Cost-Benefit Analysis

Chapter 296-104 WAC, Board of Boiler Rules – Substantive Board of Boiler Rules

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Introduction

Administrative Procedure Act Requirements

The Administrative Procedure Act (APA) requires that, before adopting a significant legislative rule, the Department of Labor & Industries (L&I) must analyze the probable costs and benefits of the rule, and determine that the benefits are greater than its costs, taking into account both the qualitative and quantitative benefits and costs.” [RCW 34.05.328(1)(d)]

RCW 34.05.328(5)(c)(iii) defines a "significant legislative rule" as a rule, other than a procedural or interpretive rule, that:

- Adopts substantive provisions of law pursuant to delegated legislative authority, the violation of which subjects a violator of such rule to a penalty or sanction;
- Establishes, alters, or revokes any qualification or standard for the issuance, suspension, or revocation of a license or permit; or
- Adopts a new, or makes significant amendments to, a policy or regulatory program.

Under certain circumstances, a rule or rule component is exempt from this requirement.

Adopted Rules

The Board of Boiler Rules and L&I are adopting amendments and a fee increase to the boiler rules in chapter 296-104 WAC, Board of Boiler Rules – Substantive. The Board of Boiler Rules reviews the rules on a regular basis to ensure the rules are consistent with national safety standards for boilers and unfired pressure vessels, and industry practice. This rulemaking will:

- Reorganize requirements for control and limit devices and fuel controls for power, low-pressure, and heating boilers and HLW potable water heaters\(^1\) to make the installation rules easier to use and understand. Additional changes include, but are not limited to:
  - Requiring control and limit devices to be tested or verified by a means acceptable by the jurisdiction for automatically fired power boilers, low pressure heating boilers, and HLW potable water heaters to allow for new technology;
  - Allowing all boilers in a room to connect to an existing remote shutdown switch for the remote shutdown of all the boilers;
  - Clarifying that all boilers in a room that meet the input requirements should be added to the remote shutdown switch when installing a new boiler to improve public safety;

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\(^1\) HLW means the American Society of Mechanical Engineers (ASME) Lined Potable Water Heaters Certification. It is the ASME designator on the Code nameplate to show that the potable-water heater is built to the ASME code.
- Requiring that all automatically fired boilers with a heating input greater than 400,000 BTU/hr,\(^2\), including electrical boilers with input greater than 117 kW\(^3\), installed after December 2004, to have a remote shutdown switch or circuit breaker to create consistency with remote shutdown switch requirements for all boilers; and
- Requiring that HLW potable hot water heaters with a heating input greater than 400,000 BTU/hr. (117 kW), installed after January 1, 2018, to have a remote shutdown switch or circuit breaker to create consistency with remote shutdown switch requirements for all boilers.

- Convert existing policies requiring entities repairing or altering boilers or pressure vessels to send a controlled copy of a quality control manual to L&I prior to starting work, and to send a checklist and certain forms to L&I within 45 days of the date the work is completed, into rule.

This rulemaking also increases fees by the fiscal-growth factor of 5.08%, which is the Office of Financial Management’s (OFM) maximum allowable fiscal growth rate for fiscal year 2020. A fee increase is necessary to cover the program’s operating expenses for inspections and other program public safety activities.

The rule changes may affect the general public, installers (registered contractors and plumbers), owners, users, and operators of boilers and pressure vessels, insurance companies, local jurisdictions (cities of Seattle and Spokane), OU inspection agencies, and inspectors.

The Boiler Program’s rule development process includes an opportunity for public proposals, review, negotiation, and recommendations of all proposals by the Board of Boiler Rules and the public hearing process.

The Board of Boiler Rules consists of five members appointed by the Governor, to represent Manufacturers, Owner/Users, Mechanical Engineers, Insurance Companies, and Boilermakers/Operators in the industry. The function of the board is to promulgate definitions, rules and regulations for the safe and proper construction, installation, repair, use and operation of boilers and the repair of unfired pressure vessels in the state of Washington (chapter 70.79 RCW).

The Board of Boiler Rules holds public meetings in February, May, August, and November of each year, as required by statute (Chapter 70.79 RCW). Stakeholders are encouraged to participate in the discussions, decisions and formulation of the rules with the board and L&I.

\(^2\) BTU means British Thermal Units, which is a measurement of thermal energy.
\(^3\) kW means kilowatts, which is a unit that is used to measure how much energy is output by the boiler in the form of heat. Hr means hour.
In 2018, a group of L&I state inspectors developed the proposed changes that reorganize the installation rules. Inspectors are requesting the changes to make it easier for them and installers to use and comply with the installation rules.

L&I solicited feedback on the proposed changes to WAC 296-104-503 at the National Board (NB) “R” Stamp Statewide meetings in May and June 2019. The meetings included manufacturers, R stamp holders, repair organizations, and other interested parties affected by the rule.

The Board of Boiler Rules meeting was held on August 21, 2019. The board voted unanimously to proceed with filing the preproposal (CR-101) to initiate rulemaking.

L&I solicited feedback on the proposed changes from L&I Inspectors at the 2019 Fall Boiler Inspector Training on September 10, 2019.

L&I solicited feedback on the proposed changes from In-service and Owner/User (insurance and refinery) Inspectors at the L&I Boiler Program and NB Owner/User Meeting on September 25, 2019.

L&I has coordinated with the cities of Seattle and Spokane about the rule changes. The rules adopted in these jurisdictions either meet or exceed state requirements.

The CR-101 was filed with the state’s Office of the Code Reviser on October 1, 2019, Washington State Register (WSR) 19-20-099.

The Board of Boiler Rules meeting was held on November 12, 2019. The board voted unanimously to proceed with filing the proposed rules (CR-102).

The proposed rules (CR-102) were filed with the state’s Office of the Code Reviser on January 2, 2020, WSR 20-02-115.

The Board of Boiler Rules meeting was held on February 19, 2020, at the L&I Tacoma Office. A public hearing was held at 10:00 a.m. The board voted unanimously to proceed with adopting the rules (CR-103).

Stakeholders were notified of this rulemaking via GovDelivery (est. 2,000 industry members) throughout the rulemaking process. Information about rulemaking is available on the program’s laws, rules, and policies page and the agency’s laws and rules page.

L&I will share the new rules with stakeholders at L&I’s 2020 Spring Boiler Inspector Training and 2020 Annual Washington State Boiler Inspectors (WSBIA) meeting.
**Probable Costs and Benefits of the Adopted Rule**

Most of the adopted amendments are not significant legislative rules and are exempt from the cost-benefit analysis requirement. The adopted amendments are considered significant legislative rules are as follows:

**WAC 296-104-301, Installation – What control and limit devices are required on automatically fired boilers after June 1989?**

**Amendments to WAC 296-104-301(1)(d)**

- **Rule Overview**
  Amends language to make all control and limit devices on automatically fired power boilers be tested or verified by a means that is acceptable by the jurisdiction. Before 1989, all control devices were independently connected and electrically wired in series. This subsection is also renumbered to WAC 296-140-301(4).

- **Rule Cost/Benefit Analysis**
  Cost savings to customers due to the allowance of new technology. For customers, the adopted rule results in a cost savings by allowing the use of new electronic controls on some newer boilers in the state of Washington. Control and limit devices are already required to be tested upon installation or prior to use and some control and limit devices are already allowed to be verified at the inspector’s discretion, so it does not add costs.

**New subsection WAC 296-104-301(5)**

- **Rule Overview**
  This new subsection relocates the existing emergency shut down switch or circuit breaker requirements under WAC 296-104-303(1) specific to automatically fired power boilers with input greater than 400,000 BTU/hr., including electric boilers with input greater than 117 kW. Also added is new language that allows all boilers in a room to connect to an existing remote shutdown switch for remote shutdown of the boilers. The adopted amendments also recommends that when installing a new boiler to connect all the boilers in the room to the new emergency shutdown switch if a switch does not exist.

- **Rule Cost/Benefit Analysis**
  Cost savings to customers by allowing the use of an existing emergency shutdown switch. For customers, this can be a cost savings by not having to purchase and install a new switch.
when installing a new boiler. Connecting existing boilers prior to 2004 that do not have an emergency shutdown switch to a new switch is not mandatory and so it does not add costs. Having the boilers connected to an emergency shutdown switch helps to ensure the boiler shuts down safely to prevent incident.

**WAC 296-104-302 Installation – What fuel controls are required on automatically fired boilers after December 1998?** (Adopted title change to “Installation—control and limit devices are required on automatically fired hot water heating, hot water supply boilers, coil type hot water heating boilers, low pressure steam boilers, and HLW potable water heaters after June 1989?)

**New subsection WAC 296-104-302(4)**

- **Rule Overview**

Add new language that requires HLW potable hot water heaters with heating input greater than 400,000 BTU/hr. (117 kW), including electric boilers, and installed after January 1, 2018, to have an emergency shutdown switch or circuit breaker. The 2017 National Board Inspection Code (NBIC) and 2019 NBIC Part 1, 3.5.3.2(b) has no limit on the input for emergency stop switches on HLW potable hot water heaters. The adopted rule creates consistency with the emergency shutdown switch requirements for all boilers.

- **Rule Cost/Benefit Analysis**

This rule is less stringent than the NBIC so it is a cost savings in general. Cost savings to customers by not requiring an emergency shutdown switch on HLW potable water heaters with a heating input between 200,000 and 399,999 BTU, installed after January 1, 2018. The benefits are the reduction in regulatory requirements where not necessary for public safety.

**New subsection WAC 296-104-302(5)**

- **Rule Overview**

Amends language to make all control and limit devices for automatically fired hot water heating, hot water supply boilers, coil type hot water heating boilers, low pressure steam boilers, and HLW potable water heaters be tested or verified by a means that is acceptable by the jurisdiction. Before 1989, all control devices were independently connected and electrically wired in series.

- **Rule Cost/Benefit Analysis**

Cost savings to customers due to the allowance of new technology. For customers, the adopted rule results in a cost savings by allowing the use of new electronic controls on some
of the newer boilers in the state of Washington. Control and limit devices are already required to be tested upon installation or prior to use and some control and limit devices are already allowed to be verified at the inspector’s discretion, so it does not add costs.

New subsection WAC 296-104-302(6)

- Rule Overview

This new subsection relocates the existing emergency shut down switch or circuit breaker requirements under WAC 296-104-303(1) for automatically fired boilers with a heating input greater than 400,000 BTU/hr. (117 kW), including electrical boilers, covered under this section and installed after December 2004. As indicated above, the section is adopted to be specific to automatically fired hot water heating, hot water supply boilers, coil type hot water heating boilers, and low pressure steam boilers. (This section also includes HLW potable water heaters, however, the requirement for emergency shut down switches is addressed under the adopted WAC 296-140-302(4) discussed above). Also added is new language that allows all boilers in a room to connect to an existing remote shutdown switch for remote shutdown of the boilers. The adopted amendments also recommends that when installing a new boiler to connect all boilers in the room to the new emergency shutdown switch if a switch does not exist.

- Rule Cost/Benefit Analysis

Cost savings to customers by allowing the use of an existing emergency shutdown switch. For customers, this can be a cost savings by not having to install a new switch when installing a new boiler. Connecting existing boilers that do not have an emergency shutdown switch to a new switch is not mandatory and so it does not add costs. Having the boilers connected to an emergency shutdown switch helps to ensure the boiler shut down safely to prevent incident.

WAC 296-104-503, Repairs – What are the requirements for nonnuclear boilers and unfired pressure vessel repairs and alterations?

New subsection WAC 296-104-503(2)

- Rule Overview

Adds new language that National Board (NB) “R” organizations must send a completed and signed copy of the “Process Travel/Checklist” form for each repair and alteration job to L&I within 45 days of completing the work. The adopted rule converts L&I’s existing policy into a rule.
• Rule Cost/Benefit Analysis

This rule requires NB “R” organizations to send a copy of the Process Travel Checklist form to L&I by mail or electronically. The rule changes adopt existing policy that has been in practice since 2012 and already complied with by all repair organizations, therefore, it does not add any new costs above existing practices or baseline. Having the form sent to L&I ensures that repairs and alterations are done correctly and by accredited organizations so the boiler and pressure vessel is safe.

Cost-Benefit Determination

As described above, the changes subject to the cost-benefit analysis requirement will either result in a cost savings to customers or no increased costs over current practice or the baseline. These changes include benefits to customers to choose less costly alternatives over existing requirements that do no reduce safety and help to increased boiler safety. In total, the probable benefits of this rule are likely much greater than the probable costs.