet water temperature.
(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-45; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1122; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)

680 IAC 2-4-46 "Special inspector" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 46. "Special inspector" means an inspector other than a state inspector who is regularly employed by the inspection agency named on the inspector's license. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-46; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1122; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-47 "Standard boiler or unfired pressure vessel" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 47. "Standard boiler or unfired pressure vessel" means a boiler or unfired pressure vessel which bears the ASME or API-ASME stamp. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-47; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1122; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-48 "State inspector" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 48. "State inspector" means an inspector regularly employed by the division. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-48; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1122; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-49 "Steam cleaner" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 49. "Steam cleaner" means a hot water boiler without any steam space, and water flashes into steam when released through a manually operated nozzle for cleaning purposes, and none of the following are exceeded:
(1) Three-fourths (¾) inch diameter tube or pipe size.
(2) Tube or pipe are not attached to a drum or header.
(3) Nominal water containing capacity of six (6) gallons.
(4) Water temperature of three hundred fifty degrees Fahrenheit (350°F).
(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-49; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1123; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)

680 IAC 2-4-50 "Unfired pressure vessel" defined
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 50. "Unfired pressure vessel" means a closed vessel in which pressure is obtained from an external source or from an indirect application of heat. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-50; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1123; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-4-51 "Waste heat boiler" defined

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 51. (a) "Waste heat boiler" means a closed vessel which is intended to be operated under pressure or vacuum for the purpose of heating water or generating steam for external use by the application of heat.

(b) The configuration of the unit shall govern the parts and sections of the boiler and pressure vessel rules applicable to its design, construction, fabrication, and inspection as follows:

(1) If the unit contains tubes, drums, and accessories commonly associated with boilers, the sections applicable to power boilers shall apply.

(2) If the unit contains a shell, tube bundle, and channel commonly associated with heat exchangers, the sections applicable to unfired pressure vessels shall apply.

(Boiler and Pressure Vessel Rules Board; 680 IAC 2-4-51; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1123; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)

Rule 5. General Requirements

680 IAC 2-5-1 Inspections

Authority: IC 22-13-2-8
Affected: IC 22-12-1-20; IC 22-12-4; IC 22-12-7; IC 22-15-6-1

Sec. 1. (a) All boilers and unfired pressure vessels not exempted by IC 22-12-1-20 or IC 22-15-6-1 shall be inspected at intervals as specified in this article.

(b) In making inspections of installed boilers and pressure vessels, inspectors may use the documents adopted in subsection 1-1(a) and (b) of this article *[sic., 680 IAC 2-1-1(a) and 680 IAC 2-1-1(b)]*, but shall in all cases comply with the minimum requirements of the documents in effect at the time of manufacture. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-5-1; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1123; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-5-2 Preparation for inspection

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 2. (a) The owner or user of a boiler or unfired pressure vessel required to be inspected shall, upon due notice, prepare the boiler or vessel for the proposed inspection at the appointed time in the manner specified by the inspector.

(b) For internal and external inspection of boilers not under pressure, the boiler shall be prepared for inspection prior to the inspector's arrival by:

(1) drawing the water from the boiler;

(2) removing all manhole plates, all handhole plates, wash-out plugs, and plugs in water column connections;

(3) cooling and thoroughly cleaning the boiler and its setting;

(4) providing safeguards to prevent leakage or accidental inflow of steam or hot water into the boiler; and

(5) in the case of an internally fired boiler, removing the grates.

The owner or user shall, upon request from the inspector, remove insulation material, masonry, or other parts so that an inspection can be made. No advance preparation of the equipment is required for external inspection of a boiler under operating conditions. However, if evidence of a leak or crack in the boiler is found during such an inspection, enough of the covering of the boiler shall be removed to enable the inspector to be satisfied as to the safety of the boiler.

(c) If the inspection of an unfired pressure vessel is to be external only, advance preparation required is to provide reasonable means of access to the vessel where necessary.

(d) In the case of a combined internal and external inspection of a small unfired vessel of simple construction handling air, steam or similar nontoxic or nonexplosive gases or vapors (for example, most air receivers), advance preparation required is isolating the vessel from its source of pressure, providing means of access where necessary, and removing manhole plates and inspection-

opening closures upon the inspector's arrival.

(e) As to other cases, the inspector who is to make the inspection shall specify in the notice setting the date for inspection the nature and extent of preparatory work expected to be done on the vessel prior to the inspector's arrival. Advance preparation includes the following tasks as needed:

(1) Establishing means of access to the surfaces to be inspected where these do not already exist.

(2) Isolating the vessel from its source of pressure.

(3) Draining out any liquid that is present.

(4) Venting and purging the vessel to free it of toxic, explosive, or other harmful gases or vapors.

(5) Providing safeguards to prevent leakage or accidental inflow of harmful substances into the vessel.

(6) Removing manhole plates and inspection-opening closures.

(7) Cooling and cleaning the interior of the vessel.

(8) Removing internal fittings and appurtenances.

(f) If the inspector requests during the course of the inspection that certain portions of insulation or other coverings mentioned in subsection (b) be properly removed to permit inspection of the vessel, or, if the inspector requests that certain internal fittings or appurtenances not removed be removed so that data needed for determining the safety of the vessel may be obtained, the owner or user shall remove upon receipt of request. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-5-2; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1123; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-5-3 Improper preparation for inspection

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 3. If a boiler or unfired pressure vessel has not been properly prepared for internal inspection, or the owner or user fails to comply with the requirements for hydrostatic test as set forth in this article, the inspector may decline to make the inspection or test and the certificate of inspection shall be denied until the owner or user complies with the requirements. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-5-3; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1124; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-5-4 Lap seam cracks

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 4. The shell or drum of a boiler or unfired pressure vessel in which a lap seam crack is discovered along a longitudinal riveted joint shall be immediately discontinued from use. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-5-4; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1124; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-5-5 Hydrostatic pressure tests; procedures; standards; alternative tests

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 5. (a) A hydrostatic pressure test, when applied to boilers or unfired pressure vessels of riveted or welded construction, except locomotive boilers, shall not exceed one and one-half (1½) times the maximum allowable working pressure. Hydrostatic pressure applied to glass lined vessels shall not exceed the maximum allowable working pressure. During the hydrostatic pressure test, the safety valve or valves shall be removed or each valve disk shall be held down by means of a testing clamp and not by applying additional load to the spring with the compression screw. The minimum temperature of the water used to apply a hydrostatic test shall be not less than seventy degrees Fahrenheit (70°F) but the maximum temperature shall not exceed one hundred twenty degrees Fahrenheit (120°F).

(b) When a hydrostatic test is to be applied to regulated equipment, the pressure shall be as follows:

(1) For all cases involving the question of tightness, the pressure shall be equal to the release pressure of the safety valve or valves having the highest release setting.

(2) For all cases involving the question of safety, the pressure shall be equal to one and one-half (1½) times the maximum

allowable working pressure, except for locomotive boilers in which case it shall be one and one-fourth (1¼) times the maximum allowable working pressure.

(c) If the inspector and the owner or user so agree, tests in accordance with the API-ASME code or the ASME code may be substituted for the tests required by this section. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-5-5; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1124; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-5-6 Safety appliances; removal or alteration

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 6. (a) No person, except under the direction of an inspector, shall attempt to remove, or do any work upon, any safety appliances prescribed by this article while a boiler or unfired pressure vessel is in operation, except for the purpose of making emergency repairs.

(b) Should any of these appliances be repaired during an outage of a boiler or unfired pressure vessel, they must be reinstalled in accordance with the provisions of this article.

(c) The resetting of safety appliances at either the former set pressure or at a new pressure shall be done only with the approval of an inspector.

(d) No person shall in any manner load the safety valve or valves to maintain a working pressure in excess of that stated on the inspection certificate. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-5-6; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1124; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-5-7 Low water fuel cut-off devices

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 7. (a) All automatically-fired steam or vapor boilers, excepting boilers having a constant attendant who has no other duties while the boiler is in operation, shall be equipped with an automatic low water fuel cut-off device so constructed that the water inlet valve cannot feed water into the boiler through the float chamber, and so located as to automatically cut off the fuel supply when the surface of the water falls to the lowest safe water line. This point may not be lower than the bottom of the water gage glass.

(b) Such a fuel cut-off device may be attached directly to a boiler or to the tapped openings provided for attaching a water gage glass directly to a boiler, provided that such connections from the boiler are nonferrous tees or Ys not less than one-half (½) inch pipe size between the boiler and the water glass. The water gage glass shall be attached as close as possible to the boiler. The ends of all nipples shall be reamed to full size.

(c) Designs embodying a float bowl shall have a vertical straight-a-way valved drain pipe at the lowest point in the water equalizing pipe connections by which the bowl and the equalizing pipe can be flushed and the device tested. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-5-7; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1125; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-5-8 Blow-off tanks; outlets and discharges

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 8. (a) Blow-off piping from a power boiler or a miniature boiler shall not discharge directly into a sewer.

(b) A blow-off tank shall be used where conditions do not provide an adequate and safe open discharge. Blow-off tanks and piping shall meet one (1) of the following requirements:

(1) The outlet from the blow-off tank shall be twice the area of the inlet pipe and made to extend internally within eight (8) inches from the bottom of the tank. A vent pipe at least four (4) times the cross-sectional area of the inlet pipe shall lead to the outer atmosphere. Vents shall be as direct as possible to the outside and discharge at a safe location. There shall be no valve or other possible obstructions, such as water pockets, between the tank and the discharge end of the vent pipe. All pipe connections between the tanks and the boiler shall be as direct as possible and shall conform to the ASME code. For convenience in cleaning the tank, a manhole or an access opening shall be provided. Where a blow-off tank is not vented as

specified in this subdivision, it shall be constructed for a pressure equal to that allowed on the boiler to which it is attached or shall be equipped with a safety valve or valves of sufficient capacity to prevent the pressure from exceeding the safe working pressure of the tank.

(2) Boiler blow-off equipment which cannot be designed in accordance with subdivision (1) shall be referred to the board for consideration.

(Boiler and Pressure Vessel Rules Board; 680 IAC 2-5-8; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1125; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)

680 IAC 2-5-9 Location of discharge piping outlets

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 9. The discharge of safety valves, blow-off pipes, and other outlets shall be located so as to prevent injury to personnel. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-5-9; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1125; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-5-10 Pressure reducing valves; relief or safety valves; hand-controlled bypasses

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 10. (a) Where 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 boilers or unfired pressure vessels on the low pressure side do not meet the requirements for the full initial pressure. The combined discharge capacity of the relief or safety valves shall be such that the pressure rating of the boilers or unfired pressure vessels shall not be exceeded in case the reducing valve sticks open. The relief or safety valves shall be located adjoining to or as close as possible to the reducing valves. Protection shall be provided to prevent injury or damage caused by the escaping fluid from the discharge of the relief or safety valves if vented to the atmosphere.

(b) The use of hand-controlled bypasses around reducing valves is permissible. The bypass, if used around a reducing valve, shall not be greater in capacity than the reducing valve unless the boilers or unfired pressure vessels downstream therefrom are adequately protected by relief or safety valves or meet the requirements of the high pressure system.

(c) It is mandatory that a pressure gage be installed on the low pressure side of such a reducing valve as set forth in subsection (b). *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-5-10; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1125; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-5-11 Repairs or alterations to boilers and pressure vessels

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-13-2-11; IC 22-15-6-4

Sec. 11. (a) This section covers rules for repairs and alterations to boilers and pressure vessels. Where applicable rules for a repair or alteration are not provided by this rule, details of design and construction will be consistent with the rules of the ASME code, API-ASME code, or the rules for repairs contained in the National Board Inspection Code or the code to which the item was originally constructed.

(b) This section applies to all repairs and alterations to boiler and pressure vessel pressure retaining parts, except that an owner or user of unfired pressure vessels, qualified in accordance with IC 22-15-6-4(a)(2), shall have the option of using the provisions of API-510 for the inspection and repair of unfired pressure vessels.

(c) All boilers and pressure vessels covered by this article that are repaired beginning one (1) year from the effective date of this article, must be repaired by one (1) of the following:

(1) An organization in possession of a valid ASME “S”, “H”, or “U” certificate of authorization applicable to the scope of work being performed.

(2) An organization in possession of a valid “R” certificate of authorization issued by the National Board of Boiler and Pressure Vessel Inspectors.

(3) An organization authorized by the office of the state building commissioner who shall receive recommendation from the rules board under this section.

(d) All boilers and pressure vessels covered by this article altered beginning one (1) year from the effective date of this article shall be altered in accordance with the requirements of the National Board Inspection Code as set forth at 680 IAC 2-4-31 *[sic., 680 IAC 2-4-32]* or as approved by the rules board as provided by its variance authority set forth at IC 22-13-2-11.

(e) The office of the state building commissioner shall authorize the division to develop a procedure for the issuance and use of the authorization to repair boilers and pressure vessels under subsection (c)(3). This procedure shall consist of a review and evaluation of the repair organization's quality control manual, and a report shall be submitted to the rules board. Based upon the results of the division review of the quality manual and the quality system, the office of the state building commissioner shall, based upon the recommendation from the rules board, consider approval or denial of the request for repair authorization. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-5-11; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1125; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-5-12 Shop inspections; fees

Authority: IC 22-12-2-8; IC 22-12-6-12; IC 22-15-6-2
Affected: IC 22-12-1-20; IC 22-12-4; IC 22-15-6

Sec. 12. (a) The shop inspection of new boilers and unfired pressure vessels shall be charged in accordance with the provisions of IC 22-12-6-12. Inspections by any state inspector made at the request of a boiler or unfired pressure vessel manufacturer, repairer, or owner or user inspection agency shall be charged in accordance with the provisions in IC 22-12-6-12. This charge shall not void the regular charge or fee for inspection or certificate when the boiler or unfired pressure vessel is installed.

(b) Inspections made for any other purpose or for inspection of any device listed under IC 22-12-1-20(b) shall be charged in accordance with the provisions in IC 22-12-6-12. Any incidental expense incurred under this subsection such as motel, per diem, and traveling expenses shall be computed and charged in addition to the hourly rate. The fees computed under this subsection must cover the period from the time the inspector leaves the inspector's regular schedule to the time the inspector returns to the inspector's regular schedule. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-5-12; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1126; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-5-13 Masonry or structural supports

Authority: IC 22-12-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 13. Each boiler or pressure vessel shall be supported by masonry or structural supports of sufficient strength and rigidity to safely support the equipment. There shall be no excessive vibration in either the boiler or pressure vessel or its connecting piping. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-5-13; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1126; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-5-14 Service water heaters; exceptions; relief valves

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 14. (a) A service water heater, as defined in this article, need not be a code vessel; however, it shall be provided with a properly sized ASME pressure relief valve conforming to the requirements of this section.

(b) It is required that domestic water heaters be provided with suitable temperature and pressure relief valves. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-5-14; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1126; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-5-15 Conditions not covered by this article

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 15. Any condition not covered by this article shall comply with the applicable provisions of the ASME code or the API-ASME code. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-5-15; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1126; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

Rule 6. New Installations of Boilers

680 IAC 2-6-1 Compliance with ASME code; special designs

Authority: IC 22-13-2-8
Affected: IC 22-12-1-20; IC 22-12-4; IC 22-13-2-11; IC 22-15-6

Sec. 1. (a) No boiler, except existing boilers to be reinstalled and those exempted by the provisions of IC 22-12-1-20, shall hereafter be installed in this state unless it has been constructed, inspected, and stamped in conformity with the ASME code. Boilers requiring ASME data reports shall be registered with the National Board.

(b) All new boiler installations, including reinstalled and secondhand boilers, shall be installed in accordance with the requirements of the ASME code adopted under this article.

(c) Where special designs do not comply with the adopted standards in this article, their construction must be approved in accordance with the variance procedure established in IC 22-13-2-11 and as set forth in 680 IAC 2-2. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-6-1; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1126; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-6-2 Inspection; stamping of serial number

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 2. (a) Upon completion of the installation, all boilers shall be inspected by a state inspector or an owner or user inspector. At the time of this internal or certificate inspection, each boiler shall be stamped by the inspector with a serial number of the state of Indiana preceded by the letters "IND", the letters and figures to be not less than one-fourth (¼) inch in height and arranged as:

IND 1234

(b) All cast iron boilers shall have securely attached to the front of the boiler a metal tag not less than one (1) inch in height which shall have the serial number of the state of Indiana stamped thereon.

(c) The number applied shall be one (1) from the series assigned to the state inspector or owner or user inspector in accordance with this article.

(d) The stamping shall not be concealed by lagging or paint and shall be exposed at all times. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-6-2; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1127; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-6-3 Access for inspection of drum heads

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 3. For new installations, provision shall be made to permit making inspections of the drum heads of all boilers. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-6-3; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1127; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

Rule 7. New Installations of Unfired Pressure Vessels

680 IAC 2-7-1 Compliance with ASME code; special designs

Authority: IC 22-13-2-8
Affected: IC 22-12-1-20; IC 22-12-4; IC 22-13-2-11; IC 22-15-6

Sec. 1. (a) No unfired pressure vessel, except existing vessels to be reinstalled and those exempted by the provisions of IC 22-12-1-20, shall hereafter be installed in this state unless it has been constructed, inspected, and stamped in conformity with Section

VIII of the ASME code and registered with the National Board.

(b) All new installations of unfired pressure vessels, including reinstalled and secondhand unfired pressure vessels, shall be installed in accordance with the requirements of Section VIII of the ASME code.

(c) Where special designs do not comply with the adopted standards in this article, their construction must be approved in accordance with the variance procedure established by IC 22-13-2-11. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-7-1; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1127; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-7-2 Inspection; stamping of serial number

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 2. (a) Upon completion of the installation, all unfired pressure vessels shall be inspected by a state inspector or an owner or user inspector. At the time of this certificate inspection, each unfired pressure vessel shall be stamped by the inspector with a serial number of the state of Indiana preceded by the letters "IND", the letters and figures to be not less than one-fourth (¼) inch in height and arranged as:

IND 1234

(b) Any unfired pressure vessel constructed of cast iron or of a material of such thickness that it should not be stamped shall have securely attached a metal tag not less than one (1) inch in height, which shall have the serial number of the state of Indiana stamped thereon.

(c) The number applied shall be one (1) from the series assigned to the state inspector or owner or user inspector in accordance with this article.

(d) The stamping shall not be concealed by lagging or paint and shall be exposed at all times unless a suitable record is kept of the location of the stamping so that it may be readily uncovered at any time. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-7-2; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1127; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

Rule 8. Existing Installations of Power Boilers

680 IAC 2-8-1 Maximum allowable working pressure for standard boilers

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 1. The maximum allowable working pressure for standard boilers shall be determined in accordance with the applicable provision of the edition of the ASME code under which they were constructed and stamped. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-8-1; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1127; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-8-2 Maximum allowable working pressure for nonstandard boilers

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 2. (a) The maximum allowable working pressure on the shell of a nonstandard boiler 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 outside course, and the factor of safety allowed by this section. The equation shall be:

$$P = \frac{(TS)(t)(E)}{(R)(FS)}$$

Where: P = Maximum allowable working pressure, in psig.
TS = Ultimate tensile strength of shell plates, in psi.
t = Minimum thickness of shell plate, in weakest course, in inches.

E = Efficiency of longitudinal joint or tube hole ligaments, whichever is less. For riveted construction, E shall be determined by the methods illustrated in Section I of the ASME code (1971 edition). For tube hole ligaments, E shall be determined by the rules in Section I of the ASME code.

R = One-half (½) the inside diameter of the weakest course of shell or drum in inches.

FS = Factor of safety permitted.

(b) When the tensile strength of steel or wrought iron shell plates is not known, it shall be taken as fifty-five thousand (55,000) psi for steel and forty-five thousand (45,000) psi for wrought iron.

(c) The resistance to crushing of mild steel shall be taken as ninety-five thousand (95,000) psi for each square inch of cross-sectional area.

(d) When computing the ultimate strength of rivets in shear, the following values in psi of the cross-sectional area of the rivet shank shall be used:

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

When 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 by cutting out one (1) rivet in the body of the joint, or as follows:

SIZES OF RIVETS BASED ON PLATE THICKNESS

¼″ t (11/16″ rivet)
9/32″ t (11/16″ rivet)
5/16″ t (¾″ rivet)
11/32″ t (¾″ rivet)
3/8″ t (13/16″ rivet)
13/32″ t (13/16″ rivet)
7/16″ t (15/16″ rivet)
15/32″ t (15/16″ rivet)
½″ t (15/16″ rivet)
9/16″ t (17/16″ rivet)
5/8″ t (17/16″ rivet).

Rivet size is based on diameter after driving.

(e) The following factors of safety shall be increased based on an extrapolation of them as a function of the age and condition of the boiler:

(1) The lowest factor of safety permissible on existing nonstandard installations shall be four and one-half (4½) excepting for horizontal return tubular boilers having continuous lap seams more than twelve (12) feet in length where the factor of safety shall be eight (8), and, when this latter type of boiler is removed from its existing setting, it shall not be reinstalled for pressures in excess of fifteen (15) psig.

(2) Reinstalled or secondhand boilers shall have a minimum factor of safety of six (6) when the longitudinal seams are of lap riveted construction, and a minimum factor of safety of five (5) when the longitudinal seams are of butt and double strap construction.

(f) 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) psig shall be thirty (30) years. A variance from this may be granted by the rules board as set forth at IC 22-12-2-11 *[sic.]* and rule 2 of this article *[sic., 680 IAC 2-2]*. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-8-2; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1128; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-8-3 Maximum working pressure for all boilers

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 3. In no case shall the maximum working pressure of any boiler be increased to a greater pressure than would be allowed

for a new boiler of the same construction. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-8-3; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1128; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-8-4 Maximum allowable working pressure for water tube boilers

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 4. The maximum allowable working pressure on a water tube boiler, the tubes of which are secured to cast iron or malleable iron headers, or which have cast iron mud drums, shall not exceed one hundred sixty (160) psig. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-8-4; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1129; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-8-5 Cast iron boilers; use as power boiler prohibited

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 5. No cast iron boiler shall be used as a power boiler. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-8-5; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1129; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-8-6 Access for inspection of drum heads

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 6. Heads of lower drums of boilers shall be thoroughly examined at the certificate inspection, and either a sufficient amount of brickwork shall be removed or inspection doors provided to enable this examination to be made. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-8-6; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1129; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-8-7 Stamping of serial number; alternative standards

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 7. (a) At the time of the first internal certificate inspection, each boiler shall be stamped by the inspector with a serial number of the state of Indiana preceded by the letters "IND", the letters and figures to be not less than one-fourth (¼) inch in height, arranged as:

IND 1234

(b) The number applied shall be one (1) from the series assigned to the state inspector or owner or user inspector in accordance with this article.

(c) The stamping shall not be concealed by lagging or paint and shall be exposed at all times.

(d) All existing power boiler installations shall conform to sections 8 through 16 of this rule or shall conform to the edition of the ASME code under which they were constructed and stamped, or to the ASME code as defined in 680 IAC 2-1-1. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-8-7; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1129; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-8-8 Feed supply and piping

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 8. (a) All boilers shall have a feed supply which will permit the boiler to be fed at any time while the boilers are under pressure.

(b) A boiler having more than five hundred (500) square feet of water heating surface shall have at least two (2) means of feeding. One (1) of these means shall be an approved feed pump, an injector, or an inspirator. A source of feed directly from

pressure mains may be considered one (1) of the means if sufficient pressure is available at all times to feed the boiler against a pressure six percent (6%) greater than the release pressure of the safety valve with the highest release setting.

(c) The feed water shall be introduced into the boiler in such manner that it will not be discharged close to riveted joints of shell or furnace sheets, or directly against surfaces exposed to gases at high temperature or direct radiation from the fire.

(d) The feed piping to the boiler shall be provided with a check valve near the boiler and a valve or cock between the check valve and the boiler. When two (2) or more boilers are fed from a common source, there shall also be a valve on the branch to each boiler between the check valve and source of supply. Whenever a globe valve is used on feed piping, the inlet shall be under the disk of the valve.

(e) In all cases where returns are fed back to the boiler by gravity, there shall be a check valve and stop valve on each return line, the stop valve to be placed between the boiler and the check valve, and both shall be located as close to the boiler as is practicable.

(f) When deaerating heaters are not employed, temperature of the feed water shall be no less than one hundred twenty degrees Fahrenheit (120°F). Where deaerating heaters are employed, the minimum feed water temperature shall be not less than two hundred fifteen degrees Fahrenheit (215°F). *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-8-8; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1129; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-8-9 Fire-actuated fusible plugs

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 9. Fire-actuated fusible plugs, if used, shall conform to the requirements of the ASME code, Section I, or as set forth in section 7(d) of this rule. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-8-9; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1129; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-8-10 Water columns, gage cocks, and gage glasses

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 10. (a) As set forth in section 7(d) of this rule, no outlet connections shall be placed on the piping that connects the water column to the boiler. Exceptions are as follows:

(1) Damper regulator.
(2) Feed water regulator.
(3) Low water fuel cut-out.
(4) Drains.
(5) Gages.
(6) Such apparatus that does not permit the escape of an appreciable amount of steam or water.

The water column shall be provided with a valved drain of at least three-fourths (¾) inch pipe size.

(b) Each boiler shall have three (3) or more gage cocks, located within the range of the visible length of the water glass, except when such boiler has two (2) water glasses with independent connections to the boiler, located on the same horizontal line and not less than two (2) feet apart.

(c) For all installations where the water gage glass or glasses are more than thirty (30) feet from the boiler operating floor, water level indicating or recording gages shall be installed in such a manner that they are clearly visible from the operating floor. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-8-10; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1130; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-8-11 Steam gages; shutoff valves; nipple and globe valves

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 11. (a) As set forth in section 7(d) of this rule, each steam boiler shall have a steam gage, with a dial range not less than

one and one-half (1½) times the maximum allowable working pressure, connected to the steam space or to the steam connection to the water column. The steam gage shall be connected to a siphon or equivalent device of sufficient capacity to keep the gage tube filled with water, and so arranged that the gage cannot be shut off from the boiler except by a cock placed near the gage and provided with a tee or lever handle arranged to be parallel to the pipe in which it is located when the cock is open.

(b) When a steam gage connection longer than eight (8) feet becomes necessary, a shut off valve may be used near the boiler provided the valve is of the outside screw and yoke type and is locked open. The line shall be ample size with provision for free blowing.

(c) Each boiler shall be provided with a one-fourth (¼) inch nipple and globe valve connected to the steam space for the exclusive purpose of attaching a test gage when the boiler is in service so that the accuracy of the boiler steam gage may be ascertained. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-8-11; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1130; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-8-12 Stop valves; drainage

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 12. (a) As set forth in section 7(d) of this rule, each steam outlet from a boiler (except safety valve connections) shall be fitted with a stop valve located as close as practicable to the boiler.

(b) When a stop valve is so located that water can accumulate, ample drains shall be provided. The drainage shall not be discharged on the top of the boiler or its setting.

(c) When boilers provided with manholes are connected to a common steam main, the steam connection from each boiler shall be fitted with two (2) stop valves having an ample free blow drain between them. The discharge of this drain shall be visible to the operator while manipulating the valves and shall be piped clear of the boiler stetting. The stop valves shall consist preferably of one (1) automatic nonreturn valve (set next to the boiler) and a second valve of the outside-screw-and-yoke type. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-8-12; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1130; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-8-13 Blow-off piping; heat protection; fittings

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 13. (a) As set forth in section 7(d) of this rule, the construction of the setting openings and their sealing around each blow-off pipe shall permit free expansion and contraction.

(b) All blow-off piping, when exposed to furnace heat, shall be protected by fire brick or other heat resisting material, so constructed that the piping may be readily inspected.

(c) Each boiler shall have a blow-off pipe, fitted with a valve or cock, in direct connection with the lowest water space. Cocks shall be of the gland or guard type and suitable for the pressure allowed. The use of globe valves shall not be permitted. If the maximum allowable working pressure exceeds one hundred (100) psig, each blow-off pipe shall be provided with two (2) valves or a valve and a cock, such valves and cocks to be suitable for the intended pressure and temperature.

(d) When the maximum allowable working pressure exceeds one hundred (100) psig, blow-off piping shall be suitable for the intended pressure and temperature. The piping shall not be galvanized.

(e) All fittings between the boiler and blow-off valve shall be constructed of material suitable for the intended pressure and temperature. In case of renewal of blow-off pipe or fittings, they shall be installed in accordance with the rules governing new installations. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-8-13; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1130; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-8-14 Safety valves; prohibited types; installation; standards; relieving capacity

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 14. (a) As set fourth *[sic.]* in section 7(d) of this rule, the use of weighted-lever safety valves is prohibited and these

valves shall be replaced by direct spring loaded pop type valves that conform to the requirements of the ASME code, Section I.

(b) Safety valves having either the seat or disc of cast iron shall not be used.

(c) Each boiler shall have at least one (1) safety valve. Each boiler having more than five hundred (500) square feet of water heating surface shall have two (2) or more safety valves.

(d) The valve or valves shall be connected to the boiler, independent of any other steam connection, and attached as close as possible to the boiler, without unnecessary intervening pipe or fittings.

(e) No valve of any description shall be placed between the safety valve and the boiler nor on the escape pipe (if used) between the safety valve and the atmosphere. When an escape pipe is used, its area shall not be less than the area of the valve or aggregate areas based on the nominal diameters of the valves with which it connects. The escape pipe shall be fitted with an open drain to prevent water from lodging in the upper part of the valve or in the pipe. When an elbow is placed on a safety valve escape pipe, it shall be located close to the safety valve outlet, and the escape pipe shall be securely supported. All safety valve discharges shall be so located or piped as to be carried clear from walkways or platforms used to control the main stop valves of boilers or steam headers.

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

(g) One (1) or more safety valves on every boiler shall be set at or below the maximum allowable working pressure. The remaining valves may be set not to exceed three percent (3%) above the maximum allowable working pressure, but the range of setting of all the safety valves on a boiler shall not exceed 10 percent (10%) of the highest pressure to which any valve is set.

(h) When 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 over pressure considering the generating capacity of all the boilers.

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

(j) The relieving capacity of the safety valves on any boiler shall be checked by one (1) of the following methods and, if found to be insufficient, additional valves shall be provided:

(1) By making an accumulation test, which consists of shutting off all other steam-discharge outlets from the boiler and forcing the fires to the maximum. The safety valve capacity shall be sufficient to prevent a pressure in excess of six percent (6%) above the maximum allowable working pressure.

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

(3) By determining the maximum evaporative capacity by measuring the feed water.

When either of the methods outlined in subdivision (2) or (3) is employed, the sum of the safety valve capacities shall be equal to or greater than the maximum evaporative capacity (maximum steam generating capacity) of the boiler. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-8-14; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1131; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-8-15 Repair or replacement of fittings or appliances

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 15. As set forth in section 7(d) of this rule, whenever repairs are made to fittings or appliances or it becomes necessary to replace them, the work shall comply with the ASME code. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-8-15; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1131; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-8-16 Conditions not covered by this article

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 16. As set forth in section 7(d) of this rule, all cases not specifically covered by this article shall be treated as new installations or may be referred to the chief inspector for instructions concerning the requirements. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-8-16; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1132; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

Rule 9. Existing Installations of Miniature Boilers

680 IAC 2-9-1 Maximum allowable working pressure

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 1. Rules adopted for existing installations of power boilers applying to strength of materials and calculations to determine maximum allowable working pressure shall be used for miniature boilers. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-9-1; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1132; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-9-2 Feed supply and piping

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 2. (a) Every miniature boiler shall be provided with at least one (1) feed pump or another mechanical feeding device except where the following conditions exist:

(1) Where the boiler is connected to a water main or system having sufficient pressure at all times to feed the boiler at a pressure six percent (6%) in excess of the safety valve setting.

(2) Where the boiler is operated without extraction of steam (closed system in which case the boiler is filled, when cold, through the connection or opening provided as required in subsection (b)).

(b) Each miniature boiler shall be fitted with a feed water connection which shall not be less than one-half (½) inch iron pipe size. The feed piping shall be provided with a check valve near the boiler and a valve or cock between the check valve and the boiler.

(c) Feed water may be introduced through the blow-off connection where the boiler is operated without extraction of steam (closed system).

(d) Feed water shall not be introduced through the water column or gage glass connections while the boiler is under pressure. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-9-2; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1132; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-9-3 Water level indicators

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 3. (a) Each miniature boiler shall be equipped with a water gage glass for determination of water level.

(b) The lowest permissible water level shall be at a point one-third (⅓) of the height of the shell, except where the boiler is of a vertical type equipped with internal furnace, in which case it shall be not less than one-third (⅓) of the tube length above the top of the furnace.

(c) For small boilers where there is insufficient space for the usual type of gage glass, water level indicators of the glass bull's eye type may be used. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-9-3; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1132; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-9-4 Steam gages; dial range

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 4. Each miniature boiler shall be equipped with a steam gage having a dial range not less than one and one-half (1½) times the maximum allowable working pressure. The gage shall be connected to the steam space or to the gage glass by a brass or bronze

composition siphon tube or equivalent device that will keep the gage tube filled with water. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-9-4; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1132; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-9-5 Stop valves; location

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 5. The steam piping from a miniature boiler shall be provided with a stop valve located as close to the boiler shell or drum as is practicable, except in those cases where the boiler and steam receiver are operated as a closed system. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-9-5; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1132; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-9-6 Blow-off piping; dimensions; material standards

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 6. (a) Each miniature boiler shall be provided with a blow-off connection, not less than one-half (½) inch pipe size, in direct connection with the lowest water space.

(b) Blow-off piping shall not be galvanized and shall be provided with a valve or cock. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-9-6; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1132; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-9-7 Safety valves; type permitted; identification; relieving capacity

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 7. (a) Each miniature boiler shall be equipped with a sealed, spring-loaded, pop type safety valve not less than one-half (½) inch pipe size, connected directly to the boiler.

(b) The safety valve relieving capacity of each boiler shall be such that it will discharge all the steam that can be generated by the boiler without allowing the pressure to rise more than six percent (6%) above the maximum allowable working pressure.

(c) In those cases where the boiler is supplied with feed water directly from a pressure main or system without the use of a mechanical feeding device, the safety valve shall be set to release at a pressure not in excess of ninety-four percent (94%) of the lowest pressure obtained in the supply main or system feeding the boiler. Return traps shall not be considered mechanical feeding devices. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-9-7; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1133; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-9-8 Burners in gas-fired installations

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 8. For installations which are gas-fired, the burners used shall conform to the requirements set forth by the office of the state fire marshal and the fire prevention and building safety commission. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-9-8; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1133; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-9-9 Flue connections for gas fired installations

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 9. Each gas fired boiler shall be equipped with a four (4) inch minimum vent pipe or flue extended to an approved location outside the building or connected to a chimney flue. Where the horizontal run is more than ten (10) feet, the vent shall be increased to a minimum of six (6) inches. A draft hood of approved design shall be provided on each boiler. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-9-9; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1133; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-9-10 Inspection; stamping of serial number
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 10. (a) At the time of the first internal or certificate inspection, each boiler shall be stamped by the state inspector or the owner or user inspector with a serial number of the state of Indiana preceded by the letters "IND", the letters and figures to be not less than one-fourth (¼) inch in height, arranged as:

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(b) The number applied shall be one (1) from the series assigned to the state inspector or owner or user inspector in accordance with this article.

(c) The stamping shall not be concealed by lagging or paint and shall be exposed at all times. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-9-10; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1133; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

Rule 10. Existing Installations of Heating Boilers

680 IAC 2-10-1 Maximum allowable working pressure for standard boilers
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 1. The maximum allowable working pressure of a boiler built in accordance with the ASME code shall in no case exceed the pressure indicated by the manufacturer's identification stamped or cast upon the boiler or upon an identification plate secured to it. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-10-1; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1133; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-10-2 Maximum allowable working pressure for nonstandard riveted boilers
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 2. The maximum allowable working pressure on the shell of a nonstandard riveted boiler shall be determined in accordance with this article covering existing installations of power boilers, except that in no case shall the maximum allowable working pressure of such a boiler exceed fifteen (15) psig for steam or one hundred sixty (160) psig for water, at a temperature not exceeding two hundred fifty degrees Fahrenheit (250°F). *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-10-2; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1133; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-10-3 Maximum allowable working pressure for nonstandard welded boilers
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 3. The maximum allowable working pressure on a non-standard steel or wrought iron low pressure heating boiler of welded construction shall not exceed fifteen (15) psig for steam. For other than steam service, the maximum allowable working pressure shall be calculated in accordance with Section IV of the ASME code. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-10-3; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1133; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-10-4 Maximum allowable working pressure for nonstandard cast iron boilers
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 4. The maximum allowable pressure of a nonstandard boiler composed principally of cast iron, or having cast iron shell or head and steel or wrought iron tubes, shall not exceed fifteen (15) psig for steam service or thirty (30) psig for water service. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-10-4; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1134; readopted filed Jul 9, 2001,*

1:33 p.m.: 24 IR 3822)

680 IAC 2-10-5 Feed water connections; stop and check valves
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 5. Feed water connections shall be independent of any water gage connections and be made to the condensate return pipe or reservoir of the condensate return pump. There shall be a stop valve and a check valve in the feed water line at the boiler. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-10-5; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1134; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-10-6 Return pumps; water level control
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 6. Each condensate return tank where practicable shall be provided with an automatic water level control set to maintain the water level within safe limits. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-10-6; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1134; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-10-7 Water gage glasses; location
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 7. Each steam boiler shall have at least one (1) water gage glass with the lowest visible part above the heating surfaces in the primary combustion chamber. When the heating surfaces above the low water line may be injured by contact with gases of high temperature, the water gage shall be raised until the lowest visible part of the gage glass is above such heating surface. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-10-7; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1134; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-10-8 Steam gages for low pressure steam heating boilers; connections; dial range; stops
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 8. (a) Each low pressure steam heating boiler shall have a steam gage connected to its steam space or to its water column, or its steam connections by means of a siphon or equivalent device to keep the gage tube filled with water and so arranged that the gage cannot be shut off from the boiler except by a cock with a tee or lever handle, placed in the pipe near the gage. The handle of the cock shall be parallel to the pipe in which it is located when the cock is open.

(b) The scale on the dial of a low pressure steam heating boiler gage shall be graduated to not less than thirty (30) psig. The gage shall be provided with effective stops for the indicating pointer at the zero (0) point and at the maximum pressure point. The travel of the pointer from zero (0) to thirty (30) psig pressure shall be at least three (3) inches.

(c) Connections to steam-gage siphons shall be of non-ferrous metal when smaller than one (1) inch pipe size and longer than five (5) feet between siphon and the point of connection of pipe and boiler, and also when smaller than one-half (½) inch pipe size and shorter than five (5) feet between the siphon and point of connection of pipe to the boiler.

(d) On a compound gage, effective stops shall be set at the limits of the gage readings on both pressure and vacuum sides. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-10-8; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1134; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-10-9 Pressure or altitude gages for hot water heating boilers; connections; dial range; stops
Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 9. (a) Each hot water heating boiler shall have a pressure or altitude gage connected to it or to its flow connection in such a manner that it cannot be shut off from the boiler except by a cock with a tee or lever handle, placed on the pipe near the gage. The handle of the cock shall be parallel to the pipe in which it is located when the cock is open.

(b) The scale on the dial of the pressure or altitude gage shall be graduated to not less than one and one-half (1½) times the maximum allowable working pressure. The gage shall be provided with effective stops for the indicating pointer at the zero (0) point and at the maximum pressure point.

(c) Pressure or altitude gage connections shall be of non-ferrous composition when smaller than one (1) inch pipe size. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-10-9; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1134; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-10-10 Thermometers for hot water heating boilers; location and connection

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 10. Each hot water heating boiler shall have a thermometer so located and connected that it shall be easily readable when observing the water pressure or altitude. The thermometer shall be so located that it shall at all times indicate the temperature in degrees Fahrenheit of the water in the boiler, at or near the outlet. The pressure or altitude gages and thermometer may be separate devices, or a combination device. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-10-10; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1134; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-10-11 Stop valves and check valves

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 11. (a) If a boiler may be closed off from the heating system by closing a steam stop valve, there shall be a check valve in the condensate return line between the boiler and the system.

(b) If any part of a heating system may be closed off from the remainder of the system by closing a steam stop valve, there shall be a check valve in the condensate return pipe from that part of the system. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-10-11; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1135; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-10-12 Safety valves for low pressure steam heating boilers; dimensions and capacity

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 12. (a) Each low pressure steam heating boiler shall have one (1) or more safety valves of the spring-pop type adjusted and sealed to discharge at a pressure not to exceed fifteen (15) psig.

(b) Each safety valve for a low pressure steam heating boiler shall, if three-fourths (¾) inch or larger, have a substantial device which will positively lift the disk from its seat at least one-sixteenth ($^1/_{16}$) inch when there is no pressure on the boiler. The seats and disks shall be of suitable material to resist corrosion.

(c) No safety valve for a low pressure steam heating boiler shall be smaller than three-fourths (¾) inch and shall have a substantial device which will positively lift the disk from its seat at least one-sixteenth ($^1/_{16}$) inch when there is no pressure on the boiler. The seats and disks shall be of suitable material to resist corrosion.

(d) The minimum capacity of the valve or valves shall be governed by the capacity marking on the boiler called for in Section IV of the ASME code.

(e) The minimum valve capacity in pounds per hour shall be determined by dividing the maximum Btu output at the boiler nozzle obtained by the firing of any fuel for which the unit is designed by one thousand (1,000). In every case the requirements of subsection (f) shall be met.

(f) The steam safety valve capacity for each low pressure steam heating boiler shall be such that with the fuel-burning equipment installed, and fires at a maximum rate, the pressure of the low pressure steam heating boiler shall not exceed fifteen (15) psig with all safety valves open.

(g) When operating conditions are changed or additional boiler heating surface is installed, the valve capacity shall be checked and increased if necessary to meet the new conditions and be in accord with subsection (f). The additional valves required may be installed on the outlet pipe providing there is no intervening valve nor any other branching pipes between additional valves and the boiler.

(h) When there is any doubt as to the total capacity of the safety valve or valves, an accumulation test shall be run. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-10-12; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1135; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-10-13 Relief valves for hot water heating or supply boilers; settings; dimensions; relief capacity

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 13. (a) Each hot water heating or hot water supply boiler shall have one (1) or more relief valves of the spring-loaded type without disk guides on the pressure side of the valve. The valves shall be set to relieve at a pressure at or below the maximum allowable working pressure of the boiler and so arranged that they cannot be reset to relieve at a pressure higher than the maximum allowable working pressure of the boiler. The capacity of water relief valves that have not been officially rated in accordance with the ASME code shall not be taken into consideration in determining the required relieving capacity.

(b) Each relief valve shall have a substantial device which will positively lift the disk from its seat at least one sixteenth ($^1/_{16}$) inch when there is no pressure on the boiler.

(c) The seats and disks of relief valves shall be of material suitable to resist corrosion and withstand the preliminary test prescribed in the ASME code for low pressure heating boilers. No materials liable to fail due to deterioration or vulcanization when subjected to any temperature not exceeding two hundred seventy-five degrees Fahrenheit (275°F) shall be used for any part.

(d) No relief valve shall be smaller than three-fourths (¾) inch nor larger than four and one-half (4½) inches standard pipe size. The inlet opening shall have an inside diameter equal to, or greater than, the seat diameter. In no case shall the minimum opening through any part of the valve be less than one-fourth (¼) inch diameter or its equivalent area.

(e) The relieving capacity in pounds per hour shall be determined from the maximum Btu output at the boiler nozzle obtained by the firing of any fuel for which the unit is designed. In many cases a greater relieving capacity than the minimum specified will be necessary. In every case, the requirements of subsection (g) shall be met.

(f) When operating conditions are changed or additional boiler heating surface is installed, the valve capacity shall be increased, if necessary, to meet the new conditions and be in accordance with subsection (g). The additional valves required by changed conditions may be installed on the outlet pipe providing there is no intervening valve, nor any other branching pipes between valve and boiler.

(g) Relief valve capacity for each boiler shall be such that with the fuel-burning equipment installed, pressure cannot rise more than twenty percent (20%) above the highest maximum allowable working pressure for pressure up to and including thirty (30) psig and ten percent (10%) for pressures over thirty (30) psig. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-10-13; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1135; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-10-14 Installation of safety and relief valves

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 14. (a) Safety valves shall be connected to boilers with the spindle vertical if possible, either directly to a tapped or flanged opening in the boiler, to a fitting connected to the boiler by a close nipple, to a Y base, to a valveless steam pipe between adjacent boilers, or to a valveless header connecting steam outlets on the same boiler.

(b) Relief valves shall be connected to the top of boilers, with spindle vertical if possible, either directly to a tapped or flanged opening on the boiler, to a fitting connected to the boiler by a close nipple, to a Y base, or to a valveless header connecting water outlets on the same boiler.

(c) When a Y base is used, the inlet area shall not be less than the combined outlet areas. When the size of the boiler requires a safety valve or relief valve larger than four and one-half (4½) inches in diameter, two (2) or more valves having the required combined capacity shall be used.

(d) No shut-off of any description shall be placed between the safety or relief valve and the boiler, or on discharge pipes between such valves and the atmosphere. Safety and relief valves shall not be connected to an internal pipe in the boiler.

(e) When a discharge pipe is used, its area shall be not less than the area of the valve or aggregate area based on the nominal diameters of the valves with which it connects, and the discharge pipe shall be fitted with an open drain to prevent water from lodging in the upper part of the valve or in the pipe. When an elbow is placed on a safety or relief valve discharge pipe, it shall be supported so that no stress is placed on the valve body. The discharge from safety or relief valves shall be to a point of safe discharge. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-10-14; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1136; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-10-15 Repair or replacement of fittings or appliances

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 15. Whenever repairs are made to fittings or appliances or it becomes necessary to replace them, the work must comply with the ASME code or NBIC as applicable. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-10-15; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1136; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-10-16 Inspection; stamping of serial number

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 16. (a) At the time of the first internal or certificate inspection, each boiler shall be stamped by the inspector with a serial number of the state of Indiana preceded by the letters "IND", the letters and figures to be not less than one-fourth (¼) inch in height, arranged as:

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(b) All cast iron heating boilers shall have securely attached to the front of the boiler a metal tag not less than one (1) inch in height which shall have the serial number of the state of Indiana stamped thereon.

(c) The number applied shall be one from the series assigned to the state inspector or owner or user inspector in accordance with 680 IAC 2-3-18.

(d) The stamping shall not be concealed by lagging or paint and shall be exposed at all times. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-10-16; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1136; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

Rule 11. Existing Installations of Unfired Pressure Vessels

680 IAC 2-11-1 Maximum allowable working pressure for standard unfired pressure vessels

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 1. The maximum allowable working pressure for standard unfired pressure vessels shall be determined in accordance with the edition of the ASME code or API-ASME code under which they were constructed and stamped. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-11-1; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1136; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-11-2 Maximum allowable working pressure for nonstandard unfired pressure vessels

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 2. (a) The maximum allowable working pressure for nonstandard unfired pressure vessels, for which data are available evidencing they have been so designed and constructed as to be substantially equivalent to standard pressure vessels except for the stamping, shall be determined on the same basis as for standard pressure vessels.

(b) The maximum allowable working pressure for a nonstandard pressure vessel not covered by subsection (a) shall be the

least of the values found for allowable working pressure for any of the essential parts of the vessel (such as shell, heads, or nozzle openings) by the principles given in this subsection or subsection (c) and section 3 of this rule as adjusted for any difference in static head that may exist between the part considered and the top of the vessel.

(1) For internal pressure, the allowable working pressure for the shell of nonstandard cylindrical pressure vessels such as considered in this subsection shall be determined by the strength of the weakest course computed from the thickness of the plate, the tensile strength of the plate, the efficiency of the longitudinal joint, the inside radius of the course, and the factor of safety allowed under section 3 of this rule. The equation shall be:

$$P = \frac{(TS)(t)(E)}{(R)(FS)}$$

Where: P = Allowable working pressure in psig for the shell.

TS = Ultimate tensile strength of shell material in pounds per square inch. For carbon steel plates, when the tensile strength is not known, it shall be taken as fifty-five thousand (55,000) psi for temperatures not exceeding seven hundred degrees Fahrenheit (700°F). Where the tensile strength of cast iron is not known, it shall be taken to be twenty thousand (20,000) psi.

t = Minimum thickness of shell plate of weakest course, in inches. When the contents of a vessel are corrosive, it shall be taken as the last measured minimum thickness minus twice the thickness expected to be lost by corrosion before the next inspection.

E = Efficiency of longitudinal joint depending upon construction. Use values as follows:

For seamless shells: E = 1.

For riveted joints: calculated joint efficiency.

For fusion welded, forge welded, or brazed joints:

Fusion single lap weld	40%
Fusion double lap weld	60%
Fusion single butt weld	50%
Fusion double butt weld	70%
Forge weld	70%
Brazed steel	80%
Brazed copper	90%

Vessels with brazed joints shall not be operated with metal temperatures in excess of four hundred six degrees Fahrenheit (406°F).

R = Inside radius of weakest course of shell, in inches, provided the thickness does not exceed ten percent (10%) of the radius. If the thickness is over ten percent (10%) of the radius, the outer radius shall be used.

FS = Factor of safety allowed by this section.

(2) The allowable working pressure for heads of nonstandard pressure vessels such as considered in this subsection shall be determined by the applicable formulas in the API-ASME code or Section VIII of the ASME code, based on the last measured minimum thickness of the head in question or, in the case of heads, subject thickness expected to be lost by corrosion before the next inspection. Efficiencies for joints in a head shall be taken to be the same as specified in subdivision (1) for shell joints. The joints, in a head, shall be taken to be the same as specified in subdivision (1) for shell joints. The joint efficiencies are to be used in the head formulas only to the extent that the heads themselves actually contain a joint or joints, as distinguished from the joint between the head and shell; however, a determination also shall be made as to whether the strength of the joint between the head and shell is adequate to withstand the pressure imposed on the projected area of the head (namely, $3.14\ PR^2$), based on the least thickness of head or shell plate adjacent to such joint and the applicable joint efficiency specified in subdivision (1); and if the strength of this joint fails to meet this criterion, the allowable working pressure for the head (as determined by the applicable head formula) shall be reduced accordingly.

(3) The allowable working pressure for a shell course, or head, in which there is any opening larger than two (2) inch pipe size in the solid plate (or larger than three (3) inch pipe size if the net thickness of the plate, after deducting corrosion

allowance, is three-eighths (⅜) inch or less) and which has no more reinforcement for such opening than that inherent in the manway or nozzle neck and its attachment welds, shall be taken to be sixty percent (60%) of the allowable working pressure computed for a seamless shell course, or head, of the same dimensions, using in such computations the last measured thickness of the vessel element in question minus twice the thickness expected to be lost by corrosion before the next inspection. Or, alternatively, the effect of such opening on the allowable working pressure for such shell course, or head, shall be computed in accordance with applicable provisions of the API-ASME code or Section VIII of the ASME code using the dimensions of the materials actually available for reinforcement of such opening after deducting corrosion allowance as established in this subsection.

(4) For conditions not covered in this subsection, applicable provisions of the API-ASME code or Section VIII in the ASME code shall apply, or the case may be referred to the chief inspector for instruction concerning the requirements.

(c) The maximum allowable working pressure for cylindrical vessels subjected to external or collapsing pressure shall be determined by the applicable rules of the API-ASME code or Section VIII of the ASME code. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-11-2; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1137; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-11-3 Safety factor

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 3. The minimum factor of safety shall in no case be less than four (4) for carbon steel or low-alloy steel vessels operating with metal temperatures below seven hundred degrees Fahrenheit (700°F), and for high alloy steel shall not be less than that indicated to be permissible in the applicable table of maximum allowable stress values given in Section II of the ASME code for the material and temperature involved. The factor of safety may be increased (or the maximum allowable stress may be reduced) when deemed necessary by the inspector to ensure the operation of the vessel is within safe limits. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-11-3; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1138; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-11-4 Safety appliances

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 4. Each unfired pressure vessel shall be protected by such safety and relief valves and interlocking, indicating, and controlling safety devices as will ensure its safe operation. These valves and devices shall be so constructed, located, and installed that they cannot readily be rendered inoperative. The relieving capacity of safety valves shall be such as to prevent a rise of pressure in the vessel in excess of that permitted by applicable provisions of the API-ASME or the ASME codes, taking into account the effect of static head. Safety valve discharges shall be carried to a point where damage to property or injury to personnel is minimized. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-11-4; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1138; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-11-5 Inspection; stamping of serial number

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 5. (a) At the time of the first internal or certificate inspection, each unfired pressure vessel shall be stamped by the state inspector or the owner or user inspector with a serial number of the state of Indiana preceded by the letters "IND", the letters and figures to be not less than one-fourth (¼) inch in height and arranged as:

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(b) Any unfired pressure vessel constructed of cast iron, or of a material, or of such thickness that it should not be stamped, shall have securely attached a metal tag not less than one (1) inch in height, that has a state serial number stamped thereon.

(c) The number applied shall be one from the series assigned to the state inspector or owner or user inspector in accordance with this article.

(d) The stamping shall not be concealed by lagging or paint and shall be exposed at all times unless a suitable record is kept

of the location of the stamping so that it may be readily uncovered at any time. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-11-5; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1138; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

680 IAC 2-11-6 Repair or replacement of fittings or appliances

Authority: IC 22-13-2-8
Affected: IC 22-12-4; IC 22-15-6

Sec. 6. Whenever repairs are made to fittings and appliances or it becomes necessary to replace them, the work shall comply with the applicable provisions of the ASME code, API-ASME code, NBIC, API-510, or this article. *(Boiler and Pressure Vessel Rules Board; 680 IAC 2-11-6; filed Jan 5, 1996, 10:15 a.m.: 19 IR 1138; readopted filed Jul 9, 2001, 1:33 p.m.: 24 IR 3822)*

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