

DEPARTMENT OF ~~ENERGY, LABOR AND ECONOMIC GROWTH~~ LICENSING AND
REGULATORY AFFAIRS

DIRECTOR'S OFFICE

MICHIGAN BOILER RULES

Filed with the Secretary of State on

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(By authority conferred on the director of the department of ~~energy, labor and economic growth~~ **licensing and regulatory affairs** by sections 4, 4a and 13c of 1965 PA 290, **MCL 408.754, MCL 408.754a, and MCL 408.763c, and** executive reorganization order ~~no. nos. 2003-1, 2008-4 and 2011-4, MCL 408.754, MCL 408.754a, MCL 408.763e~~ **MCL 445.2011, MCL 445.2025, and MCL 445.2030**)

R 408.4012, R 408.4024, R 408.4025, R 408.4027, R 408.4031, R 408.4032, R 408.4033, R 408.4035, R 408.4036, R 408.4038, R 408.4047, R 408.4055, R 408.4057, R 408.4058, R 408.4065, R 408.4067, R 408.4069, R 408.4087, R 408.40107, R 408.4111, R 408.4114, R 408.4125, R 408.4129, R 408.4133, R 408.4149, R 408.4153, R 408.4157, R 408.4169, R 408.4171, R 408.4172, R 408.4182, R 408.4193, R 408.4197, R 408.4223, R 408.4503, R 408.4511, R 408.4520, R 408.4566, R 408.4575, R 408.4701, and R 408.5605 of the Michigan Administrative Code are amended, and R 408.4570 of the code is rescinded, and R 408.4034 is added to the Code is as follows:

PART 1. GENERAL PROVISIONS

R 408.4012 Definitions.

Rule 12. (1) "Accident" means a sudden and accidental breakdown of a boiler or a part of a boiler that results in physical damage to the boiler which necessitates the repair or replacement of the boiler or a part of the boiler. "Accident" does not mean a breakdown due to any of the following unless a unique or unusual explosion hazard exists as a result of the breakdown:

- (a) Normal erosion.
- (b) Corrosion.
- (c) Wastage of metal that requires restoration.
- (d) Leaking tubes.
- (e) Weakened metal, such as water legs or handhole areas.

(2) "Act" means 1965 PA 290, MCL 408.751 **to 408.776 and known as the boiler act of 1965.**~~et seq.~~

(3) "Aftercooler" means a device used for lowering the temperature of a boiler blowoff discharge before it enters the building drain.

(4) "Alteration" means any change in the item described on the original manufacturer's data report that affects the pressure-containing capability of the boiler or its piping. A nonphysical

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change such as an increase in the maximum allowable working pressure (internal or external) or design temperature of a boiler or its piping is an alteration.

(5) “ASME,” “ASME boiler and pressure vessel code,” “ASME code,” or “code” means the boiler and pressure vessel code of the American Society of Mechanical Engineers, with addenda, as prescribed and approved by the council of the society.

(6) “Authorized inspector” means an individual who is designated as an authorized inspector by an authorized inspection agency, who holds a valid certificate of competency and national board commission with an “A” or “B” endorsement, and who is employed by the authorized inspection agency that assumes responsibility for the individual’s actions.

(7) “Board of boiler rules” or “board” means the board created by the act.

(8) “Boiler assembler” means a corporation, company, partnership, or individual who assembles a boiler that has been delivered in pieces. For ASME code section I power boiler assemblies, a boiler assembler shall possess the appropriate code symbol stamps.

(9) “Boiler blowoff piping” means the piping, fittings, and valves from the boiler to the blowoff tank, blowoff separator, or other safe point of discharge through which the water in the boiler may be blown out under pressure, except for drains such as those used in water columns, gauge glasses, or piping to feed water regulators and similar devices.

(10) “Boiler blowdown vessel” means an unfired pressure vessel into which water is discharged above atmospheric pressure from a boiler blowoff line.

(11) “Boiler installation” means the installation of a boiler, including all connected piping, valves, fittings, flanges, firing equipment, controls, appurtenances, and auxiliaries. The term includes the field assembly of boilers.

(12) “CSD-1” means the ASME code for controls and safety devices for automatically fired boilers.

(13) “Certificate of competency” means a certificate issued to a person who has passed an examination for inspectors prescribed by the board of boiler rules.

(14) “Chief inspector” means the chief boiler inspector appointed under the act.

(15) “Condemned boiler” means a boiler that has been inspected and declared unsafe or rejected for use by an inspector who is qualified to take such action and who has applied a stamping or marking designating its rejection.

(16) “Department” means the department of ~~energy, labor and economic growth~~ **licensing and regulatory affairs**.

(17) “Deputy inspector” means an inspector who is licensed under the act and ~~appointed~~ **employed** by the director.

(18) “Existing installation” means and includes any steam boiler constructed, installed, placed in operation, or contracted for before August 10, 1917, or any hot water heating or supply boiler constructed, installed, placed in operation, or contracted for before the effective date of these rules.

(19) “External inspection” means an inspection which is conducted while the boiler is under pressure and which does not involve examination of the internal surfaces of the pressure parts of the boiler.

(20) “Field assembly” means assembling prefabricated boiler pressure parts without field welding or riveting.

(21) “Field erection” means the erecting and assembling of boiler parts by welding, riveting, or other fabrication processes.

(22) “Flash tank” means a closed vessel equipped with internal baffles or an apparatus for the purpose of separating moisture from flash steam as it passes through the vessel.

(23) “Hobby” means an interest or activity that a person pursues in his or her leisure time without compensation.

(24) “Hot water heating and hot water supply boiler” means a boiler that operates at pressures of not more than 160 psi or temperatures of not more than 250 degrees Fahrenheit, at or near the boiler outlet.

(25) “Incompetence” means a departure from, or a failure to conform to, minimal standards of acceptable practice for the occupation.

~~(25)~~(26) “Inspector” means an individual who holds a valid certificate of competency and national board commission.

~~(26)~~(27) “Internal inspection” means an inspection made when a boiler is shut down and handholes or manholes are opened for inspection of the interior.

~~(27)~~(28) “Labeled” means devices, equipment, appliances, or material to which have been affixed a label, seal, symbol, or other identifying mark of a nationally recognized testing laboratory, inspection agency, or other organization concerned with product evaluation that maintains periodic inspection of the production of the items and by whose label the manufacturer attests to compliance with applicable nationally recognized standards.

~~(28)~~(29) “Licensed boiler installer” means a person licensed under the act to engage in the business of making piping connections to a boiler or in the business of field-assembling boilers.

~~(29)~~(30) “Licensed boiler repairer” means a person licensed under the act to engage in making or supervising all phases of boiler repair, alteration, or field erection.

~~(30)~~(31) “Listed” means equipment, appliances, or material included in a list published by a nationally recognized testing laboratory, inspection agency, or other organization concerned with product evaluation that maintains periodic inspection of production of listed equipment, appliances, or materials, and whose listing states either that the equipment, appliances, or material meets nationally recognized standards or has been tested and found suitable for use in a specified manner. The authority having jurisdiction shall utilize the system employed by the listing organization to identify a listed product.

(32) “Maximum allowable working pressure” or “MAWP” means the maximum gage pressure permissible for boiler to operate.

(33) “Maximum operating pressure” means the maximum operating pressure of the complete boiler system as designed, which shall include supply, return, feed, and blow off piping.

~~(31)~~(34) “Mechanical assembly” means the work necessary to establish or restore a pressure retaining boundary whereby pressure retaining capability is established through a mechanical, chemical, or physical interface.

~~(32)~~(35) “Mechanical repair” means a method of repair which restores a pressure retaining boundary to a safe and satisfactory operating condition, where the pressure retaining boundary is established by a method other than welding or brazing.

~~(33)~~(36) “Miniature boiler” means a power boiler that does not have any of the following:

- (a) An inside diameter of the shell of more than 16 inches.
- (b) A working pressure of more than 100 psig.
- (c) A gross volume of more than 5 cubic feet.
- (d) More than 20 square feet of heating surface.

~~(34)~~(37) “Miniature locomotive boiler” means a miniature hobby steam locomotive boiler which operates on a narrow gauge track that is less than 24 inches wide and which is for public display or use.

~~(35)~~(38) “Modular boiler” means a steam or hot-water heating assembly consisting of a grouping of individual boilers called modules, intended to be installed as a unit, with a single inlet and a single outlet. Modules may be under 1 jacket or may be individually jacketed.

~~(36)~~(39) “NBIC” means national board inspection code.

~~(37)~~(40) “New boiler” means a boiler constructed, installed, placed in operation, or contracted for after July 1, 1966.

~~(38)~~(41) “Nonstandard boiler” means a boiler that does not bear the national board stamping or the stamp of any state or political subdivision which has adopted a standard of construction equivalent to that required by the board of boiler rules.

~~(39)~~(42) “Owner or user” means a person, firm, partnership, or corporation that owns or operates a boiler within this state.

~~(40)~~(43) “Out-of-use boiler” means a boiler not ready for use having the fuel supply, electricity, and all piping that may pressurize the boiler disconnected.

~~(41)~~(44) “Portable boiler” means a boiler which is primarily intended for temporary location and which is, by its construction and usage, obviously portable.

~~(42)~~(45) “Pressure-retaining items” means any boiler, pressure vessel, piping, or material used for the containment of pressure, either internal or external. The pressure may be obtained from an external source, or by the application of heat from a direct source, or any combination thereof.

~~(43)~~(46) “Reinstalled boiler” means a boiler which is removed from its original setting and which is reinstalled at the same location or reinstalled at a new location.

(47) “Reinstatement” means the granting of a license or registration, with or without limitations or conditions, to a person whose license or registration has been suspended by the chief inspector.

~~(44)~~(48) “Rental boiler” means a boiler which is in temporary use for not more than 1 year and which may or may not be installed inside a boiler room, temporary room, or temporary shed or without external covering.

~~(45)~~(49) “Repair” means the work necessary to restore a boiler or its piping to a safe and satisfactory operating condition.

~~(46)~~(50) “Safe point of discharge” means a point of discharge that will protect personnel and property from injury due to discharge.

~~(47)~~(51) “Special inspector” means a boiler inspector who holds a license in the state of Michigan pursuant to 1965 PA 290, MCL 408.751 to **408.776 et seq.** and who is regularly employed by an insurance company authorized to insure against a loss from boiler accidents in this state or by any city that is exempt under the act and has an authorized boiler inspection department.

~~(48)~~(52) “Standard boiler” means a boiler that bears the stamp of the national board of boiler and pressure vessel inspectors or of another state or political subdivision which has adopted a standard of construction equivalent to that required by the board of boiler rules of this state.

~~(49)~~(53) “Traction boiler” means a boiler designed for the express purpose of pulling farm equipment or to convert steam power into flywheel energy driving farm apparatus such as threshers, saws, or grinding equipment.

~~(50)~~(54) “Used boiler” means a boiler that is being reinstalled by the same owner.

~~(54)~~(55) “Water heater” means a heater for use in commercial or industrial sizes providing corrosion resistance for supplying potable hot water at pressures not exceeding 160 psi or temperatures not exceeding 210 degrees Fahrenheit. A water heater that does not exceed any of the following is exempt from these rules:

- (a) A heat input of more than 200,000 BTU per hour.
- (b) A water temperature of more than 210 degrees Fahrenheit.
- (c) A nominal water-containing capacity of more than 120 gallons.

(56) Terms defined in the act have the same meanings when used in these rules.

R 408.4024 Adoption of NBIC by reference.

Rule 24. (1) The owner shall ensure the inspection, repair, and alteration of boilers, piping, and blowdown vessels is **pursuant to** ~~in accordance with~~ the NBIC, 2007**2011** edition, except as modified by these rules. The code is adopted by reference in these rules and available for inspection at the Michigan Department of ~~Energy, Labor & Economic Growth~~**Licensing and Regulatory Affairs**, Bureau of Construction Codes, ~~6546 Mercantile Way, Lansing~~**2501 Woodlake Circle, Okemos**, Michigan ~~48911~~**48864** or from the National Board of Boiler and Pressure Vessel Inspectors, 1055 Crupper Avenue, Columbus, Ohio 43229, at a cost as of the time of adoption of these amendatory rules for a total of ~~\$189.50~~**\$265.00**.

(2) The accreditation program described in the NBIC for repairs and alterations to pressure retaining items is mandatory for repairs to all power boilers and high pressure high temperature water boilers and alterations to any boiler not exempt by these rules. Repair companies in possession of a certificate of authorization issued by the national board of boiler and pressure vessel inspectors to repair and alter pressure retaining items shall have in their employ an individual with an appropriate class repairer license issued by the boiler division of the department. Repair companies not currently in possession of the certificate of authorization or a certificate of authorization issued by ASME shall have 1 year from the date of adoption of this rule to secure the certificate. Companies currently in possession of a valid certificate issued by ASME have until the next certificate review or 1 year, whichever is greater, to secure the certificate of authorization identified above. The board may waive the time requirement if appropriate justification is presented.

(3) Where the text of the NBIC refers to the “certificate holder,” the reference shall apply to all licensed boiler repairers, except when the reference is in relation to completion of NBIC forms and NBIC stamping, the reference shall refer to repair companies in possession of a valid certificate of authorization issued by the national board of boiler and pressure vessel inspectors to repair and alter pressure retaining items.

(4) The standard welding procedures referenced in the NBIC are accepted for use in this state, but are not mandatory. A licensed boiler repairer who elects to use 1 or more of the standard welding procedures shall file a list of the standard welding procedure identification numbers with the boiler division of the department before conducting any repairs or alterations requiring welding.

R 408.4025 ASME code; adoption by reference.

Rule 25. (1) A boiler, blow down vessel, and expansion tank shall be constructed as prescribed by these rules and the ASME boiler and pressure vessel code, sections I, II, III, IV, V, VIII, IX, X, XI, 2007**2010** edition and its 2008a**2011a** addenda, and ASME code B31.1, 2007**2010** edition, power piping, are adopted by reference in these rules and are available for inspection at

the Michigan Department of, ~~Energy, Labor & Economic Growth~~ **Licensing and Regulatory Affairs**, Bureau of Construction Codes, ~~6546 Mercantile Way, Lansing~~ **2501 Woodlake Circle, Okemos**, Michigan ~~48911~~ **48864** or from the ASME International, 22 Law Drive, Fairfield, New Jersey 07007, at a cost as of the time of adoption of these amendatory rules of ~~\$12,874.99~~ **\$15,500** and ~~\$315.00~~ **\$245.00** respectively.

(2) The board may accept pressure-retaining items which have been constructed to standards other than ASME standards and which have been accepted by application of the national board of boiler and pressure vessel inspectors' criteria for registration procedure.

(3) The owner shall not recalculate design maximum allowable working pressures based on ASME codes published after 1998 for boilers in-service before December 31, 1998.

R 408.4027 Adoption; ASME code CSD-1.

Rule 27. (1) The owner shall ensure that the installation, maintenance, operation, and testing of controls and safety devices is ~~pursuant to in accordance with~~ **pursuant to** manufacturer's instructions and ASME code CSD-1, ~~2006~~ **2009** edition, except as modified by these rules. The code is adopted by reference in these rules and available for inspection at the Michigan Department of ~~Energy, Labor & Economic Growth~~ **Licensing and Regulatory Affairs**, Bureau of Construction Codes, ~~6546 Mercantile Way~~ **2501 Woodlake Circle, Lansing Okemos**, Michigan ~~48911~~ **48864** or from the ASME, 22 Law Drive, Fairfield, New Jersey 07007, at a cost as of the time of adoption of these amendatory rules of ~~\$85.00~~ **\$89.00**.

(2) An owner or user of a boiler system shall ensure that the maintenance and testing of controls and safety devices is conducted by an individual with a valid mechanical contractor license with the appropriate classification pursuant to **the Forbes mechanical contractors act**, 1984 PA 192, MCL 338.971 ~~et seq.~~ **to 338.988. Individuals conducting maintenance and testing shall be under the guidance and supervision of a licensed mechanical contractor.**

(3) An owner or user shall provide the inspector, at the time of certificate inspection, with evidence showing **the maintenance has been performed and** what tests have been completed ~~annually~~. The evidence shall be a dated and signed service report or checklist, listing each control and safety device tested with the manufacturer's name, model number, set point, and actual operational test point. ~~An example~~ **Examples** of a report or checklist may be found in CSD-1, ~~2006~~ **2009** edition, appendix C **or example form exhibit A**. If an owner does not provide the inspector with the required evidence of **maintenance and annual**-testing for each ~~year~~ between certificate inspections, then the inspector may issue a certificate of inspection for a term less than that stated in R 408.4057.

Exception: For hot water heating **and hot water supply** boilers with a BTU input of 400,000 or less, the requirements of this rule need only be conducted once during an inspection cycle but shall be performed within 12 months ~~before prior to~~ the certificate inspection required by R 408.4057(1)(c).

(4) The owner, user, or operator of a boiler system shall ensure that the daily, weekly, and monthly operational checks are performed and documented pursuant to the manufacturer's instructions and these rules. If the manufacturer's instructions are not available, CSD-1, ~~2006~~ **2009** edition, nonmandatory appendix D contains a recommended checklist for additional information on periodic checks.

(5) A manually operated remote shutdown switch as required by CSD-1, ~~2006~~ **2009** edition, shall be located outside of each exit access doorway to the boiler room. The switch may be located just inside each exit access doorway should a possibility of tampering or weather

conditions exist. A licensee may request a deviation from the requirements of this subrule by submitting drawings clearly showing the deviation and stating justification for the request to the chief inspector for review and approval before the installation of a boiler. The chief inspector shall notify the licensee of the approval or denial of the request.

(6) A single manually-operated remote shutdown switch may be used in a multiple boiler installation that shares a common boiler room.

Exception: Kitchen cooking boilers, steam kettles, and steam cookers used for food preparation located in a kitchen shall be exempt from a manually operated remote shutdown switch **and lockable disconnect.**

Exception: Electrically heated or gas fired jacketed steam kettles safety devices at a minimum, shall be those required in ASME Code Section-VIII Division-1 2010 and its 2011a addenda and appendix 19.

(7) Where applicable, the boiler installation shall comply with the Michigan mechanical code, R 408.30901 to R 408.30998, Michigan plumbing code, R 408.30701 to R 408.30796 and Michigan electrical code, R 408.30801 to R 408.30880.

R 408.4031 Installation and reinstallation of boilers.

Rule 31. (1) The owner shall ensure that the installation of a new boiler or a reinstalled boiler is ~~pursuant in accordance with~~ **to** the requirements of these rules, the ASME boiler and pressure vessel code, ~~2007~~**2010** edition **and its 2011a addenda**, which is adopted by reference in R 408.4025 and the NBIC ~~2007~~**2011** edition, which is adopted by reference in R 408.4024 **and ASME CSD-1 2009 which is adopted in R 408.4027.**

~~(2) Where applicable, the boiler installation shall comply with the Michigan mechanical code, R 408.30901 to R 408.30998, Michigan plumbing code, R 408.30701 to R 408.30796 and Michigan electrical code, R 408.30801 to R 408.30880.~~

Exception: ~~(4)~~ The ASME code requirement for the completion of a P4B data report for the installation of mechanically assembled boiler external piping is not required.

~~(2) The NBIC code, part 1, section 2, paragraph 2.4.4, is enforced by the Michigan plumbing code, R 408.30701 to R 408.30796.~~

Exception: ~~(3)~~ Witnessing of the pressure test required by the NBIC part 1, section 2, paragraph 2.10.2, is not required.

Exception: For a water tube or coil type boiler requiring forced circulation a temperature differential system that senses the water temperature difference (delta T) between inlet and outlet across the boiler, and interrupts the fuel to the burner when the delta T exceeds the boiler manufacturers' parameters, shall be accepted when approved by the boiler manufacturer. The manufacturer of the boiler shall provide instructions in the owner's manual for the testing, operation, and installation of the temperature differential system.

~~(2) The NBIC code, part 1, section 2, paragraph 2.4.4, is enforced by the Michigan plumbing code, R 408.408.30701 to R 408.30796.~~

(2) Where applicable, the boiler installation shall comply with the Michigan mechanical code, R 408.30901 to R 408.30998, Michigan plumbing code, R 408.30701 to R 408.30796 and Michigan electrical code, R 408.30801 to R 408.30880.

(3) The NBIC code, part 1, section 2, paragraph 2.4.4, is enforced by the Michigan plumbing code, R 408.30701 to R 408.30796.

(4) The NBIC code, part 1, section 3, paragraph 3.6.1, is enforced by the Michigan mechanical code, R 408.30901 to R 408.30998.

R 408.4032 Non-boiler external piping; power boilers; adoption of standards by reference.

Rule 32. (1) The owner shall ensure that the installation of piping not covered by the ASME boiler and pressure vessel code, section I, ~~2007~~ **2011** edition, and its ~~2008a~~ **2011a** addenda is installed as prescribed by the ASME code for pressure piping, B31.1, ~~2007~~ **2010** edition **and its 2011a addenda**, adopted by reference in R 408.4025.

(2) The owner of a chemical plant or petroleum refinery shall comply with subrule (1) of this rule or shall ensure the installation is installed as prescribed by the ASME code for chemical plants and petroleum refineries, B31.3, ~~2007~~ **2010** edition **and its 2011a addenda**.

(3) A licensee under this rule is not required to possess an ASME code symbol stamp, but shall hold a valid installer's license.

(4) The owner shall ensure that the installation of all of the following piping is ~~pursuant to in accordance with~~ subrule (1) of this rule:

- (a) Blowoff piping beyond the second valve out to the safe point of discharge.
- (b) Steam piping out to the load.
- (c) Feed-water piping from the pump.
- (d) Condensate piping.

R 408.4033 Permits; documentation for installation, reinstallation, alteration, and repair of boilers, boiler external piping, and non-boiler external piping.

Rule 33. (1) All of the following provisions apply to installation permits:

(a) A person shall not install, or reinstall, a boiler without holding a proper license and first securing a permit from the boiler division of the department. The licensee applying for the permit shall ensure that work does not proceed until an approved permit has been secured.

(b) A person shall not install or replace welded pipe without holding a proper license and first securing a permit from the boiler division of the department. The licensee applying for the permit shall ensure that work does not proceed until an approved permit has been secured.

(c) A person shall not install nonwelded pipe without holding a proper license. A permit is not required.

(2) All of the following provisions apply to repair and alteration permits or reports:

(a) A person shall not alter or repair a boiler without holding a proper license and first securing a permit from the boiler division of the department. The licensee applying for the permit shall ensure that work does not proceed until an approved permit has been secured, except as provided by section 18 of the act.

(b) A person shall not repair or replace welded piping without holding a proper license and first securing a permit from the boiler division of the department. The licensee applying for the permit shall ensure that work does not proceed until an approved permit has been secured, except as provided for in section 18 of the act.

(c) A person shall not replace nonwelded piping without holding a proper license. A permit is not required.

(d) A person shall not perform welded repairs to nonwelded piping without holding a proper license and first securing a permit from the boiler division of the department. The licensee applying for the permit shall ensure that work does not proceed until an approved permit has been secured, except as provided for in section 18 of the act.

(e) A licensee who makes welded repairs to boilers or boiler external piping requiring the use of the national board "R" symbol stamp shall furnish the boiler division of the department, with

1 copy of the approved permit application, along with reports as required by the NBIC, upon completion of the work.

~~(f) A public utility or industrial plant that has been granted exemption under section 23 of the act that makes a welded repair to a boiler or boiler external piping, as defined in section I of the ASME code, shall furnish the boiler division of the department with a completed repair report on forms prescribed by the boiler division.~~

~~(g)~~(f) A public utility or industrial plant that has been granted an exemption under section 23 of the act that makes a welded repair to non-boiler external piping shall maintain records of the repairs and make the records available for review as required by the board of boiler rules.

(3) A permit is required for **either of the following**: ~~a change in use of an existing boiler or replacement by mechanical methods, without welding, of section in sectional boilers; heat exchangers; feed water heater or economizer; and tube bundles. A license replacing boiler components required by these rules to be code symbol stamped and national board registered shall provide the boiler division with the manufacturer's data reports.~~

(a) **A change in use of an existing boiler from high pressure to low pressure and low pressure to high pressure, hot water heat to hot water supply and hot water supply to hot water heat, steam heating to hot water heating and hot water heating to steam heating, steam heating to hot water supply and hot water supply to steam heating shall comply with the requirements of the Michigan boiler code, R 408.4001 to R 408.5609.**

(b) **Replacement by mechanical methods, without welding, of sections in sectional boilers; heat exchangers; feed water heater or economizer; and tube bundles.**

(4) **A licensee replacing boiler components required by these rules to be code symbol stamped and national board registered shall provide the boiler division with the manufacturer's data reports.**

~~(4)~~(5) Any changes in the scope of work stated on the original permit application shall be submitted to the inspector for review and approval and reported to the boiler division for approval.

R 408.4034 Public utility or industrial exemption.

Rule 34. (1) Practices and procedures for the exemption of licensing and permitting as referenced in section 23 of the act, MCL 408.773 consist of all of the following:

(a) **The boiler(s), boiler external piping, and non-boiler external piping shall be owned and operated by the public utility or industrial facility.**

(b) **Have in effect a quality program which shall be in the form of a quality manual.**

(c) **The quality program, at a minimum, shall address the required features relative to the scope of work to be performed. The scope of work related to repairs or replacements to boiler(s), boiler external piping, non-boiler external piping, and boiler replacements.**

(2) **The outline of the quality program shall include the following:**

(a) **Title page: name and complete address of the company.**

(b) **Contents page: a listing of the contents of the manual by subject.**

(c) **Scope of work: clearly indicates the scope of work.**

(d) **Statement of authority: a corporate resolution or policy recognizing its obligation under the act for compliance at all times and naming the person having responsibility and authority for the scope of work.**

(e) **Manual control: provisions for revising and issuing those revisions to maintain the manual current within the organization.**

- (f) Material control:** method used to assure that only acceptable materials (including welding material) are ordered, verified, and identified in storage.
- (g) Method of performing work:** documenting repairs in sufficient detail. Both of the following shall be documented:
- (i)** When repairs are conducted on boiler(s) or boiler external piping the inspector must have prior acceptance of the method of repairs.
- (ii)** The quality program shows who is responsible to notify the inspector of any boiler or boiler external piping repair work, and keeps him or her apprised of the progress of such work.
- (h)** Shall describe controls to ensure qualified welding procedures and welders qualified to those procedures are used for repairs.
- (i) Nondestructive examination (NDE) and heat treatment:** shall describe controls for NDE and heat treatment procedures.
- (j) Examinations and tests:** what examination and tests are to be conducted upon completion of the repair.
- (k) Acceptance and inspection of repairs:** the individual responsible for acceptance of repairs.
- (l) Inspections:** provisions for the inspector to have access to areas where repair work is being performed.
- (m) Report of boiler repair:** indicate the person responsible for preparing, signing, and presenting the record of welded (RWR) form to the inspector and sending it to the boiler division.
- (n) Nonconforming items:** have a system for the correction of nonconformities.
- (o) Exhibits:** forms referenced in the quality manual shall be included.
- (3)** The boiler owner shall maintain a maintenance record, subject to audit by state inspectors, for each boiler. The maintenance record shall contain an adequate description of each abnormal event, modification, repair, hydro test, internal or external inspections, and off-normal operations.
- (4)** The boiler owner shall contract with an approved third-party inspection and insurance company for boiler and boiler external piping repairs.
- (5)** All welders working on boilers or piping within the quality program shall be employees of the utility or industrial facility.
- (6)** All welding, heat treatment, non-destructive examination, and testing procedures shall be qualified pursuant to the ASME code.
- (7)** The boiler owner shall maintain documentation between each audit of non-boiler external piping repairs or replacements.
- (8)** Third-party employees or contractors shall not work under the exemption program for the applicant related to installation or repairs.
- (9)** The boiler division shall be notified prior to any boiler replacements.
- (10)** The applicant shall prepare and file with the boiler division an appropriate record of a welded repair form, signed by a commissioned inspector, with the boiler division. The applicant shall submit to the boiler division the record of welded repair form within 180 days after the completion of the repair.
- (11)** Upon the boiler board approval of the exemption program, a public utility or industrial plant shall be granted relief from licensing and permit requirements of the act for repairs to boiler and piping and the installation of a direct boiler replacement.

(12) Failure to comply with any of the provisions of this rule shall constitute just cause for revocation of the exemption status.

(13) The chief of the boiler division shall cause an audit of the exemption program to be conducted at least once every 3 years, to ensure continued compliance with the boiler act and the board’s requirements and these rules.

R 408.4035 Permits; issuance to licensed persons only.

Rule 35. (1) Permits shall be issued only to persons licensed as required by the act and these rules. Work shall be performed by or under the supervision of a licensed person.

(2) Payment of the permit application fee as provided in R 408.4038 is the responsibility of the licensed person.

R 408.4036 Multiple contractors.

Rule 36. Each contractor performing separate work on the same boiler installation, **repair, or alteration** shall possess a valid boiler installer’s **or boiler repairer’s** license and shall obtain a permit to install for that part of the **work installation he is to perform to be performed.**

R 408.4038 Fees.

Rule 38. (1) Fees for licenses, examinations, boiler operator and stationary engineer registration; ~~permits~~**permit applications**, certificates, and inspections are as follows:

Licenses	
Installer license	\$80.00.
Installer exam.....	\$100.00.
Installer renewal.....	\$80.00.
Repairer license.....	\$80.00.
Repairer exam.....	\$100.00.
Repairer renewal.....	\$80.00.
Inspector license.....	\$80.00.
Inspector exam.....	\$100.00.
Inspector renewal.....	\$50.00.
Boiler operator registration.....	\$80.00.
Boiler operator examination.....	\$100.00.
Boiler operator registration renewal.....	\$80.00.
Stationary engineer registration.....	\$80.00.
Stationary engineer written examination.....	\$100.00.
Stationary engineer registration renewal.....	\$80.00.
3 rd class stationary engineer oral examination.....	\$150.00.
2 nd class stationary engineer oral examination.....	\$200.00.
1 st class stationary engineer oral examination.....	\$250.00.
The reprinting of a registration more than 30 days after the issuance date.....	\$30.00.

Examination fees are nonrefundable.

Permit applications

Nuclear installation permit application.....	\$1,380.00.
Nuclear repair permit application	\$400.00.
Low-pressure installation permit application.....	\$75.00.
High pressure installation permit application	\$120.00 +.05 per foot of piping.
Repair permit application.....	\$75.00.

Permit application fees are nonrefundable.

Certificates

Certificates	\$60.00.
Reprinting of certificate more than 30 days after the issuance date	\$30.00.

Inspections

Power boilers-150 square feet or less	\$70.00.
Power boilers-more than 150 square feet to 4,000 square feet.....	\$165.00.
Power boilers-more than 4,000 square feet to 10,000 square feet	\$180.00.
Power boilers-more than 10,000 square feet.....	\$205.00.
Low-pressure heating boiler without manhole	\$70.00.
Inspection of an additional low-pressure heating boiler without a manhole at the same physical location, on the same date	\$60.00.
Low-pressure heating boiler with manhole.....	\$85.00.
Low-pressure hot water supply boiler.....	\$60.00.
Inspection of an additional low-pressure hot water supply boiler at the same physical location, on the same date.....	\$45.00.
Low-pressure process boiler without manhole	\$70.00.
Low-pressure process boiler with manhole	\$85.00.
Miniature hobby locomotive boiler	\$15.00.

Special inspections

(2) The boiler division shall provide special inspections not otherwise covered in ~~the fee schedule~~ **subrule (1) of this rule**. The charge for this service shall be at the rate of \$100.00 for the first hour and \$100.00 for each additional hour, plus lodging, meals, transportation, and other related expenses incurred for performing special inspections.

(3) Fees required under these rules shall be paid by cash, money order, or check to the department. Money orders or checks shall be made payable to: "State of Michigan."

R 408.4047 Exempt boilers.

Rule 47. These rules do not apply to any of the following:

- (a) A boiler under federal control.
- (b) A swimming pool heater, open car wash heater, and similar types of equipment which do not have intervening valves on the return or discharge piping, which do not have a reduction in pipe size in the return or discharge piping, and which do not generate more than normal circulating pump pressure.

- (c) A miniature steam or marine engine used for a hobby.
 - (d) A boiler used in the power plant of a self-propelled vehicle designed primarily for transportation of persons or property on a highway, except for a vehicle used exclusively on stationary rails or tracks.
 - (e) A boiler used on a mint farm for mint processing purposes.
 - (f) A nonvaporizing, organic fluid boiler if the boiler meets all of the following criteria:
 - (i) The system is vented and does not have valves or restrictions in the pipe between the boiler and the vent.
 - (ii) The vent pipe is sized so that the thermal expansion of the fluid will not result in an increase in pressure on the system, which is verifiable with engineering data.
 - (iii) The owner or user provides the boiler division of the department with calculations performed by an engineer, which verify that pressure due to thermal expansion cannot exist in the boiler as installed.
 - (g) A low-pressure steam boiler that has a volume of less than 5 cubic feet and that does not have piped feed connections.
 - ~~(h) A water tube or coil type hot water heating boiler requiring forced circulation not exceeding any 1 of the following:~~
 - ~~-(i) Maximum water temperature, of 200 degrees Fahrenheit.~~
 - ~~-(ii) Relief valve set pressure of 30 psi.~~
 - ~~-(iii) Heat input of 200,000 BTU/hr.~~
- ~~Exception. Modular or multiple boiler installations exceeding 1,000,000 BTU/hr input are not exempt.~~

R 408.4055 Right of access.

Rule 55. The director, chief inspector, ~~or any deputy inspector,~~ **or any special inspector** shall have free access, during reasonable hours, to any premises in the state where a boiler is being constructed, installed, repaired, operated, or connected and ready for use for the purpose of ascertaining whether the boiler is **in compliance within** ~~in accordance with~~ the act.

R 408.4057 Boiler inspection.

Rule 57. (1) Once a boiler has been inspected by the chief or deputy inspector and the boiler and its installation approved, all certificate inspections shall be conducted **pursuant to** ~~in accordance with~~ the NBIC and these rules by an inspector who is properly licensed to inspect boilers in this state **pursuant to** ~~in accordance with~~ all the following provisions:

- (a) A power boiler, process boiler, or high-pressure, high-temperature water boiler shall receive a certificate inspection annually and shall also be externally inspected annually, while under pressure, within 6 months from the date of the internal inspection.
- (b) A low-pressure steam or vapor heating boiler shall receive a certificate inspection biennially.
- (c) Hot water heating and hot water supply boilers shall receive a certificate inspection triennially, with an internal inspection at the discretion of the inspector.
- (d) A nonvaporizing, organic fluid boiler that is not exempt under these rules shall receive an external certificate inspection triennially.
- (e) A miniature hobby locomotive boiler shall receive a certificate inspection annually.

(f) A grace period of 2 months beyond the periods specified in subdivisions (a) to (e) of this subrule may lapse between certificate inspections, and the board may permit longer periods between certificate inspections.

(g) Internal inspection of cast boilers shall be at the discretion of the inspector.

(2) The certificate inspection shall be an internal inspection if construction allows, otherwise the certificate inspection shall be as complete an inspection as possible unless specified otherwise under this rule.

(3) The chief inspector, deputy inspector, or a special inspector provided for in the act shall make the inspections specified in this rule.

(4) If, at the discretion of the inspector, a hydrostatic test is necessary, the boiler owner or user shall ensure that the test is performed in the presence of the inspector.

(5) Certificate inspection reports submitted by electronic interface shall be in a format acceptable to the boiler division.

(6) Certificate inspection reports submitted to the boiler division for data entry shall be assessed a fee of \$2.00 per report.

R 408.4058 Extension of internal inspection certificate to 24 **or 36** months.

Rule 58. (1) An internal boiler inspection may be increased from an annual inspection to a 24-month inspection frequency by approval of the board of boiler rules. An employee delegated by the utility or industrial facility shall apply for the extension **and submit a copy of the document that controls its program for approval by the board of boiler rules.** ~~The following information shall be addressed by plant orders, procedures, or policies.:~~ **The following information may be contained in 1 document or several documents if 1 document contains references to all other documents addressing the required information:**

~~(a)~~**(i)** Operator training.

~~(b)~~**(ii)** Boiler maintenance.

~~(c)~~**(iii)** Water chemistry.

~~(d)~~**(iv)** Operating parameters.

~~(e)~~**(v)** Chemical cleaning schedule.

~~(f)~~**(vi)** Protective devices.

~~(g)~~**(vii)** Boiler external inspection.

~~(h)~~**(viii)** Testing of pressure relief ~~devices~~**valves pursuant to in accordance with the NBIC.**

Repairs shall be conducted by the valve manufacturer or a "VR" stamp holder.

~~The information may be contained in 1 document or several if 1 document contains references to all other documents addressing the required information.~~

(2) The plant owner shall establish a review committee. The inspector shall be a member of the committee. The purpose of the committee is to determine the acceptability of a boiler to operate safely for a 24-month period. The committee shall have access to and review all information pertaining to the past operation, maintenance, and repair of the boiler. The review committee meeting shall be conducted within 30 days after the internal inspection. The committee may decrease the period of time the boiler may operate, but shall not extend the period beyond 24 months. The signed summary report of the review committee meeting shall be submitted to the boiler division of the department. The grace period provided under R 408.4057 does not apply to this rule. The inspector shall indicate the next inspection due date on his or her inspection report to the boiler division of the department.

(3) An internal boiler inspection may be increased from a 24-month inspection to a 36-month inspection frequency by approval of the board of boiler rules. An employee designated by the utility or industrial facility shall request in writing the extension and shall submit a copy of the document that controls its program with supporting documentation that demonstrates compliance with all of the following for approval by the board of boiler rules:

(a) The boiler complies with all of the requirements of subrule (1) of this rule, and is currently inspected under 24-month inspection frequency approved by the board of boiler rules.

(b) The boiler is a power boiler.

(c) The following information shall be addressed by the program document, plant orders, plant procedures, or plant policies:

(i) The boiler is fully attended during operations by qualified personnel designated by the owner to operate the boiler.

(ii) The owner has a designated organization that provides oversight to boiler maintenance, and monitors boiler conditions to prevent significant deterioration from scaling, corrosion, erosion, or overheating to boiler components. The program document shall contain an organizational chart that delineates the reporting structure of this organization along with the organization responsible for boiler operation and maintenance within the owner's organization.

(iii) The owner has installed instrumentation available and functioning for continuous monitoring of water chemistry parameters as identified by the boiler manufacturer and routine calibration is performed. This instrumentation shall be maintained on a list for each boiler that applies to this paragraph.

(iv) The owner has a program for routine monitoring of the water chemistry condition, which includes physical samples being analyzed by the owner's staff. The owner shall maintain a list of the physical samples for each boiler that applies to this paragraph.

(v) The owner has alarm response procedures that provide direction to operators for actions to correct variations to chemistry parameters that include removing the boiler from service.

(d) The establishment of a review committee whose purpose is to determine the acceptability of a boiler to operate safely for a 36-month period. The review committee shall be made of, at a minimum, the following members:

(i) A representative from the owner's boiler operating and maintenance organization.

(ii) A representative from the owner's organization designated to provide oversight to boiler maintenance and monitoring of boiler condition.

(iii) The inspector.

(e) The review committee shall have access to and review all information pertaining to the past operation, maintenance, and repair of the boiler.

(f) The review committee meeting shall be conducted within 30 days after the internal inspection. The review committee may shorten the period of time the boiler may operate, but shall not extend the period beyond that permitted by the board of boiler rules.

(g) The summary report of the review committee meeting shall be submitted to the boiler division of the department.

(h) The grace period provided under R 408.4057(1)(f) shall not apply to this rule. The inspector shall indicate the next inspection due date on the inspection report submitted to the boiler division of the department.

(3) Utilities or industrial facilities with a prescheduled boiler internal certificate inspection period shall communicate with the boiler division the date when the boiler is removed from service. The boiler internal inspection may occur at any time during the outage period. The next ~~24-month~~ operating period shall be calculated based on the date of the certificate inspection conducted during this period.

(4) An external inspection of the boiler shall be conducted while under pressure, within 12 months of the certificate inspection, **and every 12 months thereafter until the next boiler internal inspection.**

R 408.4065 Examinations for inspector licenses; ~~place and time.~~

Rule 65. **(1)** Examinations for boiler inspector licenses and certificates of competency shall be held at a location selected by the ~~board~~ boiler division of the department, ~~4 times each year, on the first Wednesday and Thursday in March, June, September, and December.~~

(2) Examinations shall be conducted as approved by the board.

R 408.4067 Qualifications of applicants for a boiler inspector license.

Rule 67. An applicant for examination for a boiler inspector license shall have had not less than 3 years' practical experience in the design, construction, or operation of high pressure boilers, as mechanical engineer, steam engineer, or boilermaker or shall have had not less than 3 years' inspection experience as an inspector of high pressure boilers. A credit of 2 years of the required experience shall be given to applicants holding ~~an engineering~~ degree **in engineering, mathematics, or science** from an accredited college ~~of engineering~~ or university.

R 408.4069 Examination; contents of applications.

Rule 69. Application for an examination for a certificate of competency shall be in writing upon a form to be furnished by the ~~director~~ department stating the ~~school~~ education of the applicant, a list of ~~his~~ employers, ~~his~~ period of employment, and position held with each employer. An application containing a willful falsification or untruthful statement shall be rejected.

R 408.4087 Reporting unregistered boilers.

Rule 87. (1) If a special inspector visits a location to conduct an inspection as required by these rules, then he or she shall report the location of all boilers that are not registered. The ~~report~~ **reporting** shall be in addition to the ~~report~~ **reporting** pertaining to the inspection of registered boilers and their installation. The chief inspector shall assign a deputy inspector to visit the location to inspect all unregistered boilers and affix a Michigan serial number.

(2) If an inspector makes an inspection of a boiler that does not bear a Michigan serial number, then the inspector shall attempt to verify whether the boiler is unregistered or is missing the serial number tag. If the inspector is unable to determine that the boiler is registered, then he or she shall report it as prescribed in subrule (1) of this rule.

R 408.4107 Annual renewal of boiler installer's license; change of business affiliation.

Rule 107. (1) A boiler installer's license shall be renewed annually upon payment of a fee as prescribed by R 408.4038.

(2) An installer's license shall expire on December 31 of each year and shall be renewed. An application for renewal shall be submitted to the boiler division of the department between September 30 and December 31. A license that is not renewed by January 1 shall be voided and may be reinstated only upon application for reinstatement and payment of both the renewal fee and a reinstatement fee of \$80.00. A person requesting renewal of a license within 3 years after the license is voided pursuant to this subrule is not subject to reexamination for the license, but shall pay both the reinstatement fee and the annual license renewal fee for the current renewal year. A person who fails to renew a license for 3 consecutive years shall meet the requirements of, and take an examination for, the class of license sought.

(3) A licensee who changes business affiliation shall notify the chief inspector, on a form provided by the boiler division of the department, of the name and address of the new business affiliate under which the licensee intends to use his or her license. A fee of ~~\$25.00~~ **\$30.00** shall accompany the notification form.

R 408.4111 Boiler installer's installation responsibility.

Rule 111. All boiler installations shall be made ~~pursuant to in accordance with~~ the American society of mechanical engineers boiler code, and ~~pursuant to in accordance with~~ **R 408.4025 and R 408.4027**. ~~these rules~~. Any deviation from these requirements **shall be considered incompetence on behalf of the licensee and** is cause for suspension or revocation of the boiler installer's license.

R 408.4114 Inspection of components and systems in a nuclear power plant.

Rule 114. (1) Preservice (baseline) inspection, in-service inspection, repair, replacement, modification, alteration, examination, testing, records, and reports of individual nuclear components, parts, appurtenances, piping, supports, nuclear systems, applicable associated auxiliary systems, and complete nuclear power plants that are in compliance with all of the requirements of the construction code, at the point in time the requirements have been completed, irrespective of the physical location, shall be as prescribed in section XI, rules for in-service inspection of nuclear power plant components, of the ASME boiler and pressure vessel code. A copy of the current edition of section XI-**2010 and its 2011a addenda**, is available for inspection at the Michigan Department of Energy, ~~Labor & Economic Growth~~ **Licensing and Regulatory Affairs**, Bureau of Construction Codes, ~~6546 Mercantile Way~~ **2501 Woodlake Circle, Lansing Okemos**, Michigan ~~48911~~ **48864** or from the ASME International, 22 Law Drive, Fairfield, New Jersey 07007, at a cost as of the time of adoption of these amendatory rules of ~~\$610.00~~ **\$700.00**.

(2) The owner of a nuclear power plant shall file inspection plans and schedules, pump and valve testing programs, and requests for relief from section XI of the ASME code requirements with the boiler division of the department.

(3) The nuclear power plant shall maintain compliance with requirements, as prescribed by the nuclear regulatory commission.

R 408.4125 Annual renewal of boiler repairer's license; change of business affiliation.

Rule 125. (1) A boiler repairer's license shall be renewed annually upon payment of a fee as prescribed by R 408.4038.

(2) A repairer's license shall expire on December 31 of each year and shall be renewed. An application for renewal shall be submitted to the boiler division of the department between September 30 and December 31. A license that is not renewed by January 1 shall be voided and may be reinstated only upon application for reinstatement and payment of both the renewal fee and a reinstatement fee of \$80.00. A person requesting renewal of a license within 3 years after the license is voided pursuant to this subrule is not subject to reexamination for the license, but shall pay both the reinstatement fee and the annual license renewal fee for the current renewal year. A person who fails to renew a license for 3 consecutive years shall meet the requirements of, and take an examination for, the class of license sought.

(3) A licensee who changes business affiliation shall notify the chief inspector, on a form provided by the boiler division of the department, of the name and address of the new business affiliate under which the licensee intends to use his or her license. A fee of ~~\$25.00~~**\$30.00** shall accompany the notification form.

R 408.4129 Boiler repairer's repair responsibility.

Rule 129. It is the responsibility of a licensed boiler repairer to make all boiler repairs **pursuant to R 408.4024**~~in accordance with these rules~~ and arrange for the required inspections with an inspector before work is started. Any deviation from these requirements **shall be considered incompetence on behalf of the licensee and** is cause for suspension or revocation of the boiler repairer's license.

R 408.4133 Reports of inspection to be filed.

Rule 133. (1) Each company employing licensed boiler inspectors, within 30 days following each boiler certificate inspection made by the inspectors, shall file a report of the inspection with the chief inspector upon appropriate forms provided by the boiler division. ~~Reports of external inspections shall not be required except when such inspections disclose that the boiler is in dangerous condition. Manufacturers or national board numbers shall be reported on all reports of inspection.~~

(2) Certificate inspections reports submitted by electronic interface shall be in a format acceptable to the boiler division of the department.

(3) Certificate inspection reports submitted to the boiler division of the department for data entry shall be assessed a fee of \$2.00 per report.

(4) Reporting of non-certificate external inspections shall not be required except when such inspections disclose the boiler is in a condition where a violation is issued pursuant to R 408.4149.

~~(2)~~**(5)** The inspector shall leave a signed and dated inspection sticker or inspection report at the inspection location.

~~(3)~~**(6)** The inspector shall record his or her national board of boiler and pressure vessel commission number on the inspection report.

R 408.4149 Notice of violation.

Rule 149. (1) A written notice of violation containing the **code deficiencies**~~corrections necessary~~ shall be sent to, or served upon, the owner or user by the chief inspector, deputy inspector, or special inspector advising of the existing conditions and stating a **compliance date**~~time limit within which~~ **when the violation correction ordered must** ~~shall~~ be completed **corrected. If the code deficiencies are not corrected by the compliance date, the**

violation notice shall serve as a ~~notice of suspension of the certificate of inspection upon a failure to comply with a correction order by the compliance date.~~

(2) When the notice of violation is issued as a **certificate blocking, the inspection certificate shall be suspended and** ~~notice of suspension of a certificate of inspection or as a rejection or condemnation of the boiler, a copy of the~~ **a written** notice shall be **given to the owner or user at the time of the violation issuance.** ~~posted adjacent to the inspection certificate. The suspension of an inspection certificate~~ **The certificate blocking violation** shall continue in effect until the boiler has been made to conform to these rules and until the certificate has been reinstated.

(3) A fee shall be charged ~~pursuant to in accordance with~~ R 408.4038 (2) for all follow-up visits by the chief inspector or deputy inspector.

R 408.4153 Operation of boiler under pressure without valid certificate prohibited; penalty.

Rule 153. (1) **An owner or user** ~~A person, firm, partnership, or corporation~~ shall not operate a boiler under pressure in this state to which these rules apply without a valid inspection certificate. ~~or at a pressure exceeding that specified on the inspection certificate.~~

(2) An owner or user who causes a boiler to be operated ~~without possessing a valid certificate~~ ~~or~~ at a pressure exceeding **maximum operating pressure** that **is** specified on the inspection certificate is subject to the penalty prescribed in section 24 of the act.

(3) **When 2 or more boilers of different maximum allowable working pressure are connected to a common system, the maximum operating pressure of each boiler shall be that of the lesser boiler or boiler's maximum allowable operating pressure.**

R 408.4157 Notification; defective boilers.

Rule 157. If a special inspector, upon the first inspection of a new risk, finds that the boiler or any of the appurtenances are in such condition that ~~his~~ ~~the~~ company refuses insurance, the company shall immediately notify the chief inspector and submit a **notice of violation report** of the defects.

R 408.4169 Condemned boilers.

Rule 169. A boiler which has been inspected and declared unsafe by the chief inspector, deputy inspector, or special inspector and which the owner has determined will be scrapped shall be **placed out of service and stamped or labeled** with the word "condemned." The stamping shall be as shown by the following facsimile and shall be situated in several conspicuous locations determined by the inspector.

-CONDEMNED-

R 408.4171 Removal of used boilers from ~~the~~ state.

Rule 171. (1) If an ASME boiler located in this state is to be moved to another state for temporary use or repairs, application shall be made by the owner to the chief inspector for permission to reinstall the boiler in this state as prescribed in R 408.4177.

(2) Repairs conducted outside of this state to boilers **or pressure parts of boilers** that will be reinstalled in this state shall be conducted by an organization in possession of a valid certificate of authorization to repair boilers. The organization shall conduct the repair ~~pursuant to in~~ ~~accordance with~~ the NBIC and submit all forms required by the NBIC.

R 408.4172 Nonstandard boilers; bringing into state.

Rule 172. (1) If a nonstandard boiler that is in use in this state is removed outside the boundaries of the state, it cannot be brought into the state and reinstalled without the permission of the board of boiler rules.

(2) A person may petition the board to approve the use of a nonstandard boiler. Upon receipt of the petition, the board shall cause to be conducted testing and evaluation it considers desirable for the nonstandard boiler to determine whether construction is equivalent to standards specified in R 408.4025.

(3) A boiler owner requesting to have a special installation and operational permit shall submit the following items to the board of boiler rules, as applicable, in the English language and units:

(a) A list of all existing or proposed design and service conditions, maximum allowable working pressure (MAWP), and temperature, internal and external loading, corrosion and erosion allowance, heat treatment, service requirements, or service conditions.

(b) Documentation that the manufacture of the boiler is based on requirements from the applicable ASME code section as follows:

(i) Power boilers – section I

(ii) Materials specifications – section II

(iii) Nuclear power plant components – section III, division 1 and 2

(iv) Heating boilers – section IV

(v) Pressure vessels – section VIII, division 1 and 2

(vi) Welding and brazing qualifications – section IX

(vii) Fiberglass-reinforced plastic pressure vessels – section X

(viii) Power piping – ASME B31.1

(4) If the design, construction, and certification were not based on ASME code rules, the manufacturer of the boiler shall provide a copy of the design rules used and show how they meet or exceed the ASME code requirements by providing all of the following:

(a) A complete set of design drawings showing weld joint details and construction including internal and external attachments.

(b) A list of all pressure boundary materials or those materials and the material's thickness subject to stress due to pressure and loading. The list shall include a material specification to meet or exceed the applicable ASME codes specification. If material used is a specification other than referenced in the applicable ASME code section, the manufacturer of the boiler through the owner shall submit a copy of the material specifications used in the vessel construction and indicate how it is considered equivalent to the ASME Code. Stress values used in all design calculations shall meet or exceed the maximum allowable stress values permitted for materials in the applicable ASME code section.

(c) Documentation of any mill identification, including location of identification.

(d) Manufacturers' materials test reports and traceability including test reports required by applicable code section.

(e) Welding or brazing procedure specifications and welder or brazer performance qualification records.

(f) NDE procedures and results of examinations.

(g) Record of pressure test or proof test.

(h) Documentation showing the quality assurance program used by manufacturer is equivalent to requirements of the ASME code.

(i) Identification of the inspection agency performing inspections and certifying manufacturer's data report or equivalent.

(j) Evidence of qualification or certification of the inspection agency by a jurisdictional authority.

(k) Documentation to show that inspectors making certification inspections have been certified as required by the jurisdictional authority. Individual names and commission numbers (if any) shall be provided. System of supervisory control of inspection shall be included.

(l) Documentation of fabrication inspections by the manufacturer and inspection agency.

(m) An internal and external inspection report by inspection agency inspectors.

(n) A facsimile of the nameplate or stamping.

(o) A copy of manufacturer's data report or equivalent document certified by the manufacturer and the inspection agency's inspector.

(p) A copy of any code or standard used for design or construction.

(5) The original code of construction shall be used to establish the allowable stresses and joint efficiencies when calculating the MAWP of a vessel.

R 408.4182 Steam kettles.

Rule 182. (1) A fired or electrically heated steam kettle, irrespective of size, that has piped feed connections shall be in compliance with these rules.

(2) A fired or electrically heated kettle, irrespective of size ~~without~~ feed piping connections, shall be in compliance with the requirements of these rules. **Instead of an installation permit,** ~~The~~ owner or user shall report the installation to the chief inspector before the unit is operated. The chief inspector shall assign a deputy inspector to visit the installation location to inspect the kettle to determine its safety for operation. A kettle that is operated at or below 15 psi shall be inspected biennially. A kettle that is operated at more than 15 psi shall be inspected annually.

(3) Steam kettles manufactured to ASME section VIII division-1 2010 and its 2011a addenda shall have the minimum appurtenances and controls that are required in mandatory appendix 19.

R 408.4193 Stairways, ladders, platforms, and runways.

Rule 193. (1) **A licensee shall comply with NBIC part 1 sections 2.4.2 and 3.4.2 in the installation of stairways, ladders, platforms, and runways.**

Exception: A platform shall be installed at 1 end of all drums of a water tube boiler that are more than 4 feet above the floor or walkway to permit safe access to the interior of the drums for cleanout and inspection.

(2) An inspector shall notify the ~~chief inspector of an~~ owner or user who is required to conform to this rule and ~~the chief inspector~~ shall give written notice **of a violation** to the owner or user that the installation of the required stairway, runway, platform, or ladder is to be made. The owner or user shall be allowed 1 year from the date of the ~~chief inspector's notification~~ **violation** to complete the work.

(3) A licensee may request a deviation from the requirements of this rule by submitting drawings to the chief inspector for review and approval before installation of the boiler. The licensee will be notified by the chief inspector of the approval or denial of the request.

(4) Where applicable, the boiler installation shall comply with the Michigan mechanical code, R 408.30901 to R 408.30998.

R 408.4197 Clearance between boilers and other objects.

Rule 197. (1) A licensee performing an installation shall ~~assure that a minimum clearance of 24 inches is provided between a boiler, its controls, firing equipment, and appurtenances and the building walls and partitions or other boilers or machinery.~~ **ensure that the installation is made pursuant to the NBIC part 1 section 2.3.3 and 3.3.4.** ~~The licensee shall assure that clearances are in accordance with the manufacturer's instructions where required clearances are greater than the minimum required by this rule. The boiler owner shall assure that the clearances are maintained for the life of the boiler and shall not be infringed upon by items in storage.~~

Exception: The minimum clearance of 24 inches is provided between a boiler, its controls, firing equipment, and appurtenances and the building walls and partitions or other boilers or machinery.

(2) The licensee shall ensure that clearances are pursuant to the manufacturer's instructions where required clearances are greater than the minimum required by this rule. The boiler owner shall ensure that the clearances are maintained for the life of the boiler and shall not be infringed upon by items in storage.

~~(2)~~**(3)** The elevation of a boiler above the floor shall be as specified in the Michigan mechanical code, R 408.30901 to R 408.30998.

~~(3)~~**(4)** A licensee may request a deviation from the requirements of this rule by submitting drawings **and the manufacturer's installation requirements** to the chief inspector for review and approval before installation of the boiler. The licensee shall be notified by the chief inspector of the approval or denial of the request.

(5) Where applicable, the boiler installation clearances shall comply with the Michigan electrical code, R 408.30801 to R 408.30880.

PART 2. EXISTING INSTALLATIONS STEAM BOILERS

R 408.4223 Determining safety valve capacity.

Rule 223. (1) The relieving capacity of the safety valves on any boiler shall be checked by 1 of the 3 following methods and, if found to be insufficient, additional valves shall be provided:

(a) By making the accumulation test, which consists of shutting off all other steam discharge outlets from the boiler and forcing the fires to the maximum. The safety valve capacity shall be sufficient to prevent a rise of pressure in excess of 6% of the maximum allowable working pressure. This method should not be used on a boiler with a superheater or reheater.

(b) By measuring the maximum amount of fuel that can be burned and computing the corresponding evaporative capacity (steam generating capacity) upon the basis of the heating ~~value~~ **value** of this fuel. These computations shall be made as outlined in the appendix of the ASME power boiler code.

(c) By measuring the maximum amount of feedwater that can be evaporated.

(2) When either of the methods outlined in subrule (1) (b) or (c) 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.

PART 3. INSPECTION AND TESTING FOR NEW CONSTRUCTION; INSTALLATION
AND LATERATION OF BOILERS AND PIPING

PART 5. INSERVICE INSPECTION OF BOILERS

R 408.4503 Owner or user to prepare boiler for inspection.

Rule 503. All boilers and blowoff vessels, except for a boiler which is exempted by these rules, shall be prepared for inspection **pursuant to** ~~in accordance with~~ the NBIC and these rules by the owner or user when notified by the chief inspector, deputy inspector, or special inspector. The owner or user shall ensure that all examinations and tests required by **these rules** ~~the inspector~~ are performed.

R 408.4511 Nonvaporizing organic fluid boilers.

Rule 511. (1) A nonvaporizing organic fluid boiler is a boiler designed to heat, but not vaporize, a fluid in a closed system.

(2) The owner shall ensure that a nonvaporizing organic fluid boiler is constructed **pursuant to** ~~in accordance with~~ the ASME boiler and pressure vessel code.

(3) The owner shall ensure that stop valves are located at an accessible point in the supply and return pipe connections as near the boiler as is practicable.

(4) The owner shall ensure that a nonvaporizing organic fluid boiler has the following minimum equipment:

~~(a) One operating temperature control and 1 high limit temperature control.~~

~~(b)~~(a) A relief valve of sufficient capacity to relieve the excess thermal fluid as a result of thermal expansion verified by engineering calculations provided by the owner or user **to the inspector**.

~~(c)~~(b) A thermometer graduated to not less than 133% of the expected operating temperature.

~~(d)~~(c) A pressure gauge graduated to not less than 150% of the expected operating pressure.

~~(e)~~(d) A low level or flow sensing device suitable for operating conditions.

(5) The owner shall ensure that ~~a fuel train meets the requirements of ASME code CSD-1.~~ **the installation, maintenance, operation, and testing of controls and safety devices is pursuant to R 408.4027.**

(6) Expansion tanks for closed systems designed to operate above 30 psi shall be constructed pursuant to ASME Section VIII, Division 1, meeting at least the pressure and temperature ratings of the system.

R 408.4520 Failure to prepare boiler for internal inspection.

Rule 520. If a boiler has not been properly prepared for an internal inspection or the owner or user fails to comply with the requirements for hydrostatic test as set forth in these rules, the inspector may decline to make the inspection or test and **the certificate blocking violation will be issued as referenced in R 408.4149** ~~of inspection shall be withheld until the owner or user complies with the requirements.~~

R 408.4566 Inspection and testing of ~~safety valves and safety relief valves~~ **pressure relief devices.**

Rule 566. Inspection and testing of ~~safety valves and safety relief valves~~**pressure relief devices** shall be conducted ~~pursuant to in accordance with~~ the NBIC. The manual lift test addressed in the NBIC at ~~part 2, paragraph 2.5.7 (e)~~**RB-8400** may be used instead of the pressure test required by ~~NBIC part 2, paragraph 2.5.7 (a) through (d)~~**RB-8410**.

R 408.4570 ~~Safety valve setting on boilers with direct feed.~~**Rescinded.**

~~Rule 570. If a boiler is supplied with feedwater directly from water mains without utilizing feeding apparatus, except for return traps, the safety valve shall not be set at a pressure higher than 94% of the lowest operating pressure obtained in the supply main feeding the boiler.~~

R 408.4575 Replacement of heating or process boiler ~~safety and~~**pressure relief valves device.**

Rule 575. When it becomes necessary to replace ~~safety or~~**pressure relief valves devices** on low pressure heating or process boilers for any reason, the replacement shall be made with other than top-outlet type valves.

PART 6. REPAIR OF BOILERS SCOPE OF RULES FOR REPAIR BY RIVETING

PART 7. BOILER BLOWOFF SYSTEMS

R 408.4701 Design and construction of blowdown vessel reports.

Rule 701. (1) The owner shall ensure that blowdown vessels for use in the state of Michigan are designed and constructed as prescribed by these rules and the ASME boiler and pressure vessel code, section VIII, division 1, entitled "Unfired Pressure Vessels," ~~2007~~**2010** edition, and its ~~2008a~~**2011a** addenda which are adopted by reference in these rules and are available for inspection at the Michigan Department of ~~Energy, Labor & Economic Growth~~**Licensing and Regulatory Affairs**, Bureau of Construction Codes, ~~6546 Mercantile Way~~**2501 Woodlake Circle, Lansing-Okemos**, Michigan ~~48911~~**48864** or from the ASME International, 22 Law Drive, Fairfield, New Jersey 07007, at a cost as of the time of adoption of these amendatory rules of ~~\$610.00~~**\$700.00**. National board of boiler and pressure vessel inspector document NB-27, 2004 edition, may be used as a guide for the design of blowdown tanks.

(2) The owner shall ensure that a blowdown vessel has a minimum allowable working pressure of 50 psig and that the installation complies with these rules and the vessel manufacturer's instructions.

(a) The blowdown vessel, its fittings, and connections shall be sized so that the internal pressure does not rise more than 5 psig above ambient pressure during the blowdown.

(b) The blowdown vessel shall be provided with adequate openings to facilitate internal cleaning and inspection. An internal inspection of the blowdown vessel shall be conducted during the certificate inspection of the boiler.

(c) The blowdown vessel shall be provided with the following fittings and connection openings in addition to those provided by the manufacturer for the proper installation and operation of the vessel:

(i) A vent connection.

(ii) A drain connection. A drain connection is not required on a separator.

(iii) A thermometer that has a maximum scale reading of 300 degrees Fahrenheit and that is located in the water outlet from the blowdown vessel.

(iv) A pressure gauge that is graduated from 0 to 30 psig and that is attached to the top of the steam space of the blowdown vessel.

(d) The blowdown vessel shall be installed in a location that prevents it and its connected piping from freezing and shall be installed in a manner that permits both internal and external inspection.

(3) A manufacturer shall provide the boiler division of the department, with the manufacturer's data reports. A data report that is signed by an authorized inspector, together with the ASME code symbol stamp on the vessel, is the record denoting that the blowdown vessel has been constructed **pursuant to**~~in accordance with~~ the ASME code.

(4) The manufacturer shall register all blowdown vessels for use in the state of Michigan with the national board of boiler and pressure vessel inspector.

PART 15. HEARINGS

R408.5605 Examination; information availability.

Rule 1605. Under MCL 408.762, the ~~department~~**board** adopts the examination prepared by the National Institute for Uniform Licensing of Power Engineers (NIULPE), Inc., 910 W. Van Buren, #220Chicago, IL 60607 PH: 888.648.5566, Fax: 888.648.5577. The examination topics can be reviewed under the certification requirements for each level of boiler operator or stationary engineer at <http://www.niulpe.org/>. Copies of the examination topics are also available free of charge from the Michigan Department of ~~Energy, Labor & Economic Growth~~, **Licensing and Regulatory Affairs** Bureau of Construction Codes/Boiler Division ~~6546 Mercantile Way~~**2501 Woodlake Circle, Lansing Okemos, Michigan 48911 48864**.