

AMENDATORY SECTION (Amending WSR 10-06-049, filed 2/24/10, effective 4/1/10)

**WAC 296-104-010 Administration--What are the definitions of terms used in this chapter?** "Accident" shall mean a failure of the boiler or unfired pressure vessel resulting in personal injury or property loss or an event which renders a boiler or unfired pressure vessel unsafe to return to operation.

**"Agriculture purposes"** shall mean any act performed on a farm in production of crops or livestock, and shall include the storage of such crops and livestock in their natural state, but shall not be construed to include the processing or sale of crops or livestock.

**"Attendant"** shall mean the person in charge of the operation of a boiler or unfired pressure vessel.

**"Automatic operation of a boiler"** shall mean automatic unattended control of feed water and fuel in order to maintain the pressure and temperature within the limits set. Controls must be such that the operation follows the demand without interruption. Manual restart may be required when the burner is off because of low water, flame failure, power failure, high temperatures or pressures.

**"Board of boiler rules" or "board"** shall mean the board created by law and empowered under RCW 70.79.010.

**"Boiler and unfired pressure vessel installation/reinstallation permit,"** shall mean a permit approved by the chief inspector before starting installation or reinstallation of any boiler and unfired pressure vessel within the jurisdiction of Washington.

Owner/user inspection agency's, and Washington specials are exempt from "boiler and unfired pressure vessel installation/reinstallation permit."

**"Boilers and/or unfired pressure vessels"** - Below are definitions for types of boilers and unfired pressure vessels used in these regulations:

- **"Condemned boiler or unfired pressure vessel"** shall mean a boiler or unfired pressure vessel that has been inspected and declared unsafe or disqualified for further use by legal requirements and appropriately marked by an inspector.

"Corrosion" shall mean the destruction or deterioration of a material, that results from a reaction with its environment.

- **"Expansion tank"** shall mean a tank used to absorb excess water pressure. Expansion tanks installed in closed water heating systems and hot water supply systems shall meet the requirements of ASME Section IV, HG-709.

"Historical boilers and unfired pressure vessel" shall mean nonstandard boilers and pressure vessels including steam tractors, traction engines, hobby steam boilers, portable steam boilers, and other such boilers or pressure vessels that are preserved, restored, and maintained only for demonstration, viewing, or educational purposes. They do not include miniature hobby boilers as described in RCW 70.79.070.

- **"Hot water heater"** shall mean a closed vessel designed to supply hot water for external use to the system. All vessels must be listed by a nationally recognized testing agency and shall be protected with an approved temperature and pressure safety relief valve and shall not exceed any of the following limits:

- \* Pressure of 160 psi (1100 kpa);

- \* Temperature of 210 degrees F (99°C).

Additional requirements:

- \* Hot water heaters exceeding 120 gallons (454 liters) must be ASME code stamped;

- \* Hot water heaters exceeding 200,000 Btu/hr (58.58 kW) input must be ASME code stamped.

"Indirect water heater" shall mean a closed vessel appliance used to heat water for use external to itself, which includes a heat exchanger used to transfer heat to water from an external source. The requirements and limits described above shall apply.

- **"Low pressure boiler"** shall mean a steam boiler operating at a pressure not exceeding 15 psig or a boiler in which water is heated and intended for operation at pressures not exceeding 160 psig or temperatures not exceeding 250 degrees F by the direct application of energy from the combustion of fuels or from electricity, solar or nuclear energy. Low pressure boilers open to atmosphere and vacuum boilers are excluded.

- **"Nonstandard boiler or unfired pressure vessel"** shall mean a boiler or unfired pressure vessel that does not bear marking of the codes adopted in WAC 296-104-200.

"Pool heaters" shall mean a gas, oil, or electric appliance that is used to heat water contained in swimming pools, spas, and hot tubs.

(a) Pool heaters with energy input equivalent to 399,999 Btu/hr (117.2 kW) or less shall be manufactured and certified to ANSI Z21.56, UL1261, CSA 4.7 or equivalent manufacturing standards, as approved by the chief inspector, and are excluded from the limit and control devices requirements of WAC 296-104-300 through 296-104-303.

(b) Pool heaters with energy input of 400,000 Btu/hr and above shall be stamped with an ASME Section IV Code symbol, and the requirements of WAC 296-104-300 through 296-104-303 shall apply.

(c) Pool heaters open to the atmosphere are excluded.

- **"Power boiler"** shall mean a boiler in which steam or other vapor is generated at a pressure of more than 15 psig for use external to itself or a boiler in which water is heated and intended for operation at pressures in excess of 160 psig and/or temperatures in excess of 250 degrees F by the direct application of energy from the combustion of fuels or from electricity, solar or nuclear energy.
- **"Reinstalled boiler or unfired pressure vessel"** shall mean a boiler or unfired pressure vessel removed from its original setting and reset at the same location or at a new location without change of ownership.
- **"Rental boiler"** shall mean any power or low pressure heating boiler that is under a rental contract between owner and user.
- **"Second hand boiler or unfired pressure vessel"** shall mean a boiler or unfired pressure vessel of which both the location and ownership have changed after primary use.
- **"Standard boiler or unfired pressure vessel"** shall mean a boiler or unfired pressure vessel which bears the marking of the codes adopted in WAC 296-104-200.
- **"Unfired pressure vessel"** shall mean a closed vessel under pressure excluding:
  - \* Fired process tubular heaters;
  - \* Pressure containers which are integral parts of components of rotating or reciprocating mechanical devices where the primary design considerations and/or stresses are derived from the functional requirements of the device;
  - \* Piping whose primary function is to transport fluids from one location to another;
  - \* Those vessels defined as low pressure heating boilers or power boilers.
- **"Unfired steam boiler"** shall mean a pressure vessel in which steam is generated by an indirect application of heat. It shall not include pressure vessels known as evaporators, heat exchangers, or vessels in which steam is generated by the use of heat resulting from the operation of a processing system containing a number of pressure vessels, such as used in the manufacture of chemical and petroleum products, which will be classed as unfired pressure vessels.

**"Certificate of competency"** shall mean a certificate issued by the Washington state board of boiler rules to a person who has passed the tests as set forth in WAC 296-104-050.

**"Certificate of inspection"** shall mean a certificate issued by the chief boiler inspector to the owner/user of a boiler or unfired pressure vessel upon inspection by an inspector. The boiler or unfired pressure vessel must comply with rules, regulations, and appropriate fee payment shall be made directly to the chief boiler inspector.

**"Code, API-510"** shall mean the Pressure Vessel Inspection Code of the American Petroleum Institute with addenda and revisions, thereto made and approved by the institute which have been adopted by the board of boiler rules in accordance with the provisions of RCW 70.79.030.

**"Code, ASME"** shall mean the boiler and pressure vessel code of the American Society of Mechanical Engineers with addenda thereto made and approved by the council of the society which have been adopted by the board of boiler rules in accordance with the provisions of RCW 70.79.030.

**"Code, NBIC"** shall mean the National Board Inspection Code of the National Board of Boiler and Pressure Vessel Inspectors with addenda and revisions, thereto made and approved by the National Board of Boiler and Pressure Vessel Inspectors and adopted by the board of boiler rules in accordance with the provisions of RCW 70.79.030.

**"Commission"** shall mean an annual commission card issued to a person in the employ of Washington state, an insurance company or a company owner/user inspection agency holding a Washington state certificate of competency which authorizes them to perform inspections of boilers and/or unfired pressure vessels.

**"Department"** as used herein shall mean the department of labor and industries of the state of Washington.

**"Director"** shall mean the director of the department of labor and industries.

**"Domestic and/or residential purposes"** shall mean serving a private residence or an apartment house of less than six families.

**"Existing installations"** shall mean any boiler or unfired pressure vessel constructed, installed, placed in operation, or contracted for before January 1, 1952.

**"Inspection certificate"** see "certificate of inspection."

**"Inspection, external"** shall mean an inspection made while a boiler or unfired pressure vessel is in operation and includes the inspection and demonstration of controls and safety devices required by these rules.

**"Inspection, internal"** shall mean an inspection made when a boiler or unfired pressure vessel is shut down and handholes, manholes, or other inspection openings are open or removed for examination of the interior. An external ultrasonic examination of unfired pressure vessels less than 36" inside diameter shall constitute an internal inspection.

**"Inspector"** shall mean the chief boiler inspector, a deputy inspector, or a special inspector.

- **"Chief inspector"** shall mean the inspector appointed under RCW 70.79.100 who serves as the secretary to the board without a vote.
- **"Deputy inspector"** shall mean an inspector appointed under RCW 70.79.120.
- **"Special inspector"** shall mean an inspector holding a Washington commission identified under RCW 70.79.130.

**"Nationwide engineering standard"** shall mean a nationally accepted design method, formulae and practice acceptable to the

board.

**"Operating permit"** see "certificate of inspection."

**"Owner"** or **"user"** shall mean a person, firm, or corporation owning or operating any boiler or unfired pressure vessel within the state.

**"Owner/user inspection agency"** shall mean an owner or user of boilers and/or pressure vessels that maintains an established inspection department, whose organization and inspection procedures meet the requirements of a nationally recognized standard acceptable to the department.

**"Place of public assembly"** or **"assembly hall"** shall mean a building or portion of a building used for the gathering together of 50 or more persons for such purposes as deliberation, education, instruction, worship, entertainment, amusement, drinking, or dining or waiting transportation. This shall also include child care centers (those agencies which operate for the care of thirteen or more children), public and private hospitals, nursing and boarding homes.

**"Special design"** shall mean a design using (~~nationwide~~) nationally or internationally recognized engineering standards other than the codes adopted in WAC 296-104-200 (~~or other than allowed in WAC 296-104-230~~).

AMENDATORY SECTION (Amending WSR 09-12-033, filed 5/27/09, effective 6/30/09)

**WAC 296-104-018 Administration--(~~How are rules interpreted and revised?~~) Interpretation of rules--Appeal rights--Hearings.**

~~((Stakeholder requests for clarifications and interpretations of these rules shall be made to the chief inspector in writing upon the form furnished by the chief inspector located on the boiler program web site. Interpretations will be brought to the board in the same manner if the inquirer is aggrieved by the interpretation of the chief inspector (RCW 70.79.360). For board consideration the form must be submitted to the department of labor and industries forty-five days prior to the board of boiler rules meeting date. Forms may also be requested by contacting the department.))~~ (1) Any person desiring clarification or interpretation and/or application of the rules in this chapter shall submit a request in writing to the chief inspector upon the "chief inspector clarification and interpretation request form." The chief inspector shall issue a written decision responding to such a request.

(2) Any person who disputes the interpretation and/or application of the rule(s) by the chief inspector may ask the board of boiler rules (board) for its interpretation. Such requests must:

(a) Be submitted in writing to the board upon the "board of

boiler rules interpretation and revision request form";

(b) Be received by the secretary to the board (the chief inspector) within thirty days after the date on which the chief inspector's written decision was served on the person making the request; and

(c) Be received by the secretary at least forty-five days before the board meeting date for inclusion at the next regularly scheduled board meeting. Otherwise, the request will be heard and considered at the following board meeting.

At the meeting, the board will affirm, modify or revoke the department's interpretation and a written order reflecting the board's decision will be issued by the chair.

(3) A party may seek judicial review of a final order of the board within thirty days after service of the order, in accordance with RCW 34.05.542.

(4) Any person, firm, partnership, corporation, or other entity wishing to appeal a penalty issued under chapter 70.79 RCW or this chapter must file a written notice of appeal with the chief boiler inspector within twenty days after the date on which the notice of the penalty was served on the assessed party. In the hearing of the appeal, the department has the burden of proof by a preponderance of the evidence. At the hearing, the board will decide the appropriateness of the penalty and may either affirm, modify or overturn the assessment. The parties shall prepare and submit an order reflecting the board's decision to the chair of the board.

(5) Except as provided in chapter 70.79 RCW and this chapter, all proceedings before the board and the courts will be conducted according to chapter 34.05 RCW, Administrative Procedure Act and chapter 10-08 WAC, Model rules of procedure.

AMENDATORY SECTION (Amending WSR 99-22-026, filed 10/26/99, effective 11/26/99)

**WAC 296-104-025 Administration--What are the notification and reporting requirements following an accident involving a boiler or pressure vessel?** When an accident occurs which renders a boiler or unfired pressure vessel inoperative, the owner or user shall notify the chief inspector, and submit a detailed report of the accident. In cases of accidents, such as explosions or those resulting in personal injury, notice to the chief inspector shall be given immediately by telephone or electronic means designed to assure its earliest possible receipt. Neither the boiler or unfired pressure vessel nor any parts thereof shall be removed or disturbed before an inspection has been made by the chief inspector, or his designee except for the purpose of saving life or limiting consequential damage. The inspector making the investigation and inspection shall report to the chief inspector as soon as possible. The

boiler or pressure vessel owner shall be responsible for all costs of the department's investigation.

AMENDATORY SECTION (Amending WSR 04-21-069, filed 10/19/04, effective 1/1/05)

**WAC 296-104-140 Inspection--How should a state ((stamp) number be assigned and applied?** Upon completion of the installation, all boilers and unfired pressure vessels shall be inspected by an inspector as defined in WAC ((296-104-010)) 296-104-100. At the time of this inspection, each boiler or unfired pressure vessel shall be marked with a serial number of the state of Washington followed by the letter "W." The marking should be conspicuously located and as close as possible to the boiler or unfired pressure vessel nameplate.

All boilers and unfired pressure vessels granted a Washington state special ((numbers when assigned by the chief inspector)) by the board of boiler rules shall ((be)) have a serial number of the state of Washington followed by the letters "WS." This number shall be assigned by the chief inspector.

Washington numbers assigned by the chief inspector for historical boilers and pressure vessels from outside the jurisdiction shall be a serial number of the state of Washington followed by the letters "WH."

All rental boilers used in the state of Washington shall be marked with the serial number of the state of Washington followed by the letters "WR." This will indicate that the boiler is a rental unit.

The state of Washington markings, numbers and letters, referenced above, shall not be less than 5/16 inches in height and shall not be concealed by lagging or paint and shall be exposed at all times.

AMENDATORY SECTION (Amending WSR 09-12-033, filed 5/27/09, effective 6/30/09)

**WAC 296-104-200 Construction--What are the standards for new construction?** The standards for new construction are:

(1) ASME Boiler and Pressure Vessel Code, ((2007)) current edition, ((with addenda)) Sections I, III, IV, VIII, Division 1, 2, 3, X, XII;

(2) ASME PVHO-1 ((2007)) Safety Standard for Pressure Vessels for Human Occupancy, current edition; and

(3) Standards of construction approved by the chief inspector

and meeting the National Board Criteria for Registration of Boilers, Pressure Vessels and Other Pressure Retaining Items.

These codes and standards may be used on or after the date of issue and become mandatory twelve months after adoption by the board as specified in RCW 70.79.050(2). ASME Code Cases may be approved for use when accepted by the chief inspector. The board recognizes that the ASME Code states that new editions of the code become mandatory (~~on issue and that subsequent addenda become mandatory~~) six months after the date of issue. For nuclear systems, components and parts the time period for addenda becoming mandatory is defined in the Code of Federal Regulations.

AMENDATORY SECTION (Amending WSR 09-12-033, filed 5/27/09, effective 6/30/09)

**WAC 296-104-205 Construction--What are the requirements for nonstandard new construction?** (~~Those boilers and unfired pressure vessels that are exempted by the codes adopted in WAC 296-104-200 due to volume, temperature or pressure requirements, and are not to be constructed to those codes, must be certified to a nationally recognized testing agency or constructed to WAC 296-104-230. See WAC 296-104-316 for safety pressure relief devices.~~

~~Other~~) Nonstandard boilers and unfired pressure vessels that are not to be constructed to the codes adopted in WAC 296-104-200 may be treated as special designs at the discretion of the board. Nonstandard construction shall not be permitted to avoid standard construction.

AMENDATORY SECTION (Amending WSR 05-22-092, filed 11/1/05, effective 1/1/06)

**WAC 296-104-210 Construction--What are the requirements for construction of boilers and unfired pressure vessels of special design?** Boilers and unfired pressure vessels of special design require a special certificate granted by the board of boiler rules. At a minimum the following information shall be supplied to obtain board approval for special designs: Construction drawings, design calculations, material specifications, and a (~~Washington state~~) written evaluation by a professional (~~engineer's evaluation of the design~~) engineer knowledgeable with boilers and unfired pressure vessels. Upon board approval a Washington special number will be assigned by the chief inspector. The installation will be subject to the regular inspections required by WAC 296-104-100 and any additional conditions as required by the board.

AMENDATORY SECTION (Amending WSR 00-21-024, filed 10/10/00, effective 11/13/00)

**WAC 296-104-215 Construction--What are the requirements to use nonstandard boilers and unfired pressure vessels (~~constructed prior to January 1, 1952~~) other than historical boilers and pressure vessels?** Nonstandard boilers and unfired pressure vessels (~~constructed prior to January 1, 1952~~), other than historical boilers and pressure vessels may be used provided they have not been moved from their original setting since January 1, 1952.

AMENDATORY SECTION (Amending WSR 05-22-092, filed 11/1/05, effective 1/1/06)

**WAC 296-104-220 Construction--What are the requirements to use nonstandard second hand boilers and unfired pressure vessels, other than historical boilers and pressure vessels?** Nonstandard second hand boilers and unfired pressure vessels constructed after January 1, 1952, cannot be used in this state without prior approval of the board of boiler rules. At a minimum the following information shall be supplied to obtain board approvals: Construction drawings, photographs, operating and inspection history, design calculations, (~~and a Washington state professional~~) an engineer's evaluation of the design and present condition(~~. Upon board approval a Washington special number will be assigned by the chief inspector. The installation will be subject to the regular inspections required by WAC 296-104-100 and any additional conditions as required by~~) and any additional requirements of the board.

NEW SECTION

**WAC 296-104-226 Construction--What are the requirements to use historical boilers and pressure vessels?** Historical boilers and pressure vessels not previously registered may be used in this state provided they meet all the requirements for historical boilers in the National Board Inspection Code and have prior approval of the board of boiler rules.

Historical boilers and pressure vessels from outside the

jurisdiction can be used subject to the approval of the chief inspector, provided they have been registered in another national board jurisdiction and have been inspected and maintained in accordance with all requirements for historical boilers in the National Board Inspection Code.

The object will be subject to regular periodic inspections as required in WAC 296-104-100.

AMENDATORY SECTION (Amending WSR 04-21-069, filed 10/19/04, effective 1/1/05)

**WAC 296-104-303 Installation--What control and limit devices are required on automatically fired boilers after December 2004?**

In addition to those requirements listed in WAC 296-104-302, the following are also required with regard to installations or refits of gas, oil, or combinations of gas or oil:

(1) All automatically fired boilers with input greater than 400,000 Btu/hr, including electric boilers with input greater than 117 kW shall have a manually operated remote shutdown switch or circuit breaker. The shutdown switch should be located just outside the boiler room door and marked for easy identification. Consideration should be given to the type and location of the switch to safeguard against tampering. If the boiler room door is on the building exterior, the switch should be located just inside the door. If there is more than one door to the boiler room, there should be a switch located at each door.

(2) A means shall be provided for testing the operation of hot water heating boiler low-water fuel cutoff(s) without resorting to draining the entire system. Such means shall not render the device(s) inoperable. If the means temporarily isolates the device from the boiler during testing, it shall automatically return to its normal position.

AMENDATORY SECTION (Amending WSR 04-01-194, filed 12/24/03, effective 1/24/04)

**WAC 296-104-316 Installation--What safety pressure relief devices are required on boilers and unfired pressure vessels?** All boilers and unfired pressure vessels, including pressure retaining items listed in RCW 70.79.090(5), shall be safeguarded by safety (~~valves, safety relief valves, or rupture discs~~) pressure relief devices as specified in the applicable ASME Code or recognized standard. The pressure relieving device set pressure shall not exceed the boiler's or the unfired pressure vessel's maximum

allowable working pressure unless allowed by the code of construction. These pressure relieving devices shall be installed per the applicable ASME Code or manufacturer's requirements. The outlet of the relief valve shall be run full size to a safe place and shall not induce undue stress on the valve. As an alternative they may be safeguarded by a fail safe pressure relief control system that is evaluated by a professional engineer knowledgeable with boilers and pressure vessels (~~(, licensed by the state of Washington,)~~) and accepted by the chief inspector.

AMENDATORY SECTION (Amending WSR 12-09-057, filed 4/17/12, effective 6/30/12)

**WAC 296-104-700 What are the inspection fees--Examination fees--Certificate fees--Expenses?** The following fees shall be paid by, or on behalf of, the owner or user upon the completion of the inspection. The inspection fees apply to inspections made by inspectors employed by the state.

Boiler and pressure vessel installation/reinstallation permit (excludes inspection and certificate of inspection fee): \$50.00.

Certificate of inspection fees: For objects inspected, the certificate of inspection fee per object is \$21.50.

Hot water heaters per RCW 70.79.090, inspection fee: \$6.70.

Heating boilers:	Internal	External
Cast iron--All sizes	\$36.30	\$29.00
All other boilers less than 500 sq. ft.	\$36.30	\$29.00
500 sq. ft. to 2500 sq. ft.	\$72.40	\$36.30
Each additional 2500 sq. ft. of total heating surface, or any portion thereof	\$29.00	\$14.20
Power boilers:	Internal	External
Less than 100 sq. ft.	\$36.30	\$29.00
100 sq. ft. to less than 500 sq. ft.	\$43.90	\$29.00
500 sq. ft. to 2500 sq. ft.	\$72.40	\$36.30
Each additional 2500 sq. ft. of total heating surface, or any portion thereof	\$29.00	\$14.20
Pressure vessels:		
Square feet shall be determined by multiplying the length of the shell by its diameter.		
	Internal	External
Less than 15 sq. ft.	\$29.00	\$21.50

15 sq. ft. to less than 50 sq. ft.	\$43.00	\$21.50
50 sq. ft. to 100 sq. ft.	\$50.10	\$29.00
For each additional 100 sq. ft. or any portion thereof	\$50.10	\$14.20

Nonnuclear shop inspections, field construction inspections, and special inspection services:

For each hour or part of an hour up to 8 hours	\$43.90
For each hour or part of an hour in excess of 8 hours	\$65.50

Nuclear shop inspections, nuclear field construction inspections, and nuclear triennial shop survey and audit:

For each hour or part of an hour up to 8 hours	\$65.50
For each hour or part of an hour in excess of 8 hours	\$102.40

Nonnuclear triennial shop survey and audit:

When state is authorized inspection agency:

For each hour or part of an hour up to 8 hours	\$43.90
For each hour or part of an hour in excess of 8 hours	\$65.50

When insurance company is authorized inspection agency:

For each hour or part of an hour up to 8 hours	\$65.50
For each hour or part of an hour in excess of 8 hours	\$102.40

Examination fee: A fee of \$81.00 will be charged for each applicant sitting for an inspection examination(s).

Special inspector commission: ~~((An initial))~~ A fee of ~~((~~\$27.40~~ and an))~~ \$43.80 for initial work card. A fee of \$27.30 for annual renewal ~~((fee of \$10.90 along with an annual work card fee of \$16.40))~~.

If a special inspector changes companies: A work card fee of \$43.80.

Expenses shall include:

Travel time and mileage: The department shall charge for its inspectors' travel time from their offices to the inspection sites and return. The travel time shall be charged for at the same rate as that for the inspection, audit, or survey. The

department shall also charge the current Washington office of financial management accepted mileage cost fees or the actual cost of purchased transportation. Hotel and meals: Actual cost not to exceed the office of financial management approved rate.

Requests for Washington state specials and extensions of inspection frequency: For each vessel to be considered by the board, a fee of \$407.40 must be paid to the department before the board meets to consider the vessel. The board may, at its discretion, prorate the fee when a number of vessels that are essentially the same are to be considered.

REPEALER

The following sections of the Washington Administrative Code are repealed:

WAC 296-104-230	Construction--What are the testing requirements for new boilers or unfired pressure vessels exempted from code requirements for volume, pressure or temperature?
WAC 296-104-235	Construction--What are the requirements for code exempted boiler and unfired pressure vessel safety relief valves?
WAC 296-104-330	Installation--What are the relief or safety valve requirements when pressure reducing valves are used?