Board of Boiler Rules

Meeting agenda
Includes an ***executive session***

Meeting date: Tue., June 4, 2024
Time: 9:30 a.m.
In-person attendance: Building Codes Division Salem office in Conference Room A
Virtual connection and online streaming: View the live meeting or access the connection Information for the Zoom meeting at: Oregon.gov/bcd/Pages/bcd-video.aspx

I. Board business

A. Call to order
B. Roll call
C. Approval of agenda and order of business
D. Approval of the draft board meeting minutes of March 5, 2024
E. Date of the next scheduled meeting: Sept. 10, 2024, *Holiday schedule*

II. Executive session

Chair will read a script announcing executive session

(Break to clear audience from the room and via internet connection)

Executive session pursuant to *ORS 192.660(2)(f)* to consider information or records that are exempt by law from public inspection

(Allow time to return to open session)

Chair will read a script announcing the close of executive session

III. Reports and updates

A. Board vote on consent orders for cases proposed for resolution as outlined in the enforcement board report ***(Board action required)***
B. Legislative update
C. Update on Housing Accountability and Production Office
D. Boiler program update

IV. Public comment

The board will hear public testimony, including testimony from individuals who have signed up in advance.

V. Communications

This item is for the division to present advisory information. This is also for the board to review any letters or emails submitted by stakeholders.

VI. Unfinished business

There is no unfinished business for this meeting.

VII. New business

A. Board review and make recommendation to the Administrator for the 2024 Oregon Boiler and Pressure Vessel Specialty Code
B. Request received from Dyno Nobel to propose a change to Oregon Administrative Rule 918-255-0590(1)(a) to allow for more than one extension up to a maximum of 36 months
C. Board review and approval of revised Steamfitter work processes to meet Class 5 Boiler license requirements

VIII. Announcements

The Board Chair or any of the board members may make announcements during this time.

IX. Adjournment

The Board Chair or Vice-chair will adjourn the meeting announcing a specific time of adjournment.

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P.O. Box 14470
Salem, OR 97304
503-378-4133
bcd.info@dcbs.oregon.gov
oregon.gov/bcd

Agenda Item I.D.

State of Oregon
Board of Boiler Rules
Virtual meeting minutes
March 5, 2024

Members present: Chris Baier, steamfitter, Chair
Jason Anderson, mechanical engineer registered in Oregon
Richard Engle, insurance inspector
Ryan Garvey, public member
Patrick Lamb, practical steam operating engineer
Paul Langley, owner/user high pressure boiler
Julie Rapp, owner/user pressure vessel

Members absent: Kory Dunn, boiler installation and repair
Vacant, mfr/owner of boilers or pressure vessels
Vacant, boilermaker
Vacant, owner/user low pressure boiler

Staff: Todd Smith, manager, Policy and Technical Services (PTS)
Richard Rogers, chief building official, PTS
Thomas Clark, chief boiler inspector, Statewide Services
Ian Paik, policy analyst, PTS
Andrea Simmons, acting manager, Enforcement Services
Laura Burns, support coordinator, PTS
Kaydi Milton, policy development coordinator, PTS
Debi Barnes-Woods, boards administrator/coordinator, PTS

Guests: Donald Von Tungeln, Hartford Steam Boiler (HSB)

I. Board business

A. Call to order

The Hybrid Board of Boiler Rules board meeting of March 5, 2024, was called to order at 9:30 a.m., by Chair Chris Baier.

B. Roll call

In-house: Chair Chris Baier, new Board Member Richard Engle, and Board Member Julie Rapp.
Virtual: Jason Anderson; Ryan Garvey; Patrick Lamb; and Paul Langley.
Absent: Kory Dunn.

The Board of Boiler Rules is an eleven-member board. Six members make a quorum. Currently, there are three vacant positions.

If you are interested or know someone that would be a great fit in one of the vacant positions, please visit the Governor's website.
New applicants may apply at: https://oregon.wd5.myworkdayjobs.com/Boards.
You will be instructed to create a Workday profile using an email and password. Once created, sign in, search for the Board or Commission you would like to apply to, and select the "Apply" button to submit your application.

C. Approval of the agenda and order of business
Chair Baier **ruled** the agenda and order of business approved.

D. Approval of the draft meeting minutes
Chair Baier **ruled** the draft meeting minutes of Feb. 8, 2024, final.

E. Date of the next regularly scheduled meeting: June 4, 2024.

F. Formal farewell to Vice-chair Roger Hendrix
Vice-chair Roger Hendrix has served on the board for almost 10 years. During his second four-year term, Roger was unanimously elected Vice-chair. He played an active role in the adoption of the 2021 OBPVSC and was instrumental in his membership on the CE Committee. Roger, you will be missed by all.

G. Welcome new Board Member Richard Engle
Board Member Richard Engle was confirmed to his position on the board who is regularly engaged in the inspection of boilers and pressure vessels and who is employed by an insurer who may and does write policies of boiler and pressure vessels explosion insurance in Oregon (2)(c), which his term began Feb. 16, 2024.

H. Board vote on Vice-chairperson position
Ian Paik, policy analyst, Policy and Technical Services, explained the process of nominating a member for the position of Vice-chair.

Analyst Paik opened the nomination for Vice-chair and Chair Baier nominated Member Julie Rapp for the position. Member Rapp accepted the nomination saying her intentions are to participate in this board and attend all meetings in-person.

Hearing no other nominations, the nomination process was closed.

Motion by Chair Baier for Member Julie Rapp to be the Vice-chair of the Board of Boiler Rules.

Roll call vote taken:
Yay: Jason Anderson; Richard Engle; Ryan Garvey; Patrick Lamb; Paul Langley; and Chair Chris Baier.
Nay: 0

****Abstention:*** Julie Rapp
Motion carried.
***An abstention is not counted as an affirmative or negative vote to make up the minimum number of concurring votes required to pass or reject a motion. If a member abstains, but is present, the member is counted for quorum purposes only.**

II. Public comment - None

III. Reports and updates

Boiler program update

Thomas Clark, chief boiler inspector, Statewide Services, was pleased to report that since the last scheduled board meeting of February 8 there have been no staffing changes or no accidents. Chief Clark added that the overdues have gone up by only one percent for state inspections as well as insurance inspections.

Chief Clark announced he will be giving a seminar towards the end of May at the Building Codes Division open to all inspectors. The technical training is designed for state and insurance inspectors. Detailed information will be posted on the division website.

IV. Communications

Board Chair will announce membership of the 2024 Oregon Boiler and Pressure Vessel Specialty Code Review Committee and selection of Chair

Analyst Paik reviewed the code committee selection process and asked the board to review the five individuals that submitted interest in serving on the 2024 Oregon Boiler and Pressure Vessel Specialty Code committee. Chair Baier asked for board participation. Vice-chair Julie Rapp expressed her interest in being part of that process, as well as Chair Baier and Board Member Ryan Garvey.

Manager of Policy and Technical Services Todd Smith added that the board may put off the selection of the Chairperson until the first code committee meeting if the board so chooses.

Motion by Chair Baier to approve the five individuals who submitted applications for membership to the 2024 Oregon Boiler and Pressure Vessel Specialty Code committee to include Chair Baier; Vice-chair Rapp; and Board Member Garvey.

Roll call vote taken:
Yay: Jason Anderson; Richard Engle; Ryan Garvey; Patrick Lamb; Paul Langley; Vice-chair Julie Rapp; and Chair Chris Baier.
Nay: 0
Motion carried unanimously.

V. Appeals - None

VI. Unfinished business - None

VII. New business

Board review and approval of Chief's recommendations for new continuing education course and instructor applications

Analyst Paik said that the Chief reviewed five applications from two organizations. Chief Clark recommended two courses for approval, and three instructors were recommended for approval.

Motion by Board Member Jason Anderson to approve the Chief's recommendations for approval or denial of courses or instructors.

Roll call vote taken:
Yay: Jason Anderson; Richard Engle; Ryan Garvey; Patrick Lamb; Paul Langley; Vice-chair Julie Rapp; and Chair Chris Baier.
Nay: 0
Motion carried unanimously.

IX. Announcements - None

X. Adjournment

Chair Chris Baier adjourned the meeting at 9:47 a.m.

Respectfully submitted by Debi Woods, boards administrator/coordinator.

Agenda Item III.A.

State of Oregon **Board memo**

Building Codes Division **June 4, 2024**

To: The Board of Boiler Rules

From: Kathy Rowell, contested case representative, Enforcement Section

Subject: Consent orders for cases resolved on behalf of the Boiler Board

Action requested:
For the Board to consider the adoption of recent consent orders negotiated by the Division on its behalf and to issue final orders.

Background:
The Board, through Division staff, implemented a civil penalty matrix for boiler violations, which establishes civil penalties based upon the type and number of violations committed by a company or individual. The penalty matrix further provides that a stay of some portion of a penalty is within the sole discretion of the Board or the Division acting on the Board's behalf for purposes of settling cases without having to go to hearing.

The Enforcement Section, acting on behalf of the Board, has entered into consent agreements in three (3) cases since the Board's March 5, 2024, meeting. In these cases, the penalty amounts assessed, amounts suspended, and amounts due and payable are consistent with the board's penalty matrix. A copy of the consent orders and a chart with a summary of the three cases for Board approval has been included for your review in your board packet.

The consent orders contain the following standard conditions:

- Respondent agrees to fully cooperate with the division's enforcement efforts.
- Respondent understands that further enforcement action may be taken for any other violations.
- Respondent understands that failure to comply with the consent orders may be used as a basis for the denial, suspension, revocation, or conditioning of a license, certificate, or registration.

All cases involve first time violators, unless otherwise noted in the chart.

Please let me know if you have any questions.

Board of Boiler Rules Consent Orders June 4, 2024

Case #	Name	Violation	Location	Date of Violation	Civil Penalty	Other Consent Terms
C2022-0061	Shearer's Foods SA, Inc., dba Shearer's Food Hermiston	Failing to obtain temporary authorizations or operating permits prior to putting a thermal fluid boiler and a thermal fluid expansion tank into operation, and prior to putting the six nitrogen gas storage vessels into operation. Using or attempting to use a thermal fluid boiler that did not meet the minimum safety standards. Storing 75 to 100 gallons of flammable thermal fluid in the immediate vicinity of a thermal fluid boiler.	Hermiston	December 2021 through January 2022	Assessed: $16,000 Imposed: $14,000 Suspended: $2,000	
C2022-0062	Apollo Sheet Metal, Inc., dba Apollo Mechanical Contractors, Inc.	Failing to obtain a permit prior to installing the thermal fluid boiler and thermal fluid expansion tank. Making and directing the installation of a thermal fluid boiler which failed to meet minimum safety requirements. Faling to assure employee(s) holding a Class 6 license were properly supervised when installing a thermal fluid boiler. Employing multiple individuals who were not issued a valid employee or agent license to install a thermal fluid boiler and thermal fluid piping.	Hermiston	December 2021 through January 2022	Assessed: $10,000 Imposed: $7,000 Suspended: $3,000	

Case #	Name	Violation	Location	Date of Violation	Civil Penalty	Other Consent Terms
C2022-0063	Heatec, Inc.	Permitting or suffering the operation of a thermal fluid expansion tank and thermal fluid boiler without a valid temporary operation authorization or valid operating permit attached to the thermal fluid expansion tank and thermal fluid boiler or posted in a conspicuous place in the room where the thermal fluid expansion tank and thermal fluid boiler was located.	Hermiston	December 2021	Assessed: $2,000 Imposed: $1,500 Suspended: $500	

BEFORE THE BOARD OF BOILER RULES OF THE STATE OF OREGON

IN THE MATTER OF: **SHEARER'S FOODS SA, INC. DBA SHEARER'S FOOD HERMISTON, ASSUMED BUSINESS NAME,** **RESPONDENT.**	**CONSENT ORDER** **BCD CASE C2022-0061**

INTRODUCTION

The Building Codes Division ("Division") conducted an investigation on behalf of the Board of Boiler Rules of the State of Oregon ("Board") and determined that Shearer's Foods SA, Inc. DBA Shearer's Food Hermiston ("Respondent") violated certain provisions of the Division's statutes and administrative rules as identified below.

Respondent, without admitting or denying the Board's findings of fact or conclusions of law, wishes to resolve and settle this matter in order to avoid the costs and uncertainty of litigation. Respondent understands that Respondent has the right to a contested case hearing under the Administrative Procedures Act, Oregon Revised Statutes ("ORS") chapter 183, and Respondent fully and finally waives the right to a hearing and any judicial review therefrom by the signing of this Consent Order.

THE BOARD'S FINDINGS OF FACT

1. On or about April 11, 1996, Respondent registered the with Oregon Secretary of State ("SOS") as an assumed business name.
    a. At all relevant times George W. Hawk Jr. was registered with the SOS as Respondent's authorized representative.
    b. At all relevant times, Shearer Foods SA, Inc. was Respondent's registered owner.[1]

/ / /

[1] On or about October 30, 2020, Snack Alliance, Inc. amended its articles of incorporation to change its corporate name from Snack Alliance Inc. to Shearer's Foods SA, Inc.

2. On or about September 22, 2011, Apollo Sheet Metal, Inc.[2] dba Apollo Mechanical Contractors, Inc. ("Apollo") registered with the SOS under an assumed business name.
3. At all relevant times, Apollo held Construction Contractors Board ("CCB") license number 56241.[3]
4. At all relevant times, Apollo held boiler business license number B99-2083.[4]
5. On or about December 7, 2021, Respondent hired Apollo to install a thermal fluid boiler and thermal fluid expansion tank, rented from Heatec, Inc. ("Heatec"),[5] at its potato chip factory located at 78035 Hwy 207 in Hermiston, Oregon ("property").
6. From on or around December 8, 2021, through on or about January 11, 2022, employees working on behalf of Apollo, fabricated and installed thermal fluid piping for the thermal fluid boiler at the property and the following applied:
    a. At all relevant times, Apollo allowed its employees who did not hold a valid Oregon employee or agent license to perform the installation of the thermal fluid boiler at the property.
    b. At all relevant times, Apollo allowed its employee(s) who held a Class 6 license(s) to perform the installation of the thermal fluid boiler and the thermal fluid expansion tank at the property without the supervision of a person holding a Class 5 license.
7. On February 22, 2022, a fire started in the vicinity of the thermal fluid boiler and piping, destroying approximately three quarters of the building where it was housed.
8. In the subsequent investigation of the boiler fire, the Division's Chief Boiler Inspector, Tom Clark ("Chief Clark"), determined that Apollo failed to meet the minimum safety standards in their installation of the thermal fluid boiler for the following reasons:
    a. Apollo installed the boiler without the required emergency shutoff switches or circuit

[2] Apollo Sheet Metal Inc. registered with the SOS as a foreign business corporation on or about April 14, 1988.
[3] At all relevant times, Bruce Ratchford was registered with CCB as the responsible managing individual and corporate officer.
[4] At all relevant times, Jesse Vanschoiack was registered with the Division as Apollo's owner/manager.
[5] See Division related case C2022-0063 against Heatec.

breaker; and

b. Apollo improperly installed the discharge lines for the pressure relief valve by failing to have them directed to a safe location.

9. During the investigation Chief Clark also determined the following:

a. Respondent failed to properly maintain a boiler room by storing 75 to 100 gallons of flammable thermal fluid in the immediate vicinity of the thermal fluid boiler; and

b. Respondent, in addition to the thermal fluid boiler, maintained (6) six nitrogen gas storage vessels at the property that did not have temporary authorizations or valid operating permits.

10. At no relevant time did Apollo obtain an installation permit prior to beginning the installation of the thermal fluid boiler at the property.

11. At no relevant time did Apollo obtain an installation permit prior to beginning the installation of the thermal fluid expansion tank at the property.

12. At no relevant time did Respondent obtain a temporary authorization or valid operating permit for the thermal fluid boiler installed by Apollo at the property.

13. At no relevant time did Respondent obtain a temporary authorization or valid operating permit for the thermal fluid expansion tank installed by Apollo at the property.

14. At all relevant times Heatec permitted or suffered the operation of the thermal fluid boiler at the property without a valid temporary operation authorization or valid operating permit being attached to the thermal fluid boiler or posted in a conspicuous location.

15. At all relevant times Heatec permitted or suffered the operation of the thermal fluid expansion tank at the property without a valid temporary operation authorization or valid operating permit being attached to the thermal fluid expansion tank or posted in a conspicuous location.

/ / /

APPLICABLE LAW

1. Definitions for terms used in this Consent Order may be found in ORS 183.310, ORS 455.010, ORS 480.515, Oregon Administrative Rule ("OAR") 918-001-0005, OAR 918-030-0010, and OAR 918-225-0240.
2. Under ORS 480.515(3), "boiler" means the following:
    a. A closed vessel or vessels intended for the heating or vaporizing of liquids to be used externally to such vessel or vessels by the application of heat from combustible fuels, electricity or nuclear energy;
    b. Related appurtenances including but not limited to pressure piping directly connected and related to the safe operation of a boiler;
    c. Pressure piping consisting of boiler or non-boiler external piping connected to a boiler, but not potable water non-boiler external piping.
3. Under ORS 480.515(12), "pressure vessel" means containers for the containment of pressure, either internal or external. This pressure may be obtained from an external source or by the application of heat from a direct or indirect source, or any combination thereof.
4. Under ORS 480.555(1), except as provided in ORS 480.525(1), a person may not:
    a. Make or direct the construction, installation, repair or alteration of a boiler or pressure vessel that does not meet minimum safety standards.
    b. Lend, rent out, or offer to lend or rent out, sell, offer for sale, or dispose of by gift or otherwise, for operation, a boiler or pressure vessel that does not meet minimum safety standards.
    c. Use, or attempt to use, a boiler or pressure vessel that fails to meet the minimum safety standards.
    d. Make any installation of a boiler or pressure vessel or repair thereon affecting the strength or safety thereof without notifying the chief boiler inspector as prescribed

by rules promulgated under ORS 480.545.

5. Under OAR 918-225-0600(3), an operating permit or temporary operation authorization is required before placing a nonexempt vessel into operation.
6. Under ORS 480.585(4)(a), except as provide in ORS 480.510 to ORS 480.670, a person may not operate a boiler or pressure vessel unless a valid temporary operation authorization or valid operating permit issued under this section is attached to the boiler or pressure vessel or posted in a conspicuous place in the room where the boiler or pressure vessel is located.
7. Under ORS 480.585(4)(b), a person may not permit or suffer the operation of a boiler or pressure vessel on property the person owns, controls, manages or supervises unless a valid operating permit issued under this section is attached to the boiler or pressure vessel or posted in a conspicuous place in the room where the boiler or pressure vessel is located.
8. Under OAR 918-001-0036(2)(b), a "directive" includes, but is not limited to, a notice or warning, citation, order, consent decree or settlement agreement, rule, law, code requirement, or agency interpretation.
9. Under OAR 918-225-0430(2)(b), effective October 1, 2021, the 2021 Oregon Boiler and Pressure Vessel Specialty Code consists of the following minimum safety standards for boilers, pressure vessels, pressure piping, items, and repair and alteration procedures: The 2021 Edition of the National Board Inspection Code ANSI/NB 23, including Parts 1, 2, 3, and 4, as amended by the Division in Table 2-B.
10. Under NBIC Part 1, S5.5.7(b), a manually operated remote shutdown switch or circuit breaker shall be located just outside the equipment room door and marked for easy identification. Consideration should be given to the type and location of the switch to safeguard against tampering.
11. Under NBIC Part 1 S5.7.6(f), pressure relief valve discharges shall be arranged such that they are not a hazard to personnel or other equipment and, when necessary, lead to a safe

location, such as a catchment tank, for the disposal of fluids being relieved.

12. Under NBIC Part 1 S5.7.6(h), the pressure relief valve discharge shall be connected to a closed, vented storage tank with solid piping (no drip pan elbow or other air gap). The storage tank should be located as close to the system as possible, but away from flammable surfaces. Overflow or high level protection should be considered. The capacity of the storage tank should consider the volume of fluid which may be relieved or sized in accordance with the heater manufacturer's recommendation. Storage tanks located outdoors shall be located such that water cannot collect in the vessel.
    a. The following shall be considered for discharge piping hazards:
        i. Both thermal and chemical reactions (personnel hazard);
        ii. Combustible materials (fire hazard);
        iii. Surface drains (pollution and fire hazard); and
        iv. Heat tracing for systems using high freeze point fluids (prevent blockage).
13. Under OAR 918-225-0465(1), every boiler room shall be maintained for exclusive use of boilers and associated systems, equipment and machinery. Storage of non-boiler-related machinery, equipment or materials in a boiler room is prohibited. Flammable liquid or gas containers shall not be placed or stored in a boiler room.

THE BOARD'S CONCLUSIONS OF LAW

1. The thermal fluid boiler installed at the property by Apollo constitutes a boiler under ORS 480.515(3).
2. The thermal fluid expansion tank installed at the property by Apollo and the six nitrogen gas storage vessels maintained at the property by Respondent constitute pressure vessels under ORS 480.515(12).
3. Under ORS 480.555(1)(a), Apollo was not allowed to make or direct the construction, installation, repair or alteration of a boiler or pressure vessel that did not meet the minimum

safety standards adopted by the Board in OAR 918-225-0430(2)(b).

4. The following issues, with respect to the thermal fluid boiler installed by Apollo at the property, were noted by Chief Clark during his investigation as constituting a failure to meet the minimum safety standards under ORS 480.555(1)(a):
    a. Apollo failed to install a manually operated remote shutdown switch or circuit breaker outside the equipment room door (*see* NBIC" Part 1, S5.5.7(b)); and
    b. Apollo failed to arrange pressure relief discharges in such a way that they are not a hazard to personnel or other equipment, and when necessary, lead to a safe location, such as a proper catchment tank, for the disposal of the fluid being relieved (*see* NBIC Part 1 S5.7.6(f)).
5. By making and directing the installation of the thermal fluid boiler at the property, which failed to meet foregoing the minimum safety standard requirements, Apollo violated ORS 480.555(1)(a).
6. Under ORS 480.555(1)(c), Respondent is not allowed to use or attempt to use a boiler or pressure vessel that fails to meet the minimum safety standards adopted by the Board under OAR 918-225-0430(2)(b).
7. Because the thermal fluid boiler installed by Apollo at the property failed to meet the foregoing minimum safety standards, Respondent was not allowed to use or attempt to use the thermal fluid boiler under ORS 480.555(1)(c).
8. By using or attempting to use the foregoing thermal fluid boiler that did not meet the minimum safety standards, Respondent violated ORS 480.555(1)(c).
9. Under OAR 918-225-0465(1), Respondent was required to maintain a boiler room for the exclusive use of boiler and associated systems, and is not permitted to place or store flammable liquid or gas containers in the boiler room.
10. By storing 75 to 100 gallons of flammable thermal fluid in the immediate vicinity of the

thermal fluid boiler, Respondent violated OAR 918-225-0465(1).

11. By failing to obtain temporary authorizations or operating permits prior to putting the thermal fluid boiler and the thermal fluid expansion tank installed by Apollo into operation, and prior to putting the six nitrogen gas storage vessels into operation, Respondent violated OAR 918-225-0600(3) eight times.

ORDER

1. The Board hereby assesses a total civil penalty of $16,000.00 against Respondent for violating OAR 918-225-0600(3) eight times, ORS 480.555(1)(c) and OAR 918-225-0465(1) as follows:

    a. $2,000.00 of the total civil penalty will be suspended for a period of five years if there is compliance with all other terms of this Consent Order.

    b. Respondent agrees to pay the remaining $14,000.00 of the civil penalty in a lump sum payment. Respondent's payment must be received no later than the 25th day of the month following the month in which this Consent Order is signed by both parties. *(An invoice may be provided to Respondent after this Consent Order is signed by both parties. Respondent understands timely payments must be made even if no invoice is ever received.)* Checks should be made out to the Department of Consumer and Business Services. **Payment shall be mailed to Department of Consumer and Business Services, Fiscal Services Section, P.O. Box 14610, Salem, OR 97309-0445**. **For payment questions and credit card payments call 971-375-7087.**

    NOTE: If you fail to make your lump sum payment as stated in this signed Consent Order, this account may be assigned to the Department of Justice, Department of Revenue, or a private collection agency. You will be responsible for any court costs, attorney fees, any other necessary fees related to the collection of this debt, and any interest or penalties accrued. This debt may also appear on future credit reports.

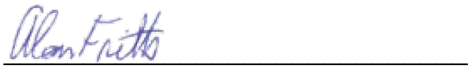
c. Respondent understands the suspended civil penalty ($2,000.00) will be considered satisfied five years after this Consent Order becomes a final order, provided Respondent complies with its terms and has not committed any further violations of the Division's statutes and rules within that five-year period. Respondent understands and agrees that upon a showing that Respondent has not complied with the terms of this Consent Order or that Respondent has committed any further violations of the Division's statutes or rules within the five-year period, the entire civil penalty, including any suspended amount, will become due and payable. Failure to comply with this Consent Order includes, but is not limited to, failure to pay the civil penalty amount due by the due date.

2. Respondent agrees to fully cooperate with the Division's enforcement efforts in other cases that rely on the facts underlying this case. Cooperation may include, but may not be limited to, making sworn statements or testifying in administrative hearings.
3. Respondent understands that further enforcement action may be taken for any violation of the Division's statutes or rules not alleged in this Consent Order, whether committed before or after the execution of this Consent Order, and for any violation of the terms of this Consent Order.
4. Respondent understands that failure to comply with this Consent Order may be used as a basis for the denial of future license, certificate, registration, or other applications, or for the refusal to renew the same; for the suspension, revocation, or conditioning of a license, certificate, or registration issued by the Division or other state agencies; and/or for any other reason provided for in law.
5. Respondent understands that this Consent Order is a public record.
6. Respondent has read and fully understands the terms of this Consent Order, freely and voluntarily consents to the entry of this Consent Order without any force or duress, and

expressly waives all rights to hearing or judicial review in this matter.

7. Respondent understands that, upon signature of all parties, this Consent Order will be a Final Order.

It is so agreed this 8th day of March, 2024.



(Signature)

Alan Fritts

(Printed Name)

On behalf of Shearer's Foods SA, Inc. DBA Shearer's Foods Hermiston

It is so agreed this ____ day of _____, _____.

_____for
Chair
Board of Boiler Rules
State of Oregon

BEFORE THE BOARD OF BOILER RULES OF THE STATE OF OREGON

IN THE MATTER OF: **APOLLO SHEET METAL, INC., DBA APOLLO MECHANICAL CONTRACTORS, INC.** **RESPONDENT.**	**CONSENT ORDER** **BCD CASE C2022-0062**

INTRODUCTION

The Building Codes Division ("Division") conducted an investigation on behalf of the Board of Boiler Rules of the State of Oregon ("Board") and determined that respondent Apollo Sheet Metal, Inc., dba Apollo Mechanical Contractors, Inc. ("Respondent") violated certain provisions of the Division's statutes and administrative rules as identified below.

Respondent, without admitting or denying the Board's findings of fact or conclusions of law, wishes to resolve and settle this matter in order to avoid the costs and uncertainty of litigation. Respondent understands that Respondent has the right to a contested case hearing under the Administrative Procedures Act, Oregon Revised Statutes ("ORS") chapter 183, and Respondent fully and finally waives the right to a hearing and any judicial review therefrom by the signing of this Consent Order.

THE BOARD'S FINDINGS OF FACT

1. At all relevant times, Respondent was registered with the Oregon Secretary of State ("SOS") as the registrant/owner and authorized representative of the assumed business name "Apollo Mechanical Contractors, Inc." [1]
2. At all relevant times, Bruce Ratchford ("Ratchford") was registered with the SOS as the President of Respondent.

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[1] Respondent registered the assumed business name with the SOS on or about September 22, 2011.

3. At all relevant times, Respondent held Construction Contractors Board ("CCB") license number 56241.
4. At all relevant times, Ratchford was registered with CCB as the responsible managing individual and corporate officer of Respondent.
5. At all relevant times, Respondent held boiler business license number B99-2083.
6. At all relevant times, Jesse Vanschoiack was registered with the Division as Respondent's owner/manager.
7. On or about December 7, 2021, Shearer's Foods SA, Inc., dba Shearer's Food Hermiston ("Shearer's Foods")[2] hired Respondent to install a thermal fluid boiler and thermal fluid expansion tank, rented from Heatec, Inc.,[3] at its potato chip factory located at 78035 Hwy 207 in Hermiston, Oregon ("property").
8. From on or around December 8, 2021, through on or about January 11, 2022, employees working on behalf of Respondent, fabricated and installed thermal fluid piping for the thermal fluid boiler at the property and the following applied:
    a. At all relevant times, Respondent allowed its employees who did not hold a valid Oregon employee or agent license to perform the installation of the thermal fluid boiler at the property.
    b. At all relevant times, Respondent allowed its employee(s) who held a Class 6 license(s) to perform the installation of the thermal fluid boiler and the thermal fluid piping at the property without the supervision of a person holding a Class 5 license.
9. On February 22, 2022, a fire started in the vicinity of the thermal fluid boiler and piping, destroying approximately three quarters of the building where it was housed.
10. In the subsequent investigation of the boiler fire, the Division's Chief Boiler Inspector, Tom Clark ("Chief Clark"), determined Respondent failed to meet the minimum safety standards

[2] See Division related case C2022-0061 against Shearer's Foods.
[3] See Division related case C2022-0063 against Heatec.

in their installation of the thermal fluid boiler for the following reasons:

a. Respondent installed the boiler without the required emergency shutoff switches or circuit breaker; and

b. Respondent improperly installed the discharge lines for the pressure relief valve by failing to have them directed to a safe location.

11. At no relevant time did Respondent obtain an installation permit prior to beginning the installation of the thermal fluid boiler at the property.

12. At no relevant time did Respondent obtain an installation permit prior to beginning the installation of the thermal fluid expansion tank at the property.

13. At no relevant time did Shearer's Foods obtain a temporary authorization or a valid operating permit for the thermal fluid boiler installed by Respondent at the property.

14. At no relevant time did Shearer's Foods obtain a temporary authorization or a valid operating permit for the thermal fluid expansion tank installed by Respondent at the property.

15. At all relevant times Heatec permitted or suffered the operation of the thermal fluid boiler at the property without a valid temporary operation authorization or valid operating permit being attached to the thermal fluid boiler or posted in a conspicuous location.

16. At all relevant times Heatec permitted or suffered the operation of the thermal fluid expansion tank at the property without a valid temporary operation authorization or valid operating permit being attached to the thermal fluid expansion tank or posted in a conspicuous location.

APPLICABLE LAW

1. Definitions for terms used in this Consent Order may be found in ORS 183.310, ORS 455.010, ORS 480.515, Oregon Administrative Rule ("OAR") 918-001-0005, OAR 918-030-0010, and OAR 918-225-0240.

2. Under OAR 918-001-0036(2)(b), a "directive" includes, but is not limited to, a notice or warning, citation, order, consent decree or settlement agreement, rule, law, code requirement, or agency interpretation.
3. Under ORS 480.515(3), "boiler" means the following:
    a. A closed vessel or vessels intended for the heating or vaporizing of liquids to be used externally to such vessel or vessels by the application of heat from combustible fuels, electricity or nuclear energy;
    b. Related appurtenances including but not limited to pressure piping directly connected and related to the safe operation of a boiler;
    c. Pressure piping consisting of boiler or non-boiler external piping connected to a boiler, but not potable water non-boiler external piping.
4. Under ORS 480.515(12), "pressure vessel" means containers for the containment of pressure, either internal or external. This pressure may be obtained from an external source or by the application of heat from a direct or indirect source, or any combination thereof.
5. Under OAR 918-225-0240(11), "installation" means, but is not limited to, permanently placing in its final operating position, assembling, or connecting a boiler, pressure vessel, boiler controls, or related appurtenances for service or use. Installation includes, but is not limited to, connecting water, steam, air, refrigerant, fuel source, or other product piping to or from a boiler or pressure vessel. Merely transporting, moving or temporarily positioning a boiler or pressure vessel is not an installation. For purposes of these rules, an electrical power supply connection to a boiler or pressure vessel is not an installation.
6. Under OAR 918-225-0600(1), except as otherwise provided in this rule, an installation permit is required before installing, altering, or repairing a nonexempt boiler pressure vessel.
7. Under OAR 918-225-0600(8), where an installation permit is required, the equipment owner or, if the work will be performed by a contractor, the contractor, must acquire the

installation permit prior to beginning the intended installation, repair, or alteration, and notify the deputy or special inspector who will inspect the work. Work may not begin until the inspector has reviewed and approved the work to be performed.

8. Under OAR 918-225-0691, persons installing, altering or repairing boilers and pressure vessels shall be licensed under these rules and may only work within the scope of their license.
9. Under OAR 918-225-0691(2)(a), "Direct Supervision" means the person is in the physical presence of a qualified licensed person at the jobsite and the person doing the supervision is directly assigned to monitor and direct the activities of the person supervised. Direct supervision must be on a ratio of one qualified licensed person to one trainee/helper.
10. Under OAR 918-225-0691(2)(b), "Qualified Licensed Person" means a person who holds a Class 2, 3,4, 5, 5-A or 5-B certification and is authorized to do the work without supervision.
11. Under OAR 918-225-0691(2)(c), "supervision" means the individual person assigned to perform supervision under sections 6, 7 and 10 of this rule is directly and specifically assigned to monitor and direct the activities of the person being supervised. Both the person performing supervision and those being supervised shall be prepared to identify each other.
12. Under OAR 918-225-0691(3), a person holding a Class 1 Trainee/Helper License may install, alter or repair boilers, pressure vessels and pressure piping providing the work is of a mechanical nature only. Work performed shall be under the direct supervision of a qualified licensed person. No ASME Code welding is permitted. There are no minimum qualification required for applicants to obtain this license.
13. Under OAR 918-225-0691(6), a person holding a class 4 boilermaker license may install, alter or repair boilers and pressure vessels (excluding non-boiler external piping) by welding or other methods of attachment.
14. Under OAR 918-225-0691(7), a person holding a class 5 pressure piping mechanic license

may do the following:

a. Fabricate, install, alter and repair pressure piping;

b. Install boiler and pressure vessels by attachment of piping connections; and

c. Install, assemble and repair cast iron sectional boilers.

15. Under OAR 918-225-0691(8), a person holding a class 5-A process piping mechanic license may fabricate, install, alter or repair B31.3 process piping.

16. Under OAR 918-225-0691(9), a person holding a class 5-B refrigeration piping mechanic license may fabricate, install, alter or repair B31.5 refrigeration piping.

17. Under OAR 918-225-0691(10), a person holding a class 6 welder license may weld on boilers, pressure vessels or pressure piping while employed by an approved welding employer. Work may only be performed under the supervision of a person certified under sections (6) through (9) of this rule as applicable. More than one welder may be supervised by one appropriately qualified licensed person under this license.

18. Under OAR 918-225-0700(3), boiler contractors are directly responsible for assuring that all persons they employ have correct certification and are properly supervised in the installation, repair, or alteration of boilers, pressure vessels or pressure piping systems. Supervision of persons holding a Class 1 or Class 6 certification must meet requirements of OAR 918-225-0691.

19. Under ORS 480.545(1), the Board may adopt and enforce rules and minimum safety standards to carry out ORS 480.510 to 480.670 and adopt all standards for persons welding on boilers and pressure vessels.

20. Under ORS 480.555(1), except as provided in ORS 480.525(1), a person may not:

a. Make or direct the construction, installation, repair or alteration of a boiler or pressure vessel that does not meet minimum safety standards.

b. Lend, rent out, or offer to lend or rent out, sell, offer for sale, or dispose of by gift or

otherwise, for operation, a boiler or pressure vessel that does not meet minimum safety standards.

c. Use, or attempt to use, a boiler or pressure vessel that fails to meet the minimum safety standards.

d. Make any installation of a boiler or pressure vessel or repair thereon affecting the strength or safety thereof without notifying the chief boiler inspector as prescribed by rules promulgated under ORS 480.545.

21. Under ORS 480.630(2), a person who installs, repairs or alters boilers or pressure vessels as the employee or agent of a business engaged in the installation, repair or alteration of boilers or pressure vessels must possess an employee or agent license issued by the department.

22. Under ORS 480.632, a person licensed, or required to be licensed, under ORS 480.630 to engage in the business of installing, repairing or altering boilers or pressure vessels may not employ any person to work on a boiler or pressure vessel unless the employed person has a valid license issued under ORS 480.630.

23. Under ORS 480.630(5), a person required to be licensed under this section may not install, alter or repair a boiler or pressure vessel unless an installation permit is first secured from the department. The department shall issue permits only to persons possessing a valid boiler contractor license or as provided by the department by rule.

24. Under OAR 918-225-0430(2)(b), effective October 1, 2021, the 2021 Oregon Boiler and Pressure Vessel Specialty Code consists of the following minimum safety standards for boilers, pressure vessels, pressure piping, items, and repair and alteration procedures: The 2021 Edition of the National Board Inspection Code ANSI/NB 23, including Parts 1, 2, 3, and 4, as amended by the Division in Table 2-B.

25. Under NBIC Part 1, S5.5.7(b), a manually operated remote shutdown switch or circuit breaker shall be located just outside the equipment room door and marked for easy

identification. Consideration should be given to the type and location of the switch to safeguard against tampering.

26. Under NBIC Part 1 S5.7.6(h), the pressure relief valve discharge shall be connected to a closed, vented storage tank with solid piping (no drip pan elbow or other air gap). The storage tank should be located as close to the system as possible, but away from flammable surfaces. Overflow or high level protection should be considered. The capacity of the storage tank should consider the volume of fluid which may be relieved or sized in accordance with the heater manufacturer's recommendation. Storage tanks located outdoors shall be located such that water cannot collect in the vessel.
    a. The following shall be considered for discharge piping hazards:
        i. Both thermal and chemical reactions (personnel hazard);
        ii. Combustible materials (fire hazard);
        iii. Surface drains (pollution and fire hazard); and
        iv. Heat tracing for systems using high freeze point fluids (prevent blockage).
27. Under NBIC Part 1 S5.7.6(f), pressure relief valve discharges shall be arranged such that they are not a hazard to personnel or other equipment and, when necessary, lead to a safe location, such as a catchment tank, for the disposal of fluids being relieved.

THE BOARD'S CONCLUSIONS OF LAW

1. The thermal fluid boiler installed at the property by Respondent constitutes a boiler under ORS 480.515(3).
2. The thermal fluid expansion tank installed at the property by Respondent and constitutes a pressure vessel under ORS 480.515(12).
3. Under ORS 480.632, Respondent was not allowed to employ a person to install the thermal fluid boiler at the property unless the employed person held a valid license.

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4. By employing multiple people, who were not issued a valid employee or agent license by the department, to install a thermal fluid boiler and thermal fluid piping at the property, Respondent violated ORS 480.632.
5. Under OAR 918-225-0700(3), Respondent was required to assure that all persons they employ to install the thermal fluid boiler at the property have the correct certification and are properly supervised.
6. By failing to assure Respondent's employee(s), holding a Class 6 license, was/were properly supervised when installing the thermal fluid boiler at the property, Respondent violated OAR 918-225-0700(3).
7. Under ORS 480.555(1)(a), Respondent was required to meet the minimum safety standards when installing the boiler at the property.
8. The following issues, with respect to the thermal fluid boiler installed by Respondent at the property, were noted by Chief Clark during his investigation as constituting a failure to meet the minimum safety standards under ORS 480.555(1)(a):
    a. Respondent failed to install a manually operated remote shutdown switch or circuit breaker outside the equipment room door (*see* NBIC" Part 1, S5.5.7(b));
    b. Respondent failed to arrange pressure relief discharges in such a way that they are not a hazard to personnel or other equipment, and when necessary, lead to a safe location, such as a proper catchment tank, for the disposal of the fluid being relieved (*see* NBIC Part 1 S5.7.6(f));
9. By making and directing the installation of the thermal fluid boiler at the property, which failed to meet foregoing the minimum safety standard requirements, Respondent violated ORS 480.555(1)(a).
10. By failing to obtain a permit prior to installing the thermal fluid boiler and the thermal fluid expansion tank at the property, Respondent violated ORS 480.630(5) two (2) times.

ORDER

1. The Board hereby assesses a total civil penalty of $10,000.00 against Respondent for violating ORS 480.630(5) two times, ORS 480.555(1), ORS 480.632, and OAR 918-225-0700(3) as follows:

    a. $3,000.00 of the total civil penalty will be suspended for a period of five years if there is compliance with all other terms of this Consent Order.

    b. Respondent agrees to pay the remaining $7,000.00 of the civil penalty in a lump sum payment. Respondent's payment must be received no later than the 25th day of the month following the month in which this Consent Order is signed by both parties. *(An invoice may be provided to Respondent after this Consent Order is signed by both parties. Respondent understands timely payments must be made even if no invoice is ever received.)* Checks should be made out to the Department of Consumer and Business Services. **Payment shall be mailed to Department of Consumer and Business Services, Fiscal Services Section, P.O. Box 14610, Salem, OR 97309-0445. For payment questions and credit card payments call 971-375-7087.**

    NOTE: If you fail to make your lump sum payment as stated in this signed Consent Order, this account may be assigned to the Department of Justice, Department of Revenue, or a private collection agency. You will be responsible for any court costs, attorney fees, any other necessary fees related to the collection of this debt, and any interest or penalties accrued. This debt may also appear on future credit reports.

    c. Respondent understands the suspended civil penalty ($3,000.00) will be considered satisfied five years after this Consent Order becomes a final order, provided Respondent complies with its terms and has not committed any further violations of the Division's statutes and rules within that five-year period. Respondent

understands and agrees that upon a showing that Respondent has not complied with the terms of this Consent Order or that Respondent has committed any further violations of the Division's statutes or rules within the five-year period, the entire civil penalty, including any suspended amount, will become due and payable. Failure to comply with this Consent Order includes, but is not limited to, failure to pay the civil penalty amount due by the due date.

2. Respondent agrees to fully cooperate with the Division's enforcement efforts in other cases that rely on the facts underlying this case. Cooperation may include, but may not be limited to, making sworn statements or testifying in administrative hearings.
3. Respondent understands that further enforcement action may be taken for any violation of the Division's statutes or rules not alleged in this Consent Order, whether committed before or after the execution of this Consent Order, and for any violation of the terms of this Consent Order.
4. Respondent understands that failure to comply with this Consent Order may be used as a basis for the denial of future license, certificate, registration, or other applications, or for the refusal to renew the same; for the suspension, revocation, or conditioning of a license, certificate, or registration issued by the Division or other state agencies; and/or for any other reason provided for in law.
5. Respondent understands that this Consent Order is a public record.
6. Respondent has read and fully understands the terms of this Consent Order, freely and voluntarily consents to the entry of this Consent Order without any force or duress, and expressly waives all rights to hearing or judicial review in this matter.

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7. Respondent understands that, upon signature of all parties, this Consent Order will be a Final Order.

It is so agreed this ____ day of _____, 2024.

_____
(Signature)

Ryan Ratchford _____ President _____
(Printed Name) (Title)

On behalf of Apollo Sheet Metal, Inc., dba Apollo Mechanical Contractors, Inc.

It is so agreed this ____ day of _____, 2024.

_____for
Chair
Board of Boiler Rules
State of Oregon

BEFORE THE BOARD OF BOILER RULES OF THE STATE OF OREGON

IN THE MATTER OF: **HEATEC, INC** **A FOREIGN BUSINESS CORPORATION,** **RESPONDENT.**	**CONSENT ORDER** **BCD CASE C2022-0063**

INTRODUCTION

The Building Codes Division ("Division") conducted an investigation on behalf of the Board of Boiler Rules of the State of Oregon ("Board") and determined that Heatec, Inc. ("Respondent") violated certain provisions of the Division's statutes and administrative rules as identified below.

Respondent, without admitting or denying the Board's findings of fact or conclusions of law, wishes to resolve and settle this matter in order to avoid the costs and uncertainty of litigation. Respondent understands that Respondent has the right to a contested case hearing under the Administrative Procedures Act, Oregon Revised Statutes ("ORS") chapter 183, and Respondent fully and finally waives the right to a hearing and any judicial review therefrom by the signing of this Consent Order.

THE BOARD'S FINDINGS OF FACT

1. At all material times, Respondent was a Tennessee corporation authorized to transact business in the state of Oregon.
2. Beginning in December 2021, Apollo Sheet Metal, Inc. ("Apollo")[1] installed a thermal fluid boiler and a thermal fluid expansion tank at a facility owned and operated by Shearer's Foods SA, Inc. ("Shearer's Food")[2] located at 78035 Highway 207, Hermiston, Oregon ("Property").

[1] See Division related case C2022-0062 against Apollo.
[2] See Division related case C2022-0061 against Shearer's Foods.

3. The thermal fluid boiler installed at the Property and the thermal fluid expansion tank installed at the Property were rented from Respondent, who was the owner of the thermal fluid boiler and the thermal fluid expansion tank.

4. Apollo did not obtain any installation permit prior to beginning the installation of the thermal fluid boiler or the thermal fluid expansion tank at the Property, and Shearer's Foods did not obtain any temporary authorization or valid operating permit for the thermal fluid boiler or the thermal fluid expansion tank.

5. Respondent permitted or suffered the operation of the thermal fluid boiler at the Property without a valid temporary operation authorization or valid operating permit being attached to the thermal fluid boiler or posted in a conspicuous place in the room where the thermal fluid boiler was located.[3]

6. Respondent permitted or suffered the operation of the thermal fluid expansion tank at the Property without a valid temporary operation authorization or valid operating permit being attached to the thermal fluid expansion tank or posted in a conspicuous place in the room where the thermal fluid expansion tank was located.[4]

APPLICABLE LAW

1. Definitions for certain terms used in this Consent Order may be found in ORS 183.310, ORS 455.010, ORS 480.515, Oregon Administrative Rule ("OAR") 918-001-0005, OAR 918-030-0010, and OAR 918-225-0240.

2. Under ORS 480.515(3), "boiler" means the following:

   a. A closed vessel or vessels intended for the heating or vaporizing of liquids to be used externally to such vessel or vessels by the application of heat from combustible fuels, electricity or nuclear energy;

   b. Related appurtenances including but not limited to pressure piping directly connected

[3] The Board makes no findings relating to whether Respondent was actually aware that it was violating these laws.
[4] See footnote 3, supra..

and related to the safe operation of a boiler;

c. Pressure piping consisting of boiler or non-boiler external piping connected to a boiler, but not potable water non-boiler external piping.

3. Under ORS 480.515(12), "pressure vessel" means containers for the containment of pressure, either internal or external. This pressure may be obtained from an external source or by the application of heat from a direct or indirect source, or any combination thereof.

4. Under ORS 480.585(4)(c), the owner of a boiler or pressure vessel may not permit or suffer the operation of the boiler or pressure vessel unless a valid temporary operation authorization or valid operating permit issued under this section is attached to the boiler or pressure vessel or posted in a conspicuous place in the room where the boiler or pressure vessel is located.

THE BOARD'S CONCLUSIONS OF LAW

1. The thermal fluid boiler installed by Apollo and operated by Shearer's Foods at the Property constituted a boiler under ORS 480.515(3).

2. Under ORS 480.585(4)(c), Respondent, as the owner of the thermal fluid boiler, was prohibited from permitting or suffering the operation of the thermal fluid boiler unless a valid temporary operation authorizations or valid operating permit was attached to the thermal fluid boiler or posted in a conspicuous place in the room where the thermal fluid boiler was located.

3. By permitting or suffering the operation of the thermal fluid boiler at the Property without a valid temporary operation authorization or valid operating permit attached to the thermal fluid boiler or posted in a conspicuous place in the room where the thermal fluid boiler was located, Respondent violated ORS 480.585(4)(c).

4. The thermal fluid expansion tank installed by Apollo and operated by Shearer's Foods at the Property constituted a pressure vessel under ORS 480.515(12).

5. Under ORS 480.585(4)(c), Respondent, as the owner of the thermal fluid expansion tank, was prohibited from permitting or suffering the operation of the thermal fluid expansion tank unless a valid temporary operation authorizations or valid operating permit was attached to the thermal fluid expansion tank or posted in a conspicuous place in the room where the thermal fluid expansion tank was located.

6. By permitting or suffering the operation of the thermal fluid expansion tank at the Property without a valid temporary operation authorization or valid operating permit attached to the thermal fluid expansion tank or posted in a conspicuous place in the room where the thermal fluid expansion tank was located, Respondent violated ORS 480.585(4)(c).

/ / /

ORDER

1. The Board hereby assesses a total civil penalty of $2,000.00 against Respondent for violating ORS 480.585(4)(c) two times as follows:

   a. $500.00 of the total civil penalty will be suspended for a period of five years if there is compliance with all other terms of this Consent Order.

   b. Respondent agrees to pay the remaining $1,500.00 of the civil penalty in a lump sum payment. Respondent's payment must be received no later than the 25th day of the month following the month in which this Consent Order is signed by both Respondent and the Board. *(An invoice may be provided to Respondent after this Consent Order is signed by both parties. Respondent understands timely payments must be made even if no invoice is ever received.)* Checks should be made out to the Department of Consumer and Business Services. **Payment shall be mailed to Department of Consumer and Business Services, Fiscal Services Section, P.O. Box 14610, Salem, OR 97309-0445**. **For payment questions and credit card payments call 971-375-7087.**

NOTE: If you fail to make your lump sum payment as stated in this signed Consent Order, this account may be assigned to the Department of Justice, Department of Revenue, or a private collection agency. You will be responsible for any court costs, attorney fees, any other necessary fees related to the collection of this debt, and any interest or penalties accrued. This debt may also appear on future credit reports.

c. Respondent understands the suspended civil penalty ($500.00) will be considered satisfied five years after this Consent Order becomes a final order, provided Respondent complies with its terms and has not committed any further violations of the Division's statutes and rules within that five-year period. Respondent understands and agrees that upon a showing that Respondent has not complied with the terms of this Consent Order or that Respondent has committed any further violations of the Division's statutes or rules within the five-year period, the entire civil penalty, including any suspended amount, will become due and payable. Failure to comply with this Consent Order includes, but is not limited to, failure to pay the civil penalty amount due by the due date.

2. Respondent agrees to fully cooperate with the Division's enforcement efforts in other cases that rely on the facts underlying this case. Cooperation may include, but may not be limited to, making sworn statements or testifying in administrative hearings.

3. Respondent understands that further enforcement action may be taken for any violation of the Division's statutes or rules not alleged in this Consent Order, whether committed before or after the execution of this Consent Order, and for any violation of the terms of this Consent Order.

4. Respondent understands that failure to comply with this Consent Order may be used as a basis for the denial of future license, certificate, registration, or other applications, or for the refusal to renew the same; for the suspension, revocation, or conditioning of a license,

certificate, or registration issued by the Division or other state agencies; and/or for any other reason provided for in law.

5. Respondent understands that this Consent Order is a public record.

6. Respondent has read and fully understands the terms of this Consent Order, freely and voluntarily consents to the entry of this Consent Order without any force or duress, and expressly waives all rights to hearing or judicial review in this matter.

7. Respondent understands that, upon signature of all parties, this Consent Order will be a Final Order.

It is so agreed this 22nd day of March, 2024.

Stephen C. Anderson
(Signature)

Stephen C. Anderson
(Printed Name)

On behalf of Heatec, Inc.

It is so agreed this ____ day of _____, _____.

_____for
Chair
Board of Boiler Rules
State of Oregon

Agenda Item III.B.

2024 Legislative Update

Table of Contents

The following is a brief summary of recently passed legislation which may be of interest to the board. These summaries are not a complete outline of the new law and the summary should not be relied upon for decision making. Please refer to the bill text for a complete description of the law change.

Bills Passed in the 2024 Session that may impact BCD Operations

HB 4016 Wildfire

Bill
Summary: In 2021, the Legislature enacted Senate Bill 762, a wide-ranging wildfire law that invested in programs and with three specific strategies: creating fire-adapted communities, increasing the resiliency of Oregon's landscapes, and developing safer and more effective wildfire response. Senate Bill 80 (2023) was the 2023 successor to SB 762. It modified various wildfire provisions from SB 762 and allocated more than $220 million in total funds to nine agencies for the purposes of implementing a statewide comprehensive strategy to promote wildfire risk reduction, response, and recovery.

HB 4016 makes discreet updates to the statutes and programs created by SB 762 (2021) and SB 80 (2023). Notably, HB 4016 directs DCBS to allow a person to apply for a grant under the Fire Hardening Grant Program on or before Dec. 31, 2025. The bill also directs the Department of Consumer and Business Services and the Department of the State Fire Marshal to report, on or before Sept. 15, 2024, to committees or interim committees of the Legislative Assembly related to natural resources on a proposal for a proactive home hardening program.

Plan: The division will continue to operate the Fire Hardening Grant Program. The division will work with the Department of the State Fire Marshal to develop a proposal for a proactive home hardening program.

SB 1521 Human services omnibus update

Bill
Summary: SB 1521 is a human services omnibus measure that makes changes to statutory provisions related to care for vulnerable individuals. Under various Oregon laws, care for vulnerable individuals includes fire safety requirements for facilities housing those individuals, including facility sprinkler requirements. Among the changes in the bill, SB 1521 extends an existing sunset. Section 3, chapter 91, Oregon Laws 2022, exempts single family residences being used as licensed residential training homes or licensed adult foster homes from certain automatic sprinkler requirements.

This exemption was set to expire on July 1, 2024. SB 1521 will extend the sunset deadline to July 1, 2026.

Plan: The division expects to work with stakeholders, including the Department of Human Services, in order to develop potential sprinkler requirement next steps before July 1, 2026.

SB 1537 Housing Production

Bill

Summary: HB 1537 enacts multiple policy changes and investments to make it easier to build housing in Oregon. The bill's primary directives that impact the division are those that create a new office, the Housing Accountability and Production Office (HAPO), administered by DCBS and the Department of Land Conservation and Development (DLCD) under an interagency agreement. The HAPO is responsible for providing technical assistance to local governments and applicants for land-use and building permits in areas such as housing law compliance, reducing permitting and land-use barriers to housing production, and supporting reliable and effective implementation of local procedures and standards relating to the approval of residential development projects. The bill also directs both agencies to coordinate in rulemaking activities and state agency activities related to housing development processes to enable support of local government and land-use applicants.

Plan: The measure requires BCD to establish an interagency agreement with DLCD to operate and execute the work of the HAPO. BCD received authority for additional staff support, and the division will be implementing an internal reorganization to accomplish the directives of the bill. No current existing work or responsibilities of division staff will be disrupted or altered, nor will there be any changes to existing board authority.

Agenda Item VII.A.

State of Oregon **Board memo**

Building Codes Division **June 4, 2024**

To: Board of Boiler Rules

From: Ian Paik, policy analyst, Policy and Technical Services

Subject: 2024 Oregon Boiler and Pressure Vessel Specialty Code (OBPVSC) Review Committee recommendations

Action requested:
The OBPVSC Review Committee requests the board review and approve the provisions of the 2024 Oregon Boiler and Pressure Vessel Specialty Code (OBPVSC) and recommend the Administrator proceed with rulemaking.

Background:
At the board's February 8, 2024, meeting, the Board of Boiler rules determined the appropriate model codes to use as a baseline for the 2024 OBPVSC and directed the division to post notice for parties interested in serving on the code review committee. The division also opened the public code amendment proposal period from February 9, 2024 to March 25, 2024. At the board's March 5, 2024, meeting, the Board of Boiler Rules established a code review committee.

The OBPVSC Review Committee completed an analysis of the appropriate model codes, existing Oregon amendments, statewide interpretations, and alternate method rulings. The committee met once on May 9, 2024, and finalized their recommendations to the board on May 9, 2024.

The matrix included in the board packet includes the full list of recommendations from the committee. Notably, the committee recommended that the Oregon amendment to OBPVSC 1.6.9 be removed from Table 2-B. The effect of this would be for the OBPVSC to include construction standards for the requirement of carbon monoxide detectors and alarms. This recommendation has been removed by the division because construction requirements for carbon monoxide detectors and alarms is not within the scope of authority for the Board of Boiler Rules. Construction requirements for carbon monoxide detectors and alarms is within the scope of the Oregon Structural Specialty Code (OSSC), and is amended out of the OBPVSC through the administrative authority of the division. The board can discuss the topic and make a recommendation to the Building Codes Structures Board (BCSB) to make changes to the OSSC, but it is ultimately up to the BCSB to change the carbon monoxide requirements.

The division proposes the following process steps for adopting the 2024 OBPVSC:

- June 4, 2024, board meeting: The board will review the OBPVSC Review Committee's recommendations and approve a final recommendation to the division for adoption.

- July 2024: The division will hold a public rulemaking hearing where interested parties can provide testimony about the proposed code provisions.

- October 1, 2024: The code's anticipated effective date is October 1, 2024.

In addition, the board is acting as the Rules Advisory Committee for this rulemaking and needs to consider the following questions:

- What are the potential fiscal and economic impacts of the changes to the 2024 OBPVSC when compared to the current code?
- What are the potential impacts on racial equity in the state?

Options:

- Approve the OBPVSC Review Committee's recommendations, as amended by the division, for the 2024 Oregon Boiler and Pressure Vessel Specialty Code and forward to the Administrator for rulemaking and subsequent adoption, with the finding that the added cost, if any, is necessary to the health and safety of the occupants or the public or necessary to conserve scarce resources.

- Amend and approve the OBPVSC Review Committee's recommendations for the 2024 Oregon Boiler and Pressure Vessel Specialty Code and forward to the Administrator for rulemaking and subsequent adoption, with the finding that the added cost, if any, is necessary to the health and safety of the occupants or the public or necessary to conserve scarce resources.

- Disapprove the OBPVSC Review Committee's recommendation, which would continue use of the 2021 OBPVSC, and include the reason for the disapproval in the motion.

2024 Oregon Boiler and Pressure Vessel Specialty Code (OBPVSC)

Code adoption matrix and draft amendments to the NBIC

Department of Consumer and Business Services

This matrix is intended to show the discussions, recommendations, and outcomes from the code review committee.
Note: All changed provisions in the adopted codebooks and standards are not included in this matrix.

Committee and BCD discussion notes are denoted in red.

Major changes to the 2023 NBIC

The following are significant changes identified by NBII to the National Board Inspector Code (NBIC), not all changes are included in this matrix.

No.	Section	Subject and summary	Outcomes
NBIC Part 1 – Installation			
1	**1.6.5**	New requirements for natural gas, propane, and No. 2 fuel oil.	**Approve**
2	**3.7.5.1 d)**	Allows stop valves utilizing “alternate design to prevent leakage around the stem” (i.e. butterfly valves)	**Approve**
3	**Supp. 1**	Installation of Yankee Dryers. Several updates and revisions.	**Approve**
4	**Supp. 10**	Overpressure Protection Requirements for Organic Fluid Vaporizers. New supplement.	**Approve**
5	**Supp. 11**	Installation of High-Pressure Composite Vessels. New supplement.	**Approve**
6	**New definitions**	• Interference fit • Labeled • Listed • Practicable • Remote visual inspection • Scrapped	**Approve**
NBIC Part 2 – Inspection			
7	**1.7**	New section which provides requirements for scrapping pressure-retaining items. This section also includes the new form NB-480, Scrapping of Pressure-Retaining Items Form. **Committee:** Approve new section as modified by adding the following note: **Note:** Code nameplates or stamping shall be defaced or clearly marked when a pressure-retaining item is scrapped. The code nameplate or stamping shall be left in place in order to maintain traceability.	**Approve as modified**
8	**2.3.6.11**	New section that provides guidance for inspecting pressure vessels designed for pressures at or above 10,000 psi (68.95MPa). **Committee:** Approve new section as modified by adding a clarification that the inspector shall verify that records of cycles are being kept only for vessels that are constructed for a set number of cycles.	**Approve as modified**

No.	Section	Subject and summary	Outcomes
9	**2.5.7.1, 2.5.7.2, 2.5.7.3**	New sections that provide requirements for testing and operational inspection of pressure relief valves, non-reclosing pressure relief devices with pins or bars, and rupture disks. **Committee:** Approve new Sections 2.5.7.1 and 2.5.7.3, and approve *Section 2.5.7.2* as modified by adding the following note: Note: Maintenance and testing of non-reclosing pressure relief devices should be performed by competent personnel or licensed technicians.	**Approve as modified**
10	**5.2.4**	New section that provides guidelines for the temporary removal of a nameplate for external inspection, cleaning, or painting of a vessel with nameplate stand-off brackets.	**Approve**
11	**Forms**	Several revisions and format changes to forms NB-6 and NB-7. Form NB-5 has been deleted.	**Approve**
12	**S1.6**	Several additions to Section S1.6 for safety valves on locomotive boilers.	**Approve**
13	**S2.10.2.3**	New section providing requirements for the inspection of riveted seams. This section also includes a new Figure S2.10.2.3.	**Approve**
14	**Supp. 5**	Inspection of Yankee Dryers. Several updates and revisions.	**Approve**
NBIC Part 3 – Repairs and Alterations			
15	**1.2**	Updates to the code of construction used for repairs.	**Approve**
16	**1.5**	Several revisions to Section 1.5 that provide more detailed descriptions of the requirements for a National Board Certificate of Authorization holder's quality system.	**Approve**
17	**1.6.6.2 s), 1.6.7.2 s), 1.6.8.2 s)**	New audit requirements.	**Approve**
18	**1.6.6.2 t), 1.6.7.2 t), 1.6.8.2 t)**	New language that requires the authorized nuclear inspector to hold the N, I, and R endorsements.	**Approve**
19	**3.3.2 e)**	Plugging of heat exchanger tubes with an outside diameter of three-quarters of an inch (19 mm) and smaller when explosion welding is used as the tube plugging method has been added to the list of routine repairs.	**Approve**
20	**3.4.1**	Re-rating. New section with requirements for re-rating. **Committee:** Approve the new section as modified by specifying that "De-rating" of boilers and pressure vessels shall be considered an alteration and be performed in accordance with NBIC Part 3, Section 3.4.	**Approve as modified**
21	**Supp. 5**	General Requirements for Repairs and Alterations to Yankee Dryers. Several updates and revisions.	**Approve**
NBIC Part 4 – Pressure Relief Devices			
22	**2.4**	Overpressure Protection for Organic Fluid Vaporizers. New section.	**Approve**

No.	Section	Subject and summary	Outcomes
23	**3.2.5.1, 3.2.5.2, 3.2.5.3**	New sections providing requirements for testing and operational inspection of pressure relief valves, non-reclosing pressure relief devices with pins or bars, and rupture disks. **Committee:** Approve the new Sections 3.2.5.1 and 3.2.5.3 and approve *Section 3.2.5.2* as modified by adding the following note: Note: Maintenance and testing of non-reclosing pressure relief devices should be performed by competent personnel or licensed technicians.	**Approve as modified**
24	**4.10, 4.11**	New sections providing requirements for the use of personnel not in the VR certificate holder's employ and for annual audits of the VR certificate holder's quality system.	**Approve**
25	**S4.4**	New section providing guidelines for the inspection and repair of weight loaded vents.	**Approve**

Other adopted codebooks and standards

The following are the other standards and codebook recommended for adoption as part of the 2024 OBPVSC.

1	**2021 ASME CSD-1, Controls and Safety Devices for Automatically Fire Boilers**	**Approve**
2	**2023 NFPA, 85 Boiler and Combustion Systems Hazard Code**	**Approve**
3	**2023 ASME Boiler and Pressure Vessel Code:** Section I; Section II, Parts A, B, C, and D; Section IV; Section V; Section VIII, Division 1, 2, and 3; Section IX; Section X, and Section XIII only	**Approve**
4	**2024 ANSI/ASME B31.1, Power Piping**	**Approve**
5	**2022 ANSI/ASME B31.3, Process Piping**	**Approve**
6	**2022 ANSI/ASME B31.5, Refrigeration Piping**	**Approve**
7	**2023 ANSI/ASME B31.9, Building Service Piping**	**Approve**
8	**2023 ASME PVHO-1, Safety Standard for Pressure Vessels for Human Occupancy (Construction standard)**	**Approve**

Existing Oregon amendments to the 2021 NBIC

No.	Source of change	Section	Subject and summary	Outcomes
NBIC Part 1 amendments				
1	OR A	1.4.5	**Boiler installation report.** Oregon does not adopt this section.	**Retain**
2	OR A	1.6.1	**Supports, foundations, and settings.** Oregon amends this section by adding a pointer to the Electrical Code. Note: These provisions apply in addition to provisions of the Oregon Electrical Specialty Code.	**Retain**
3	OR A	1.6.3	**Exit.** Oregon amended this section by replacing it with a pointer to Chapter 10 of the Oregon Structural Specialty Code for exiting requirements.	**Retain**
4	OR A	1.6.4	**Ladders and Runways.** Oregon amended this section to point to OAR 437 Division 2. Referring to the applicable OSHA standards.	**Retain**
5	OR A	1.6.6	**Ventilation and Combustion Air.** Oregon amended this section to point to the Oregon Mechanical Specialty Code for additional ventilation and combustion air requirements.	**Retain**
6	OR A	1.6.9	**Carbon Monoxide (CO) Detector/Alarm.** Oregon does not adopt this section. (UL listings have updated) **Committee:** Recommends rescinding the amendment and adopting the requirement that the owner or user shall install a carbon monoxide (CO) detector/alarm in equipment rooms where fuel-fired boilers and/or fuel-fired pressure vessels are located in accordance with the authority having jurisdiction. **BCD: This is a BCD administrative amendment to align the specialty codes. The OSSC regulates the construction requirements of buildings.**	**Retain per BCD**
7	OR A	2.3.3(a)	**Clearances.** Oregon amended this section to allow boilers that operate up to 2,000,000 BTU be installed per manufacturer's instructions.	**Retain**
8	OR A	2.10.6	**Boiler Installation Report.** Oregon does not adopt this section.	**Retain**
9	OR A	3.3.4(a)	**Clearances.** Oregon amended this section to require that heating boilers exceeding 2,000,000 btu and operated in battery be installed a minimum of 48 inches from each other, and to allow heating boilers that operate at or below 2,000,000 btu to be installed according to the manufacturer's instructions.	**Retain**
10	OR A	3.10.3	**Boiler Installation Report.** Oregon does not adopt this section.	**Retain**
11	OR A	4.3.2(a)	**Clearances.** Oregon amends this section by adding language to require accessibility for identification of nameplate data plates and safety release valve data plates. **Committee:** Retain the amendment as modified by replacing "safety relief valve" to "pressure relief device."	**Retain as modified**
12	OR A	4.3.3	**Piping.** Oregon amends this section by adding lanugage to clarify that piping be installed in accordance with the Oregon Boiler and Pressure Vessel Specialty Code (OBPVSC), specifically the adopted ASME B31 standards.	**Retain**

No.	Source of change	Section	Subject and summary	Outcomes
13	**OR A**	**Supp3**	**Installation of Liquid Carbon Dioxide Storage Vessels.** Oregon does not adopt Supplement 3. (Alignment within State Building Code)	**Retain**
NBIC Part 2 amendments				
14	**OR A**	**1.5.2.1**	**Inspection Planning.** Oregon amends this section by adding a note minimum inspection frequencies are established in OAR 918-225-0570.	**Retain**
15	**OR A**	**2.3.6.6**	**Transport Tanks.** Oregon does not adopt this section.	**Retain**
16	**OR A**	**4.2.1(c)**	**Visual.** Oregon excludes items 1-6 from Section 4.2.1(c) because the requirements could exclude current inspection allowances.	**Retain**
17	**OR A**	**Supp 6**	**Continued Service and Inspection of DOT Transport Tanks.** Oregon does not adopt this Supplement 6, aligns with the amendment 2.3.6.6.	**Retain**
18	**OR A**	**Supp 7**	**Inspection of Pressure Vessels in Liquefied Petroleum Gas Service.** Oregon does not adopt Supplement 7, LP gas is under the authority of OSFM.	**Retain**
19	**OR A**	**Supp 12**	**Inspection of Liquid Carbon Dioxide Storage Vessels.** Oregon does not adopt Supplement 12.	**Retain**

Draft amendments to the NBIC

This draft is intended to show the 2024 OBPVSC—Review Committee recommendations to the Board of Boiler Rules.
The section numbers for new and modfied amendments are blue and the edits are denoted as follows:
Blue/underline = Added lanugage ~~Red/Strikethrough~~ – Deleted language

Table 2-B

Effective [Anticipated Oct. 1, 2024]

Oregon Amendments to the 2023 edition of the National Board Inspection Code (NBIC) ANSI/NB 23 for the 2024 Oregon Boiler and Pressure Vessel Specialty Code (OBPVSC). For the purpose of identifying Oregon amendments to the NBIC – "OBPVSC" followed by a code section denotes an Oregon amendment to that section of code. Amendments may either be additions of code language developed by Oregon, or the deletion of NBIC code language. Language contained in the NBIC not listed in this table has not been amended by Oregon.	
PART 1—Installation	
OBPVSC 1.4.5	**Boiler installation report.** Not adopted.
OBPVSC 1.6.1	**Supports, foundations, and settings.** Each boiler, potable water heater, thermal fluid heater and pressure vessel and the associated piping must be safely supported. Design of supports, foundations, and settings shall consider vibration (including seismic where necessary), movement (including thermal expansion and contraction), grounding/bonding to minimize electrolytic corrosion and loadings (including the weight of the fluid in the system during a pressure test) in accordance with jurisdictional requirement, manufactures recommendations, and/or other industry standards, as applicable. Note: These provisions apply in addition to provisions of the Oregon Electrical Specialty Code.
OBPVSC 1.6.3	**Exit.** For exiting requirements, see Chapter 10 of the Oregon Structural Specialty Code. ~~Two means of exit shall be provided for boiler rooms exceeding 500 sq. ft. (46.5 sq. m) floor area and containing one or more boilers having a combined fuel capacity of 1,000,000 Btu/hr (293 kW) or more (or equivalent electrical heat input). Each elevation shall be provided with at least two means of exit, each to be remotely located from the other. A platform at the top of a single boiler is not considered an elevation.~~
OBPVSC 1.6.4	**Ladders and Runways.** See Oregon Administrative Rules, Chapter 437, Division 2.
OBPVSC 1.6.6	**Ventilation and Combustion Air.** Note: These provisions apply in addition to provisions of the Oregon Mechanical Specialty Code.
OBPVSC 1.6.9	**Carbon Monoxide (CO) Detector/Alarm.** Not adopted.
OBPVSC 2.3.3(a)	**Clearances.** 1. Boiler installations shall allow for normal operation, maintenance, and inspections. There shall be at least 36 in. (915 mm) of clearance on each side of the boiler to enable access for maintenance and/or inspection activities. Boilers operated in battery shall not be installed closer than 48 inches from each other, except boilers that operate at up to 2,000,000 btu may be installed according to manufacturer's instructions.
OBPVSC 2.10.6	**Boiler Installation Report.** Not adopted.
OBPVSC 3.3.4(a)	**Clearances.** Heating boilers shall have a minimum distance of at least 36 in. (914 mm) between the top of the boiler and any overhead structure and at least 36 in. (914mm) between all sides of the heating boiler and adjacent walls, structures or other equipment; except that heating boilers exceeding 2,000,000 btu and operated in battery shall be installed a minimum of 48 inches from each other, and heating boilers that operate at or below 2,000,000 btu may be installed according to manufacturer's instructions. Heating boilers having manholes shall have at least 84 in. (2135 mm) of clearance between the manhole opening and any wall, ceiling, piping, or other equipment that may prevent a person from entering the heating boiler. Alternative clearances in accordance with the manufacturer's recommendations are subject to acceptance by the Jurisdiction.

OBPVSC 3.10.3	**Boiler installation report.** Not adopted.
OBPVSC 4.3.2(a)	**Clearances.** a) All pressure vessel installations must allow sufficient clearance for normal operation, maintenance, and inspection (internal and external). When making an installation or adding insulation, the name plate and pressure relief device ~~safety relief valve~~ data plates shall be available for review.
OBPVSC 4.3.3	**Piping.** Piping loads on the vessel nozzles shall be considered. Piping loads include weight of the pipe, weight of the contents of the pipe, expansion of the pipe from temperature and pressure changes (wind and seismic loads). The effects of piping vibration on the vessel nozzles shall also be considered. Installation shall be in accordance with the Oregon Boiler and Pressure Vessel Specialty Code.
OBPVSC Supp. 3	**Installation of Liquid Carbon Dioxide Storage Vessels.** Not adopted.
PART 2—Inspection	
OBPVSC 1.5.2.1	**Inspection Planning.** Note: Minimum inspection frequencies are established in OAR 918-225-0570.
OBPVSC 1.7	**Scrapping Pressure – Retaining Items.** Note: Code nameplates or stamping shall be defaced or clearly marked when a pressure-retaining item is scrapped. The code nameplate or stamping shall be left in place in order to maintain traceability.
OBPVSC 2.3.6.6	**Transport Tanks.** Not adopted.
OBPVSC 2.3.6.11	**Inspection of Vessels for Pressures at and Above 10,000 psi.** c) The Inspector shall verify the following requirements as part of the inspection: 1) Records of cycles are being kept, where vessels are constructed for a set number of cycles;
OBPVSC 2.5.7.2	**Testing and Operational Inspection of Non-Reclosing Pressure Relief Devices with Pins or Bars.** Note: Maintenance and testing of non-reclosing pressure relief devices should be performed by competent personnel or licensed technicians.
OBPVSC 3.4.1	**Re-rating.** De-rating (a reduction of the Maximum Allowable Working Pressure (MAWP)) of boilers or pressure vessels shall be considered an alteration and be performed in accordance with the requirements of NBIC Part 3, Section 3.4.
OBPVSC 4.2.1	**Visual.** c) Remote Visual Inspection is an acceptable method of visual examination if the process is agreed upon by the owner and acceptable to the Inspector and Jurisdiction, if required. (Items 1-6 are not adopted) 7) All equipment used must produce results acceptable to the Inspector.
OBPVSC Supp. 6	**Continued Service and Inspection of DOT Transport Tanks.** Not adopted.
OBPVSC Supp. 7	**Inspection of Pressure Vessels in Liquefied Petroleum Gas Service.** Not adopted.
OBPVSC Supp. 12	**Inspection of Liquid Carbon Dioxide Storage Vessels.** Not adopted.
PART 4—Pressure Relief Devices	
OBPVSC 3.2.5.2	**Testing and Operational Inspection of Non-Reclosing Pressure Relief Devices with Pins or Bars.** Note: Maintenance and testing of non-reclosing pressure relief devices should be performed by competent personnel or licensed technicians.

Agenda Item VII.B.

To: Board of Boiler Rules

From: Dyno Nobel Inc.

What we are requesting is for clarity in regard to OBPVSC 918-255-0590 (1)(a)

Currently the specialty code reads as follows:

(a) An extension shall be granted for up to twelve (12) months from the existing inspection date.

The above section of code could be interpreted as 12 months per extension. However, Chief Thomas Clark has confirmed with me the intent was for one single extension up to a maximum of 12 months.

Dyno Nobel would like to request a change to the code to allow for more than one extension up to a maximum of 36 months. This would total two 12 month extensions from the date of the last inspection. We propose the following specific wording.

(a) An extension shall be granted for up to twelve (12) months **per extension** from the existing inspection date. **A maximum of two (2), twelve (12) month extensions, not to exceed a total of thirty-six (36) months between internal inspections, may be granted.**

This change will bring Oregon in alignment with the majority of the United States. I have also submitted documents to support the reliability reasons for such a change. Including the increased risk of plant issues during such events as transient shutdowns. Our unique design requires the entire plant be shutdown for an internal boiler inspection.

We also request a correction to the code OBPVSC 918-255-0590 (3)(e) as follows:

(e) Scheduled date of shutdown and internal inspection within six **twelve** months.

Sincerely
Matthew Herrera
Static Equipment Engineer
Ph: +1 503 366 8977 | M: +1 808-226-5177 | E: Matthew.Herrera@am.dynonobel.com

Part 1 – Code Amendment Language Preferred Verbiage

918-225-0590

Inspection Cycle Extension Program

(1) The division shall evaluate written requests from the equipment's owner or their agent for inspection cycle extensions pursuant to the following criteria:

(a) An extension shall be granted for up to twelve (12) months **per extension** from the existing inspection date. **A maximum of two (2), twelve (12) month extensions, not to exceed a total of thirty-six (36) months between internal inspections, may be granted.**

(b) Extensions shall only be granted for large-scale steam and hot water boilers normally operated continuously that are critical to the business or organization; and

(c) Extensions shall apply to internal inspections only.

(2)The division shall incorporate a monitoring system for inspection cycle extensions to ensure compliance with the requirements of this rule.

(3) Extensions must be applied for in writing on a division approved form, and must include:

(a) The specific equipment for which the extension is requested;

(b) The reason for the requested extension;

(c) How boiler safety is preserved with the requested extension;

(d) Written concurrence of the special, deputy, or chief inspector assigned to the equipment; and

(e) Scheduled date of shutdown and internal inspection within ~~six~~ **twelve** months.

(4) Prior to approval of an inspection cycle extension, an inspection utilizing alternate inspection methods, including but not limited to ultrasonic thickness testing, water chemistry analysis, x-ray inspections, or other similar engineering evaluations, shall be performed to ensure conditions are safe to grant an extension.

(5) Applications for inspection cycle extensions must be received and approved prior to the equipment's existing inspection date.

Proposal

1. Describe the concept and purpose of this proposal.

This proposal will allow for a maximum of a 36-month internal inspection interval from the last internal inspection due date. Under the proposal, applicants can potentially be granted up to two twelve-month inspection extensions.
Each 12-month extension would need to follow the existing extension requirements for the Oregon Boiler and Pressure Vessels Specialty Code pursuant 918-225-0590.

It is well known that inspection is a lagging indicator of the corrosion of pressure equipment. IOW (Integrity Operating Windows) as outlined in API RP 584 are an in-service control to prevent or reduce corrosion within acceptable limits. In addition, given that the state of Oregon is an NBIC code state, Owner/Users must adhere to the practices of the NBIC. This includes corrosion monitoring and controls of process variables as outlined in part 2 section 3 & 4. It is believed that with the NBIC requirements in place in addition to the requirements outlined by the Jurisdiction in 918-225-0590, an assessment of the condition of large-scale steam power boilers can be made on an annual basis and reviewed by the jurisdiction to allow for safe and uninterrupted service of such a boiler for up to 36 months. Other states in the US allow for 36 month or greater intervals between internal inspections, including Arizona, California, Colorado, Hawaii, Iowa, Washington, and North Dakota. In addition, several other states allow for additional extensions at the discretion of the Chief or boiler board.

The proposed amendment would bring the State of Oregon Boiler and Pressure Vessel Specialty code in line with the majority of the of the United States while still operating in a safe manner (Supporting data attached).

2. What problem in the existing Oregon code or national model code is this proposal solving? How does this amendment address the issue? If you have evidence demonstrating the problem, submit that information.

Start-up and shut-downs, also known as transient operations, are well known in the chemical process industry as the highest risk modes of operation. Statistics show that approximately 65% of process safety related incidents occur during the startup/shutdown operations of the plant (AIChE Center for Chemical Process Safety).

While shutting down boilers at other facilities may only impact a small portion of their process, a shut down of our sites main waste heat boiler for internal inspection requires a plant wide shutdown, which will pressure cycle each connection to some degree. Our plant contains 1,066 Pressure vessels, tanks, heat exchangers, and boilers. Each piece of equipment has a minimum of two flanges and in most cases 2-5x that many. This does not include the number of piping flanges not directly connected to a vessel.

It is our goal to have zero harm or negative impact to our employees, the community, and the environment in which we operate. To the best of our ability, we reduce plant upsets and pressure cycling of equipment to lower our risks of process safety incidents and impacts to the environment. By allowing for a 36-month internal inspection interval we can reduce the number of pressure cycles in the plant.

An alternative to approving the proposed code amendment would be to allow the Chief or Boiler Board to review additional internal extension requests beyond a single 12-month extension. The Code as currently written would allow for this since it does not explicitly state that only one extension may be granted. The use of “from the existing inspection date” in 918-225-0590(1)(a) can be interpreted to mean the date on which a previously granted extension expires. Many states currently allow this, and it is common practice when only a single 12-month extension is listed in their jurisdiction.

3. Has this been proposed at the national model code level. If so, explain when it was proposed, what happened, and why it was not adopted. Provide all associated national model code hearing information and background. **N/A**

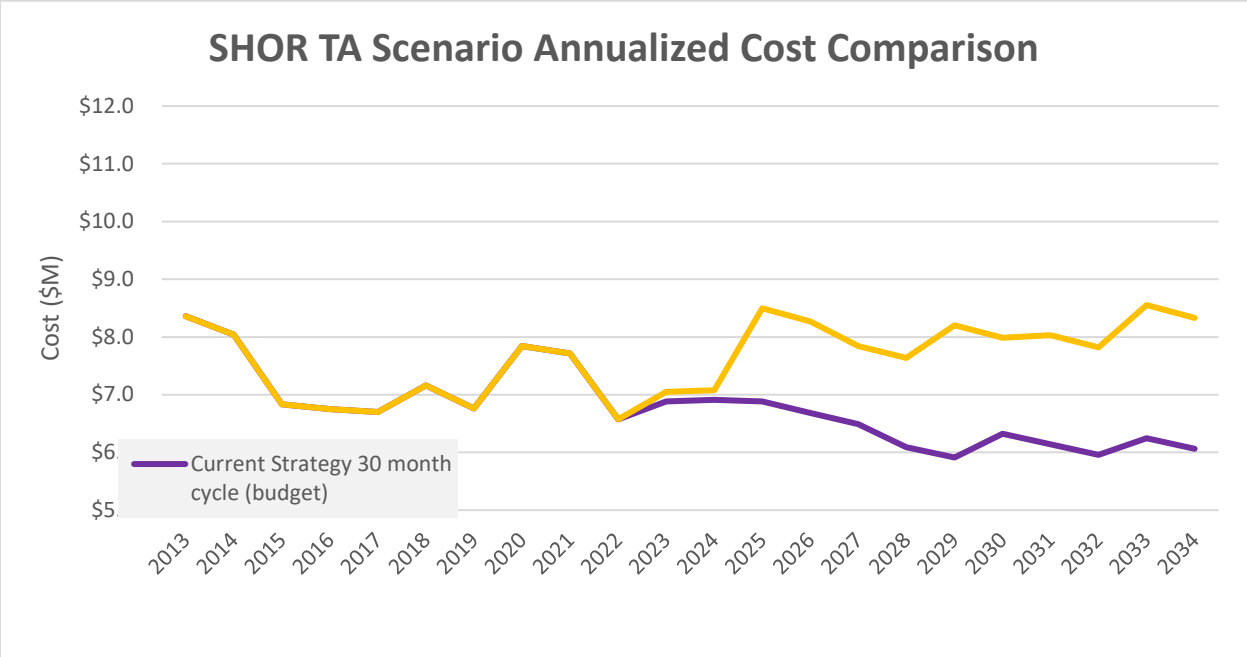
Implementation and fiscal impact

1. Explain how the proposed provisions would be enforced? Are additional inspections or permits required? Describe any necessary equipment, training, tests or special certifications.

Code section 918-225-0590 already provides details on how to submit an application for an extension and lists the requirements for approval. There would be no change to the currently required inspections. Enforcement will follow the Jurisdiction's current protocol.

2. What is the fiscal impact of this proposal? Provide a cost benefit analysis and include the resources or methods you used to determine the fiscal impact.

The site has performed an Annualized Cost Comparison to understand financial impacts of executing a site wide outage every 24 months, vs the current 30-month interval. The annualized cost to make this change would have a negative financial impact to the site by approximately $1.8MM a year (cost analysis attached).



Impacted stakeholders and other specialty codes

1. It is important that proposals be shared with stakeholders that will be impacted by them. Was this proposal developed with people or organizations likely to be affected by it? No

   Has it been reviewed or shared with people or organizations likely to be affected by it? No
   If so, who, and if not, why not?

   Dyno Nobel is in a unique situation compared to most other boiler operators in the state of Oregon. We are the only producer of fertilizer products in the state. We are also one of the largest chemical processing plants in the state. Boiler internal inspections are required for all boilers. However, we are unaware of the specific design of other Owner/User facilities and their ability to remove a boiler from service without a major impact to their operation. As such we are unable to determine how broadly this will impact other organizations. However, based on the number of large-scale boiler internal inspection extensions approved in the past, it is believed that the impact will have no effect on most of the state boiler operators.

2. Does this proposal impact other specialty codes or statewide programs? No

Static Equipment Risk During Transient Operation

Start-up and shut-down activities introduce several static equipment risks which are either not present or less likely during normal continuous operation. Below is a summary of some of the key damage mechanisms and/or failure modes introduced during start-up/shutdown or maintenance windows. While operations and maintenance controls are used to reduce these risks, they are inherently higher during transient operating modes.

Brittle Fracture: Brittle fracture is the sudden rapid fracture under stress (residual or applied) where the material exhibits little or no evidence of ductility or plastic deformation. Brittle fracture is a concern especially in heavy walled equipment. Brittle fracture failures occur when equipment temperatures fall below the ductile to brittle temperature pressure curve. Operational limits are generally in place to prevent operating below the minimum pressurization temperature, however the risk of brittle fracture increases as equipment temperature is reduced from operating temperatures to ambient. (API 571 – Damage Mechanisms Affecting Fixed Equipment in the Refining Industry, Section 3.11 Brittle Fracture)

Introduction of Oxygen: Shutting down and opening equipment for inspection and maintenance introduces oxygen to this inside of equipment. The introduction of oxygen during downtime can increase the risk of multiple damage mechanisms, specifically ammonia stress corrosion cracking in equipment in an ammonia plant, as well as oxygen related damage mechanisms in boilers such as oxygen pitting and stress corrosion cracking mechanisms. (API 571, Section 3.4 Ammonia Stress Corrosion Cracking, Section 3.9 Boiler Water and Steam Condensate Corrosion)

Introduction of Chlorides or other contaminants: maintenance activities that require clearing and cleaning of equipment for entry or hydrotest can potentially introduce contaminants that drive additional corrosion or cracking mechanisms through the medium used to clean and/or pressure test equipment. Water used for cleaning typically includes some level of Chlorides, which, if not properly dried and cleared before start-up can damage equipment, particularly stainless steel which is subject to Chloride stress corrosion cracking. (API 571, Section 3.17 Chloride Stress Corrosion Cracking)

Removal of protective scale: Many assets in chemical manufacturing are designed with materials intended to form a protective scale or passivated layer when exposed to the intended operating temperatures and process fluids. Grinding or buffing of material for maintenance or inspection materials removes this scale. Although the scale will reform during operation, repeated removal of this layer will reduce equipment wall thickness over time.

Inadvertent material substitutions: Piping components that may be removed during unit clearing procedures (such as vent and drain points) have the potential to be inadvertently replaced with an alloy not suitable for the service. Historically, the greatest number of material nonconformances with serious consequences has involved placing unapproved carbon steel components into low-alloy steel (1.25 Cr-9Cr) piping systems. Carbon steels visually appear to be the same as the low-alloy steels but behave much differently in the services where low-alloy steels are specified. (API RP 578 – Material Verification Program for New and Existing Assets, Section 4.1).

Increased corrosion rates: In addition to the specific damage mechanisms mentioned above, piping and equipment can see increased corrosion rates during modes of transient operation due to abnormal fluid compositions related to start up and shut down operation.

Bolted Flange Joints: Several failure modes of bolted flanged joints are related to start up and shutdown operations. ASME PCC-1 – Pressure Boundary Bolted Flange Joint Assembly tables P-5-2, P-5-3, and P-5-5 (below) include several failure modes associated with start-ups, shutdowns, and temperature and pressure upsets (which may occur during transient operations). In addition to the failure modes listed here, breaking and re-making joints introduces risk of leakage on start-up due to bolt cycling or gasket or gasket seating surface damage. Bolted flange joints using pressure energized joint design are more likely to fail upon de-pressure, as joints using this design are designed to have greater sealing while the unit is under pressure.

Table P-5-2
Leak During Heat-Up or Initial Operation

Telltale Signs	Possible Causes	Potential Solutions
Bolts are not tight on inspection	Bolt load loss due to excessive initial gasket creep during heat-up	*(a)* Increase initial bolt load. See ASME BPVC, Section VIII, Division 1, Mandatory Appendix 2. *(b)* Consider hot torque (if safe) during warm-up. *(c)* Increase joint flexibility by increasing effective bolt length [see para. 9(b)(2)] by using bolt extension collars or conical spring washers that are clearly identified as such. *(d)* Use a gasket with reduced relaxation properties.
Leakage stops once operation is steady state	Loss of bolt load due to excessive transient differential component temperature	*(a)* Increase assembly bolt load. *(b)* Increase gasket width. *(c)* Increase joint flexibility by increasing effective bolt length [see para. 9(b)(2)] by using bolt extension collars or conical spring washers that are clearly identified as such. *(d)* Perform thermal-structural analysis to evaluate transient flange and bolt deformations as means to discover further remedial actions. *(e)* Consider replacing flanges with lap-type flanges as a means to reduce flange–bolt differential expansion.
Gap variation, some loose or near-loose bolts	Improper assembly	Use improved assembly procedures and qualified assemblers. See section 10 and Nonmandatory Appendix A.

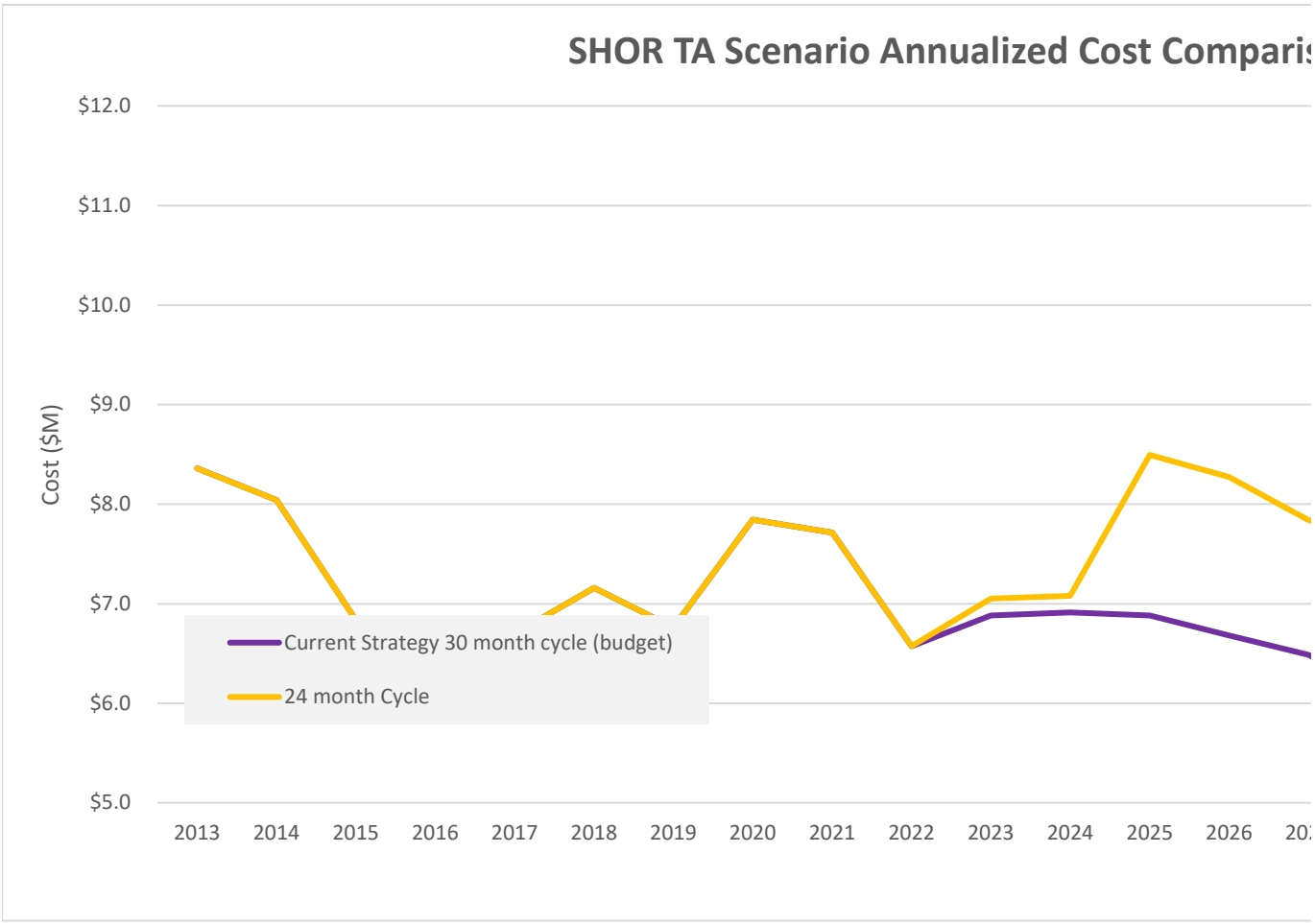
Excessive torque required for some (or all) bolts, some loose or near-loose washers, gap variation	Some bolts galled or galling under nuts	*(a)* Replace all bolts. Consider different bolt or nut materials (e.g., avoid stainless nuts on stainless bolts or increase hardness difference between them to exceed 50 HBW). *(b)* Consider through-hardened washers. See Nonmandatory Appendix M. *(c)* Review lubricant selection and lubrication practices. See section 8.
Spring hangers incorrect, support lift-off, incorrectly placed restraints	Improper pipe support or restraint causing an excessive bending moment	*(a)* Check support and restraint system against design. *(b)* Analyze as-installed piping system thermal and weight response with emphasis on bending moment at flange joints. *(c)* Correct any deficiencies.
Gasket compressed unevenly around the circumference or crimped between flange facings	Gasket shifted off flange face (not centered)	*(a)* Reassemble joint with emphasis on gasket location. See section 7. *(b)* Use improved assembly procedures and qualified assemblers. See section 10 and Nonmandatory Appendix A.
Spiral windings are buckled inward, or variation in gasket thickness is excessive around the gasket perimeter	Gasket unevenly loaded	*(a)* Consider the inner gauge ring. *(b)* Consider buckle-resistant gasket type. *(c)* Improve gap measurement technique. See para. 10(a)(2)(-d). *(d)* Increase bolt load in smaller increments and use more pattern (noncircular) passes initially. *(e)* Use improved assembly procedures and qualified assemblers. See section 10 and Nonmandatory Appendix A.
Spiral windings are buckled	Poor gasket selection or design	*(a)* Consider the inner gauge ring. *(b)* Use another, less soft gasket style. *(c)* Consider buckle-resistant gasket type.

Table P-5-3
Leak Corresponding to Thermal or Pressure Upset

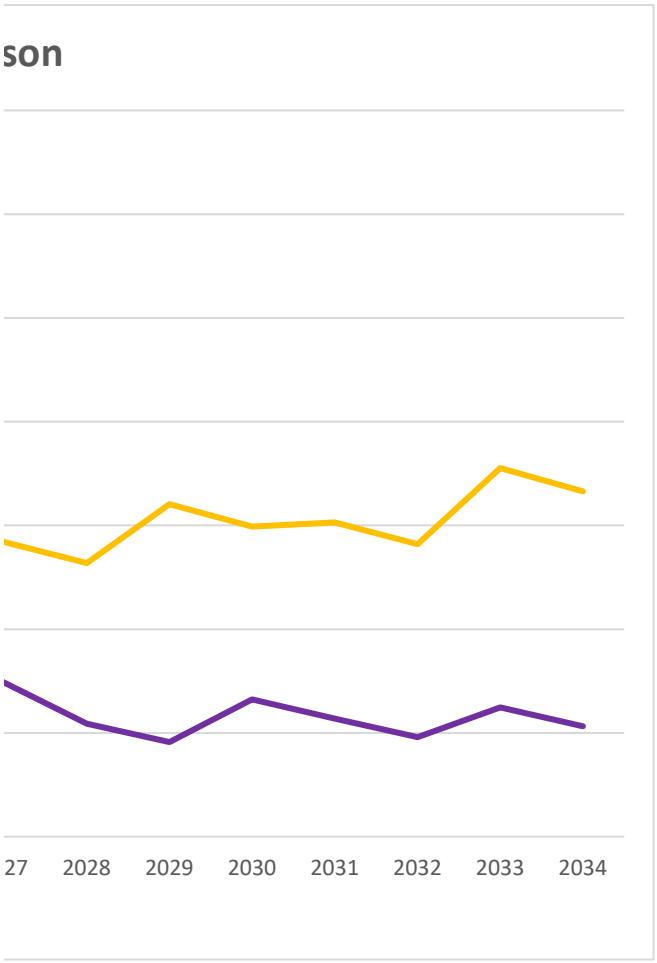
Telltale Signs	Possible Causes	Potential Solutions
Leakage stops or reduces once operation returns to steady state	Loss of bolt load due to process thermal (or pressure) transients	*(a)* Increase gasket width. *(b)* Increase assembly bolt load. *(c)* Increase joint flexibility by increasing effective bolt length [see para. 9(b)(2)] by using bolt extension collars or conical spring washers that are clearly identified as such. *(d)* Consider operational changes that slow heat or cool rates or reduce thermal swings. *(e)* Consider replacing flanges with lap-type flanges.
Leakage corresponds to external event and generally stops on return to steady state	Sudden environmental changes (e.g., a rain deluge)	*(a)* Increase assembly bolt load. *(b)* Consider external shielding.

Table P-5-5
Leak During Shutdown

Telltale Signs	Possible Causes	Potential Solutions
Bolts are not tight on inspection	Bolt load loss due to long-term gasket creep together with differential component cooling	*(a)* Increase initial bolt load. *(b)* Consider start-up retorque (if safe). *(c)* Consider different gasket types more suitable for operating conditions.
Bolts are not tight on inspection, obvious gasket deterioration, gasket structure no longer sound	Physical gasket degradation, gasket unsuitable for operating temperature	Replace gasket with a type suitable for operating conditions.
Bolts are not tight on inspection, obvious gasket deterioration, gasket structure no longer sound (double jacket broken or windings buckled), marks on gasket surface corresponding to radial flange face movement	Physical gasket degradation and loss of bolt load due to flange differential radial movement	*(a)* Remove any flange face nubbins. *(b)* Replace gasket with a type capable of taking radial shear such as the first three types listed in Nonmandatory Appendix C.



Annualized Cost Comparison from 2025 - 2034 ($M)


son
27
2028
2029
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2032
2033
2034

Current Strategy							
Cost excluding inflation							
Scope	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Major TA	18.3			24.75			
Major Date	6/1/2012			9/1/2015			
Mid-Run TA							2.80
Mid-Run Date							2/16/2018
Annual cost excluding inflation							
Major TA	5.63	5.63	5.63	4.88	4.88	4.88	4.88
Mid-Run TA		-	-	-	-	-	0.57
Total TA Annualized Cost		**5.63**	**5.63**	**4.88**	**4.88**	**4.88**	**5.45**
Adjusted to 1/1/2022 money							
WPU801104 Index for TA Inflation		111.2	115.6	117.8	119.3	120.2	125.6
Down Days							
Annualized Cost in 12/2023 money		**8.36**	**8.04**	**6.83**	**6.75**	**6.70**	**7.16**

Changing the future TA cycle 4 years with a midcycle							
Cost excluding inflation							
Scope	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Major TA	18.3			24.75			
Major Date	6/1/2012			9/1/2015			
Mid-Run TA							2.80
Mid-Run Date							2/16/2018
Annual cost excluding inflation							
Major TA	5.63	5.63	5.63	4.88	4.88	4.88	4.88
Mid-Run TA		-	-	-	-	-	0.57
Total TA Annualized Cost		**5.63**	**5.63**	**4.88**	**4.88**	**4.88**	**5.45**
Adjusted to 1/1/2022 money							
WPU801104 Index for TA Inflation		111.2	115.6	117.8	119.3	120.2	125.6
Down Days							
Total Annualized Cost in 12/2023 money		**8.36**	**8.04**	**6.83**	**6.75**	**6.70**	**7.16**
Delta Down Days							
Cost/down day							
Total production loss over 10 years							
Annualized production loss $MM							
Delta costs annualized							

2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	28.80					30.30			
	9/28/2020					7/15/2025			
				9.97					9
				1/12/2023					11/1/2027
4.88	6.00	6.00	6.00	6.00	6.00	6.21	6.21	6.21	6.21
0.57	0.57	0.57	0.57	2.08	2.08	2.08	2.08	2.08	1.80
5.45	**6.57**	**6.57**	**6.57**	**8.08**	**8.08**	**8.29**	**8.29**	**8.29**	**8.01**

				Forecast	-1%	3%	3%	3%	3%
133.0	138.4	140.7	165.1	193.8	193	199	205	211	217
						33			18
6.76	**7.84**	**7.71**	**6.57**	**6.88**	**6.91**	**6.88**	**6.68**	**6.49**	**6.09**

2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
	28.80					27.00			
	9/28/2020					7/15/2025			
				9.97				8	
				1/12/2023				6/1/2027	
4.88	6.00	6.00	6.00	6.00	6.00	6.96	6.96	6.96	6.96
0.57	0.57	0.57	0.57	2.27	2.27	2.27	2.27	2.00	2.00
5.45	**6.57**	**6.57**	**6.57**	**8.28**	**8.28**	**9.24**	**9.24**	**8.96**	**8.96**

				Forecast	-1%	3%	3%	3%	3%
133.0	138.4	140.7	165.1	193.8	193	199	205	211	217
						33		18	
6.76	**7.84**	**7.71**	**6.57**	**7.05**	**7.08**	**8.50**	**8.27**	**7.84**	**7.64**
						33			
						$ 250.00			
						8,250.00			
						0.83			
						1.61	1.59	1.35	1.55

2029	2030	2031	2032	2033	2034	
	35.13					
	6/1/2030					6/1/2035
				10.43		
				11/1/2032		1/1/2037
6.21	7.03	7.03	7.03	7.03	7.03	
1.80	1.80	1.80	1.80	2.50	2.50	
8.01	**8.83**	**8.83**	**8.83**	**9.53**	**9.53**	
3%	3%	3%	3%	3%	3%	
224	230	237	244	252	259	
	33			18		102
5.91	**6.32**	**6.14**	**5.96**	**6.25**	**6.07**	

Original Cost

9

10.43346667

2029	2030	2031	2032	2033	2034	
32				37.72		
6/1/2029				6/1/2033		6/1/2037
		9.43				
		6/1/2031				6/1/2035
8.00	8.00	8.00	8.00	9.43	9.43	
2.00	2.00	2.36	2.36	2.36	2.36	
10.00	**10.00**	**10.36**	**10.36**	**11.79**	**11.79**	
3%	3%	3%	3%	3%	3%	
224	230	237	244	252	259	
33		18		33		135
8.20	**7.99**	**8.03**	**7.82**	**8.55**	**8.33**	
2.29	1.67	1.89	1.86	2.31	2.26	

Years Later	Inflation
5	0.03

In order to evaluate the proposed code ammendment to the Oregon Boiler code, a review of Fi
requirements from other state jurisdictions was completed.

This review was intended to specifically look at the internal inspection requirements and interr
power boilers in each state.

While some state codes did not provide specific extension criteria within the inspection regula
information about how requests for extension are handled by each individual jurisdiction outsi

NB-370, Natonal Board Synopsis of Boiler and pressure Vessel Laws, Rules, and Regulations w
sections for each state which were reviewed for this analysis.

red Boiler and Pressure Vessel

nal inspection extension rules for

ıtions, this review did not obtain
ide of what is provided in the code.

vas used to provide the code

State	Required Internal Interval	Maximum Extension
Alabama	Exempt (see comment)	Exempt (see comment)
Alaska	Annually ("If warranted")	No specific extension process documented
Arizona	12 to 36 Months (see comments)	36 months
Arkansas	12 months	Per Boiler Inspection Division
California	12 to 36 Months (see comments)	36 months
Colorado	12 to 36 Months (see comments)	36 months
Connecticut	18 months	No specific extension process documented

Delaware	12 months	No specific extension process documented
Florida	12 months	No specific extension process documented
Georgia	12 months	24 months
Hawaii	12 to 36 Months (see comments)	36 months
Idaho	Exempt (see comment)	Exempt (see comment)

Illinois	12 months	Board discretion (see comment)
Indiana	12 months	24 months
Iowa	2-4 years (see comments)	7 years (see comments)

Kansas	12 months	24 months
Kentucky	12 months	Per Jurisdiction (see comment)

Louisiana	12 months	60 months
Maine	12 months	14 months

Maryland	12 months	24 months
Massachusetts	12 months	18 months
Michigan	12 months	Per Board Discretion (see comment)

Minnesota	24 months	No specific extension process documented
Mississippi	12 months	Per Board Discretion (see comment)
Missouri	12 months	Per Board Discretion (see comment)
Montana	12 months	No specific extension process documented
Nebraska	12 months	24 months
Nevada	12 months	24 months

New Hampshire	12 months	Per Commissioner (see comments)
New Jersey	12 months	Per Commissioner (see comments)
New Mexico	12 months	Per mechanical bureau (see comments)
New York	12 months	No specific extension process documented
North Carolina	12 months	Per Commissioner (see comments)

North Dakota	12 months	36 months
Ohio	12 months	24 months
Oklahoma	12 months	Per Commissioner (see comments)
Pennsylvania	12 months	24 months
Rhode Island	12 months	Per Chief Inspector (see comments)
South Carolina	Exempt (see comment)	Exempt (see comment)
South Dakota	12 months	Per Chief Inspector (see comments)

Tennessee	12 months	Per Board Discretion (see comment)
Texas	12 months	60 months (see comment)
Utah	12 months	Per Labor Commission
Vermont	12 months	Per Commissioner (see comments)
Virginia	12 months	17 months

Washington	12 months	60 months (see comment)
West Virginia	Per Commisioner of Labor	Per Commissioner of Labor
Wisconsin	12 months	Per board and inspection agency (see comments)
Wyoming	Exempt (see comment)	Exempt (see comment)

Comments

Exempt from Boiler Code as part of insured manufacturing process

power boilers and high pressure or high temperature water boilers shall be given a certificate inspection annually; the inspector may conduct an external inspection while
8
the boiler is under pressure or an internal inspection if warranted;
1. A triennial (36-month) internal inspection and annual external inspection when fully attended by qualified attendants per Arizona Boiler Rule, R20-5-408(C).

010.01-013 Variances A. The Boiler Inspection Division may, in any particular case grant an exception or variance from the literal requirements of the minimum standards for construction, installation, repair and operation set out in the ASME Codes as adopted in Rule 010.01.012. A variance shall be granted only when both of the following conditions are present: 1. Existing conditions or undue hardship prevent compliance with the literal requirements of the rules; and 2. Equivalent safety will be secured.

1. Fired boilers: One annual internal and external inspection (Exception: Boilers installed in turbo-electric plants in such a manner that each boiler furnishes steam to a single turbine – inspected internally at least once each 18 months). Title 8, Section 770 allows fired boilers to go up to three years without internal inspection after application and acceptance by the Pressure Vessel Unit.

Power boilers and high-temperature water boilers shall receive a certificate inspection annually. Such boilers where construction permits shall also receive an internal inspection annually, or when the inspector deems necessary. The internal inspection frequency may be extended to triennially with prior approval from the Boiler Division.
Power boilers that operate with internal water treatment under the direct supervision of a qualified engineer:
1. One internal and external inspection every eighteen months while not under pressure.
2. One external inspection under operating conditions not more than nine months after the external and internal inspection.

1. Power boilers, miniature boilers, and high-pressure, high-temperature water boilers:
1. Annual internal inspection;
2. Annual external inspection while under pressure. The external (inservice) inspection should be done within six months of the internal inspection.

(a) Power boilers and high pressure, high temperature water boilers shall receive a certificate inspection annually. Such inspection shall include, but not be limited to, an external inspection while the boiler is under pressure and an internal inspection if the construction of the boiler so permits.

1. Power and high-temperature water boilers shall receive a certificate inspection annually, internal inspection where construction permits, otherwise it shall be as complete an inspection as possible. Such boilers shall also be inspected externally while under operation pressure.

An internal boiler inspection may be increased from an annual inspection frequency to eighteen (18) months for Black Liquor Boilers and a twenty-four (24) month inspection frequency for a Power Boiler by approval of the Office of Insurance and Safety Fire Commissioner. An employee delegated by the industrial facility shall apply for the extension. The following information shall be sent to the office for review:

(i) Power boilers having continuous internal water treatment under the general supervision of a qualified engineer or chemist, having a minimum of five years' experience in the treatment of boiler water, at least one year of which shall have been on the boiler or boilers in that person's supervision, where the water treatment is for the purpose of controlling and limiting serious corrosion and other deteriorating factors, may, upon approval of the director, be given permit inspections at intervals of not more than three years, in which case external inspections shall be performed at approximately six month intervals between the internal inspections.

The Idaho Legislature repealed the Boiler and Pressure Vessel Rules effective March 29, 2010. An annual inspection is not required by the State of Idaho.

Power boilers and high-pressure, high-temperature water boilers:

1. Inspected annually both internally & externally while not under pressure;

2. Inspected annually externally while under pressure.

Any power boiler or steam generator, the operation of which is an integral part of, or a necessary adjunct to, other continuous processing operations, shall be inspected internally at such intervals as are permitted by the shutting down of said processing operations. The board may provide for extension of time within which power boilers are required to be inspected based upon type, function or manner of operation.

1. Power boilers and miniature boilers:

1. One annual internal and external certificate inspection;

2. One annual external inspection while under pressure, if possible.

With specific approval of the Boiler and Pressure Vessel Rules Board and the inspection agency, power boilers exceeding 300,000 pounds per hour steaming capacity may have inspection periods extended to a maximum of two years.

2 years (subsection 4a) for boilers greater than 100000 lb/hr capacity, 4 years (subsection 5a) if owner user is participant in good standing with Iowa OSHA

6. a. The owner of an object that meets all of the criteria in subsection 4, paragraph “a”,
may request from the director an internal inspection time period of longer than two years,
but not to exceed seven years, if the object is an integral part of a continuous operation
of a process that is covered by and compliant with the occupational safety and health
administration process safety management standard contained in 29 C.F.R. §1910.119 and
has a planned outage schedule that is longer than two years.

Any boiler or pressure vessel in any establishment in which petroleum products are refined or processed and where all boiler and pressure equipment is inspected and rated either by an inspection service regularly maintained within such establishment or provided by the manufacturer, designer, or insurer of such equipment (in accordance with the applicable provisions of any published code, codes, rules, or recommended practices nationally recognized in the industry as providing suitable standards for the inspection, repair, and rating of pressure equipment of the type used in such establishments).

49-48-1 Certificate inspections; type and frequency. Certificate inspections shall be made pursuant to the following schedule: (a) Power boilers and high pressure, high temperature water boilers shall receive an annual certificate inspection that shall be an internal inspection where construction permits, or as complete an inspection as possible where construction does not permit internal inspection. However, an external inspection may, at the discretion of the inspector, serve as a certificate inspection during the initial year of operation for any new boiler. These boilers shall also be externally inspected while under pressure, if possible, once a year. Upon written request by the owner or user of a power boiler or high pressure, high temperature water boiler, an extension may be granted by the secretary between internal inspections, not to exceed 24 months, with the external inspection on alternate years to be accepted as a certificate inspection, if all of the following conditions are met:

Boilers and pressure vessels located at oil refineries are exempt.

Power boilers:

Annual internal and external inspection while not under pressure;
Annual external inspection while under pressure, if possible.

A grace period of two months beyond the periods specified above may elapse between inspections. The department may, at its discretion, permit longer periods between inspections. All new boiler, pressure vessel, and piping installation inspections must be made by a department inspector.

Power boilers and high-pressure or high-temperature water boilers:
1. An annual external certificate inspection followed by an internal certificate inspection approximately six months after each external inspection. The interval between internal inspections may be extended for a period not to exceed 24 months on a stationary boiler provided:

(a) continuous water treatment under competent and experienced supervision has been in effect since the last internal inspection for the purpose of controlling and limiting corrosion and deposits,

(b) accurate and complete records are available showing that since the last internal inspection samples of boiler water have been taken at regular intervals not greater than twenty-four hours of operation and that the water condition in the boiler is satisfactorily controlled,

(c) accurate and complete records are available showing the dates, if any such boiler has been out of service and the reasons therefor since the last internal inspection, and such records shall include the nature of all repairs to the boiler, the reasons why such repairs were necessary and by whom the repairs were made, and

(d) the last internal and current external inspection of the boiler indicates the inspection period may be safely extended.

2. Internal inspections may be extended up to 60 months on boilers that are adjunct to or part of a continuous process. Fee is $200.00.

High-pressure boilers:

One annual internal certificate inspection;
One annual external inspection, in operation, approximately six months from the certificate inspection.

1. Power boilers and high-pressure, high-temperature boilers:
a. Annual internal inspection when construction permits; otherwise, as complete an inspection as possible;
b. Annual external inspection while under pressure, if possible.

Extended interval between internal inspections: the Board of Boiler Rules may extend the interval between inspections of certain power boilers to two years where:

The boiler has internal continuous water treatment under the general supervision of a registered professional engineer having experience in the treatment of boiler water;
The owner/user of such boiler keeps available for examination by the chief boiler inspector accurate records showing:

The date and actual time such boiler is out of service and the reason or reasons therefor;
Such chemical and physical analysis of samples of the boiler water taken at regular intervals of not more than 48 hours of operation, as well as adequately showing the condition of such water and any elements or characteristics thereof which are capable of producing corrosion or other deterioration of the boiler or its parts.

Section 6. All steam boilers and their appurtenances except those specified in the following section shall be thoroughly inspected externally and internally at least once a year. Upon written application made to it by the owner or user of a pressure vessel or boiler, the board may, when the public interest and convenience require, extend the time for the making of such inspection for a period not to exceed six months as the board may determine.

1. 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 six months from the date of the internal inspection.
An inspection certificate is valid for not more than 12 months for a power boiler, except that the
certificate is valid during a 2-month grace period under section 943(c) or during an extension approved by the
board under section 943(d). The grace period provided under section 943(c) only applies to a 12-month
certificate and does not apply to extensions approved by the board under section 943(d) beyond the 12-month
certificate.

Subd. 2.Qualifying boiler.(a) "Qualifying boiler" means a boiler of 200,000 pounds per hour or more capacity which has an internal continuous water treatment program approved by the department and which the commissioner has determined to be in compliance with paragraph (c).
(b) A qualifying boiler must be inspected at least once every 24 months internally and externally while not under pressure and at least once every 18 months externally while under pressure. If the inspector considers it necessary to conduct a hydrostatic test to determine the safety of a boiler, the test must be conducted under the direction of the owner, contractor, or user of the equipment under the supervision of an inspector.

1. Power boilers and high-pressure, high-temperature water boilers shall receive a certificate inspection annually (or as the board may require) and shall receive an annual external inspection while under pressure, if possible.

1. Power boilers; high-pressure, high-temperature water boilers; waste heat boilers; and unfired steam boilers and thermal fluid heaters:
a. An annual certificate inspection which shall be an internal inspection where construction permits;
b. An annual external inspection while under normal operating conditions.
Pressure vessels that are under the supervision of an owner/user inspection agency shall be inspected at the same interval unless otherwise agreed upon by the board and the owner/user inspection agency.

(1) (a) All manually fired boilers and all boilers and banks of boilers rated with a total input of 400,000 Btu's an hour or greater must be inspected at least once each year.

1. Power boilers and high-pressure, high-temperature water boilers shall receive an internal inspection annually where construction permits and an external inspection while in operation, if possible; otherwise, it shall be as complete an inspection as possible.
2. Under certain conditions — with the chief boiler inspector’s approval — power boilers, waste-heat boilers, and high-pressure, high-temperature water boilers having internal continuous water treatment may be subject to an annual external inspection while in operation and an internal inspection biennially. In this case, the external inspection shall renew the certificate.

1. Power boilers and high-pressure, high-temperature water boilers:
a. One annual internal inspection;
b. One annual external inspection at approximately a six-month interval from the internal inspection.

Industries having maintenance and examination programs approved by the department and under Mechanical Compliance Section jurisdiction may have internal inspection interval extended, via application, to a maximum of 24 months, provided external inspections are made every six months.

1. Power boilers and high-pressure, high-temperature water boilers:
a. One annual internal inspection;
b. One annual external inspection at approximately a six-month interval from the internal inspection.

The commissioner may, at the commissioner's discretion, permit longer periods between certificate inspection.

Boilers:
1. An annual internal and external inspection for steam boilers;

Such inspection shall be as completely internal and external as construction permits, except that in the case of a steam or hot water boiler or similar equipment, the operation of which is an integral part of or necessary to a continuous processing operation, internal inspections may, at the discretion of the commissioner, be performed at intervals in excess of 12 months as permitted by the shutting down of the processing operation

1. Power boilers, high-temperature water boilers, miniature boilers, high-pressure steam generators:
a. An annual external inspection;
b. An annual internal inspection, where construction permits.

A certificate of inspection may be issued with an external inspection. However, an internal inspection must be made within six months of the external inspection.

Based upon documentation regarding actual service conditions, the mechanical bureau may, at its discretion, permit variations in the inspection requirements.

Inspection. The commissioner shall cause to be inspected at least once every two years all boilers as defined in this section, except for high pressure power boilers, antique boilers and miniature boilers, which the commissioner shall cause to be inspected at least once each year

No boiler or pressure vessel may be operated without an inspection certificate, except pressure vessels being operated under an owner-user provision where administrative procedures of equal safety and competency have been approved by the Commissioner. No more than 60 days grace period may be granted beyond the certificate expiration date

Each boiler of one hundred thousand pounds [45359.24 kilograms] per hour or more capacity, used or proposed to be used within this state, which has internal continuous water treatment under the direct supervision of a graduate engineer or chemist, or one having equivalent experience in the treatment of boiler water when the water treatment is for the purpose of controlling and limiting serious corrosion and other deteriorating factors, and with respect to which boiler the chief boiler inspector has determined the owner or user has complied with the prescribed recordkeeping requirements, must be inspected at least once every thirty-six months internally while not under pressure, and at least once every twelve months externally while under pressure.

Power boilers and high pressure, high temperature water boilers having internal continuous water treatment under the general supervision of a registered professional engineer having experience in the treatment of boiler water where said water treatment is for the purpose of controlling and limiting serious corrosion, and other deteriorating factors shall be thoroughly inspected internally and externally and under operating conditions at intervals of not more than two years and shall not be operated at pressures in excess of the safe working pressure stated in the certificate of operation mentioned in sections 4104.12 and 4104.15 of the Revised Code.

The Commissioner of Labor may provide for longer periods between inspections in the rules for specific boilers and pressure vessels;

Power boiler internal inspections may be extended to 24 months if:
1. Boiler water treatment is continuously under direct supervision of trained personnel.
2. Recordkeeping shows date and time boiler out of service and why, and water condition based on daily sample analysis (illustrating elements which may cause corrosion).
3. External inspections are performed by a commonwealth-commissioned inspector.
4. Boiler is operated under direct supervision of qualified persons, and inspection records demonstrate no significant scaling, corrosion, or overheating.

Based upon documentation of safe service conditions by the owner or user of the

operating equipment and after an external inspection by the Chief Inspector, said

Chief Inspector may, in his discretion, permit variations in the inspection

frequency requirements as provided in these Rules and Regulations.

Exempt: 1. Boilers operated and maintained as integral part of a manufacturing equipment for process — so long as a timely inspection report is filed.

Boilers located in a refinery are exempt.
Chief inspector may, at his/her discretion, permit longer periods between certificate inspections

Notwithstanding subsection (a), the board may, in its discretion, grant a variance for longer intervals between inspections. All requests for boiler inspection variances shall be submitted to the chief inspector or the chief inspector's designee no less than forty-five (45) days prior to the next regularly scheduled or called meeting of the board.

1. Extensions: Upon approval of the executive director and the inspection agency having jurisdiction, the interval between internal inspections may be extended to a period not to exceed 60 months for power boilers and 84 months for unfired boilers. For steam collection or liberation drums of process steam generators, the inspection interval may be extended to the next scheduled downtime of the boiler, but not exceeding a total of 120 months. Extensions may be requested in 12-month intervals only. A one-time emergency extension may be granted for up to 120 days.

Upon application from the owner/user (with a recommendation by the state boiler inspector or special inspector), the Labor Commission may authorize extension of the inspection period. Extension shall be granted in writing by the safety director with original and one copy going to the boiler operator and a second copy going to the authorized inspector. When the commission grants an extension, a new certificate (to be properly posted) will be issued to replace the original shorter-term certificate. The old certificate shall be destroyed. Owner/user pressure vessels shall be inspected in accordance with ANSI/API-510 when such owner/user organizations are approved by the commission.
Variances; exemptions. Except for any rules requiring the education module regarding the State’s energy goals described in subdivision (a)(2) of this section, the Commissioner may grant variances or exemptions from rules adopted under this subchapter where strict compliance would entail practical difficulty, unnecessary hardship, or is otherwise found unwarranted, provided that:

A grace period of two months beyond the periods specified in subdivisions 1, 2, 3 and 4 of this subsection may elapse between certificate inspections. The Chief Inspector may extend a certificate for up to three additional months beyond such grace period subject to a satisfactory external inspection of the object and receipt of a fee as set under subsection A of § 40.1-51.15 for each month of inspection beyond the grace period.

A power boiler in a national board accredited owner-user inspection program may have the internal inspection intervals extended by the owner-user inspection organization to five years maximum under the following conditions:
(i) The boiler water treatment and specific chemical limits are prescribed and monitored by an individual or company that specializes in the water treatment field;
(ii) Nondestructive examination (NDE) is performed along with the internal inspections;
(iii) The boiler is monitored within a manned operating facility;
(iv) Inspection, maintenance, and water treatment records are maintained;
(v) There is sufficient inspection history for the boiler or a boiler in similar service to justify the increase in the inspection interval; and
(vi) This provision shall not apply to a black liquor recovery boiler or any boiler with an unsuitable corrosion rate, remaining life, and/or repair history.

The Commissioner of Labor or state boiler inspector shall have the authority to inspect steam boilers in this state. To carry out the provisions of this section, the Commissioner of Labor shall prescribe rules and regulations under which boilers may be constructed and operated, according to their class. The

1. Power boilers: One annual internal inspection. Where an internal inspection is not possible because of construction, an external inspection will be accepted. Should operating conditions require longer periods between inspections, an extension of time may be granted upon written application to the department and written concurrence of inspection agency.

Wyoming state government does not employ boiler or pressure vessel inspectors nor does it have general boiler or pressure vessel rules.

Code Section Reference

Alabama State Statutes, Title 25. Labor, Chapter 12. The Boiler and Pressure Vessel Safety Act, Sections 25.12.1 through 25.12.22.

Alaska Statutes Title 18, Chapter 60 Boilers and Unfired Pressure Vessels 18.60.180

Arizona Revised Statutes, Title 23. Labor, Article 11. *Arizona Boiler Act* , Sections 471 through 488.

Arkansas Code 20-23-101et seq.; and 5-64-1301 through 1303.

California Code of Regulations, Title 8. Chapter 4. Division of Industrial Safety, Subchapter 1. *Unfired Pressure* Vessel Safety, Sections 450 through 560; Subchapter 2. Boiler and Fired Pressure Vessel Safety, Sections 750 through 797.

Colorado Revised Statutes, Title 9. Safety — Industrial and Commercial, Article 4. Buildings and Equipment, *Boiler Inspection* .

Connecticut General Statutes, Chapter 540, Sections 29-231 through 29-244.

Delaware Code, Title 7 Conservation Chapter 74B. Department of Natural Resources and Environmental Control, Section 7401B Boiler Safety Program.

Florida Statutes, Title 33. Regulations of Trade, Commerce, Investments and Solicitations, Chapter 554. *Boiler Safety* , Sections 101.1 through 115.0.

Official Code of Georgia Annotated, Title 25. Labor, Chapter 15 Article 2. *Regulations of Boilers and Pressure Vessel Safety Act* , Chapter 120-3-26. Georgia Boiler and Pressure Vessel Rules.

Hawaii Revised Statutes, Chapter 397 *Boiler and Elevator Safety Law* .Hawaii Administrative Rules: Part 10, Boilers and Pressure Vessels.

See comment

Illinois Compiled Statutes, Health and Safety, Chapter 430. Public Safety, Subchapter 75. *Boiler and Pressure Vessel Safety Act*, Sections 1 through 16.

Indiana Administrative Code, Title 680. *Boiler and Pressure Vessel Rules Board*.

Iowa Code Chapter 89 and 92: Power Boilers

Kansas Statutes Annotated, Chapter 44. Labor and Industries, Kansas Boiler Safety Act, K.S.A 44-913 et. seq.

Kentucky Revised Statutes, Title XIX. Public Safety and Morals, Chapter 236.00 *Boiler and Pressure Vessel Safety Act*, Sections .005 through .990.

Louisiana Revised Statutes, Title 23, Chapter 5, Part III, *Regulations Affecting Boilers*.

Maine Revised Statutes, Title 32. Professions and Occupations, Chapter 131. *Boilers and Pressure Vessels*, Sections 15101 through 15121.

Annotated Code of Maryland, Public Safety Article, Title 12, Subtitle 9, *Boiler and Pressure Vessel Safety Act*.

The General Laws of Massachusetts, Part I. Administration of the Government, Title 20. Public Safety and Good Order, Chapter 146. Inspection of Boilers, Air Tanks, etc.

Michigan Compiled Laws, *Skilled Trades Act of 2016,* Sections 339.5901 through 339.5947

Minnesota Statutes – 2023, Chapters 326B.93 to 326B.998, *Boilers*. Minnesota Rules – Chapter 5225.

Mississippi Code, Title 45. Public Safety and Good Order, Chapter 23. *Boiler and Pressure Vessel Safety*.

Missouri Revised Statutes, Chapter 650. Department of Public Safety, *Boiler and Pressure Vessel Act*, Sections 200 through 290. Rules of Department of Public Safety, Division 40, Chapter 2, *Boiler and Pressure Vessel Safety Rules*.

Montana Code 2001, Title 50. Health and Safety, Chapter 60. *Building Construction Standards* and Chapter 74. *Boiler and Steam Engine*s.

Nebraska Revised Statutes, Boiler Inspection Act. Title 81, Sections 81-5,165 to 81-5,189.
Nebraska Administrative Code, Title 229. Chapters 1 through 28.

Code of Federal Regulations, Parts 56 and 57 and Nevada Administrative Code, Title 455C. Safety and Health, Chapter 512. *Safety of Mines*, Sections 510 through 594.

New Hampshire Revised Statutes, Annotated and Administrative Rules, New Hampshire Department of Labor, Title 12. Public Safety and Welfare, Chapter 157-A. *Boilers and Pressure Vessels*, Sections A1 through A14.

New Jersey State Statutes, Title 34. Labor and Workers Compensation, *Boilers and Pressure Vessels*, New Jersey Administrative Code, 12:90.

New Mexico Administrative Code, Title 14. Housing and Construction, Chapter 9. Mechanical Codes, Part 4. Boilers.

New York State Laws, Labor, Chapter 31. *Boilers*.

North Carolina General Statutes, Chapter 95, Article 7A, and North Carolina Administrative Code, Title 13, Chapter 13.

North Dakota Statutes, Title 23.1. Environmental Quality, Chapter 23.1-16. *Boiler Inspection*, Sections 1 through 14.

Ohio Revised Code, Title 41. Labor and Industry, Chapter 4104. Division of Boiler Inspection, Chapter 4104. Boilers.

Oklahoma State Statutes, Title 40. Labor, *Oklahoma Boiler and Pressure Vessel Law*, Sections 141.0 through141.20 and Administrative Rules 380:25.

The Pennsylvania Code, No. 104, *Boiler and Unfired Pressure Vessel Law*, Sections 1 through 17.

Rhode Island General Law, Title 28. Labor and Labor Relations, Chapter 25. *Boiler Inspections and Pressure Vessels*, Sections 1 through 23.

South Carolina Code of Laws, Title 41. Labor and Employment, Chapter 14. *Boiler Safety Act*, Sections 41-14-10 through 41-14-150.

South Dakota Codified Laws, Title 34. Public Safety and Health, Chapter 29A. *Boiler Safety*, Sections 1 through 55.

Tennessee Code Annotated, Title 68. Health, Safety and Environmental Protection, Chapter 122. *Boiler Inspection, Erection and Repair*

Boiler Law, Texas Health and Safety Code, Chapter 755. Administrative Rules, 16 Texas Administrative Code, Chapter 65.

Utah Condensed Constitution, Title 34A. Utah Labor Code, Chapter 7. *Safety*, Sections 101 through 104.

Vermont Statutes Annotated, Title 20 VSA, Chapter 173, Subchapter 5, Vermont Fire & Building Safety Code - 2015.

Code of Virginia, Title 40. Labor and Employment, Chapter 3.1. *Boiler and Pressure Vessel Safety Act*, Sections 40.1.51.5 through 40.1.51.19.5. and Virginia Administrative Code, Title 16. Labor and Employment, Agency 25. Safety and Health Codes Board, Chapter 40, *Standards for Boiler and Pressure Vessel Certification*, Sections 10 through 70 and Chapter 55, *Financial Requirements for Boiler and Pressure Vessel Contract Fee Inspectors*, Sections 10 through 20.

Chapter 296-104 WAC and Chapter 70.79 RCW.

West Virginia Code, Chapter 21. Labor, Article 3. Safety and Welfare of Employees, Section 7. *Regulation of Operation of Steam Boilers*.

State statute: Pursuant to S.101.17m the Department of Safety & Professional Services, Division of Industry Services, enforces Wisconsin Administrative Code, SPS Chapter 341, *Boilers and Pressure Vessels*.

See comment

918-225-0590

Inspection Cycle Extension Program

(1) The division shall evaluate written requests from the equipment's owner or their agent for inspection cycle extensions pursuant to the following criteria:

(a) An extension shall be granted for up to twelve (12) months from the existing inspection date. **At the discretion of the Chief Boiler Inspector, a variance may be granted for an extension beyond (12) months.**

(b) Extensions shall only be granted for large-scale steam and hot water boilers normally operated continuously that are critical to the business or organization; and

(c) Extensions shall apply to internal inspections only.

(2) The division shall incorporate a monitoring system for inspection cycle extensions to ensure compliance with the requirements of this rule.

(3) Extensions must be applied for in writing on a division approved form, and must include:

(a) The specific equipment for which the extension is requested;

(b) The reason for the requested extension;

(c) How boiler safety is preserved with the requested extension;

(d) Written concurrence of the special, deputy, or chief inspector assigned to the equipment; and

(e) Scheduled date of shutdown and internal inspection within ~~six~~ **twelve** months.

(4) Prior to approval of an inspection cycle extension, an inspection utilizing alternate inspection methods, including but not limited to ultrasonic thickness testing, water chemistry analysis, x-ray inspections, or other similar engineering evaluations, shall be performed to ensure conditions are safe to grant an extension.

(5) Applications for inspection cycle extensions must be received and approved prior to the equipment's existing inspection date.

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Agenda Item VII.C.

Date: April 30, 2024
To: State of Oregon Boiler Board
Subject: **Agenda Request regarding the Class 5 Boiler License for 0414.2 Standard**

The **OR SW-WA NW-CA Plumbers and Steamfitters JATC** (JATC) requests that the State of Oregon Boiler Board allow representatives of the JATC to appear at the June 4th, 2004 meeting to obtain a Letter of Support for the new Steamfitter standard submitted to OSATC. The JATC requests ten minutes of the Board's time to discuss the rewritten work processes and the new alignment for the Class 5 Boiler license.

This memo is to detail the current steps taken to be compliant with the **Class 5 Pressure-Piping Mechanic** (*Class 5 Boiler License*) requirements and the request for the State of Oregon Boiler Board to provide a Letter of Support to the Oregon State Apprenticeship and Training Council (OSATC). The Letter of Support will demonstrate that the newly created standard will satisfy the requirements for the **Class 5 Pressure-Piping Mechanic** – OAR 918-225-0691(7) license.

The JATC was in communication with Tom Clark, the Chief Boiler Inspector. Mr. Clark graciously provided guidance and recommendations on how to better identify the program's compliance with the licensing requirements while properly representing the work processes being performed by Steamfitters.

The JATC revised the Work Processes to more clearly identify the work being performed by the Steamfitter occupation.

Revised Work Processes:

Work processes	Approximate hours
A. Steam heating pressure piping systems and equipment (Installation, Fabrication, Erection, Maintenance, Repair, and Welding)	**1,500**
B. Air Conditioning, Chill Water Pressure Piping, Refrigeration Systems and Equipment (Installation, Erection, Fabrication, Maintenance, Welding)	**1,500**
C. Installation, Alteration, Erection, Fabrication, and Repair of Process Piping and Equipment (Mechanical Connections and Welding)	**3,000**

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D. Hot Water Pressure Piping Systems (Installation, Maintenance, and Repair), Boiler and Pressure Vessel (Installation and Erection)	**2,000**
Total	**8,000**
Note: All welding processes involve using ASME B31	

The revised work processes identify four main categories for apprentices to place their hours and clarifies the type of work they are performing. The categories are separated as steam pressure piping, chill water pressure piping, process piping, and hot water/boiler and pressure vessel piping.

The change to these work processes were to align with the licensing requirements for the Class 5 Boiler license which are:

A. 2,000 hours of verified work experience performing pipe-welding on ASME B31 pressure piping.
B. 2,000 hours of verified work experience doing non-welding applications involving boiler or pressure vessels.

In summary, the JATC requests the following:

1. Verification that the new work processes in the Steamfitter Standard (0414.2) align with the Class 5 Boiler license.
2. A Letter of Support from the Boiler Board to be presented to the Apprenticeship and Training Division for the Class 5 Boiler license.

Accompanying documentation:
The new standard for the 0414.2 Steamfitter with Class 5 Boiler License that was submitted to the Apprenticeship and Training Division.

Thank you,

John Kersey
Apprenticeship Program Administration and Outreach Manager

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STANDARDS OF APPRENTICESHIP
Adopted by

OR SW-WA NW-CA PLUMBERS & STEAMFITTERS JATC

Occupational Title:	SIC #	SOC #	SYMBOL	SUFFIX	Term
Steamfitter	**1711**	**47-2152**	**0414**	**200**	**8,000 hours**

MA#: **1071** SOC Title: **Plumbers, Pipefitters & Steamfitters** License: **Class 5 Boiler License**

APPROVED BY THE
Oregon State Apprenticeship and Training Council (OSATC)

Registered with the

Apprenticeship and Training Division
Oregon Bureau of Labor and Industries
800 NE Oregon Street
Portland, Oregon 97232

APPROVAL:

Initial Approval Date	Last Revision Date

By:

CHRISTINA E STEPHENSON	**JESSICA GIANNETTINO VILLATORO**
Chair of OSATC	Secretary of OSATC

Contents

Notes:

Pressing the control (Ctrl) button while clicking on an item in the Contents will move to that area in the standards.

Appendices A – H contain information specific to this program.

Introduction – Apprenticeship Standards

The Oregon State Apprenticeship and Training Council (OSATC) has the authority, under the direction of the Apprenticeship and Training Division, to develop, administer, and enforce apprenticeship program standards (Standards) for the operation and success of an apprenticeship or on-the-job training program in the State of Oregon. Apprenticeship programs and committees function to administer, exercise or relinquish authority only with the consent of the OSATC. Only apprentices registered with or recognized by the Oregon Bureau of Labor and Industries (BOLI), Apprenticeship and Training Division (ATD) will be recognized by the OSATC. Parties' signatory to these apprenticeship standards declare that their purpose and policy is to establish and sponsor an organized system of registered apprenticeship and training education.

These Standards are in conformity with and are to be used in conjunction with the Apprenticeship Rules, Chapter 839-011 OAR (Oregon Administrative Rules); Apprenticeship and Training Statutes, Chapter 660 ORS (Oregon Revised Statute); The National Apprenticeship Act, 29 U.S.C. (United States Code) 50; Apprenticeship Programs, Title 29 Part 29 CFR (Code of Federal Regulations); and Equal Employment Opportunity in Apprenticeship and Training, Title 29 Part 30 CFR which collectively govern the employment and training in apprenticeable occupations. They are part of the apprenticeship agreement and bind all signers to compliance with all provisions of registered apprenticeship.

If approved by the OSATC, such amendment(s) and such changes as adopted by the OSATC shall be binding to all parties on the first day of the month following such approval. Sponsors shall notify apprentices and training agents of changes as they are adopted by the OSATC. If and when any part of these Standards becomes illegal, as it pertains to federal and/or state law, that part and that part alone will become inoperative and null and void, and the Oregon Bureau of Labor and Industries (BOLI) may recommend language that will conform to applicable law for adoption by the OSATC. The remainder of the Standards will remain in full force and effect.

See ORS Chapter 660.010 & OAR 839-011-0070 for the definitions of terms used within these Standards.

Notes: The body of this document contains boilerplate language that applies to all registered apprenticeship programs in the State of Oregon. Boilerplate language may only be modified by the Oregon State Apprenticeship and Training Council.

Appendices A-H are specific to the individual standard and may be modified by the sponsor by submitting a revised standard for approval by the Oregon State Apprenticeship and Training Council or by the Apprenticeship and Training Division (ATD) with concurrence from OSATC where permitted by ORS 660 and OAR 839-011.

1. **GEOGRAPHIC AREA COVERED:**

These standards establish the apprenticeable occupation to be taught and designate the geographical area or areas in which the standards will apply. (ORS 660.126) The Sponsor shall have a plan to ensure that participating employers will provide work in all areas covered by the program standards (OAR 839-011-0084). The Sponsor shall ensure compliance with the provisions for and of any Reciprocity Agreement recognized by the OSATC. (ORS 660.120 / OAR 839-011-0260)

The geographic area covered by these standards are located in Appendix A: Geographical Area. (Ctrl + Click to follow link)

2. **MINIMUM QUALIFICATIONS:**

Minimum qualifications, including a minimum age of at least 16, must be clearly stated, comply with federal and state regulations, and be applied in a nondiscriminatory manner (ORS 660.126 (1b)). The Sponsor shall maintain documentation for all minimum qualifications for any apprentice who is registered.

Minimum Qualifications for this standard are located in Appendix B: Minimum Qualifications. (Ctrl + Click to follow link)

3. **OREGON PLAN for EQUAL EMPLOYMENT OPPORTUNITY IN APPRENTICESHIP (OAR 839-011-0200) – PROGRAM OBLIGATIONS:**

Standards must include the Oregon Equal Employment Opportunity in Apprenticeship and Training Pledge as specified in the Oregon Plan for Equal Employment Opportunity in Registered Apprenticeship Programs (OPEEO) Section 3(h)(i).

EEO PLEDGE

OR SW-WA NW-CA Plumbers and Steamfitters JATC shall not discriminate against apprenticeship applicants or apprentices based on race, color, religion, national origin, sex (including pregnancy and gender identity), sexual orientation, genetic information, or because they are an individual with a disability or a person 18 years old or older. **OR SW-WA NW-CA Plumbers and Steamfitters JATC** shall take affirmative action to provide equal opportunity in apprenticeship and shall operate the apprenticeship program as required under these rules and Title 29 CFR, part 30.

Sponsors with five (5) or more apprentices must adopt an Equal Employment Opportunity Plan and Selection Procedures and submit the plan for OSATC approval. (OAR 839-011-0200 / OPEEO Sections 4 & 10).

A. EQUAL EMPLOYMENT OPPORTUNITY PLAN:

i. A Sponsor's commitment to equal opportunity in recruitment, selection, employment and training of apprentices shall include the adoption of a written affirmative action plan. (OAR 839-011-0200 / OPEEO section 8). Each Sponsor required under OPEEO section 4 to

develop and maintain an EEO program must retain both the written EEO plan and documentation of its component elements set forth in OPEEO sections 5, 6, 7, 8, 9, and 11.

ii. In addition, the sponsor will set forth the specific steps that it will take under this plan, review and update the specific steps that it will take to implement the plan at least yearly and submit the updated steps to the Apprenticeship and Training Division (ATD) for review and approval. (OPEEO section 8)

iii. Numerical utilization goals for the selection of minorities, females, and individuals with disabilities for apprenticeship shall be submitted to ATD at least every three (3) years and prior to the date that any previous goals expire. (OPEEO sections 6 & 7).

iv. The sponsor hereby adopts the following activities, at a minimum, in order to generate an increase in applications for apprenticeship and improve retention of apprentices from the targeted groups and/or individuals with disabilities:

a. RECRUITMENT

Advertising openings for apprenticeship opportunities using methods and in locations that result in applications from candidates from the underutilized groups.

b. OUTREACH

Dissemination of information to organizations serving underutilized groups regarding the nature of apprenticeship.

Cooperation with local school boards and career technical education systems to develop and/or establish relationships with pre-apprenticeship programs targeting students from the underutilized groups to prepare them to meet the standards and criteria required to qualify for entry into apprenticeship programs.

Establishment of formal agreements or partnerships enlisting the assistance and support of pre-apprenticeship programs, community-based organizations, advocacy organizations, or other appropriate organizations, in recruiting qualified individuals for apprenticeship.

c. RETENTION:

Practices to retain targeted populations and maintain working and learning environments which supports current apprentices to remain with the program.

B. SELECTION PROCEDURES:

Sponsors with five (5) or more apprentices must adopt a selection procedure and apply it uniformly to all applicants regardless of race, color, religion, national origin, sex, sexual orientation, age (18 or older), genetic information, and disability. (ORS 660.137 (3) / OPEEO section 10).

Selection Procedures for this program are located in Appendix C: Selection Procedures.
(Ctrl + Click to follow link)

C. DISCRIMINATION COMPLAINTS:

i. Any apprentice or applicant for apprenticeship who believes they have been discriminated against with regards to apprenticeship by the committee may file a complaint. (OAR 839-011-0200 / OPEEO Section 14)

ii. The basis of the complaint may be:

a. Discrimination on the basis of race, sex, color, religion, national origin, age, disability or as otherwise specified by law by a sponsor or a sponsor's program

b. The equal employment opportunity plan has not been followed; or

c. The Sponsor's equal employment opportunity plan does not comply with the requirements of the Oregon Equal Employment Opportunity in Apprenticeship Plan.

iii. Generally, a complaint must be filed within three hundred (300) days of the alleged discrimination or specified failure to follow the equal opportunity standards. However, for good cause shown, the Registration Agency may extend the filing time.

iv. The written complaint must include the name, address and telephone number of the person allegedly discriminated against, the sponsor involved and a description of the circumstances of the complaint, a short description of the events that took place, and the complainant's signature.

v. For complaints dealing with program operations see section 10 (Administrative Disciplinary Procedures) of this standard.

4. **TERM of APPRENTICESHIP:**

A. The term of apprenticeship, which for an individual apprentice may be measured either through the completion of the industry standard for on-the-job learning (at least 2,000 hours in the time-based approach), the attainment of competency (competency-based approach), or a blend of the time-based and competency-based approaches (hybrid approach).

B. The time-based approach measures skill acquisition through the individual apprentice's completion of at least 2,000 hours of on-the-job learning as described in a work process schedule.

i. The term of apprenticeship for a time-based approach must be stated in hours unless otherwise required by a collective bargaining agreement, civil service or other governing regulation. (ORS 660.126)

C. The competency-based approach measures skill acquisition through the individual apprentice's successful demonstration of acquired skills and knowledge, as verified by the program sponsor. Programs utilizing this approach must still require apprentices to complete an on-the-job learning component of Registered Apprenticeship. The program standards must address how on-the-job

learning will be integrated into the program, describe competencies, and identify an appropriate means of testing and evaluation for such competencies.

D. The hybrid approach measures the individual apprentice's skill acquisition through a combination of specified minimum number of hours of on-the-job learning and the successful demonstration of competency as described in a work process schedule. (Title 29 Part 29(5)(b)(2) CFR) OAR 839-011-0084(A)(B)(C))

E. When the apprentice is granted advanced standing, the employer must pay the apprentice at the appropriate wage per the wage progression schedule specified in these standards or higher. (ORS 660.142)

NOTE: In licensed occupations the apprentice must complete the minimum hours of documented legal experience.

The term of apprenticeship for this program is located in Appendix D: Term, Probationary Period, Ratio. (Ctrl + Click to follow link)

5. **INITIAL PROBATIONARY PERIOD:**

A. All apprentices are subject to an initial probationary period, stated in hours of employment, beginning on the effective date of the apprentice's current registration into the program. During this time, the apprentice's appeal rights are restricted, and the Sponsor may terminate an apprenticeship agreement without cause. (ORS 660.126 (1g))

B. The initial probationary period must be reasonable in relationship to the full term of the apprenticeship unless otherwise required by Civil Service, Collective Bargaining Agreement (CBA) or law. It cannot exceed one year (12 months) or 25 percent of the length of the program, whichever is shorter. (ORS 660.126 (1g))

C. During the initial probationary period either party to the agreement may terminate the apprenticeship agreement upon written notice to the Apprenticeship and Training Division of the Oregon Bureau of Labor and Industries. (ORS 660.126 (1g) & ORS 660.060 (6))

D. Full appeal rights are available to apprentices who have completed the initial probationary period. After the probationary period the Sponsor may only suspend, cancel or terminate the apprenticeship agreement for good cause, with prior written notice to the apprentice, and with written notice to the apprentice and to the Apprenticeship and Training Division of the Bureau of Labor and Industries of the final action taken by the committee. (ORS 660.060 (6) & (7) and section 10 of this standard)

The probationary period for this program is located in Appendix D: Term, Probationary Period, Ratio. (Ctrl + Click to follow link)

6. **RATIO OF APPRENTICES TO JOURNEY LEVEL WORKERS**

A. There shall be a maximum numeric ratio of apprentices to journey-level workers consistent with proper supervision, training, safety and continuity of employment. (ORS 660.126 (1f))

B. The ratio shall be specifically and clearly stated as to its application to the job site, workforce, department, shift, plant or combination therein. (ORS 660.126 (1f))

C. To ensure safety and training in all phases of the work, the Sponsor and its Training Agents shall ensure that apprentices are under the supervision of competent and qualified journey-level workers on the job who are responsible for the work being performed. (ORS 660.126 (1f), ORS 660.137 (5), OAR 839-011-0143)

The ratio of apprentices to journey level workers for this program is located in Appendix D: Term, Probationary Period, Ratio. (Ctrl + Click to follow link)

7. **APPRENTICE WAGES and WAGE PROGRESSION:**

A. The apprentice shall be paid according to a progressively increasing schedule of wage based on specified percentages of the average journey-level wage consistent with skills acquired. (ORS 660.126 (1h), OAR 839-011-0082(6a), OAR 839-011-0093, & OAR 839-011-0310)

B. Wage progressions shall be indicated in hourly or monthly periods (the registration agency recommends the use of hour periods) set by the Sponsor. (ORS 660.126 (1h))

C. The entry wage listed in this standard shall not be less than the federal or state minimum wage rate for the region covered by the geographical jurisdiction by that standard, whichever is higher. (ORS 660.142 (4))

D. The wage listed in this standard at all periods establishes a minimum, but a higher wage shall be paid if it is required by other applicable federal law, state law, respective regulations, or by a collective bargaining agreement. (ORS 660.126 (1h), ORS 660.137 (6), ORS 660.142 & OAR 839-011-310 (3)

E. The sponsor must re-determine the average journey-level wage at least annually and submit the new average journey wage to the Director of the Apprenticeship and Training Division with a statement explaining how such determination was made and the effective date of the new average journey wage. (ORS 660.137 (6))

F. Upon receipt of a committee's determination of its current journey worker hourly wage rate, the Director, the Division shall notify all training agents and apprentices of the new wage. (ORS 660.142 (2))

The average wage and wage progression for this apprenticeship standard are located in Appendix E: Wage and Wage Progression. (Ctrl + Click to follow link)

8. **WORK PROCESSES:**

A. The Sponsor shall provide the necessary instruction and experience for apprentices to become journey-level workers versed in the theory and practice of the occupation. (ORS 660.137 / OAR 839-011-0270(1b))

B. The Sponsor shall require the approximate hours listed in the standard's Work Processes as closely as conditions will permit for every apprentice. A Sponsor unable to provide an apprentice

with work experience equaling at least 50% of the hours listed in any of the work processes must provide and document additional related training to compensate for the lack of on-the-job training. (ORS 660.126 (1e), OAR 839-011-0084(3b), and OAR 839-011-0265(1))

NOTE: In licensed occupations apprentices must complete the minimum required total hours prior to being referred to the license examination. (OAR 839-011-0265(2))

Work processes for this program are located in Appendix F: Work Processes. (Ctrl + Click to follow link)

9. **RELATED TRAINING:**

A. The apprentice must attend related/supplemental instruction for at least 144 hours per year unless otherwise stated in this standard. Time spent in related/supplemental instruction will not be considered as hours of work, and the apprentice is not required to be paid for time so spent except where the training agent states by policy or CBA whether and under what circumstances an apprentice is entitled to be financially compensated for attending related instruction. (ORS 660.126 (1e), ORS 660.157, OAR 839-011-0084, and OAR 839-011-0088(1b))

B. The Committee must provide for instruction of the apprentice during the related/supplemental instruction in safe and healthful work practices in compliance with the Oregon OSHA regulations and applicable federal and/or state regulations. (ORS 660.137 / OAR 839-011-0082 (6a), OAR 839-011-0084, & OAR 839-011-0310)

C. In case of failure on the part of any apprentice to fulfill the related instruction obligation, the sponsor has the authority to withhold the apprentice's periodic wage advancement; or with a reasonable opportunity to remedy deficiencies, suspend, or cancel the Apprenticeship Agreement. (ORS 660.137 (4))

D. Clock hours of actual attendance by the apprentice in related/supplemental instruction classes at the community college, training trust or other approved training provider shall be documented and tracked by the Committee. (ORS 660.137 (2a))

E. Related instruction activities must be at the direction of a qualified instructor. (ORS 660.120 (3), ORS 660.157 (5), ORS 660.160, OAR 839-011-0084 (3f))

The Sponsor must identify the methods of related/supplemental training must consist of one or more of the following: (ORS 660.120 (3), ORS 660.157, OAR 839-011-0084 (3f)).

A minimum number of 144 hours per year are required unless the program has received a waiver from the Oregon State Apprenticeship and Training Council. (ORS 660.157(2))

A summary of related training topics, hours, and methods are located in Appendix G: Related Training. (Ctrl + Click to follow link)

10. **ADMINISTRATIVE/DISCIPLINARY PROCEDURES:**

A. The Sponsor shall administer its program in conformity with its approved standards, with the provisions of ORS 660.002 to 660.210, and with the rules and policies of the council and the division. The Sponsor shall establish policies to meet these requirements and list them in this

section. The Sponsor shall maintain a separate document for the procedures it will utilize to implement its policies. (ORS 660.137 (2) and OAR 839-011-0073)

B. The committee may include provisions for committee-imposed “disciplinary probation,” which is a time assessed when the apprentice's progress is not satisfactory; a “disciplinary probation” may only be used to provide an opportunity for the apprentice to correct deficiencies and cannot affect the apprentice’s appeal rights after the initial probation is completed. (ORS 660.137 (4))

C. During disciplinary probation the committee may withhold periodic wage advancements, suspend or cancel the apprenticeship agreement, or take other disciplinary action. (ORS 660.137 (4))

D. The apprentice has the right to file an appeal of the committee's disciplinary action with the Director of the Apprenticeship and Training Division. (ORS 660.120, OAR 839-011-0090 and OAR 839-011-0093)

E. Complaint and Appeal Procedures:

i. Each committee shall adopt and submit complaint review procedures for Division approval. (OAR 839-011-0084 (3g))

ii. All approved committees are expected to administer the program's approved complaint review process in a fair and consistent manner. (ORS 660.120, ORS 660.060 & OPEEO Section 14)

iii. Complaints that involve matters covered by a collective bargaining agreement are not subject to the complaint review procedures in this section. (ORS 660.126 (2))

iv. After the initial probationary period the apprenticeship agreement may be canceled by a written request from the apprentice. (ORS 660.126 (1g) ORS 660.060 (7))

v. After the initial probationary period the committee may only suspend, cancel or terminate the apprentice agreement for good cause, which includes but is not limited to: failure to report to work, nonattendance at related instruction, failure to submit work progress reports and lack of response to committee citations. (ORS 660.060 (7))

a. Due notice and a reasonable opportunity for correction must be provided to the apprentice.

b. Upon suspension a written notice must be provided to the apprentice and to the Apprenticeship and Training Division.

c. Upon cancellation a written notice must be provided to the apprentice and to the Apprenticeship and Training Division.

vi. Each committee shall utilize the following procedures and timelines for disciplinary action (cancellation or termination). Committees may adopt and submit alternate complaint procedures, for Division review and approval, providing the procedures are reasonably expected to offer equal protection to the apprentice. (ORS 660.137, OAR 839-011-0175)

a. At least 22 days prior to potential disciplinary action by a committee (OAR 839-011-0175):
- The committee must notify the apprentice in writing of alleged reason for the proposed disciplinary action and potential action to be taken if the allegation is substantiated

- The decisions are effective immediately upon committee action
- The committee will send written reason(s) for such action to the apprentice by registered or certified mail and will include the appeal rights of the apprentice.

b. Within 30 days of receipt of committee decision the apprentice may request reconsideration of the action taken by the committee
   - The apprentice's request for the local committee to reconsider their disciplinary action must be submitted in writing and must include the reason(s) the apprentice believes the committee should reconsider the disciplinary action.

vii. Within 30 days of apprentice's request for reconsideration
   - The local committee must provide written notification of their final decision including the appeal rights of the apprentice if the committee upholds its decision on the disciplinary action

viii. If the apprentice chooses to pursue the complaint further

a. Within 30 days of notification of the committee's final action
   - The apprentice must submit the complaint describing in writing the issues associated with the disciplinary action to the Director of the Apprenticeship and Training Division
   - The apprentice must describe the controversy and provide any backup information
   - The apprentice must also provide this information to the local committee/organization

b. Within 60 working days the Director of the Apprenticeship and Training Division will complete a review of the record
   - If no settlement is agreed upon during review, the Director must issue a non-binding written decision resolving the controversy.

ix. If the apprentice or local committee disputes the Director's decision

a. Within 30 days of Director's decision the dissenting party must submit a request for the OSATC to hear its case
   - Request must be in writing
   - Must specify reasons supporting the request
   - Request and supporting documents must be given to all parties
   - OSATC Rules and Policy Sub-Committee conducts hearing within 45 days and reports its findings to the next regular quarterly meeting of the OSATC
   - The OSATC renders a decision based on the sub-committee's report.

b. Within 30 days of the OSATC meeting
   - The Secretary of the OSATC issues the decision in writing.

11. **COMMITTEE – RESPONSIBILITIES AND COMPOSITION**

The following is an overview of the requirements associated with administering an apprenticeship committee and/or program. These provisions are to be used in conjunction with the corresponding ORS and/or OAR.

A. The committee is the policymaking and administrative body responsible for the operation and success of this Apprenticeship program.

B. The committee is responsible for the day-to-day operation of the apprenticeship program and must be knowledgeable in the application of Chapter 660 ORS, OAR 839 division 011 and other law and rule as appropriate to the occupation(s).

C. Sponsors must develop policies and procedures for committee operations and provide a copy to registered apprentices (ORS 660.060 (8), ORS 660.135, ORS 660.137, OAR 839-011-0170, and OAR 839-011-0310 (1b)). The committee's specific policies pertaining to the operation of the program are included in this standard. The procedures for the implementation of the approved policies are maintained by the committee. After approval by the division the approved procedures shall be distributed to all apprentices and training agents.

D. Committees shall meet as often as is necessary to transact business and at least semi-annually with a quorum in order to review and evaluate the progress of each apprentice. (ORS 660.137 (4) and ORS 660.145)

   i. A quorum shall consist of at least two (2) members representing the employers and two (2) members representing the employees. (ORS 660.135 (3), ORS 660.145)

   ii. Sponsors must hold a physical meeting for all disciplinary actions. Electronic polling is prohibited for issues requiring the personal appearance of applicants, apprentices, trainees, training agents or employers. (OAR 839-011-0170)

   iii. Minutes of all meetings must be submitted to the Apprenticeship and Training Division within 10 working days of the meeting. (OAR 839-011-0170)

E. Program Operations (ORS 660.135, ORS 660.137, OAR 839-011-0170, OAR 839-011-0200):

   i. The Committee will record and maintain records pertaining to the local administration of its Apprenticeship Program and make them available to the OSATC or its representative on request.

      a. These records include, but are not limited to:
         - Selection of applicants
         - Administration of the apprenticeship program
         - Affirmative action plans
         - Documentation necessary to establish a sponsor's good faith effort in implementing its affirmative action plan
         - Qualification standards

   ii. Records required by the Oregon Equal Employment Opportunity in Apprenticeship Plan (OAR 839-011-0200) will be maintained for five (5) years; all other records will be maintained for five (5) years after the final action taken by the committee on the apprenticeship agreement.

The following must be submitted by all programs through the Oregon Apprenticeship Tracking System (OATS) apprenticeship management portal:

   a. Apprenticeship Registration Agreement – within the first 45 days of employment as an apprentice. (ORS 660.020, OAR 839-011-0088) (In licensed occupations registration must occur prior to employment in the trade)

b. Committee Minutes – within 10 working days of the meeting. (OAR 839-011-0170)

c. Authorized Training Agent Agreements – with the meeting minutes at which they are approved. (ORS 660. 020, OAR 839-011-0162))
   - Interim recognition may be authorized by committee policy but may not exceed 45 calendar days.
   - Any recognition of a training agent prior to formal action of the committee must be in conformance with the committee's OSATC approved policy.

d. Revision of Occupation Standards - as necessary, no later than 45 days prior to OSATC meeting. (OAR 839-011-0030) (Programs should review their Standards at least annually)

e. Revision of Committee Member Composition as necessary (included in committee minutes). (OAR 839-011-0074)

f. Average Journey Level Wage – at least annually or whenever changed (included in committee meeting minutes with a summary of how the average wage was determined). (ORS 660.137 (6), ORS 660.142)

g. Adopt, as necessary or as directed, local program policies and procedures for the administration of the apprenticeship program in compliance with this Standard. (ORS 660.060 (9), ORS 660.120 (4a), OAR 839-011-0073)
   - Policies must be submitted to the OSATC for review and approval.
   - Procedures must be submitted for Division (ATD) approval and inclusion by reference in this Standard prior to implementation.

h. Authorization for issuance of initial license may be granted after the committee is found to be in compliance for operational purposes.

i. Forms are available from the Apprenticeship and Training Division. If approved by the OSATC, such amendment(s) and such changes as adopted by the OSATC will be binding to all parties on the first day of the month following OSATC approval.

F. Apprentice Management:

i. Applicants accepted by the committee, who have documented legal experience creditable to the apprenticeship in the skilled occupation or in some other related capacity, may be granted advanced standing as apprentices. (OAR 839-011-0088 (3a)) Apprentices admitted to advanced standing will be paid the wage rate for the period to which such credit advances them. In licensed occupations previous credit must be documented legal experience. (OAR 839-011-0088 (3b))

ii. Each apprentice (and, if under 18 years of age, the parent or guardian) will sign an Apprenticeship Agreement with the Sponsor, who will then register the Agreement, with the Apprenticeship and Training Division of the Bureau of Labor and Industries within the first 45 days of employment as an apprentice. (ORS 660.020 (1), ORS 660.060, OAR 839-011-0088)

iii. The Sponsor shall provide a copy of the committee meeting minutes approving any change of disposition or modification of the Registration Agreement to the Apprenticeship and Training Division within 10 working days of the committee meeting. (OAR 839-011-0170)

a. Requests for disposition or modification of Agreements include: (1) Certificate of completion, (2) Additional credit, (3) Suspension, military service, or other, (4) Reinstatement, (5) Cancellation, (6) Re-rates, (7) Holds, (8) Examination Referral, (9) Corrections, (10) Limited Supervision-electrical, (11) Phased Supervision-plumbing.

iv. Rotate apprentices in the various processes of the skilled occupation to ensure the apprentice is trained to be a competent journey-level worker. (ORS 660.137 (2c), OAR 839-011-0265.

v. At least once every six months the sponsor must review and evaluate each apprentice's progress and take action to advance based on the apprentice's progress or hold the apprentice at the same level for a reasonable period and opportunity for corrective action or terminate for continued inadequate progress. (ORS 660.137 (4))

vi. The evidence of such action will be the record of the apprentice's progress on the job and during related/supplemental instruction.

a. If the apprentice's progress is not satisfactory, the committee has the obligation to withhold the apprentice's periodic wage advancements, suspend or cancel the Apprenticeship Agreement, or take other disciplinary action as established under the "Administrative/Disciplinary Procedures."

vii. The Sponsor has the obligation and responsibility to provide, within the constraints of industry and market conditions, reasonably continuous employment for all apprentices in the program. (ORS 660.126, ORS 660.020, and OAR 839-011-0310 (2))

a. The committee may arrange to transfer an apprentice from one training agent to another or to another committee when the committee is unable to provide reasonably continuous employment, or they are unable to provide apprentices the diversity of experience necessary for training and experience in the various work processes as stated in this Standard.

b. If, for any reason, a layoff of an apprentice occurs, the Apprenticeship Agreement will remain in effect unless canceled by the committee.

viii. An apprentice who is unable to perform the on-the-job portion of apprenticeship training may, if the apprentice so requests and the committee approves, participate in related/supplemental instruction classes, subject to the apprentice obtaining and providing written medical approval for such participation. However, time spent will not be applied toward the on-the-job portion of apprenticeship training. (ORS 660.126 (i))

ix. The Sponsor shall hear and address all complaints of violations of apprenticeship agreements. (ORS 660.137)

x. Upon successful completion of apprenticeship, as provided in these Standards, and passing any examination that the committee may require, the committee will recommend that the Oregon Commissioner of Labor award a Certificate of Completion of Apprenticeship. (ORS 660.137, ORS 660.205)

G. Training Agent Management:

i. The Sponsor shall afford all employers and their qualified employees the opportunity to participate, on a non-discriminatory basis, in existing programs. (OAR 839-011-0084 (2))

ii. The Sponsor shall provide equal treatment and opportunity for all apprentices through reasonable working and training conditions and apply those conditions to all apprentices uniformly. (OAR 839-011-0200)

iii. The Sponsor shall provide training agents and prospective training agents with a written statement of costs for program participation. (OAR 839-011-0084(3c)

iv. The Sponsor shall not require an employer to sign a collective bargaining agreement or join an association as a condition of participation. (OAR 839-011-0162 (3))

v. The Sponsor shall determine the adequacy of an employer to furnish proper on-the-job training in accordance with the provisions of these Standards. (ORS 660.137(5))

vi. The Sponsor shall require all employers requesting approved training agent status to complete a training agent application and comply with all Oregon State apprenticeship laws and the appropriate apprenticeship Standards. (ORS 660.137(5))

vii. The Sponsor shall submit approved training agent agreements to the Apprenticeship and Training Division within ten (10) working days of committee approval with a copy of the agreement and/or the list of approved training agents and committee minutes where approval was granted. (OAR 839-011-0170)

viii. The Sponsor shall make periodic checks of approved training agents and withdraw approval when approval qualifications are no longer met or when it appears to the committee that the employer is in violation of the terms of the apprenticeship agreement, standards, rules, regulations and policies of the committee or OSATC. (ORS 660.137(5))

ix. If a committee acts to withdraw training agent status from an employer, the action must be recorded in the committee minutes and submitted to the Apprenticeship and Training Division within 10 working days of the committee action. (OAR 839-011-0170)

H. OSATC Required Policies: (ORS 660.120 - ORS 660.137/OAR 839-011-0073)

i. All local committees shall develop and administer operating policies and procedures to govern program operations as directed by the OSATC and administer such policies and procedures in a consistent manner. Policies and procedures will be approved by the committee and recorded in the meeting minutes.

ii. When adopted or revised, the Sponsor shall submit these policies and procedures to ATD staff who will advise the Sponsor regarding their conformity with apprenticeship laws, rules and OSATC guidelines.

iii. Committee policies and procedures must include the following written policies:

a. Credit for prior experience
b. OJT requirements (hours, work processes, rotation/partial rotation, monthly progress reports, timelines, applicable penalties)
c. Related training requirements (attendance, grades):

d. Complaint procedures:
e. Process for the review and evaluation of apprentice progress:
f. Advancement requirements (re-rates, completions):
g. Disciplinary process (appearances, holds, cancellations):
h. Training agent requirements (approval, discipline, removal):
i. Traveling training agent policy:
j. Initial employment policy:
k. Placement procedures for out-of-work apprentices:
l. License requirements, including exam referral and completion requirements (for licensed trades only).

I. Composition of Committee:

i. Joint apprenticeship and training committees must be composed of an equal number of employee and employer representatives composed of at least four principal members but no more than eight principal members. An alternate member may be appointed for each principal member. A quorum shall consist of at least two employer members and two employee members. (ORS 660.135; OAR 839-011-0074)

ii. Trades apprenticeship and training committees must be composed of an equal number of employee and employer representatives composed of one principal employee and one principal employer member for each occupation covered by the trades committee. An alternate member may be appointed for each principal member. A quorum shall consist of at least two employer members and two employee members. (ORS 660.145; OAR 839-011-0074)

iii. Employee representatives shall

a. be skilled practitioners of the trade or occupation and be a member of the collective bargaining unit if a collective bargaining agreement exists for the trade or occupation that is the subject of the apprenticeship or training program administered by the committee (OAR 660.135); or
b. be a bargaining unit representative for the employees of a participating training agent (OAR 839-011-0074(1b); and
c. not serve in a supervisory capacity as defined in the National Labor Relations Act, as amended. (OAR 839-011-0074(1b))

iv. The committee shall elect a chairperson and a secretary from the committee members. One of the offices must be held by an employer member and one office must be held by an employee member. (OAR 839-011-0074(8))

v. The Council or the Sponsor may remove committee members or officers for failure to abide by ORS 660 or the rules and policies of the OSATC or committee. (OAR 839-011-0078)

The program administered by this committee is a:
JATC
(ORS 660.135) or (ORS660.145)

The employer representatives shall be: (See attached committee list)

The employee representatives shall be: (See attached committee list)

12. **SUBCOMMITTEE**

Subcommittee(s) may be approved by the sponsor but may only recommend actions to the parent Committee.

13. **PROGRAM CONTACT INFORMATION**

The Sponsor may employ a person(s) as a full or part-time Training Coordinator(s)/Training Director(s)/Administrator(s). This person(s) will assume responsibilities and authority for the operation of the program as are specifically delegated by the Sponsor. (ORS 660.135(5)) See Appendix H for this program's contact information.

Program contact information is located in Appendix H: Program Contact. (Ctrl + Click to follow link)

APPENDIX A: GEOGRAPHICAL AREA

The geographic area covered by these standards shall be **as listed below** for the areas in the state of Oregon.

These standards shall also cover **the areas listed below** in the State of Washington for notification purposes under the terms and conditions of the reciprocal agreement.

The following is the jurisdictional geographic description for UA 290 Steamfitters. These standards apply to those areas that lie within the boundaries of the State of Oregon and in the State of Washington and are supplemented by standards registered with the State of California with their respective apprenticeship councils:

Beginning at the point where the Columbia River ship channel enters the Pacific Ocean; thence east up the Columbia River ship channel to a point two and one-half miles south of the City of Woodland, Washington; thence on a straight line east to the intersection with the west boundary line of Klickitat County, Washington; thence south on the Klickitat County line to the southwest corner of Klickitat County; thence east to the point directly north of the Deschutes River; thence south to the south bank of the Columbia River; thence east along the south bank of the Columbia River to the west boundary of Morrow County, Oregon; thence south along the west boundary of Morrow County, and east boundary of Wheeler County, Oregon; thence east along the second Standard Parallel to a point approximately five miles north of John Day, Oregon; thence directly south to a point five miles east and three miles south of Burns, Oregon; thence on an airline west to Wagontire, Oregon; thence south on the west boundary of Harney County and east boundary of Lake County to the Oregon and California border; thence west to Highway 395; thence southwest in an airline to Percy, California; thence in an airline west to Mt. Hebo, California; thence northwest in an airline to where the Jackson-Klamath County line intersects the California state line; thence west on the Southern Oregon state border to the Pacific Ocean; thence north along the Oregon coastline to the ship channel of the Columbia River, the point of beginning; also all of Del Norte and Humboldt Counties of Northern California.

APPENDIX B: MINIMUM QUALIFICATIONS

Minimum Qualifications for this standard are:

Age:	A minimum of 17 years of age in order to apply, and a minimum of 18 years at time of registration
Education:	Must have a HS Diploma or GED. Must have completed one full year of high school algebra, integrated math 2, or equivalent post-high school algebra course (s) with a grade of 'C' or better or must present current math placement test results from a community college facility indicating a placement level beyond high school level algebra.
Physical:	**N/A**
Testing:	**N/A**
Other:	**N/A**

Note:	A. All applicants will take the ACT WorkKeys (NCRC) exam and submit the Individual Summary Score Report reflecting the Scale Scores. B. Certified transcripts, from a post-high school educational institution accredited by a state education agency, may be accepted as evidence the education qualification standard is met if the transcript affirms the applicant has high school, community college or baccalaureate graduate status or is a GED exam score qualifier. C. As a condition of employment, if a training agent registered to these Standards, requires employment qualifications that exceed the minimum qualifications those qualifications must be disclosed to the Committee in writing in advance of a refusal to accept dispatch of an apprentice. Conditions that a training agent must disclose under this paragraph include: i. that an apprentice, pursuant to a reasonable written policy, submit to a test for detectable levels of drugs or alcohol present in the applicant's body; ii. that an apprentice possess a driver's license and meet the requirements of the employer's liability insurance carrier; iii. that an apprentice demonstrate, through validated tests, requisite physical ability to perform job-related tasks; iv. that an apprentice disclose adult felony convictions or juvenile felony adjudications.

APPENDIX C: SELECTION PROCEDURES

Selection Procedure:

All out of work apprentices in good standing will be offered the opportunity for re-employment prior to new applicants being registered in conformance with the committee's approved initial employment policy.

The committee shall select apprentices from a pool of eligible applicants according to the following procedure:

Application Notice and Schedule:

The committee will accept and process applications as the need arises in regions defined in the committee's Geographic Policy and on dates specified by the committee in accordance with these standards, its Affirmative Action Work Plan, its policies and procedures.

Application information will be disseminated by opening announcement at least 30 days prior to the earliest date of application. Applications will be retained and active for two years from date of submission.

Non-qualified Applicants:

Applicants who fail to meet the minimum qualifications or submit an incomplete application will be notified in writing; notification will include the reason for rejection, the requirements for admission to the eligibility pool, and the appeal rights available to the applicant.

Note: The committee's related training provider has a policy which prohibits possession and possession by consumption of alcohol, marijuana and illegal controlled substances on the premises of all its training facilities.

Pool of eligibles:

a. All qualified persons who apply in an open application period, or enter through an exception, will have completed the Work Keys Assessment Test and met the minimum qualifications.
b. Those placed in the pool of eligibles will select one primary geographic area within which the applicant will accept dispatch. The applicant may also select secondary geographic areas in order of preference but will not be dispatched until that geographic area has been exhausted of primary applicants.
c. Applicants who reapply during subsequent openings will be processed as new applicants.

Accepted for Apprenticeship List:

a. Applicants will have a combined WorkKeys score of 195-270, this score is determined by adding the Scale Scores from the Work Keys Assessment. The top scoring applicants based upon the number of interview slots available will be placed into the top cohort of the Pool of Eligibles.
b. Applicants in the top cohort will be interviewed and scored from highest to lowest applicants, the range of scores will be 0-300. The interview score plus the combined WorkKeys score will be combined to determine rank in the Accepted for Apprenticeship

List.

c. The number of applicants interviewed will be determined by industry and work force need and published on the opening announcement.

d. Applicants in the ranked Pool of Eligibles, or on the Accepted for Apprenticeship List, may be removed from the Pool or List:

   1) at the request of the applicant;

   2) in accordance with the committee policies and procedures;

   3) for dishonesty in completion of the application process;

   4) Applicants removed from the Pool or List involuntarily may reapply during an open term for applications 12 months after the removal date.

e. When an employer requests an apprentice and there are no applicants that have selected the geographic region for the work order on the Accepted for Apprenticeship list, the JATC may pull from the Pool of Eligibles the next highest scoring applicant with that region selected.

Placement From Accepted for Apprenticeship List:

a. All apprentices will be selected from the Accepted for Apprenticeship List in ranked order and in conjunction with committee policies and procedures, which include training center entry and participation requirements.

b. All tests or checks during the selection process will be arranged, and associated fees paid, by the program's related training provider or separately operated Training Center. Any results of such tests or checks will be shared with an applicant under its written procedures, but all documentation and results become the property solely of the Training Center, which shall maintain them as confidential records.

c. The JATC shall alternate the selection of apprentices from the Accepted for Apprenticeship list in ranked order and the Exceptions List in order of submission date

Exceptions:

The JATC shall accept applications for Exceptions at any time. Applicants that meet the minimum qualifications for the program and satisfy the requirements for the exception will be placed on the Exceptions List in order of submission date.

1. APPRENTICE TRANSFER

   a. Upon the following terms, the committee may allow application for transfer of currently registered apprentices from other programs that train in the Plumber, HVAC/R, Pipefitter or Steamfitter occupations:

      i. The applicant, within the preceding 90 days, has made no other application for admission to this program;

      ii. Application for admission has been made on a form obtained from the committee and signed by the applicant;

      iii. The applicant meets this program's Minimum Qualifications and conditions for dispatch from the Accepted for Apprenticeship List.

   b. An applicant granted entry by transfer will be placed onto the Exceptions List in order of submission date.

2. EXPERIENCED APPRENTICE

   a. Upon the following terms, the committee may at any time consider an application for readmission from a former apprentice in this program:

      i. The applicant has made no other application for readmission to this program;

      ii. No fewer than 180 days have passed since the committee's formal cancellation decision;

      iii. No more than 2 years have passed since this Committee's formal cancellation decision.

      iv. Application for readmission has been made on a form obtained from the committee and signed by the applicant;

      v. The applicant meets this Program's current Initial Employment Policy, conditions for dispatch from the Accepted for Apprenticeship List and its Minimum Qualifications;

      vi. The applicant has met the travel and geographic requirements of the committee.

   b. An applicant admitted under this exception will be placed onto the Exceptions List in order of submission date.

3. NEW TRAINING AGENT

   If an employer has not participated in the training of an apprentice under ORS Chapter 660 for at least two years prior to seeking entry or re-entry into the apprenticeship program, the employer may select as his/her initial apprentice, without going to the pool, those bona fide employees who have been on his/her payroll for at least 480 hours prior to the employer's application for an apprentice and who meet the minimum qualifications for entry into the trade or craft. Once the initial selection of apprentices has been made, the employer is thereafter restricted to a selection from applicants in the pool of eligibles established by the sponsor which has jurisdiction in this area.

5. PRE-APPRENTICESHIP

   Graduates that have successfully completed a pre-apprenticeship program will be placed onto the Exceptions List in order of submission date providing that the applicant meets the minimum qualifications.

6. Employer Selection

   From the Accepted for Apprenticeship List only, the committee may dispatch one applicant, by name, to a training agent provided the applicant has been in the employ of the training agent for no less than 480 hours. The next apprentice dispatched to that training agent must be selected from the top of the Accepted for Apprenticeship List. Thereafter, apprentices dispatched to that training agent may be chosen by the committee alternating between the top of the Accepted for Apprenticeship List and by name provided the applicant has worked for the employer for no less than 480 hours from the Accepted for Apprenticeship List.

7. ORGANIZING (UNION ORGANIZES AN EMPLOYER)

   Individuals who are employed by an employer who becomes signatory will be provided direct referral into the program if they:

   a. Meet the current minimum qualifications of this program; and

b. Do not qualify as a journey worker.

Individuals qualifying under this exception will be evaluated by the committee and registered at the appropriate period of apprenticeship based upon previous work experience and related training.

8. ORGANIZING (50% + 1 OF THE EMPLOYEES SIGN BARGAINING CARDS)

Individuals who sign an authorization card during an organizing effort wherein more than 50% of the employees have signed, will be provided direct referral into the program if they:

a. Meet the current minimum qualifications; and

b. Do not qualify as a journey worker.

Individuals qualifying under this exception will be evaluated by the committee and registered at the appropriate period of apprenticeship based upon previous work experience and related training.

9. CONTRACTUAL REQUIREMENT

A training agent, able to document the existence of a valid contractual requirement for specific percentages of minority and/or female apprentices on the job, may request that the sponsor pierce the ranked pool of eligibles to reach the top minority or female qualified applicant(s). The sponsor will record on the registration agreement, and in its minutes, the use of this exception and retain a copy of applicable bid specifications.

11. NATIVE AMERICAN PREFERENCE

Qualified Native American applicants referred and ranked by a Tribal Employment Rights or Human Services Office (TERO), and who otherwise meet the minimum qualifications of these Standards, may be selected for dispatch without regard to existing selection procedures if the work to be performed is in a geographic area on or near an existing Indian Reservation, Lands or Nation or has been funded by, or at the direction of, an Indian Tribe or Nation. Individuals qualifying under this exception will be placed onto the Exceptions List in order of submission date

12. VETERANS ENTRY

Upon the following terms, the committee may, at any time, consider an application for admission from a Veteran of the United States armed forces or an active Service Member who is within two (2) years of Honorable Discharge:

a. The applicant must meet the minimum qualifications of this program and, at time of entry, have been Honorably Discharged or Discharged under Honorable Conditions from the United States armed forces;

b. The applicant must have been a member of the Regular Service, and possess a DD-214 indicating an Honorable Discharge;

c. Or, the applicant must have been a member of the Selected Reserve, or Individual Ready Reserve, and possess a DD-214 indicating an Honorable Discharge;

d. Or, the applicant must have been a member of the National Guard and possess a DD-214 indicating an Honorable Discharge.

Individuals qualifying under this exception may seek direct entry and, if registered, will be placed onto the Exceptions List in order of submission date .

14. DIVERSITY PARTNERS

Registered training agents may elect to become a committee Diversity Partner. Diversity Partner status applies to those training agents that have:

- Completed annual, committee-approved diversity/cultural competency training that includes
  - training for Employer/Training Agent staff responsible for apprentice selection on strategies to retain diverse apprentices;
  - training for supervisors on preventing aggressive behavior and workplace bullying on the construction work site; and
- Commits, in writing, to providing meaningful engagement in specific activities as outlined in the committee's approved Affirmative Action Work Plan. At the minimum, training agents must engage in activities designed to retain diverse apprentices.

Training agents that elect to become Diversity Partners may choose an applicant from the qualified list(s) of eligible applicants regardless of their position on the list.

Committees adopting Exception 14 must provide, as part of its Affirmative Action Work Plan, an explanation of the clear, consistent, and fair criteria that will be used to evaluate a training agent's status as a Diversity Partner. Committees must use these criteria to conduct annual reviews of each Diversity Partner to maintain the designation. These reviews must be submitted with the committee's annual Affirmative Action Work Plan.

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15. OTHER (TRADE SPECIFIC EXPERIENCE – WELDER CERTIFICATION ONLY)

The committee may consider an application for admission from an applicant able to document curriculum completion of an accredited technical training school equal to that approved by the International Pipe Trades – Joint Training Committee (IPT-JTC) in welding.

a. The applicant must meet the minimum qualifications of this program;

b. The technical training school, when the applicant matriculates, shall have been certified by a nationally recognized industry association;

c. The applicant must submit to, and obtain a passing score in, a validated objective examination to verify skill level;

d. If registered under this exception, the applicant may be granted credit for experience in the Steamfitter trade based upon the following welding documentation:

i. demonstrated skills; ☐ documented classroom training;

ii. documented experience; ☐ results of the objective examination;

iii. ability to maintain current welding certifications equivalent to IPT-JTC and Local UA-290 requirements.

e. The committee will retain all evaluation data consistent with ORS 660, et seq.;

f. The applicant will be registered and placed at the top of the out of work list.

The committee will evaluate each registration to the program under this procedure and address in its minutes, the impact, if any, on the committee's Affirmative Action Plan, its Goals and Timetables, and Equal Employment Opportunity Pledge.

APPENDIX D: TERM, PROBATIONARY PERIOD, RATIO

Term of Apprenticeship:

This is a time-based apprenticeship standard. The term of this standard of apprenticeship shall be **8,000** hours of employment.

Probationary Period:

The probationary period shall be the first **2,000** OJT hours of employment, or one year after the current registration to this standard, whichever is shorter.
(ORS 660.126 (g))

Ratio:

The ratio of apprentices to journey-level worker shall not be more than:

One (1) apprentice to the first **one (1)** journey-level worker **in full employment: for the first two (2) apprentices** in the shop and on the job.

Additional apprentices are authorized at a ratio of **one (1)** apprentice for each additional **three (3)** journey-level worker(s). (ORS 660.126 (f))

On cross country mainline petroleum pipeline projects the number of apprentices shall not exceed a maximum ratio of one apprentice to one journeyman steamfitter in full employment on the job.

APPENDIX E: WAGE AND WAGE PROGRESSION

The average wage for those journey-level workers employed by the participating employers in this occupation on **4/1/2024** is **$57.92** per hour.

Period	Number of required hours	% of the journey level rate
1	800	40
2	800	50
3	800	55
4	800	60
5	800	65
6	800	70
7	800	75
8	800	80
9	800	85
10	800	90

APPENDIX F: WORK PROCESSES

The work processes and approximate training hours in each area are:

Work processes	Approximate hours
A. Steam heating pressure piping systems and equipment (Installation, Fabrication, Erection, Maintenance, Repair, and Welding)	**1,500**
B. Air Conditioning, Chill Water Pressure Piping, Refrigeration Systems and Equipment (Installation, Erection, Fabrication, Maintenance, Welding)	**1,500**
C. Installation, Alteration, Erection, Fabrication, and Repair of Process Piping and Equipment (Mechanical Connections and Welding)	**3,000**
D. Hot Water Pressure Piping Systems (Installation, Maintenance, and Repair), Boiler and Pressure Vessel (Installation and Erection)	**2,000**
Total	**8,000**
Note: All welding processes involve using ASME B31	

In licensed occupations apprentices must complete the minimum required total hours prior to being referred to the license examination. (OAR 839-011-0265(2)) (For electrical licenses, ORS 479.630 & OAR 918-282-0270) (For plumbing licenses, ORS 693.060 & OAR 918-695-0140)

Apprentices must complete a total of **8,000** hours of on-the-job training. However, the committee recognizes that most apprentices will not be able to fulfill the total amount of hours specified in every work process as set forth in this standard. When an apprentice is unable to fulfill the total work hours in each work process the committee will evaluate the apprentice's knowledge, skills and abilities and provide appropriate additional related instruction to assure that competency is acquired in each work process. The evaluation and summary of the additional instruction will be noted in the apprentice's file. (OAR 839-011-0265(1))

APPENDIX G: RELATED TRAINING

A minimum of **144** hours of related training is recommended during each year the apprentice is registered in the program. (ORS 660.126 (e) / ORS 660.157(1))

The following is a summary of related instruction including required class hours in each element of instruction. A committee may establish and submit clear objectives and outcomes in lieu of hours for each class subject. (ORS 660.157)

DELETE if not used by committee: Related training must cover the following subjects and must be completed with a grade of 'C' or better for graded classes or 'Pass' for non-graded classes. (OAR 918-282-0170 to -0365)

Course	Hours
Basic Mechanical Instruction Elements	**68**
1. Job Safety and Health **a. First Aid CPR** **b. OSHA 10**	**108**
2. Related Math and Science **a. Applied Trigonometry** **b. Pipe Layout** **c. Related Physics and Chemistry**	**108**
3. Welding **a. Oxy-acetylene Cutting and Welding** **b. Soldering and Brazing** **c. SMAW/GTAW Welding**	**144**
4. Drawing and Interpretation **a. Isometric Drawing** **b. Pipe Drafting and Blueprint Reading** **c. Layout**	**108**
5. HVAC **a. Air Conditioning** **b. Refrigeration** **c. Properties of Air**	**108**
6. Steam and Hydronic Heating/Cooling **a. Pneumatic Controls** **b. DDC**	**108**
7. Miscellaneous Related Topics **a. Tube Bending** **b. Builders Level/Transit** **c. Pumps** **d. High Purity Piping** **e. Materials, Pipe, Fittings, and Hangers** f. **Class 5 Boiler exam preparation – Code Review ASME B31.1, 31.3, 31.5, 31.9; ASME BPVC Section IV and IX, CSD-1, NFPA 85, ASME PVHO-1, NBIC Part 1, NBIC Part 4, and applicable OAR/ORS, and examination.** g. **Drafting and Design of Piping Systems** h. **Orbital Welding** i. **Testing and Inspection of Piping Systems** j. **Rigging, Transportation, and Installation of High-Tech Manufacturing Equipment.**	**148**

Advanced Mechanical Instruction Elements	
Additional hours based upon industry and individual apprentice needs to include but is not limited to: a. **Rigging** b. **Signal** c. **Crane Operator** d. **Foreman Certification**	**288**
Total	**1080**

Methods of related/supplemental training shall consist of the following:

☒Training trust;
☒Other: Training Center Instruction

APPENDIX H: PROGRAM CONTACT INFORMATION

ADMINISTRATOR/COORDINATOR Contact

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