



May 5, 2017

Via Email & U.S. Mail

Public Utility Commission of Oregon
PO Box 1088
Salem OR 97308-1088

RE: Public Comment and Request for Investigation Into Carty Generating Station

Dear Chair Hardie, Commissioner Bloom, and Commissioner Decker:

We are writing to bring to your attention disturbing new information about Portland General Electric's (PGE) Carty Generating Station Unit 1. The following public comments are relevant to the Public Utility Commission's consideration of PGE's Integrated Resource Plan (IRP), as well as the PUC's ongoing role to protect ratepayers in rate cases. We bring these issues to your attention in the hope that PUC will conduct its own investigation into potential problems with the existing Carty Generating Station before determining whether PGE can rely on the Carty Generating Station for current and projected power needs.

I. PGE owns and operates the Carty Generating Station.

The Carty Generating Station is located adjacent to PGE's 584-MW coal-fired power plant in Morrow County. The Oregon Energy Facility Siting Council (EFSC) issued a site certificate for the Carty Generating Station, a 900-MW electric generating facility, in 2012. The approved energy facility includes two natural gas-fired generating blocks. PGE placed Unit 1 in service in July 2016 following considerable delays and cost overruns.¹ PGE has not commenced construction of Unit 2. In 2016 and early 2017, PGE filed applications with EFSC and the

¹ Pete Danko, *PGE gets new \$660M power plant running in the nick of time*, Portland Business Journal (July 29, 2016), <http://www.bizjournals.com/portland/blog/sbo/2016/07/pge-gets-new-660m-power-plant-running-in-the-nick.html>; *New PGE Boardman Plant \$100 million over budget*. KGW News. July 8, 2016. <http://www.kgw.com/money/new-pge-boardman-plant-100m-over-budget/267785442>

Oregon Department of Environmental Quality (DEQ) to expand Unit 2 to 530 MW and to add a third unit with a 330 MW capacity.

II. A contractor alleges significant safety and reliability issues at Unit 1 of the Carty Generating Station.

According to a complaint filed with the Oregon Department of Consumer and Business Services Building Codes Division, PGE failed to complete necessary inspections of high-pressure, high-temperature equipment inside its new power plant, the lack of which the complaint says poses “potential life-safety issues for plant employees.”² NewJac Inc., an Indiana-based pipe fabricator involved in providing piping for the new Carty gas plant, filed the complaint on January 6, 2017. Riverkeeper obtained these and additional documents through public records requests. See Attachments 1 and 2. NewJac states in its January 6 letter:

Owner PGE is violating Oregon Boiler and Pressure Vessel Code and national code ASME 831.1 applicable to nearly a linear mile of pressure pipe fabricated off-site by failing and refusing to obtain reliability, safety and traceability records for 5,500+ welds. Some pressure pipe supplied has design requirements exceed (sic) 800 degree pressurized steam. PGE’s decision to forgo obtaining these Code-required documents poses potential life-safety issues for plant employees and sacrifices the long-term reliability and performance requirements mandated by Code...

Dangerous conditions may result if NewJac’s pressure pipe was not correctly installed...

PGE cannot verify, and does not know, whether over three miles of such regulated pressure pipe spools...were fabricated to minimum engineering standards required by applicable code for pressure pipe installed in Oregon... Any irregularities in the pressure pipe fabrication process, from material selection, assembly, welding and testing, may pose a significant life-safety threat to Carty power plant employees. Similarly, the lack of documentation likely will increase future maintenance costs, troubleshooting expense and downtime over the Carty power plant’s anticipated thirty (30) year service period.³

NewJac’s allegations raise the potential that Carty will be less affordable and reliable than PGE projects. In a subsequent February 16, 2017, letter, NewJac suggests that PGE failed to complete adequate inspections because it was in a rush to meet an August 1, 2016, startup deadline. By starting plant operation before August 1, PGE was able to begin billing ratepayers for the Carty facility. NewJac’s states:

² See Attachment 1. NewJac, Inc. January 6, 2017 letter to Oregon Department of Consumer and Business Services. p.1.

³ *Id.*

It is also worth noting the extraordinary financial pressure PGE had to commence operation of Carty by August 1, 2016. According to SEC filings, by becoming operational before August 1, 2016. PGE was authorized to increase utility rates charged to customers in order to start recovery of \$514 million of capital costs.⁴

The question of whether inspections were legally required remains unresolved. Yet, if true, the allegations made by NewJac pose a significant problem for ratepayers, workers, and the environment. Further, these issues could impact PGE's assumptions regarding the cost and reliability of Unit 1 at the Carty Generating Station as well as any future expansion of the facility.

III. The Carty Generating Station emits higher levels of volatile organic compounds than expected.

The Carty Generating Station is emitting more pollution than expected, according to an application submitted by PGE to DEQ. In particular, Unit 1 of the Carty Generating Station would generate 194 tons per year of volatile organic compounds (VOCs), a 67% increase in VOC emissions over permitted levels. PGE stated in its application to DEQ,

PGE has recently obtained new information from the equipment manufacturer regarding VOC startup and shutdown emissions for Carty Unit 1; this information was not available when the unit was initially permitted. Based on the new information, PGE has revised the VOC emission calculations using the recently provided startup and shutdown emission factors; updated PSEL calculations for Carty Unit 1 are provided in Attachment 2. The current VOC PSEL for the site is 116 tons per year. PGE is proposing to change the portion of the VOC PSEL attributable to Carty Unit 1 to 194 tons per year.⁵

It is not clear whether installation problems at the Carty Generating Station may have contributed to excessive VOC emissions. PGE asserts that it received new information from its vendor, prompting the technical modification application only 60 days after Unit 1 had been placed into service. PGE's discovery of higher-than-expected levels of VOCs and its application to DEQ may be an indication that PGE was rushing to place the facility into service. Regardless, DEQ has not yet approved PGE's request to emit more pollution at the Carty Generating Station. If DEQ denies PGE's request, it is possible that the availability and reliability of the Carty Generating Station Unit 1 may be reduced. Until the pollution impact of the existing Carty facility is understood and resolved, we encourage the PUC and other agencies to refrain from making decisions that would expand the Carty Generating Station.

⁴ See Attachment 2. NewJac Inc. February 16, 2017 letter to Oregon Department of Consumer and Business Services.

⁵ See Attachment 3. PGE Complex Technical Modification Application. September 30, 2016.

IV. PGE’s track record at Carty raises serious questions that the PUC should investigate.

We urge the PUC to evaluate the allegations made by NewJac and to take notice of PGE’s request to DEQ to emit more smog-forming air pollution. According to its draft IRP, PGE plans to rely on the Carty Generating Station for the foreseeable future. Additionally, PGE is considering expanding the Carty Generating Station, a possible additional thermal resource to meet PGE’s projected demand in its IRP. At a minimum, we urge the PUC to address these questions:

- Is the Carty Generating Station safe to operate for workers and the environment?
- Did PGE place the facility into operation prematurely so that it could begin recovery of costs of building the Carty Generating Station Unit 1?
- How will PGE operate Unit 1 if Oregon DEQ does not grant PGE authorization to increase VOC pollution by 67%?
- How will problems at the Carty Generating Station impact the assumptions that PGE has made about the cost and reliability of the facility in its IRP?

The answers to these and other questions will be necessary to properly evaluate PGE’s IRP and future rate cases.

V. Conclusion

Allegations made by NewJac, Inc. raise serious questions about the safety and reliability of the Carty Generating Station, as well as PGE’s decision to put the facility into operation before August 1, 2016. Furthermore, the facility’s potential to emit higher levels of smog-forming VOCs may impact the cost and reliability of the facility, as well. We urge the PUC to investigate these issues and to ensure that ratepayer resources are not used to address mistakes with the construction and operation of the Carty Generating Station.

Sincerely,

Daniel Serres
Conservation Director
Columbia Riverkeeper

Regna Merritt
Healthy Climate Director
Oregon Physicians for Social Responsibility

Mia Reback
Lead Organizer
350PDX

Also on behalf of:
Portland Rising Tide
Greenpeace Northwest

Attachments:

1. NewJac, Inc. complaint letter. January 6, 2017.
2. NewJac, Inc. supplemental letter to Department of Consumer and Business Services. February 16, 2017.
3. PGE Submittal to Oregon DEQ for Complex Technical Modification Application. September 30, 2016.

DOUGLAS GALLAGHER LAW OFFICE PC

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ORIGINAL

January 6, 2017

Via Priority Mail

Tracking No.: 9414711899564514976495

Department of Consumer and Business Services

Building Codes Division

PO Box 14470

Salem OR 97309-0404

Tracking No.: 9468111899564537584683

Oregon Department of Energy

Attn: Energy Facility Compliance Officer

625 Marion Street NE

Salem, OR 97301

Oregon Building Code Division Code Complaint

(Boiler and Pressure Vessel Program)

and

Oregon Department of Energy Request for Site Inspection

Re: Violator: Portland General Electric Company

Complainant: Newjac, Inc.

Project: Carty Generating Station, 73396 Tower Road, Boardman, Morrow County

Site Certificate: Energy Facility Siting Council Site Certificate dated June 29, 2012

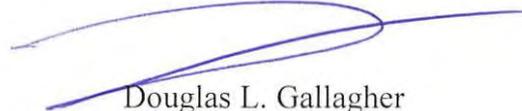
Greetings:

Complainant Newjac, Inc. hereby submits to the Oregon Building Codes Division the enclosed *Complaint Report*, which includes a 13 page explanatory attachment and Exhibits A through L ("BCD Complaint Report"). All the aforementioned documents are included in the enclosed tabbed notebook.

Newjac submits to the Oregon Department of Energy the enclosed request for site inspection on the agency's *EFSC Jurisdiction Energy Facility Site Inspection Request* form. The inspection request is the first page of the enclosed notebook, which otherwise contains the same information as the above-referenced BCD Complaint Report.

Please feel free to contact Newjac, Inc. directly as indicated on page 8 of the Attachment. Inquiries by legal counsel, as well as written inquiries or communications by legal counsel or any person representing any agency or party, must be directed to my attention.

Very truly yours,



Douglas L. Gallagher

Enclosures as noted
DLG/aam

cc: Katherine Lozano, Dept. of Justice, encl. BCD Complaint and Attachment w/o Exhs.,
via email only to: katharine.m.lozano@doj.state.or.us
Client, w/encl. (hard copy via mail, BCD Complaint w/o Exhs. via email)

**Oregon Building Code Division Code Complaint
(Boiler and Pressure Vessel Program)**

and

Oregon Department of Energy Request for Site Inspection

Re: **Violator:** Portland General Electric Company

Complainant: Newjac, Inc.

Project: Carty Generating Station, 73396 Tower Road, Boardman, Morrow County

Site Certificate: Energy Facility Siting Council Site Certificate dated June 29, 2012

Date: January 6, 2017

NOTEBOOK ENCLOSURES

Request for Site Inspection (ODOE copy only)

Oregon Building Code Division Code Complaint

Complaint Report Attachment

Exhibits A–L (Tabbed)



EFSC-Jurisdiction Energy Facility Site Inspection Request

*= A required area

Requestor Information

*Name: attorney Doug Gallagher
 *Phone:
 *Address:
 *Address:
 *City, State, Zip:
 *Email:

Energy Facility Description:

Project Name (If Known):

I certify that I am employed directly or indirectly by the certificate holder and ask that my name not be disclosed in any manner except where disclosure is required by law. (OAR 345-026-0050(2)(b) Check if true.

Describe grounds for the request. Under OAR 345-026-0050(2), any person may request an inspection of an EFSC-jurisdiction facility. The requests are limited to two concerns:

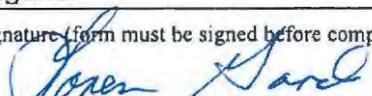
<i>I believe a violation of a Council order or site certificate condition or warranty has occurred or may imminently occur. Describe, in detail. Provide site certificate or final order reference.</i>
Owner PGE is violating Oregon Boiler and Pressure Vessel Code and national code ASME B31.1 applicable to nearly a linear mile of pressure pipe fabricated off-site by failing and refusing to obtain reliability, safety and traceability records for 5,500+ welds. Some pressure pipe supplied has design requirements exceed 800 degree pressurized steam. PGE's decision to forgo obtaining these Code-required documents poses potential life-safety issues for plant employees and sacrifices the long-term reliability and performance requirements mandated by Code. See attached Building Code Division ("BCD") Complaint, Attachment and Exhibits A-L that accompany this request, in particular, Exhibit K pages 1-8, PGE Carty Site Certificate, Sections 2.3 through 2.7 and 2.9 (mandatory conditions).
<i>I believe a situation exists that may lead to unnecessary exposure of an individual to hazardous materials or unsafe or dangerous conditions. Describe in detail.</i>
Dangerous conditions may result if Newjac's pressure pipe was not correctly installed or is capable of troubleshooting at any time during the power plant's expected thirty (30) year service life. Newjac traceability records - essentially records that establish each segment and weld "as fabricated" meet Code performance requirements for fabricated pressure pipe - would satisfy these legal and practical requirements. PGE acknowledges defects, some of which posed potentially deadly dangerous defects in litigation. See e.g. BCD Complaint Exhibit J, pages 20-21, paragraphs 103 and 107. PGE's decision is an unnecessary and wholly avoidable risk.

Location:

The more specifically you can describe the location, the easier it will be to make a jurisdiction determination and a determination as to whether a site inspection is warranted.

County:	Morrow
Driving Instructions/Crossroads:	
Township, Range, Section and 1/4 Section:	
Latitude/Longitude:	
GIS Coordinates:	
Turbine #:	See BCD Ex. B*
Other?:	73396 Tower Road City of Boardman

*This abbreviation refers to Exhibits B of the Building Codes Division Complaint and Attachment that accompanies this Request that shows the precise location of some of the high pressure pipes that are the subject of the Complaint.

WITNESS			
Last name: Newjac, Inc c/o Attorney Doug Gallagher	First name:	Middle initial:	Phone number: 541 - 357 - 4021
Address (Street or P.O. box): 245 W 5th Ave			Fax number: 541 - 357 - 4029
City: Eugene		State: OR	ZIP: 97401
DETAILED REPORT OF VIOLATION			
<p>It is essential that this report be as complete as possible in order for the Building Codes Division to proceed with an investigation. Whenever possible, the report should include a detailed description of the installation, complete names of individuals who made the installation, copies of any documentation (statements, invoices, canceled checks, contracts, etc.) showing the alleged violator or the installation, and any other information you may have to assist the Building Codes Division in the investigation. Attach additional pages if necessary.</p> <p>PGE is in violation of its construction and operation permits for the Carty project because it did not satisfy its obligations under ASME B31.1 Section 136.1.1 to possess certain quality-control/ safety documentation required by AMSE B31.1 (i.e. the traveler package) as adopted by Oregon law for nearly a linear mile of non-boiler external pressure pipe fabricated off-site. The violations, circumstances and further evidence is provided in the COMPLAINT REPORT ATTACHMENT and Exhibits A through L.</p> <p>In addition to the above-described violations, it appears PGE did not obtain final approval of the following boilers as shown by Exhibit H permits to the Complaint Attachment:</p> <p>(1). Anhydrous Ammonia Storage Tank (Permit No.16-60823 - final documentation not checked), Ex H, page 14;</p> <p>(2). Auxilliary Boiler Blowdown Tank - no permit replaced expired permit no.15-58053, Ex H, page 42, so the work apparently was not inspected or approved; and</p> <p>(3). Closed Cooling Heat Exchanger A or B - no permit replaced expired permits no. 15-58055 and 15-58056, Ex H, page 46 and 48, so the work apparently was not inspected or approved.</p>			
COMPLAINT INFORMATION			
Last name: (Please print) Gard	First name: Loren	Middle initial:	Phone number: 541 - 357 - 4021
Title (if an inspector): Owner, Newjac Inc.	Jurisdiction (if an inspector):		Fax number: 541 - 357 - 4029
Address (Street or P.O. box): c/o Doug Gallagher, Attorney at Law 245 W 5th Avenue			
City: Eugene		State: OR	ZIP: 97401
Signature (form must be signed before complaint will be investigated): 		Date signed: 1/2/17	

For more information about compliance investigations, please call the Building Codes Division, 503-378-4133.

**OREGON BUILDING CODES DIVISION
COMPLAINT REPORT ATTACHMENT
Oregon Boiler Safety Code Violations**

Complainant: Newjac, Inc.
Code Violator and Owner: Portland General Electric Company (“PGE”)
Project Name: Carty Generating Station (“Carty”)
Project County: Morrow
Project Address: 73396 Tower Road, Boardman OR
BCD Division: Boiler Program
Code: Oregon Boiler and Pressure Vessel Specialty Code (“Code”)
Date: January 6, 2017

Summary: PGE Fails to Satisfy Life-Safety Requirements under Code

Portland General Electric Company (“PGE”) failed to satisfy and is violating its duty to inspect and possess code-mandated design performance and safety records related to pressure pipe components and fittings (referred to as “pipe spools” as described below) installed at the Carty power plant.

PGE cannot verify, and does not know, whether *over three miles* of such regulated pressure pipe spools (identified in **Exhibit A** to this Attachment), were fabricated to minimum engineering standards required by applicable code for pressure pipe installed in Oregon. Some of the pressure pipe spools identified in **Exhibit A** and shown in **Exhibit B** reach an operating temperature in excess of 800 degrees Fahrenheit. Any irregularities in the pressure pipe fabrication process, from material selection, assembly, welding and testing, may pose a significant life-safety threat to Carty power plant employees. Similarly, the lack of documentation likely will increase future maintenance costs, troubleshooting expense and downtime over the Carty power plant’s anticipated thirty (30) year service period.

Code violated: PGE failed to satisfy and continues to violate ASME B31.1 (adopted by ORS 480.550 as the “*minimum safety standards for boilers and pressure vessels*” in Oregon). ASME B31.1 Section 136.1.1 requires a project owner or its authorized inspector to inspect and possess records showing regulated pressure pipe installed in Oregon meets strict engineering and quality control standards pertaining to materials and fabrication methods used. Such Code-mandated records include, but are not limited to, the records associated with ASME B31.1 Sections 127.1- 127.2.1, 127.4.1(A); 127.6; 136.3.2; 136.4 and Table, and OAR 918-222-0740. These records are referred to herein as (“**ASME Fab Documents**”).

The date and time of such Code violations includes:

–*Ongoing since December 18, 2015:* The ASME Fab Documents for pressure pipe installed by PGE’s original contractor, including most if not all the **Exhibit A** pressure pipe, which was never inspected by any public or private inspector¹;

¹ This observation raises the possibility that PGE lacks required documentation for pressure pipe beyond **Exhibit A**.

–January 4, 2016 and August 3, 2016: The ASME Fab Documents for pressure pipe installed by PGE’s first contractor was not part of any “traveler package” submitted by PGE or PGE’s replacement contractor for permit approval by any public or private inspector;

–August 17, 2016: PGE sought approval for startup of the heat recovery steam generator (“HRSG”) under permits No. 16-60816 and 16-61253, the system where **Exhibit A** pressure pipe is installed, without providing the ASME Fab Documents to any public or private inspector; and

–Ongoing since August 17, 2016, as PGE is and continues to be in violation of its boiler operating permits and Oregon Department of Energy Site Certificate due to its non-compliance with this life-safety Code requirement.

Proof of PGE’s non-compliance includes: Only the complainant possesses the raw information, which cannot be recreated from other sources for multiple reasons; PGE admits it lacks the documents by its actions and words; and PGE affirmatively alleges in litigation that its initial contractor (complainant’s customer) is refusing to provide important documents *by quoting the person who was Complainant’s primary contact for supply of the pipe spools.*

Correction of PGE’s violations is fully within PGE’s knowledge, ability and control. The public authorities to whom this Complaint is directed should take immediate steps to investigate and suspend operation of the Carty power plant until the above-violations are cured.

Background Information

PGE recently completed construction and owns the Carty Generating Station power plant located at 73396 Tower Road, Boardman in Morrow County, Oregon (“Carty”).

Carty is a natural gas co-generation plant. Natural gas is fired in a combustion turbine generator that creates electricity. The exhaust gas from the combustion turbine supplies heat to a heat recovery steam generator. The HRSG harnesses high temperature, pressurized steam that is a byproduct of the combustion turbine to power a steam turbine that also generates electricity. Because the HRSG system is a “*closed vessel intended for the heating or vaporizing of liquids * * * by the application of heat from combustible fuels,*” the heat exchanger and associated connected external pressure pipe is regulated under Oregon’s Boiler and Pressure Vessel Law (“Code”). ORS 480.515(3).

Complainant Newjac, Inc. (“Newjac”) supplied and delivered to Carty essentially all of the non-boiler external pressurized pipe fittings (again, referred to as pipe spools) between the HRSG and the steam turbine. “Pipe spool” is the industry name for raw pipe cut to custom lengths and welded with together with pre-manufactured pipe fittings.²

² More specifically, a “pipe spool” is a segment of pipe between two natural break points in the pipe that must be welded to another segment of pipe or component to create an enclosed system. Those two “breaks” make both ends of a pipe that is welded at a project site, such as welding together two 10’ segments of pipe to make a 20’ segment. Or one of the two “breaks” may be welded at an offsite fabrication shop, typically between a pipe segment and a pre-manufactured fittings (such as elbows, reducers, flanges, etc.).

Exhibit A is an eleven page list of pipe spools Newjac custom fabricated and supplied to the Carty project under contract with PGE's original construction contractor ("Pipe Spools"). In total, **Exhibit A** describes more than 17,000 linear feet *or more than three miles* of pipe spools. The location of some critical Pipe Spools are shown in **Exhibit B**. PGE's initial contractor, who performed the onsite installations, was Abeinsa Abener Teyma General Partnership ("Abeinsa"). **Exhibit C** is the cover page to Newjac's agreement with Abeinsa showing the title "BOP Pipe Fabrication Contract Carty Generating Station Morrow County, Oregon." "BOP" refers to the phrase "Balance of Pipe" to reflect Newjac supplied all of the non-boiler external pressure pipe that carries high pressure, pressurized steam between the generator and the heat exchanger at the Carty project.

The Exhibit "A" Pipe Spools are regulated by the American Society of Mechanical Engineers B31.1 Power Piping Code ("ASME B31.1") as "non-boiler external piping." Newjac estimates it performed about 5,500 welds to construct the Pipe Spools from raw pipe at its fabrication shop in Indiana. Based upon the design requirements communicated by Oregon's boiler inspector, Newjac estimates about twenty eight percent (28%) of the Pipe Spools listed on **Exhibit A** exceed minimum PSI and temperature thresholds that require Oregon Boiler inspectors to review material purchase and fabrication records. In other words, nearly a linear mile of the **Exhibit A** Pipe Spool *must* be accompanied by ASME Fab Documents (also known as a "traveler package") for inspection by an Oregon Boiler Code inspector.

ASME B31.1 Pipe Code is Oregon's "Minimum Safety Standard" for Non-Boiler External Pressure Pipe Fabricated Off-Site

ASME B31.1 is a National Standard that prescribes specific design fabrication, inspection, testing, verification, installation and maintenance requirements for pressure pipe installed in power plants. See **Exhibit D**, page 4, column 1 (items a-g).³ The ASME B31.1 is "*more conservative than some other piping codes, reflecting the need for long service life and maximum reliability in power plant installations.*" See **Exhibit D**, page 2.

ASME B31.1 *explicitly* applies to onsite and off-site fabrication of pressure pipe, for the obvious reason that the vast majority of fabrication for sophisticated boiler pipe systems installed at power plants occurs off the construction site (i.e. at a specialized welding facility under controlled conditions):

ASME B31.1 Chapter V Fabrication, Assembly, and Erection

127 WELDING:

127.1 General

"Piping systems shall be constructed in accordance with the requirements of this Chapter and of materials that have been manufactured in accordance with the requirements of Chapter IV. These requirements apply to all fabrication, assembly, and erection operations, whether performed in a shop or at a construction site."

See **Exhibit D**, page 5 §127.1 (*emphasis added*).

³ **Exhibit D** is reprinted from ASME B31.1- 2010 by permission of The American Society of Mechanical Engineers. All rights reserved. No further copies can be made without written permission.

Oregon law (ORS 480.550) has explicitly adopted the ASME B31.1 as a “minimum safety standards for boilers and pressure vessels,” which includes non-boiler external piping connected to boilers.⁴ See ORS 480.550(1) & (3) (**Exhibit E**) and OAR 918-225-0430 (**Exhibit F**). ORS 480.520(3) confirms Oregon law specifically applies to “manufacturing” – i.e. off-site fabrication.

ASME B31.1 Applies to Exhibit A Pipe Spools

The **Exhibit A** Pipe Spools meet ASME B31.1’s definition of non-boiler external piping. The State Chief Boiler Inspector confirms the agency interprets Oregon law to require inspection of the fabrication “traveler package⁵” (the ASME B31.1 Fab Documents) for non-boiler external piping designed for operation at pressures above 150 psi and/or temperatures above 366°F. Therefore, for all pressure pipe meeting or exceeding these performance benchmarks, Oregon law requires PGE to have ASME Fab Documents as described below as a condition of boiler permit approval. About 28% of the **Exhibit A** Pipe Spools fabricated by Newjac (again, about one linear mile) meet or exceed the PSI and temperature benchmarks described by the Oregon Chief Boiler inspector. This conclusion is readily verifiable by comparing **Exhibit A** to PGE’s project documents. **Exhibit A** lists each Pipe Spool by the original contractor’s customer “ISO” part identification number.⁶ **Exhibit B** shows the location of some Pipe Spools whose performance requirements exceed 800 degrees temperature. Newjac will provide proof of delivery of the Pipe Spool to the Carty power plant upon written request by the appropriate investigative agency.

By Adopting ASME B31.1, Oregon Law Requires Extensive Documentation (the ASME Fab Documents) for Off-Site Fabricated Pressure Pipe

The following table summarizes the documentation an Owner or its authorized inspector is required to inspect and possess to demonstrate offsite pressure pipe fabrication meets ASME B31.1 (again, referred to in this complaint as the *ASME B31.1 Fab Documents*):

⁴ Oregon law explicitly defines “boiler” to include not only the pressurized vessel, but “*related appurtenances including but not limited to pressure piping directly connected and related to the safe operation of a boiler; and * * * nonboiler external piping connected to a boiler * * **” ORS 480.515(3)(b-c).

⁵ “Traveler package” is the industry term used throughout the United States to describe collection of documents an owner is expected to have to verify high pressure pipe fabricated off-site complies with B31.1’s strict engineering and performance standards.

⁶ Complainant understands PGE’s replacement contractor renumbered ISO parts, thereby potentially obscuring the fact that *neither PGE nor any contractor* on the project has possessed the ASME B31.1 Documents for the Exhibit A Pipe Spools.

*Documentation Required By AMSE B31.1 Power Piping Code,
adopted by Oregon pursuant to ORS 480.550(1) & (3) and OAR 918-225-0430*

ASME B31.1 Section	Requirement Description	Summary
127.1- 127.2.1	Proof of weld materials	Owner or authorized inspector must have proof that welding electrodes and filler metal used in fabrication of pressure pipe meets minimum safety code requirements.
127.4.1(A)	Welding and Welder Qualifications	Owner or authorized inspector must have proof of fabrication of pressure pipe under a Welding Procedure Specification (WPS) that complies with minimum safety code requirements. "WPS" is the formal written document describing welding procedures, which provides direction to the welder or welding operators for making sound and quality production welds as per the code requirements.
127.6	Welding Records	Owner or authorized inspector must have pressure pipe welding records verifying the satisfaction of safety code requirements. Such records include identifying the particular qualified welder that performed particular welds on regulated pressure piping.
136.3.2	Fabricator Minimum Qualification	Owner or authorized inspector must have documentation showing fabrication personnel are qualified and certified to perform nondestructive examination of welds on regulated pressure pipe as shown by weld stamp/weld maps.
136.4 and Table	Mandatory Pressure Weld Examination Records	Owner or authorized inspector must have documentation showing the results of any mandatory tests. Such documents includes Non-Destructive Examination reports ("NDE"), and because the non-boiler pressure pipe certifications were painted over as required by contract, Material Test Reports ("MTR") and as-built spool drawings that incorporate the above-information.

The complete language of the above-summarized code sections is set forth on pages 5 through 10 of **Exhibit D**.

Oregon Administrative Rules ("OAR") have augmented the above-referenced "*minimum safety standards*" established by ASME B31.1 by adding a requirement that "persons"⁷ develop and qualify a quality control system for welding or brazing on "pressure piping other than boiler external piping" by obtaining Oregon state approval of a "quality control manual." OAR 918-225-0740. Although this requirement applies to the **Exhibit A** Pipe Spools, no such quality control manual has been submitted by or on behalf of complainant Newjac. Selected text from ORS and OAR is enclosed as **Exhibits E and F**.

Finally, the Oregon Boiler Inspection Checklist (**Exhibit G**) used by Oregon boiler

⁷ The OARs define "person" to mean "*any individual, partnership, corporation, association, governmental subdivision, or public or private organization of any character.*" OAR 918-225-240(14).

inspectors includes the various documents associated with the ASME B31.1 Code sections referred to above, including Checklist Numbers 4, 6, 7, 8, 10, 11, 16 and 17. Notably, the ASME Fab Documents are covered by the description of “traveler” found on the **Exhibit G** Checklist Numbers 4 and 17. Again, a “traveler” refers to a collection of documents known around the country as a “traveler package” that follows with the delivery of off-site fabricated materials subject to ASME B31.1, such as the **Exhibit A** Pipe Spools.

The Project Owner is Ultimately Responsible for Compliance of Off-Site Fabricated Pressure Pipe To ASME B31.1

Ultimately, regardless of who the installation contractor or fabricator is, the burden is on the project owner to assure compliance with ASME B31.1 in all phases of design, material selection, fabrication and installation of regulated pressure pipe:

136 INSPECTION AND EXAMINATION

136.1 Inspection

136.1.1 General. This Code distinguishes between "examination" and "inspection." Inspection is the responsibility of the Owner and may be performed by employees of the Owner or a party authorized by the Owner * * * * Prior to initial operation, a piping installation shall be inspected to ensure compliance with the engineering design and with the material, fabrication, assembly, examination, and test requirements of this Code.

See **Exhibit C**, page 8 (*emphasis added*). This burden is met by possessing the ASME Fab Documents (documents included in a “Traveler Package”) for each supplier of pressure pipe and fabricated pressure pipe components, such as the **Exhibit A** Pipe Spools.

Proof of PGE’s Knowing Failure to Satisfy and Continuing Violation Of Its Duty To Inspect ASME B31.1 Fab Documents

PGE is in violation of its inspection obligation under ASME B31.1 §136.1.1, as adopted in Oregon, because PGE has none of the required ASME Fab Documents for the **Exhibit A** Pipe Spools delivered to the project by Newjac. Proof of PGE’s continuing violation includes:

1. PGE Has Never Taken Steps to Acquire the Documentation Only Newjac Possesses. PGE does not have the ASME Fab Documents because only Newjac has the raw data from which the ASME Fab Documents can be generated, which specifically are:

Proof of weld materials Newjac used (ASME B31.1 §§127.1- 127.2.1);

Newjac welding/welder qualifications (ASME B31.1 §127.4.1(A)/ OAR 918-225-0740 (2));

Welding records for welds performed in Newjac’s shop (ASME B31.1 §127.6);

Newjac’s Minimum Qualifications as a fabricator (ASME §136.3.2/ OAR 918-225-0740 (2));

Mandatory Pressure Weld Examination Records performed by Newjac, Material Test Reports (“MTR”) for ASTM certified pipe painted at Newjac’s shop, Non-Destructive

Examination reports ("NDE") and spool drawings that assembles the information together as to each spool fabricated (ASME §136.4 and Table).

No person from PGE nor anyone representing PGE (including any contractor or any known independent inspector) has ever visited Newjac's fabrication facility.

2. PGE Admits It Does Not Have The ASME B31.1 Fab Documents From Newjac. In early 2016, PGE and Newjac negotiated an agreement whereby Newjac agreed to supply certain additional critical pressure pipe components that PGE needed to complete the system that Newjac supplied and Abeinsa partially installed. Newjac and PGE carefully excluded the ASME Fab Documents or the pressure pipe described above from Newjac's agreement with PGE's initial contractor Abeinsa. This transaction occurred *before* PGE and/or its replacement contractor sought final approval of any boiler construction permits (including permits No. 16-60816 and 16-61253 related to startup of the HRSG). **Exhibit H**, pages 8-9. This sequence of events demonstrates that PGE *knew* ASME B31.1 Fab Documents were available for the **Exhibit A** Pipe Spools supplied to Abeinsa. Newjac and PGE had multiple oral communications in which PGE initially stated it needed the ASME B31.1 Fab Documents and then later communicated that PGE decided it did not.

3. Because the Pipe Was Painted and Newjac Performed 5,500 Welds at Its Shop, PGE Cannot Recreate the ASME Fab Documents from Other Sources. There is no alternative method for PGE to assemble documentation verifying what pipe materials were used for the pressure pipe materials or other certifications provided by other sub-suppliers to Newjac. Why? Because Newjac painted the raw pipe (as required by its contract), covering up all certifications stamped onto the raw pipe by Newjac's sub-suppliers.

*PGE cannot tie any particular certification or document to the particular pressure pipe and welds supplied by Newjac – as is for practical purposes – required by the AMSE B31.1. Without Material Test Reports that provide the ASTM performance information for the raw pipe painted at Newjac's shop *and* Newjac's spool drawings confirming the pipe meeting ASTM requirements was actually used, PGE has no basis for concluding whether the pipe installed actually meets ASTM performance requirements. Only Newjac has the information that would permit tracing each regulated Pipe Spool to the B31.1 material and fabrication performance requirements.*

Additionally, PGE obviously cannot recreate Newjac's weld records or test reports. To Newjac's knowledge, PGE does not have any records or knowledge of the qualification of Newjac's welders, quality control program or who performed any specific weld (all information required by the ASME B31.1). No one connected with the Carty project has visited Newjac's Indiana shop. Only Newjac can produce spool drawings that summarize and connect all quality control information to the particular pressure pipe components (and specific welds) that Newjac performed. Until PGE has spool drawings for the **Exhibit A** Pipe Spools, PGE cannot be in compliance with ASME B31.1 and Oregon law.

4. PGE Has Not Been Specifically Required to Produce ASME B31.1 Documents as the Boiler Work by the Original Contractor Abeinsa was Never Inspected. PGE's original contractor for construction of the Carty project was Abeinsa. All of the Pipe Spools described in **Exhibit A** were delivered to the jobsite under Newjac's contract with Abeinsa. See **Exhibit C** (contract coversheet).

Abeinsa's boiler subcontractor Abacus Project Management, Inc. ("Abacus") installed the pressure pipe at the Carty project under Oregon Boiler permits that expired before inspection. Permit records show Abacus installed boilers and pressure pipe as early as July 20, 2015 and continued until sometime prior to Abeinsa's termination on December 18, 2015. See expired Permits 15-58044 through 15-58077, **Exhibit H** (expired permits, pages 23-90). Shortly before PGE terminated Abeinsa, PGE estimated the Carty project was seventy five percent (75%) complete. See **Exhibit I**. Therefore, PGE never had to demonstrate it inspected or possessed any ASME Fab Documents for pressure pipe or Pipe Spools supplied to Abeinsa – because Abeinsa's work was never inspected under Permits 15-58044 through 15-58077.

In litigation, PGE has recently alleged that Newjac's customer Abeinsa failed and refused to provide important documentation – which certainly describes the ASME Fab Documents described in this complaint. See **Exhibit J**, PGE's complaint in *PGE v. Abeinsa EPC et al.*, Oregon USDC Case No. 16-cv-02030, paragraph 24, page 6 and paragraph 85, page 18. PGE attributes specific statements about Abeinsa's refusals to provide important documentation to *the specific person* who was Newjac's primary contact in connection with Newjac's BOP Contract.⁸

5. Witnesses Who Can Provide Information. Witnesses who can provide additional support and corroboration about Newjac's operations, fabrication and testing of Pipe Spool for the Carty power plant, as well as Newjac's communications (and lack thereof) with employees of PGE and its replacement engineer Sargent and Lundy, include:

Loren Gard, Newjac, Inc. 415 South Grant Street, Lebanon, IN 46052
Office: (765) 483-2190; loren@newjac.com

Tony Haag, Newjac, Inc. 415 South Grant Street, Lebanon, IN 46052
Office: (765) 483-2190; tdh@newjac.com

All communications from legal counsel, as well as all written requests for information from any person or entity, should be directed to Newjac, Inc's attorney, Doug Gallagher, 245 W 5th Ave., Eugene OR 97401; (541) 357-4021; doug@dglawoffice.com

⁸ In litigation filed on October 21, 2016, PGE has affirmatively alleged as part of its claims for relief that Abeinsa breached its duty to maintain "*contract implementation documents including * * * * manufacturer's prints and specifications*" and that Abeinsa refused to provide important documentation pertaining to the Carty project: "*Pelayo Dominguez Bohorquez of the Abeinsa Companies said that if PGE would not provide additional interim funding to the Abeinsa Companies, then they would have no reason to cooperate with PGE in turning over information or otherwise allow the Carty Project to continue.*" See **Exhibit I**, *PGE v. Abeinsa EPC et al.*, Oregon USDC Case No. 16-cv-02030, Complaint paragraph 24, page 6 and paragraph 85, page 18. Mr. Dominguez Bohorquez was Newjac's direct contact on the Carty project.

PGE's Continuing Violation of ASME B31.1 Violates the Following Permits and Certificates

PGE is in continuing violation of its duty under ASME B31.1 §136.1.1 to inspect, verify and possess ASME Fab Documents in connection with the following permits and certificates:

(1). **Boiler Construction Permits.** PGE is the party ultimately responsible to assure pressure pipe fabricated offsite and installed on an Oregon power plant meets ASME B31.1 engineering and performance requirements. PGE did not satisfy its duty associated with the installation of the **Exhibit A** Pipe Spools under the boiler construction permits attached as **Exhibit H**:

a. Boiler Work and Associated ASME B31.1 Fab Documents Was Never Inspected Because the Original Boiler Permits Expired. PGE terminated Abeinsa on December 18, 2015, prior to completion of the boiler work. Therefore, the boiler installation work performed by Abeinsa's boiler subcontractor Abacus under Permits 15-58044 through 15-58077 between July 20, 2015 through December 18, 2015 was never inspected. See **Exhibit H, pages 23 to end**. PGE never had to demonstrate to anyone that it possessed any ASME Fab Documents (i.e. "traveler packages") associated with Abeinsa's boiler work. Again, these documents are described in detail by the State of Oregon's Boiler Inspection checklist **Exhibit G**. PGE absolutely knows the ASME B31.1 Fab Documents exist for the off-site fabrication of the **Exhibit A** Pipe Spools due to *PGE's direct communication and negotiation with complainant Newjac, Inc. to supply additional pressure pipe spools* necessary for completion of the Carty power plant. This observation alone is basis for withdrawing final inspection approval of the Carty power plant.

b. Replacement Boiler Permits Obtained by PGE and Its Replacement Contractor Day and Zimmerman NPS, Inc. Approved Without ASME B31.1 Fab Documents. PGE failed to provide, through either itself or its replacement contractor, Day and Zimmerman NPS, Inc., the ASME Fab Documents for off-site fabricated power pipe (and spools) for the completion of the partially constructed power pipe installations that PGE and Day and Zimmerman took over and completed between about January 15, 2016 and August 17, 2016. See **Exhibit H, pages 3 to 22**.

Day and Zimmerman had to have known the ASME B31.1 Fab Documents for the **Exhibit A** Pipe Spools were missing. Day and Zimmerman completed the installation/on-site fabrication work that remained to install the Pipe Spools associated with the HRSG after PGE terminated Abeinsa. This is demonstrated by the fact Day and Zimmerman was the permit holder for ALL permits that describe the "nature of work" as "Piping Install NBEP B31.1." See **Exhibit H, pp. 4-7** (Permits 16-59621; 16-59622; 16-59623; 16-59624; 16-60816). Undoubtedly "NBEP" stands for "non-boiler external pipe," which is the precise term used to describe the **Exhibit A** Pipe Spools.

So, in other words, Day and Zimmerman was intimately involved with assembling and reviewing any Pipe Spools Abeinsa had yet to install – because they were the ones welding them together with the existing boiler installation.⁹ Yet Day and Zimmerman is **not** the permit holder

⁹ Recall, when PGE terminated Abeinsa, PGE estimated the Carty project was seventy five percent (75%) complete. See **Exhibit I**. Delivery records will demonstrate (again, available upon request to the appropriate agency) that nearly all of the **Exhibit A** Pipe Spools had been delivered over a period of several months that Abeinsa's boiler subcontractor operated up to the date PGE terminated Abeinsa.

for the final inspection and start up associated with the HRSG – PGE is.¹⁰

c. *PGE Sought Approval, Including Start-Up, of the Carty Power Plant Without ASME B31.1 Documentation for Three Miles of Pipe Spools.* PGE failed to inspect or possess ASME Fab Documents for final inspection and startup of HRSG (heat recovery steam generator) under permits No. 16-60816 and/or 16-61253. See **Exhibit H**, page 8 and 9.

(2). Boiler Operating Permits. PGE’s continuing operation of the Carty plant under boiler operating permits issued to PGE Carty Generation Facility under permits for site reference number 29289 (found at <http://vessels.bcd.oregon.gov/>) without ASME Fab Documents is a violation of ORS 480.550. Again, this statute adopts ASME B31.1 as a minimum safety standard, so PGE’s continuing failure to inspect pursuant to ASME B31.1 Section 136.1.1 is a continuing violation of Oregon law, specifically ORS 480.550. Therefore, ORS 480.585(3) provides basis for suspension or revocation of PGE’s permit to operate the Carty power plant:

ORS 480.585 Temporary operation authorization; operating permit; suspension or revocation. * * * (3) The department may at any time suspend or revoke an operating permit if the department finds that the boiler or pressure vessel, or related appurtenances, for which the permit was issued does not comply with ORS 480.510 to 480.670. Suspension of any permit continues in effect until the vessel conforms to ORS 480.510 to 480.670 and the permit is reissued. However, before suspending or revoking a permit, the department shall first notify the person concerned of the department’s intention. The notice must be in writing and advise the person concerned of the right to appeal in writing within 10 days and that the appeal will be heard by the Board of Boiler Rules. If there is a timely appeal, the department may not suspend or revoke the permit pending the appeal unless the reason for suspension or revocation constitutes an immediate menace to health or safety or the person concerned fails to prosecute an appeal with diligence. (*Emphasis added*).

Because the original work performed by Abeinsa – through 75% completion of the Carty power plant (**Exhibit I**) – was *never inspected* and PGE has never provided the ASME B31.1 Fab Documents for nearly a mile of regulated pressure Pipe Spools described in **Exhibit A** that an Oregon Boiler Inspector should have been provided the opportunity to inspect (and over three miles for which PGE is required to have), the Department should immediately move to suspend or revoke PGE’s permits to operate the Carty power plant.

(3). Violation of ODOE Site Certificate. PGE fails to comply with the terms of its Oregon Department of Energy Site Certificate dated June 19, 2012, Sections 2.3 through 2.7 and 2.9. PGE agreed, as condition of its site certificate granted by the Oregon Department of Energy, to comply with all laws and codes, which necessarily includes the Oregon Boiler Code and the National ASME B31.1 Code. This means PGE’s *continuing violation* of its duty under ASME

¹⁰ One possible interpretation of this fact is that Day and Zimmerman sought to avoid responsibility for obtaining the missing ASME B31.1 Fab Documents supplied to the original contractor Abeinsa, such as the more than *three miles* of Pipe Spools described in **Exhibit A** and shown in **Exhibit B**.

B31.1 §136.1.1 to inspect, verify and possess ASME Fab Documents is a violation of the mandatory conditions of PGE's ODOE Site Certificate to operate the Carty plant. An excerpt of PGE's Site Certificate is attached as **Exhibit K**, the entirety of the document can be downloaded at http://www.oregon.gov/energy/Siting/docs/CGS/CGS_site_certificate_070212.pdf.

The dates of violations are shown by the dates on which each permit was finalized despite the absence of the traveler package containing the ASME Fab Documents. See **Exhibit H**, pages 3-22 (dates in April, June, July and August 2016). These violations are continuing in nature and will not end until the issue is cured. Presently, the Carty plant is operating and producing power in violation of Oregon law.

Aggravating Factors Associated with PGE's Code Violations

1. PGE Is Alleging "Serious Defects" and "Potentially Deadly Safety Hazards" In the Work by the Original Contractor, But Has Not Taken Steps to Obtain ASME Fab Documents Required by Oregon Law that May Greatly Assist in the Discovery and Resolution of Present and Future Latent Defects. By the time PGE terminated its original contractor, Abeinsa, from working on the Carty project, PGE estimates the Carty plant was about seventy-five percent (75%) complete. See **Exhibit I**. It is undisputed that Abeinsa's work under the thirty-four (34) permits Abeinsa's boiler subcontractor Abacus Project Management, Inc. obtained expired without any final inspections. See **Exhibit H** (expired permits no 15-58044 through 15-58077 found on pages 23-90).

PGE affirmatively alleges it has found serious "defects" in Abeinsa's construction of the plant at Carty (as PGE alleges in its lawsuit against the original contractor), some of which posed "*potentially deadly safety hazards*" (See **Exhibit J**, pages 20-21, paragraphs 103 and 107). In this lawsuit filed on October 21, 2016, PGE alleges that much of the \$160,000,000 PGE has incurred since terminating Abeinsa was "*to correct defective work performed under the Abeinsa Companies' management and to perform, work that the Abeinsa Companies reported as performed, but was not, as well as completion of construction generally, and start-up and commissioning. PGE expects to incur additional costs to complete the Carty Project.*" **Exhibit J**, page 21, paragraph 110 (*Emphasis added*).

Note, the above allegations *explicitly* include suing Abeinsa for breaching its duty to maintain "*contract implementation documents including * * * * manufacturer's prints and specifications*" and makes specific reference Mr. Dominguez Bohorquez. **Exhibit J**, page 6 (¶24) and page 18 (¶85). Mr. Dominguez Bohorquez was Newjac's primary contact under the **Exhibit C** BOP Contract.

A basic purpose of ASME B31.1, as adopted in Oregon, is to provide quality control for fabricated pressure pipe installed in Oregon. If PGE possessed the required ASME Fab Documents, it could potentially discover Abeinsa's, PGE's or their installation subcontractor's errors and eliminate large portions of pressure pipe (again, over three miles regulated by B31.1 and nearly a mile that required inspection by the State of Oregon) to address any latent defect that has not yet been discovered. The ASME B31.1 Fab Documents may greatly mitigate PGE's repair costs in such an event, which PGE by its own allegations cited above, seems to acknowledge is a

known and expected cost.

2. PGE's Failure To Obtain ASME Fab Documents Threatens to Increase Future Maintenance and Repair Costs Over Plant's Thirty (30) Year Service Life. The purpose of the ASME B31.1 code applicable to "power piping" is to provide for the "*long service life and maximum reliability in power plant installations*" and is necessary for "*safe design and construction of pressure piping*" (See **Exhibit D**, pages 2 and 3).

According to PGE's original Site Certificate Application (**Exhibit L**), PGE estimates the power plant is to have a service life of thirty (30) years – in other words, about to the year 2046, if not longer. Therefore, possession of the ASME B31.1 Fab Documents is a serious matter for monitoring the safety of pressure piping, as well as diagnosing the cause and resolution of defects if a failure occurs. For example, if a failure occurs in a ten foot (10') segment out of miles of pressure pipe, the ASME B31.1 Fab Documents can help determine if the failure is limited to the ten foot (10') segment of pipe or is a more systemic problem. If the problem is simply a bad weld or faulty welding material, the ASME B31.1 Fab Documents will help locate all the specific segments of pressure pipe welded by the particular welder in the miles of installed pipe to perform additional testing. Or if the problem is more systemic, like a run of defective pipe by a sub-supplier, the ASME B31.1 Fab Documents will help limit the down time of the power plant and repair expense by focusing where in the miles of pipe the sub-supplier's pipe was installed.

Therefore, the importance of the traceability of specific pressure pipe components to specific fabricators, welders, materials, and tests as established by ASME Fab Documents cannot be overstated. Newjac may very well not exist in fifteen (15) years, so the only way to verify and trouble shoot future failures and problems for a thirty (30) year plus facility is to have an accurate "as-built" set of documents required by ASME B31.1.

Conclusion

The Carty power plant should never have been approved for operation because PGE failed to satisfy its duty under ASME B31.1 Section 136.1.1 to assure non-boiler external pressurized pipe installed in Oregon meets ASME B31.1's strict design and performance standards. PGE knowingly failed to do so for over three miles of regulated power pipe (nearly a mile that required inspection by an Oregon Boiler Code inspector). PGE failed to satisfy its duty by obtaining the ASME B31.1 Fab Documents for the **Exhibit A** Pipe Spools.

Undoubtedly, PGE recognizes the importance of the ASME B31.1 Fab Documents: PGE denies needing the documents when communicating with Newjac¹¹; *yet PGE is suing its former contractor Abeinsa in Federal Court for not providing very similarly described documents as part of a \$160 million lawsuit.* See **Exhibit I** page 6 (¶24) and page 18 (¶85) and *footnote 8* above. PGE's continuing violation poses a significant potential life-safety threat to Carty power plant employees (as PGE does not know "what" Abeinsa or Day and Zimmerman ultimately installed to the minimum precision required by Oregon's "minimum safety standards" code) and also threatens the reliability and future cost of maintaining the Carty power plant over its expected

¹¹ See page 7 discussion above under heading "PGE Admits It Does Not Have The ASME B31.1 Fab Documents From Newjac" and contact Newjac, Inc. for additional information.

thirty (30) year lifetime. The public authorities to whom this Complaint is directed should take immediate steps to investigate and suspend operation of the Carty power plant until the PGE's above-violations are cured.

Table of Exhibits

A table of exhibits is set forth as follows:

- Exhibit A** Non-Boiler External Pipe supplied by Newjac, Inc. to Carty power plant (11 pages)
- Exhibit B** Approximate Location of Some Exhibit A Pressure Piping on Carty power plant (1 page)
- Exhibit C** Balance of Pipe Fabrication Contract Coversheet for Carty Project (1 page)
- Exhibit D** Selections from AMSE B31.1 Power Piping Code (10 pages)¹²
- Exhibit E** Selections from ORS Chapter 480 (Boiler Code) (2 pages)
- Exhibit F** Selections from OAR Chapter 918-222 (20 pages)
- Exhibit G** Oregon Boiler Inspection Checklist (1 page)
- Exhibit H** Boiler Permits and Inspection Records for Carty (90 pages)
- Exhibit I** PGE's December 4, 2015 8K filing with the Securities Exchange Commission (3 pages)
- Exhibit J** *PGE v. Abeinsa EPC et al.*, Oregon USDC Case No. 16-cv-02030 (26 pages without exhibits)
- Exhibit K** PGE's Site Certificate Excerpt (8 pages) downloaded from http://www.oregon.gov/energy/Siting/docs/CGS/CGS_site_certificate_070212.pdf
- Exhibit L** PGE Carty Site Certificate Application Excerpt (2 pages) downloaded from http://www.oregon.gov/energy/Siting/docs/CGS/Carty_Exhibits_W-DD.pdf

¹² **Exhibit D** is reprinted from ASME 831.1- 2010, by permission of The American Society of Mechanical Engineers. All rights reserved. No further copies can be made without written permission.

CUSTOMER ISO_ID	ISO_REV	SYSTEM	SPEC_ID	MAT_TYPE	DESIGN_TEMP_MAX	OPER_TEMP	NOTES	JOB_NO
CYP1-CAB-M38101	2	CAB	CYP 0105	CS	120	115	CONTRACT ISOS	F12116
CYP1-CAB-M38102	2	CAB	CYP 0105	CS	120	115	CONTRACT ISOS	F12116
CYP1-CAB-M38103	2	CAB	CYP 0105	CS	120	115	CONTRACT ISOS	F12116
CYP1-CAB-M38104	2	CAB	CYP 0105	CS	120	115	CONTRACT ISOS	F12116
CYP1-CAB-M38201	2	CAB	CYP 0142	SS-304	120	115	CONTRACT ISOS	F12116
CYP1-CAB-M38202	2	CAB	CYP 0142	SS-304	120	115	CONTRACT ISOS	F12116
CYP1-CAB-M38203	3	CAB	CYP 0142	SS-304	120	115	CONTRACT ISOS	F12116
CYP1-CAB-M38204	3	CAB	CYP 0142	SS-304	120	115	CONTRACT ISOS	F12116
CYP1-CAB-M38205	2	CAB	CYP 0142	SS-304	120	115	CONTRACT ISOS	F12116
MSK-CYP1-CAB-M38009A_R0.0	0	CAB	CYP 0105	CS	120	115	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-CAB-M38010A_R0.0	0	CAB	CYP 0105	CS	120	115	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
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MSK-CYP1-CAB-M38012A_R0.0	0	CAB	CYP 0105	CS	120	115	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-CAB-M38013A_R0.0	0	CAB	CYP 0105	CS	120	115	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
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MSK-CYP1-CAB-M38023A_R0.0	0	CAB	S&L 0140	SS-304	120	115	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-CAB-M38024A_R0.0	0	CAB	S&L 0140	SS-304	120	115	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-CGE-M38101	2	CGE	S&L 0305	CS	120	110	CONTRACT ISOS	F12116
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MSK-CYP1-CGE-M38103A_R0.0	0	CGE	S&L 0305	CS	120	110	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
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CYP1-ECB-M33106	3	ECB	S&L 0105	CS	120	115	CONTRACT ISOS	F12116
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CYP1-ECB-M33111	1	ECB	S&L 0105	CS	120	115	CONTRACT ISOS	F12116
CYP1-ECB-M33112	1	ECB	S&L 0105	CS	120	115	CONTRACT ISOS	F12116
CYP1-ECB-M33112	1	ECB	S&L 0105	CS	97	90	CONTRACT ISOS	F12116
CYP1-ECB-M33113	1	ECB	S&L 0105	CS	120	115	CONTRACT ISOS	F12116
CYP1-ECB-M33114	2	ECB	S&L 0105	CS	120	115	CONTRACT ISOS	F12116

CUSTOMER_ISO_ID	ISO_REV	SYSTEM	SPEC_ID	MAT_TYPE	DESIGN_TEMP_MAX	OPER_TEMP	NOTES	JOB_NO
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CYP1-ECB-M33117	0	ECB	S&L 0105	CS	120	115	CONTRACT ISOS	F12116
CYP1-ECB-M33118	0	ECB	S&L 0105	CS	120	115	CONTRACT ISOS	F12116
CYP1-ECB-M33119	1	ECB	S&L 0105	CS	120	115	CONTRACT ISOS	F12116
CYP1-ECB-M33120	0	ECB	S&L 0105	CS	120	115	CONTRACT ISOS	F12116
CYP1-ECB-M33121	0	ECB	S&L 0105	CS	120	115	CONTRACT ISOS	F12116
CYP1-ECB-M33122	0	ECB	S&L 0105	CS	120	115	CONTRACT ISOS	F12116
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CYP1-ECB-M33208	3	ECB	S&L 0105	CS	97	90	CONTRACT ISOS	F12116
CYP1-ECB-M33209	1	ECB	S&L 0105	CS	97	90	CONTRACT ISOS	F12116
CYP1-ECB-M33210	1	ECB	S&L 0105	CS	97	90	CONTRACT ISOS	F12116
CYP1-ECB-M33211	1	ECB	S&L 0105	CS	97	90	CONTRACT ISOS	F12116
CYP1-ECB-M33212	2	ECB	S&L 0105	CS	97	90	CONTRACT ISOS	F12116
CYP1-ECB-M33213	2	ECB	S&L 0105	CS	97	90	CONTRACT ISOS	F12116
CYP1-ECB-M33214	2	ECB	S&L 0105	CS	97	90	CONTRACT ISOS	F12116
CYP1-ECB-M33215	0	ECB	S&L 0105	CS	97	90	CONTRACT ISOS	F12116
CYP1-ECB-M33216	2	ECB	S&L 0105	CS	97	90	CONTRACT ISOS	F12116
CYP1-ECB-M33217	1	ECB	S&L 0105	CS	97	90	CONTRACT ISOS	F12116
CYP1-ECB-M33218	1	ECB	S&L 0105	CS	97	90	CONTRACT ISOS	F12116
CYP1-ECB-M33219	2	ECB	S&L 0105	CS	97	90	CONTRACT ISOS	F12116
CYP1-ECB-M33220	0	ECB	S&L 0105	CS	97	90	CONTRACT ISOS	F12116
CYP1-ECB-M33221	0	ECB	S&L 0105	CS	97	90	CONTRACT ISOS	F12116
CYP1-ECB-M33222	0	ECB	S&L 0105	CS	97	90	CONTRACT ISOS	F12116
CYP1-ECB-M33301	2	ECB	S&L 0105	CS	120	115	CONTRACT ISOS	F12116
CYP1-ECB-M33302	2	ECB	S&L 0105	CS	120	115	CONTRACT ISOS	F12116
MSK-CYP1-ECB-M33001A_R1.0	1	ECB	S&L 0105	CS	120	115	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-ECB-M33002A_R1.0	1	ECB	S&L 0105	CS	120	115	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-ECB-M33003A_R1.0	1	ECB	S&L 0105	CS	120	115	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-ECB-M33004A_R1.0	1	ECB	S&L 0105	CS	120	115	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-ECB-M33005A_R1.0	1	ECB	S&L 0105	CS	120	115	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-ECB-M33006A_R1.0	1	ECB	S&L 0105	CS	97	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-ECB-M33007A_R1.0	1	ECB	S&L 0105	CS	120	115	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-ECB-M33008A_R1.0	1	ECB	S&L 0105	CS	97	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-ECB-M33009A_R1.0	1	ECB	S&L 0105	CS	97	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162

CUSTOMER_ISO_ID	ISO_REV	SYSTEM	SPEC_ID	MAT_TYPE	DESIGN_TEMP_MAX	OPER_TEMP	NOTES	JOB_NO
MSK-CYP1-ECB-M33010A_R1.0	1	ECB	S&L 0105	CS	120	115	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-ECB-M33011A_R1.0	1	ECB	S&L 0105	CS	97	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-ECB-M33012A_R1.0	1	ECB	S&L 0105	CS	120	115	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-ECB-M33020A_R1.0	1	ECB	S&L 0105	CS	97	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-ECB-M33021A_R1.0	1	ECB	S&L 0105	CS	97	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-ECB-M33022A_R1.0	1	ECB	S&L 0105	CS	97	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-ECB-M33023A_R1.0	1	ECB	S&L 0105	CS	97	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-ECB-M33024A_R1.0	1	ECB	S&L 0105	CS	97	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-FGA-M35001A_R0.0	0	FGA	S&L 0640	SS-304	402	392	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-FGA-M35002A_R0.0	0	FGA	S&L 0640	SS-304	402	392	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-FGA-M35101	2	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35201	2	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35202	0	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35301	2	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35302	1	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35303	1	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35304	1	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35305	1	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35306	1	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35401	2	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35402	3	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35403	1	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35501	2	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35502	1	FGA	S&L 0105	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35502	1	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35601	2	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35602	3	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35701	1	FGA	S&L 0605	CS	402	392	CONTRACT ISOS	F12116
CYP1-FGA-M35701	1	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
CYP1-FGA-M35702	1	FGA	S&L 0605	CS	402	392	CONTRACT ISOS	F12116
CYP1-FGA-M35801	1	FGA	S&L 0640	SS-304	402	392	CONTRACT ISOS	F12116
CYP1-FGA-M35802	1	FGA	S&L 0640	SS-304	402	392	CONTRACT ISOS	F12116
CYP1-FGA-M35901	2	FGA	S&L 0605	CS	60	50	CONTRACT ISOS	F12116
MSK-CYP1-FGA-M30001A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30002A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30003A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30004A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30005A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30006A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30007A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30008A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162

CUSTOMER_ISO_ID	ISO_REV	SYSTEM	SPEC_ID	MAT_TYPE	DESIGN_TEMP_MAX	OPER_TEMP	NOTES	JOB_NO
MSK-CYP1-FGA-M30009A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30010A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30011A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30012A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30013A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30014A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30015A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30016A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30017A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30018A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30019A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30020A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30021A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FGA-M30022A_R0.0	0	FGA	S&L 0605	CS	60	50	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-PMB-M38603A_R0.0	0	FGA	S&L 0640	SS-304	402	392	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-FWA-M32707A-R0.0	0	FWA	CYP 2506-CREQ-100	CS CREQ	345	341	3 ISOS SENT EMAIL 10-7-2015	F12162
CYP1-FWA-M32708A-R0.0	0	FWA	CYP 0906-CREQ-100	CS CREQ	510	477	3 ISOS SENT EMAIL 10-7-2015	F12162
CYP1-FWA-M32709A-R0.0	0	FWA	CYP 0906-CREQ-100	CS CREQ	510	477	3 ISOS SENT EMAIL 10-7-2015	F12162
MSK-CYP1-PMB-M38501A_R0.0	0	FWA	CYP 0906-CREQ-100	CS CREQ	510	477	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-FWC-M32101	1	FWC	CYP 0105 CREQ	CS CREQ	125	105	CONTRACT ISOS	F12116
CYP1-FWC-M32201	1	FWC	CYP 0105 CREQ	CS CREQ	125	105	CONTRACT ISOS	F12116
CYP1-FWC-M32301	2	FWC	CYP 0305 CREQ	CS CREQ	145	105	CONTRACT ISOS	F12116
CYP1-FWC-M32302	3	FWC	CYP 0305 CREQ	CS CREQ	145	105	CONTRACT ISOS	F12116
CYP1-FWC-M32303	2	FWC	CYP 0305 CREQ	CS CREQ	145	105	CONTRACT ISOS	F12116
CYP1-FWC-M32304	1	FWC	CYP 0305 CREQ	CS CREQ	145	120	CONTRACT ISOS	F12116
CYP1-FWC-M32304	1	FWC	CYP 0305	CS	145	120	CONTRACT ISOS	F12116
CYP1-FWC-M32305	2	FWC	CYP 0305	CS	145	120	CONTRACT ISOS	F12116
CYP1-FWC-M32305	2	FWC	CYP 0305 CREQ	CS CREQ	145	140	CONTRACT ISOS	F12116
CYP1-FWC-M32306	3	FWC	CYP 0305	CS	145	120	CONTRACT ISOS	F12116
CYP1-FWC-M32307	1	FWC	CYP 0305	CS	145	120	CONTRACT ISOS	F12116
CYP1-FWC-M32308	1	FWC	CYP 0305	CS	145	120	CONTRACT ISOS	F12116
CYP1-FWC-M32309	1	FWC	CYP 0305	CS	145	120	CONTRACT ISOS	F12116
CYP1-FWC-M32310	3	FWC	CYP 0305 CREQ	CS CREQ	145	140	CONTRACT ISOS	F12116
CYP1-FWC-M32310	3	FWC	CYP 0305	CS	NA	NA	CONTRACT ISOS	F12116
CYP1-FWC-M32311	1	FWC	CYP 0305 CREQ	CS CREQ	145	140	CONTRACT ISOS	F12116
CYP1-FWC-M32312	2	FWC	CYP 0305	CS	345	341	CONTRACT ISOS	F12116
CYP1-FWC-M32312	2	FWC	CYP 0305 CREQ	CS CREQ	145	140	CONTRACT ISOS	F12116
CYP1-FWC-M32401	2	FWC	CYP 0105 CREQ	CS CREQ	125	105	CONTRACT ISOS	F12116
CYP1-FWC-M32501	0	FWC	CYP 0105 CREQ	CS CREQ	125	105	CONTRACT ISOS	F12116
MSK-CYP1-FWC-M32001A_R0.0	0	FWC	CYP 0305 CREQ	CS CREQ	145	140	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32002A_R0.0	0	FWC	CYP 0305 CREQ	CS CREQ	145	120	SMALL BORE CONTRACT (PKG 1 MAT)	F12162

CUSTOMER_ISO_ID	ISO_REV	SYSTEM	SPEC_ID	MAT_TYPE	DESIGN_TEMP_MAX	OPER_TEMP	NOTES	JOB_NO
MSK-CYP1-FWC-M32010A_R0.0	0	FWC	CYP 0305 CREQ	CS CREQ	145	105	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32011A_R0.0	0	FWC	CYP 0305 CREQ	CS CREQ	145	105	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32012A_R0.0	0	FWC	CYP 0305 CREQ	CS CREQ	145	105	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32013A_R0.0	0	FWC	CYP 0305 CREQ	CS CREQ	145	105	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32020A_R0.0	0	FWC	CYP 0305 CREQ	CS CREQ	145	105	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32030A_R0.0	0	FWC	CYP 0305 CREQ	CS CREQ	145	105	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32040A_R1.0	1	FWC	CYP 0305 CREQ	CS CREQ	145	120	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32041A_R0.0	0	FWC	CYP 0305 CREQ	CS CREQ	145	120	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32042A_R0.0	0	FWC	CYP 0305 CREQ	CS CREQ	145	120	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32043A_R0.0	0	FWC	CYP 0305 CREQ	CS CREQ	520	140	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32043A_R0.0	0	FWC	CYP 0305 CREQ	CS CREQ	145	120	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32050A_R0.0	0	FWC	CYP 0105 CREQ	CS CREQ	125	105	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32060A_R0.0	0	FWC	CYP 0105 CREQ	CS CREQ	125	105	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32061A_R0.0	0	FWC	CYP 0105 CREQ	CS CREQ	125	105	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32062A_R0.0	0	FWC	CYP 0105 CREQ	CS CREQ	125	105	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32070A_R0.0	0	FWC	CYP 0305 CREQ	CS CREQ	145	105	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32080A_R0.0	0	FWC	S&L 0341	SS-304	145	120	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWC-M32080A_R0.0	0	FWC	CYP 0305 CREQ	CS CREQ	145	120	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWE-M39101A_R0.0	0	FWE	S&L 1550	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWE-M39102A_R0.0	0	FWE	S&L 1550	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWE-M39103A_R0.0	0	FWE	S&L 1550	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWE-M39104A_R0.0	0	FWE	S&L 1550	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWE-M39201A_R0.0	0	FWE	S&L 1550	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWE-M39202A_R0.0	0	FWE	S&L 1550	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWE-M39203A_R0.0	0	FWE	S&L 1550	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWE-M39204A_R0.0	0	FWE	S&L 1550	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWE-M39501A_R0.0	0	FWE	S&L 0150	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWE-M39601A_R0.0	0	FWE	S&L 0150	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWE-M39801A_R0.0	0	FWE	S&L 0150	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWE-M39802A_R0.0	0	FWE	S&L 0150	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWE-M39803A_R0.0	0	FWE	S&L 0150	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWE-M39901A_R0.0	0	FWE	S&L 0150	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWE-M39902A_R0.0	0	FWE	S&L 0150	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWE-M39903A_R0.0	0	FWE	S&L 0150	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-FWF-M34101	2	FWF	S&L 0140	SS-304	90	90	CONTRACT ISOS	F12116
CYP1-FWF-M34102	3	FWF	S&L 0140	SS-304	90	90	CONTRACT ISOS	F12116
CYP1-FWF-M34103	2	FWF	S&L 0140	SS-304	90	90	CONTRACT ISOS	F12116
CYP1-FWF-M34104	2	FWF	S&L 0140	SS-304	90	90	CONTRACT ISOS	F12116
CYP1-FWF-M34201	3	FWF	S&L 0140	SS-304	90	90	CONTRACT ISOS	F12116
CYP1-FWF-M34301	1	FWF	S&L 0140	SS-304	90	90	CONTRACT ISOS	F12116
CYP1-FWF-M34302	1	FWF	S&L 0140	SS-304	90	90	CONTRACT ISOS	F12116

CUSTOMER_ISO_ID	ISO_REV	SYSTEM	SPEC_ID	MAT_TYPE	DESIGN_TEMP_MAX	OPER_TEMP	NOTES	JOB_NO
CYP1-FWF-M34401	2	FWF	S&L 0140	SS-304	90	90	CONTRACT ISOS	F12116
MSK-CYP1-FWF-M34010A_R0.0	0	FWF	S&L 0140	SS-304	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWF-M34011A_R0.0	0	FWF	S&L 0140	SS-304	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWF-M34012A_R0.0	0	FWF	S&L 0140	SS-304	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWF-M34013A_R0.0	0	FWF	S&L 0140	SS-304	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWF-M34014A_R0.0	0	FWF	S&L 0140	SS-304	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWF-M34015A_R0.0	0	FWF	S&L 0140	SS-304	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWF-M34017A_R0.0	0	FWF	S&L 0140	SS-304	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWF-M34019A_R0.0	0	FWF	S&L 0140	SS-304	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWF-M34020A_R0.0	0	FWF	S&L 0140	SS-304	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWF-M34021A_R1.0	1	FWF	S&L 0140	SS-304	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWF-M34030A_R0.0	0	FWF	S&L 0140	SS-304	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-HRB-M33101	2	HRB	S&L 0105	CS	200	72	CONTRACT ISOS	F12116
CYP1-HRB-M33102	3	HRB	S&L 0140	SS-304	200	72	CONTRACT ISOS	F12116
CYP1-HRB-M33102	3	HRB	S&L 0105	CS	200	72	CONTRACT ISOS	F12116
CYP1-HRB-M33201	1	HRB	S&L 0105	CS	200	72	CONTRACT ISOS	F12116
CYP1-HRB-M33301	0	HRB	S&L 0105	CS	200	72	CONTRACT ISOS	F12116
MSK-CYP1-HRB-M33010A_R0.0	0	HRB	S&L 0105	CS	200	72	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRB-M33020A_R0.0	0	HRB	S&L 0105	CS	200	72	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-HRC-M33001	3	HRC	CYP 0004	CS	100	96	CONTRACT ISOS	F12116
CYP1-HRC-M33101	0	HRC	CYP 0004	CS	100	96	CONTRACT ISOS	F12116
CYP1-HRC-M33201	2	HRC	CYP 0004	CS	100	96	CONTRACT ISOS	F12116
CYP1-HRC-M33202	0	HRC	CYP 0004	CS	100	96	CONTRACT ISOS	F12116
CYP1-HRC-M33301	2	HRC	CYP 0004	CS	100	96	CONTRACT ISOS	F12116
CYP1-HRC-M33302	0	HRC	CYP 0004	CS	100	96	CONTRACT ISOS	F12116
CYP1-HRC-M33401	2	HRC	CYP 0004	CS	100	96	CONTRACT ISOS	F12116
CYP1-HRC-M33501	2	HRC	CYP 0004	CS	100	96	CONTRACT ISOS	F12116
CYP1-HRC-M33601	2	HRC	CYP 0004	CS	100	96	CONTRACT ISOS	F12116
CYP1-HRC-M33701	3	HRC	CYP 0004	CS	100	96	CONTRACT ISOS	F12116
CYP1-HRC-M33801	3	HRC	CYP 0004	CS	100	96	CONTRACT ISOS	F12116
CYP1-HRC-M33901	1	HRC	CYP 0004	CS	100	96	CONTRACT ISOS	F12116
CYP1-HRC-M33902	1	HRC	CYP 0004	CS	100	96	CONTRACT ISOS	F12116
CYP1-HRC-M33903	2	HRC	CYP 0004	CS	100	96	CONTRACT ISOS	F12116
CYP1-HRC-M33904	2	HRC	CYP 0004	CS	100	96	CONTRACT ISOS	F12116
CYP1-HRC-M33905	1	HRC	CYP 0004	CS	100	96	CONTRACT ISOS	F12116
MSK-CYP1-HRC-M33010A_R0.0	0	HRC	CYP 0004	CS	100	96	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRC-M33011A_R0.0	0	HRC	CYP 0004	CS	100	96	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRC-M33012A_R0.0	0	HRC	CYP 0004	CS	100	96	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRC-M33013A_R0.0	0	HRC	CYP 0004	CS	100	96	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRC-M33014A_R0.0	0	HRC	CYP 0004	CS	100	96	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRC-M33015A_R0.0	0	HRC	CYP 0004	CS	100	96	SMALL BORE CONTRACT (PKG 1 MAT)	F12162

CUSTOMER_ISO_ID	ISO_REV	SYSTEM	SPEC_ID	MAT_TYPE	DESIGN_TEMP_MAX	OPER_TEMP	NOTES	JOB_NO
MSK-CYP1-HRC-M33016A_R0.0	0	HRC	CYP 0004	CS	100	96	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRC-M33017A_R0.0	0	HRC	CYP 0004	CS	100	96	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRE-M30011A_R0.0	0	HRE	S&L 0150	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRE-M30013A_R0.0	0	HRE	S&L 0150	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRE-M30014A_R0.0	0	HRE	S&L 0150	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRE-M30016A_R0.0	0	HRE	S&L 0150	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRE-M30017A_R0.0	0	HRE	S&L 0185	ALLOY-20	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRE-M30018A_R0.0	0	HRE	S&L 0185	ALLOY-20	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRE-M30019A_R0.0	0	HRE	S&L 0185	ALLOY-20	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRE-M30020A_R0.0	0	HRE	S&L 0185	ALLOY-20	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRE-M30021A_R0.0	0	HRE	S&L 0185	ALLOY-20	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRE-M30022A_R0.0	0	HRE	S&L 0150	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-HRE-M30023A_R0.0	0	HRE	S&L 0150	SS-316	104	104	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-PMB-M38101A_R0.0	0	PMB	S&L 0105	CS	95	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-PMB-M38201A_R0.0	0	PMB	S&L 0105	CS	95	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-PMB-M38301A_R0.0	0	PMB	S&L 0105	CS	95	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-PMB-M38302A_R0.0	0	PMB	S&L 0105	CS	95	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-PMB-M38303A_R0.0	0	PMB	S&L 0105	CS	95	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-PMB-M38401A_R1.0	1	PMB	S&L 0105	CS	95	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-PMB-M38501A_R0.0	0	PMB	S&L 0105	CS	95	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-PMB-M38601A_R0.0	0	PMB	S&L 0105	CS	95	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-PMB-M38602A_R0.0	0	PMB	S&L 0105	CS	95	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-PSA-M31101	1	PSA	S&L 0105	CS	350	340	CONTRACT ISOS	F12116
CYP1-PSA-M31102	1	PSA	S&L 0105	CS	350	340	CONTRACT ISOS	F12116
CYP1-PSA-M31103	1	PSA	S&L 0105	CS	350	340	CONTRACT ISOS	F12116
CYP1-PSA-M31104	1	PSA	S&L 0105	CS	350	340	CONTRACT ISOS	F12116
CYP1-PSA-M31105	1	PSA	S&L 0105	CS	350	340	CONTRACT ISOS	F12116
CYP1-PSA-M31106	1	PSA	S&L 0105	CS	350	340	CONTRACT ISOS	F12116
CYP1-PSA-M31107	1	PSA	S&L 0105	CS	350	340	CONTRACT ISOS	F12116
CYP1-PSA-M31108	1	PSA	S&L 0105	CS	350	340	CONTRACT ISOS	F12116
CYP1-PSA-M31109	1	PSA	S&L 0105	CS	350	340	CONTRACT ISOS	F12116
CYP1-PSA-M31110	1	PSA	S&L 0105	CS	350	340	CONTRACT ISOS	F12116
CYP1-PSA-M31201	1	PSA	S&L 0605	CS	750	748	CONTRACT ISOS	F12116
CYP1-PSA-M31202	1	PSA	S&L 0605	CS	750	748	CONTRACT ISOS	F12116
CYP1-PSA-M31203	1	PSA	S&L 0105	CS	575	572	CONTRACT ISOS	F12116
CYP1-PSA-M31204	1	PSA	S&L 0105	CS	575	572	CONTRACT ISOS	F12116
CYP1-PSA-M31205	2	PSA	S&L 0105	CS	575	572	CONTRACT ISOS	F12116
CYP1-PSA-M31206	1	PSA	S&L 0105	CS	575	572	CONTRACT ISOS	F12116
CYP1-PSA-M31207A_R1.0	1	PSA	S&L 0105	CS	575	572	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-PSA-M31401_R0.0	0	PSA	S&L 0105	CS	350	340	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWF-M34016A_R0.0	0	SAC	S&L 0140	SS-304	115	113	SMALL BORE CONTRACT (PKG 1 MAT)	F12162

CUSTOMER_ISO_ID	ISO_REV	SYSTEM	SPEC_ID	MAT_TYPE	DESIGN_TEMP_MAX	OPER_TEMP	NOTES	JOB_NO
MSK-CYP1-HRC-M33016A_R0.0	0	SAC	S&L 0659	SS-316	100	96	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-SAC-M31101A_R0.0	0	SAC	S&L 0105	CS	77	77	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-SAC-M31201A_R0.0	0	SAC	S&L 0105	CS	77	77	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M38401A_R0.0	0	SGH	S&L 0105	CS	520	480	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M38504A_R0.0	0	SGH	S&L 0105	CS	520	480	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M38602A_R0.0	0	SGH	S&L 0105	CS	520	480	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-STG-M36101	2	STG	CYP 0106	CS	95	90	CONTRACT ISOS	F12116
CYP1-STG-M36201	2	STG	CYP 0106	CS	95	90	CONTRACT ISOS	F12116
CYP1-STG-M36301	2	STG	S&L 0105	CS	90	112.8	CONTRACT ISOS	F12116
CYP1-TGC-M31101	1	TGC	S&L 0105-100	CS	830	830	CONTRACT ISOS	F12116
CYP1-TGC-M31204	1	TGC	S&L 0105	CS	400	392	CONTRACT ISOS	F12116
CYP1-TGC-M31206-RO	0	TGC	S&L 0105	CS	575	572	NEW ISO QUOTE EM-7-10-15 (PKG 3 MAT)	F12171
CYP1-TGC-M31301_R0.0	0	TGC	S&L 0105-100	CS	830	830	(PKG 2 MAT)	F12172
CYP1-TGC-M31401_R0.1	0	TGC	S&L 0105-100	CS	830	830	(PKG 2 MAT)	F12172
CYP1-TGC-M31501A_R0.0	0	TGC	S&L 0105	CS	575	572	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M31601-RO	0	TGC	S&L 0105	CS	300	212	NEW ISO QUOTE EM-7-10-15 (PKG 3 MAT)	F12171
CYP1-TGC-M31650A_R0.0	0	TGC	S&L 0105	CS	575	572	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M31652A_R0.0	0	TGC	S&L 0105	CS	400	392	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M31654A_R0.0	0	TGC	S&L 0105	CS	300	212	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M31655A_R0.0	0	TGC	S&L 0105-100	CS	830	830	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M31656A_R0.0	0	TGC	S&L 0105	CS	300	212	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M31657A_R0.0	0	TGC	S&L 0105	CS	300	212	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M31658A_R0.0	0	TGC	S&L 0105	CS	300	212	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M31659A_R0.0	0	TGC	S&L 0105-100	CS	830	830	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M31660A_R0.0	0	TGC	S&L 0105-100	CS	890	887	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M31660A_R0.0	0	TGC	S&L 0105	CS	400	392	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M31661A_R0.0	0	TGC	S&L 0105	CS	300	212	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M31663A_R0.0	0	TGC	S&L 0105	CS	300	212	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M31664A_R0.0	0	TGC	S&L 0105	CS	300	212	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M31665A_R0.0	0	TGC	S&L 0105	CS	300	212	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M31666A_R0.0	0	TGC	S&L 0105	CS	300	212	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M31667A_R0.0	0	TGC	S&L 0105	CS	300	212	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M31701-RO	0	TGC	S&L 0105	CS	300	212	NEW ISO QUOTE EM-7-10-15 (PKG 3 MAT)	F12171
CYP1-TGC-M31702-RO	0	TGC	S&L 0105	CS	300	212	NEW ISO QUOTE EM-7-10-15 (PKG 3 MAT)	F12171
CYP1-TGC-M31803-RO	0	TGC	S&L 0105	CS	400	392	NEW ISO QUOTE EM-7-10-15 (PKG 3 MAT)	F12171
CYP1-TGC-M31902-RO	0	TGC	S&L 0105-100	CS	830	830	NEW ISO QUOTE EM-7-10-15 (PKG 3 MAT)	F12171
CYP1-TGC-M31904	0	TGC	S&L 0105	CS	176	176	CONTRACT ISOS	F12116
CYP1-TGC-M31905	0	TGC	S&L 0105	CS	176	176	CONTRACT ISOS	F12116
CYP1-TGC-M31907A_R0.2	0	TGC	S&L 0105	CS	455	455	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGC-M38501	1	TGC	S&L 0105	CS	830	830	CONTRACT ISOS	F12116
CYP1-TGC-M38502	1	TGC	S&L 0105	CS	830	830	CONTRACT ISOS	F12116

CUSTOMER_ISO_ID	ISO_REV	SYSTEM	SPEC_ID	MAT_TYPE	DESIGN_TEMP_MAX	OPER_TEMP	NOTES	JOB_NO
MSK-CYP1-TGC-M31102A_R0.0	0	TGC	S&L 0105	CS	165	150	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGC-M31104A_R0.0	0	TGC	S&L 0105-100	CS	830	830	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGC-M31105A_R0.0	0	TGC	S&L 0105	CS	165	150	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGC-M31913A_R1.0	1	TGC	S&L 0105	CS	176	176	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGC-M31914A_R1.0	1	TGC	S&L 0105	CS	176	176	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGC-M31915A_R0.0	0	TGC	S&L 0105	CS	176	176	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGC-M31916A_R0.0	0	TGC	S&L 0105	CS	176	176	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGC-M31917A_R0.0	0	TGC	S&L 0105	CS	176	176	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGH-M37101	1	TGH	S&L 0140	SS-304	212	55	CONTRACT ISOS	F12116
CYP1-TGH-M37201	0	TGH	S&L 0105	CS	140	140	CONTRACT ISOS	F12116
CYP1-TGH-M37301	1	TGH	S&L 0105	CS	140	140	CONTRACT ISOS	F12116
CYP1-TGH-M37401	1	TGH	S&L 0105	CS	140	140	CONTRACT ISOS	F12116
CYP1-TGH-M37501	1	TGH	S&L 0305	CS	662	662	CONTRACT ISOS	F12116
CYP1-TGH-M37502	1	TGH	S&L 0305	CS	662	662	CONTRACT ISOS	F12116
CYP1-TGH-M37601	1	TGH	S&L 0105	CS	176	176	CONTRACT ISOS	F12116
CYP1-TGH-M37602	1	TGH	S&L 0105	CS	176	176	CONTRACT ISOS	F12116
CYP1-TGH-M37701	1	TGH	S&L 0105	CS	176	176	CONTRACT ISOS	F12116
CYP1-TGH-M37907	0	TGH	S&L 0105	CS	140	140	CONTRACT ISOS	F12116
CYP1-TGH-M37908	0	TGH	S&L 0105	CS	140	140	CONTRACT ISOS	F12116
MSK-CYP1-TGH-M37801A_R0.0	0	TGH	S&L 0140	SS-304	140	140	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGH-M37802A_R0.0	0	TGH	S&L 0140	SS-304	140	140	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGH-M37901A_R0.0	0	TGH	S&L 0140	SS-304	140	140	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGH-M37902A_R0.0	0	TGH	S&L 0140	SS-304	140	140	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGH-M37903A_R0.0	0	TGH	S&L 0140	SS-304	140	140	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGH-M37904A_R0.0	0	TGH	S&L 0105	CS	176	176	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGH-M37905A_R0.0	0	TGH	S&L 0105	CS	176	176	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGH-M37906A_R0.0	0	TGH	S&L 0105	CS	140	140	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-TGM-M38101	1	TGM	S&L 0140	SS-304	60	55	CONTRACT ISOS	F12116
CYP1-TGM-M38101	1	TGM	S&L 0105	CS	60	55	CONTRACT ISOS	F12116
MSK-CYP1-TGM-M38010A_R1.0	1	TGM	S&L 0905	CS	60	55	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGM-M38020A_R0.0	0	TGM	S&L 0105	CS	60	55	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGM-M38030A_R0.0	0	TGM	S&L 0105	CS	60	55	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGM-M38031A_R0.0	0	TGM	S&L 0105	CS	60	55	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGM-M38032A_R0.0	0	TGM	S&L 0105	CS	60	55	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGM-M38040A_R0.0	0	TGM	S&L 0905	CS	60	55	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGM-M38041A_R2.0	2	TGM	S&L 0905	CS	60	55	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGM-M38050A_R2.0	2	TGM	S&L 0105	CS	60	55	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGM-M38050A_R2.0	2	TGM	S&L 0140	SS-304	60	55	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGM-M38060A_R0.0	0	TGM	S&L 0105	CS	60	55	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-TGM-M38060A_R0.0	0	TGM	S&L 0140	SS-304	60	55	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-WSA-M34201	1	WSA	S&L 0105	CS	90	90	CONTRACT ISOS	F12116

CUSTOMER_ISO_ID	ISO_REV	SYSTEM	SPEC_ID	MAT_TYPE	DESIGN_TEMP_MAX	OPER_TEMP	NOTES	JOB_NO
CYP1-WSA-M34202	1	WSA	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WSA-M34301	1	WSA	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WSA-M34302	1	WSA	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WSA-M34401	2	WSA	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WSA-M34501	1	WSA	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WWC-M37601	2	WSA	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WSC-M34101	2	WSC	S&L 0105	CS	90	112.8	CONTRACT ISOS	F12116
CYP1-WSC-M34201	2	WSC	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WSC-M34202	2	WSC	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WSC-M34203	3	WSC	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WSC-M34204	2	WSC	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WSC-M34301	2	WSC	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WSC-M34401	2	WSC	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WSC-M34501	1	WSC	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WSC-M34601	2	WSC	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WSC-M34602	2	WSC	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WSC-M34603	2	WSC	S&L 0105	CS	90	112.8	CONTRACT ISOS	F12116
CYP1-WSC-M34604	2	WSC	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WSC-M34605	2	WSC	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WSC-M34606	2	WSC	S&L 0105	CS	90	112.8	CONTRACT ISOS	F12116
CYP1-WSC-M34607	2	WSC	S&L 0105	CS	90	90	CONTRACT ISOS	F12116
CYP1-WSC-M34701_R0.1	0	WSC	S&L 0105	CS	90	90	(PKG 2 MAT)	F12172
CYP1-WSC-M34702_R0.0	0	WSC	S&L 0105	CS	90	90	(PKG 2 MAT)	F12172
MSK-CYP1-WSC-M34010A_R0.0	0	WSC	S&L 0105	CS	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-WSC-M34011A_R0.0	0	WSC	S&L 0105	CS	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-WSC-M34012A_R2.0	2	WSC	S&L 0105	CS	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-WSC-M34013A_R0.0	0	WSC	S&L 0105	CS	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-WSC-M34014A_R0.0	0	WSC	S&L 0105	CS	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-WSC-M34015A_R0.0	0	WSC	S&L 0105	CS	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-WSC-M34016A_R0.0	0	WSC	S&L 0105	CS	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-WSC-M34017A_R0.0	0	WSC	S&L 0105	CS	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-WSC-M34020A_R0.0	0	WSC	S&L 0105	CS	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-WSC-M34030A_R0.0	0	WSC	S&L 0105	CS	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-WSC-M34040A_R0.0	0	WSC	S&L 0105	CS	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-WSC-M34050A_R1.0	1	WSC	S&L 0105	CS	90	112.8	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-FWF-M34018A_R1.0	1	WTD	S&L 0140	SS-304	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
MSK-CYP1-WSC-M34012A_R2.0	2	WTD	S&L 0140	SS-304	90	90	SMALL BORE CONTRACT (PKG 1 MAT)	F12162
CYP1-WWC-M37101	0	WWC	S&L 0105	CS	140	140	CONTRACT ISOS	F12116
CYP1-WWC-M37201	1	WWC	S&L 0105	CS	215	140	CONTRACT ISOS	F12116
CYP1-WWC-M37301	2	WWC	S&L 0105	CS	140	140	CONTRACT ISOS	F12116
CYP1-WWC-M37401	2	WWC	S&L 0141	SS-304	90	90	CONTRACT ISOS	F12116

CUSTOMER_ISO_ID	ISO_REV	SYSTEM	SPEC_ID	MAT_TYPE	DESIGN_TEMP_MAX	OPER_TEMP	NOTES	JOB_NO
CYP1-WWC-M37501	2	WWC	S&L 0141	SS-304	90	90	CONTRACT ISOS	F12116
CYP1-WWC-M37601	2	WWC	S&L 0141	SS-304	90	90	CONTRACT ISOS	F12116
CYP1-WWC-M37701	2	WWC	S&L 0141	SS-304	90	90	CONTRACT ISOS	F12116
CYP1-WWC-M37801	1	WWC	S&L 0141	SS-304	90	90	CONTRACT ISOS	F12116



**BOP Pipe Fabrication Contract
Carty Generating Station
Morrow County, Oregon**

by and between

Abeinsa Abener Teyma General Partnership

and

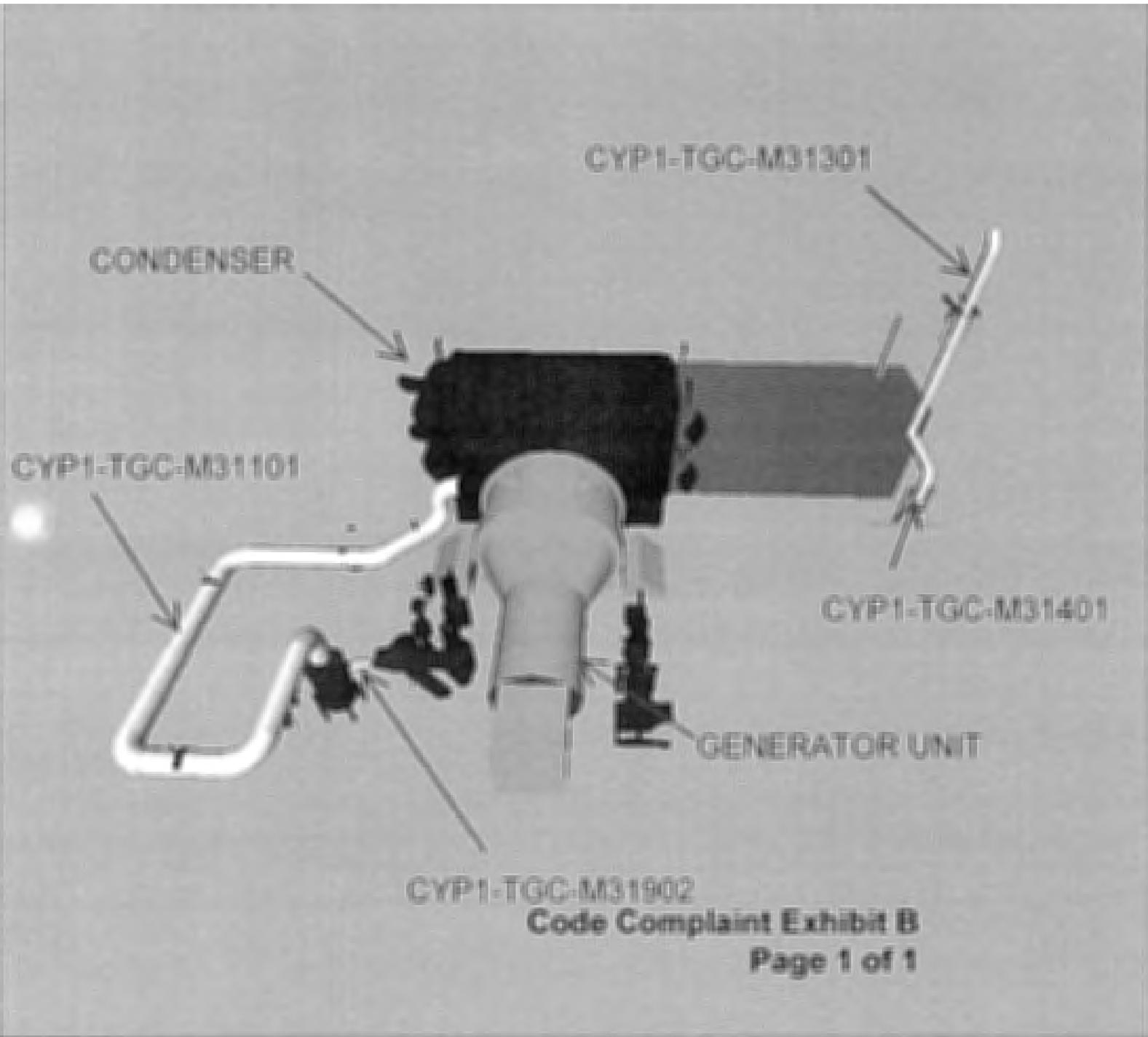
Newjac Inc.

~~25th of February 2015~~

30th of March 2015









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ASME B31.1-2010
(Revision of ASME B31.1-2007)

Power Piping

ASME C

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Code Complaint Exhibit D
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FOREWORD

The general philosophy underlying this Power Piping Code is to parallel those provisions of Section I, Power Boilers, of the ASME Boiler and Pressure Vessel Code, as they can be applied to power piping systems. The Allowable Stress Values for power piping are generally consistent with those assigned for power boilers. This Code is more conservative than some other piping codes, reflecting the need for long service life and maximum reliability in power plant installations.

The Power Piping Code as currently written does not differentiate among the design, fabrication, and erection requirements for critical and noncritical piping systems, except for certain stress calculations and mandatory nondestructive tests of welds for heavy wall, high temperature applications. The problem involved is to try to reach agreement on how to evaluate criticality, and to avoid the inference that noncritical systems do not require competence in design, fabrication, and erection. Someday such levels of quality may be definable, so that the need for the many different piping codes will be overcome.

There are many instances where the Code serves to warn a designer, fabricator, or erector against possible pitfalls; but the Code is not a handbook, and cannot substitute for education, experience, and sound engineering judgment.

Nonmandatory Appendices are included in the Code. Each contains information on a specific subject, and is maintained current with the Code. Although written in mandatory language, these Appendices are offered for application at the user's discretion.

The Code never intentionally puts a ceiling limit on conservatism. A designer is free to specify more rigid requirements as he feels they may be justified. Conversely, a designer who is capable of a more rigorous analysis than is specified in the Code may justify a less conservative design, and still satisfy the basic intent of the Code.

The Power Piping Committee strives to keep abreast of the current technological improvements in new materials, fabrication practices, and testing techniques; and endeavors to keep the Code updated to permit the use of acceptable new developments.



INTRODUCTION

(10)

The ASME B31 Code for Pressure Piping consists of a number of individually published Sections, each an American National Standard, under the direction of ASME Committee B31, Code for Pressure Piping.

Rules for each Section have been developed considering the need for application of specific requirements for various types of pressure piping. Applications considered for each Code Section include

- B31.1 Power Piping: piping typically found in electric power generating stations, in industrial and institutional plants, geothermal heating systems, and central and district heating and cooling systems
- B31.3 Process Piping: piping typically found in petroleum refineries; chemical, pharmaceutical, textile, paper, semiconductor, and cryogenic plants; and related processing plants and terminals
- B31.4 Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids: piping transporting products that are predominately liquid between plants and terminals and within terminals, pumping, regulating, and metering stations
- B31.5 Refrigeration Piping: piping for refrigerants and secondary coolants
- B31.8 Gas Transportation and Distribution Piping Systems: piping transporting products that are predominately gas between sources and terminals, including compressor, regulating, and metering stations; and gas gathering pipelines
- B31.9 Building Services Piping: piping typically found in industrial, institutional, commercial, and public buildings, and in multi-unit residences, which does not require the range of sizes, pressures, and temperatures covered in B31.1
- B31.11 Slurry Transportation Piping Systems: piping transporting aqueous slurries between plants and terminals and within terminals, pumping, and regulating stations
- B31.12 Hydrogen Piping and Pipelines: piping in gaseous and liquid hydrogen service, and pipelines in gaseous hydrogen service

This is the B31.1 Power Piping Code Section. Hereafter, in this Introduction and in the text of this Code Section B31.1, where the word *Code* is used without specific identification, it means this Code Section.

It is the owner's responsibility to select the Code Section that most nearly applies to a proposed piping installation. Factors to be considered by the owner include limitations of the Code Section, jurisdictional requirements, and the applicability of other codes and standards. All applicable requirements of the selected Code Section shall be met. For some installations, more than one Code Section may apply to different parts of the installation. The owner is also responsible for imposing requirements supplementary to those of the selected Code Section, if necessary, to assure safe piping for the proposed installation.

Certain piping within a facility may be subject to other codes and standards, including but not limited to

- ASME Boiler and Pressure Vessel Code, Section III: nuclear power piping
- ANSI Z223.1 National Fuel Gas Code: piping for fuel gas from the point of delivery to the connection of each fuel utilization device
- NFPA Fire Protection Standards: fire protection systems using water, carbon dioxide, halon, foam, dry chemical, and wet chemicals
- NFPA 99 Health Care Facilities: medical and laboratory gas systems
- NFPA 8503 Standard for Pulverized Fuel Systems: piping for pulverized coal from the coal mills to the burners

- building and plumbing codes, as applicable, for potable hot and cold water, and for sewer and drain systems

The Code sets forth engineering requirements deemed necessary for safe design and construction of pressure piping. While safety is the basic consideration, this factor alone will not necessarily govern the final specifications for any piping system. The designer is cautioned that the Code is not a design handbook; it does not eliminate the need for the designer or for competent engineering judgment.

To the greatest possible extent, Code requirements for design are stated in terms of basic design principles and formulas. These are supplemented as necessary with specific requirements to ensure uniform application of principles and to guide selection and application of piping elements. The Code prohibits designs and practices known to be unsafe and contains warnings where caution, but not prohibition, is warranted.

The specific design requirements of the Code usually revolve around a simplified engineering approach to a subject. It is intended that a designer capable of applying more complete and rigorous analysis to special or



unusual problems shall have latitude in the development of such designs and the evaluation of complex or combined stresses. In such cases the designer is responsible for demonstrating the validity of his approach.

→ This Code Section includes the following:

(a) references to acceptable material specifications and component standards, including dimensional requirements and pressure-temperature ratings

(b) requirements for design of components and assemblies, including pipe supports

(c) requirements and data for evaluation and limitation of stresses, reactions, and movements associated with pressure, temperature changes, and other forces

(d) guidance and limitations on the selection and application of materials, components, and joining methods

(e) requirements for the fabrication, assembly, and erection of piping

(f) requirements for examination, inspection, and testing of piping

(g) requirements for operation and maintenance of piping systems

It is intended that this Edition of Code Section B31.1 not be retroactive. Unless agreement is specifically made between contracting parties to use another issue, or the regulatory body having jurisdiction imposes the use of another issue, the latest Edition and Addenda issued at least 6 mo prior to the original contract date for the first phase of activity covering a piping system or systems shall be the governing document for all design, materials, fabrication, erection, examination, and testing for the piping until the completion of the work and initial operation.

Users of this Code are cautioned against making use of revisions without assurance that they are acceptable to the proper authorities in the jurisdiction where the piping is to be installed.

Code users will note that clauses in the Code are not necessarily numbered consecutively. Such discontinuities result from following a common outline, insofar as practicable, for all Code Sections. In this way, corresponding material is correspondingly numbered in most Code Sections, thus facilitating reference by those who have occasion to use more than one Section.

The Code is under the direction of ASME Committee B31, Code for Pressure Piping, which is organized and operates under procedures of The American Society of Mechanical Engineers which have been accredited by the American National Standards Institute. The Committee is a continuing one, and keeps all Code Sections current with new developments in materials, construction, and industrial practice. Addenda are

issued periodically. New editions are published at intervals of two to five years.

When no Section of the ASME Code for Pressure Piping, specifically covers a piping system, at the user's discretion, he/she may select any Section determined to be generally applicable. However, it is cautioned that supplementary requirements to the Section chosen may be necessary to provide for a safe piping system for the intended application. Technical limitations of the various Sections, legal requirements, and possible applicability of other codes or standards are some of the factors to be considered by the user in determining the applicability of any Section of this Code.

The Committee has established an orderly procedure to consider requests for interpretation and revision of Code requirements. To receive consideration, inquiries must be in writing and must give full particulars (see Mandatory Appendix H covering preparation of technical inquiries). The Committee will not respond to inquiries requesting assignment of a Code Section to a piping installation.

The approved reply to an inquiry will be sent directly to the inquirer. In addition, the question and reply will be published as part of an Interpretation Supplement issued to the applicable Code Section.

A Case is the prescribed form of reply to an inquiry when study indicates that the Code wording needs clarification or when the reply modifies existing requirements of the Code or grants permission to use new materials or alternative constructions. The Case will be published as part of a Case Supplement issued to the applicable Code Section.

The ASME B31 Standards Committee took action to eliminate Code Case expiration dates effective September 21, 2007. This means that all Code Cases in effect as of this date will remain available for use until annulled by the ASME B31 Standards Committee.

Materials are listed in the Stress Tables only when sufficient usage in piping within the scope of the Code has been shown. Materials may be covered by a Case. Requests for listing shall include evidence of satisfactory usage and specific data to permit establishment of allowable stresses, maximum and minimum temperature limits, and other restrictions. Additional criteria can be found in the guidelines for addition of new materials in the ASME Boiler and Pressure Vessel Code, Section II and Section VIII, Division 1, Appendix B. (To develop usage and gain experience, unlisted materials may be used in accordance with para. 123.1.)

Requests for interpretation and suggestions for revision should be addressed to the Secretary, ASME B31 Committee, Three Park Avenue, New York, NY 10016-5990.



Chapter V Fabrication, Assembly, and Erection

127 WELDING

127.1 General

→ Piping systems shall be constructed in accordance with the requirements of this Chapter and of materials that have been manufactured in accordance with the requirements of Chapter IV. These requirements apply to all fabrication, assembly and erection operations, whether performed in a shop or at a construction site. The following applies essentially to the welding of ferrous materials. The welding of aluminum, copper, etc., requires different preparations and procedures.

→ 127.1.1 The welding processes that are to be used under this part of this Code shall meet all the test requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

127.2 Material

→ 127.2.1 Electrodes and Filler Metal. Welding electrodes and filler metal, including consumable inserts, shall conform to the requirements of the ASME Boiler and Pressure Vessel Code, Section II, Part C. An electrode or filler metal not conforming to the above may be used provided the WPS and the welders and welding operators who will follow the WPS have been qualified as required by ASME Section IX. Unless otherwise specified by the designer, welding electrodes and filler metals used shall produce weld metal that complies with the following:

(A) The nominal tensile strength of the weld metal shall equal or exceed the minimum specified tensile strength of the base metals being joined.

(B) If base metals of different tensile strengths are to be joined, the nominal tensile strength of the weld metal shall equal or exceed the minimum specified tensile strength of the weaker of the two.

(C) The nominal chemical analysis of the weld metal shall be similar to the nominal chemical analysis of the major alloying elements of the base metal [e.g., 2¼% Cr, 1% Mo steels should be joined using 2¼% Cr, 1% Mo filler metals; see also para. 124.2(D)].

(D) If base metals of different chemical analysis are being joined, the nominal chemical analysis of the weld metal shall be similar to either base metal or an intermediate composition, except as specified below for austenitic steels joined to ferritic steels.

(E) When austenitic steels are joined to ferritic steels, the weld metal shall have an austenitic structure.

(F) For nonferrous metals, the weld metal shall be that recommended by the manufacturer of the nonferrous metal or by industry associations for that metal.

(G) For unusual materials or combinations of materials, the design engineer shall specify the weld metal that is required. In addition, when a base metal is selected primarily for its corrosion resistance, and the media is aggressive towards the material, the use of weld metal that is electrochemically more noble than the base metal is recommended to ensure that selective corrosion of the weld metal does not occur (e.g., when using type 316L base metal in a strong acid, the use of 317L weld metal is preferred).

127.2.2 Backing Rings. Backing rings, when used, shall conform to the following requirements:

(A) Ferrous Rings. Ferrous metal backing rings that become a permanent part of the weld shall be made from material of weldable quality, compatible with the base material and the sulfur content shall not exceed 0.05%.

(A.1) Backing rings may be of the continuous machined or split band type.

(A.2) If two abutting surfaces are to be welded to a third member used as a backing ring and one or two of the three members are ferritic and the other member or members are austenitic, the satisfactory use of such materials shall be determined by the WPS qualified as required in para. 127.5.

(A.3) Backing strips used at longitudinal welded joints shall be removed.

(B) Nonferrous and Nonmetallic Rings. Backing rings of nonferrous or nonmetallic materials may be used for backing provided they are included in a WPS as required in para. 127.5. Nonmetallic or nonfusing rings shall be removed.

127.2.3 Consumable Inserts. Consumable inserts may be used provided they are made from material compatible with the chemical and physical properties of the base material. Qualification of the WPS shall be as required by para. 127.5.

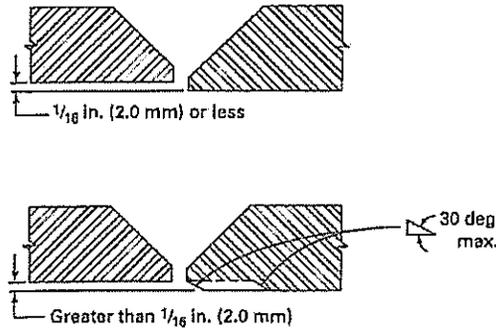
127.3 Preparation for Welding

(A) End Preparation

(A.1) Oxygen or arc cutting is acceptable only if the cut is reasonably smooth and true, and all slag is cleaned from the flame cut surfaces. Discoloration that



Fig. 127.3 Butt Welding of Piping Components With Internal Misalignment



may remain on the flame cut surface is not considered to be detrimental oxidation.

(A.2) Butt-welding end preparation dimensions contained in ASME B16.25 or any other end preparation that meets the WPS are acceptable.

(A.3) If piping component ends are bored, such boring shall not result in the finished wall thickness after welding less than the minimum design thickness. Where necessary, weld metal of the appropriate analysis may be deposited on the inside or outside of the piping component to provide sufficient material for machining to insure satisfactory fitting of rings.

(A.4) If the piping component ends are upset, they may be bored to allow for a completely recessed backing ring, provided the remaining net thickness of the finished ends is not less than the minimum design thickness.

(B) *Cleaning.* Surfaces for welding shall be clean and shall be free from paint, oil, rust, scale, or other material that is detrimental to welding.

(C) *Alignment.* The inside diameters of piping components to be butt welded shall be aligned as accurately as is practicable within existing commercial tolerances on diameters, wall thicknesses, and out-of-roundness. Alignment shall be preserved during welding. The internal misalignment of the ends to be joined shall not exceed $\frac{1}{16}$ in. (2.0 mm) unless the piping design specifically states a different allowable misalignment.

When the internal misalignment exceeds the allowable, it is preferred that the component with the wall extending internally be internally trimmed per Fig. 127.3. However, trimming shall result in a piping component thickness not less than the minimum design thickness, and the change in contour shall not exceed 30 deg (see Fig. 127.3).

(D) *Spacing.* The root opening of the joint shall be as given in the WPS.

(E) *Socket Weld Assembly.* In assembly of the joint before welding, the pipe or tube shall be inserted into

the socket to the maximum depth and then withdrawn approximately $\frac{1}{16}$ in. (2.0 mm) away from contact between the end of the pipe and the shoulder of the socket [see Figs. 127.4.4(B) and (C)]. In sleeve-type joints without internal shoulder, there shall be a distance of approximately $\frac{1}{16}$ in. (2.0 mm) between the butting ends of the pipe or tube.

The fit between the socket and the pipe shall conform to applicable standards for socket weld fittings and in no case shall the inside diameter of the socket or sleeve exceed the outside diameter of the pipe or tube by more than 0.080 in. (2.0 mm).

127.4 Procedure

127.4.1 General

(A) Qualification of the WPS to be used, and of the performance of welders and operators, is required, and shall comply with the requirements of para. 127.5.

(B) No welding shall be done if there is impingement of rain, snow, sleet, or high wind on the weld area.

(C) Tack welds permitted to remain in the finished weld shall be made by a qualified welder. Tack welds made by an unqualified welder shall be removed. Tack welds that remain shall be made with an electrode and WPS that is the same as or equivalent to the electrode and WPS to be used for the first pass. The stopping and starting ends shall be prepared by grinding or other means so that they can be satisfactorily incorporated into the final weld. Tack welds that have cracked shall be removed.

(D) **CAUTION:** Arc strikes outside the area of the intended weld should be avoided on any base metal.

127.4.2 Girth Butt Welds

(A) Girth butt welds shall be complete penetration welds and shall be made with a single vee, double vee, or other suitable type of groove, with or without backing rings or consumable inserts. The depth of the weld measured between the inside surface of the weld preparation and the outside surface of the pipe shall not be less than the minimum thickness required by Chapter II for the particular size and wall of pipe used.

(B) To avoid abrupt transitions in the contour of the finished weld, the requirements of (B.1) through (B.4) below shall be met.

(B.1) When components with different outside diameters or wall thicknesses are welded together, the welding end of the component with the larger outside diameter shall fall within the envelope defined by solid lines in Fig. 127.4.2. The weld shall form a gradual transition not exceeding a slope of 30 deg from the smaller to the larger diameter component. This condition may be met by adding welding filler material, if necessary, beyond what would otherwise be the edge of the weld.

(B.2) When both components to be welded (other than pipe to pipe) have a transition from a thicker section to the weld end preparation, the included angle between



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All four of the above conditions shall be met before a WPS thus qualified may be used.

(B) *Welders and Welding Operators.* Each employer shall be responsible for qualifying all the welders and welding operators employed by him/her.

However, to avoid duplication of effort, he/she may accept a Welder/Welding Operator Performance Qualification (WPO) made by a previous employer (subject to the approval of the Owner or his/her agent) on piping using the same or an equivalent procedure wherein the essential variables are within the limits established in Section IX, ASME Boiler and Pressure Vessel Code. An employer accepting such qualification tests by a previous employer shall obtain a copy of the original WPO, showing the name of the employer by whom the welders or welding operators were qualified, the dates of such qualification, and evidence that the welder or welding operator has maintained qualification in accordance with QW-322 of Section IX, ASME Boiler and Pressure Vessel Code. The evidence of process usage to maintain continuity may be obtained from employers other than the original qualifying employer. The employer shall then prepare and sign the record required in para. 127.6 accepting responsibility for the ability of the welder or welding operator.

127.5.4 Standard Welding Procedure Specifications. Standard Welding Procedure Specifications published by the American Welding Society and listed in Appendix E of Section IX of the ASME Boiler and Pressure Vessel Code are permitted for Code construction within the limitations established by Article V of ASME Section IX.

→ 127.6 Welding Records

The employer shall maintain a record (WPS and/or WPO) signed by him/her and available to the purchaser or his/her agent and the inspector of the WPSs used and the welders and/or welding operators employed by him/her showing the date and results of procedure and performance qualification.

The WPO shall also show the identification symbol assigned to the welder or welding operator employed by him/her, and the employer shall use this symbol to identify the welding performed by the welder or welding operator. This may be accomplished by the application of the symbol on the weld joint in a manner specified by the employer. Alternatively, the employer shall maintain records that identify the weld(s) made by the welder or welding operator.

128 BRAZING AND SOLDERING

128.1 General

128.1.1 The brazing processes that are to be used under this part of the Code shall meet all the test requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

128.1.2 Soldering. Solderers shall follow the procedure in ASTM B 828, Standard Practice for Making Capillary Joints by Soldering of Copper and Copper Alloy Tube and Fittings.

128.2 Materials

128.2.1 Filler Metal. The brazing alloy or solder shall melt and flow freely within the specified or desired temperature range and, in conjunction with a suitable flux or controlled atmosphere, shall wet and adhere to the surfaces to be joined.

128.2.2 Flux. A flux that is fluid and chemically active at brazing or soldering temperature shall be used when necessary to eliminate oxidation of the filler metal and the surfaces to be joined, and to promote free flow of the brazing alloy or solder.

128.3 Preparation

128.3.1 Surface Preparation. The surfaces to be brazed or soldered shall be clean and free from grease, oxides, paint, scale, dirt, or other material that is detrimental to brazing. A suitable chemical or mechanical cleaning method shall be used if necessary to provide a clean wettable surface.

128.3.2 Joint Clearance. The clearance between surfaces to be joined by brazing or soldering shall be no larger than is necessary to allow complete capillary distribution of the brazing alloy or solder.

128.4 Procedure

128.4.1 General

(A) Qualification of the brazing procedures to be used and of the performance of the brazer and brazing operators is required and shall comply with the requirements of para. 128.5.

(B) No brazing shall be done if there is impingement of rain, snow, sleet, or high wind on the area to be brazed.

128.4.2 Heating. To minimize oxidation, the joint shall be brought to brazing or soldering temperature in as short a time as possible without localized underheating or overheating.

128.4.3 Flux Removal. Residual flux shall be removed if detrimental.

128.5 Brazing Qualification

128.5.1 General. The qualification of the brazing procedure and of the performance of brazers and brazing operators shall be in accordance with the requirements of Part QB, Section IX, ASME Boiler and Pressure Vessel Code, except as modified herein.

128.5.2 Brazing Responsibility. Each employer (see para. 100.2) shall be responsible for the brazing performed by his/her organization and the performance of



Chapter VI Inspection, Examination, and Testing

136 INSPECTION AND EXAMINATION

136.1 Inspection

→ **136.1.1 General.** This Code distinguishes between "examination" and "inspection." Inspection is the responsibility of the Owner and may be performed by employees of the Owner or a party authorized by the Owner, except for the inspections required by para. 136.2. Prior to initial operation, a piping installation shall be inspected to ensure compliance with the engineering design and with the material, fabrication, assembly, examination, and test requirements of this Code.

→ **136.1.2 Verification of Compliance.** Compliance with the requirements of this Code shall be verified by an Authorized Inspector when a Code stamp is required by Section I of the ASME Boiler and Pressure Vessel Code. The rules of this Code and the quality control system requirements of Appendix A-300 of Section I of the ASME Boiler and Pressure Vessel Code shall apply. The quality control system requirements are shown in Appendix J of this Code. The duty of the Inspector shall be as defined in PG-90, Section I, of the ASME Boiler and Pressure Vessel Code. Data Report Forms are included in the Appendix of ASME Section I for use in developing the necessary inspection records. The Inspector shall assure himself/herself that the piping has been constructed in accordance with the applicable requirements of this Code.

→ **136.1.3 Rights of Inspectors.** Inspectors shall have access to any place where work concerned with the piping is being performed. This includes manufacture, fabrication, heat treatment, assembly, erection, examination, and testing of the piping. They shall have the right to audit any examination, to inspect the piping using any appropriate examination method required by the engineering design or this Code, and to review all certifications and records necessary to satisfy the Owner's responsibility as stated in para. 136.1.1.

136.1.4 Qualifications of the Owner's Inspector

(A) The Owner's Inspector shall be designated by the Owner and shall be an employee of the Owner, an employee of an engineering or scientific organization, or of a recognized insurance or inspection company acting as the Owner's agent. The Owner's Inspector shall not represent nor be an employee of the piping manufacturer, fabricator, or erector unless the Owner is also the manufacturer, fabricator, or erector.

(B) The Owner's Inspector shall have not less than 10 years of experience in the design, manufacture, erection, fabrication, or inspection of power piping. Each year of satisfactorily completed work toward an engineering degree recognized by the Accreditation Board for Engineering and Technology shall be considered equivalent to 1 year of experience, up to 5 years total.

(C) In delegating the performance of inspections, the Owner is responsible for determining that a person to whom an inspection function is delegated is qualified to perform that function.

136.2 Inspection and Qualification of Authorized Inspector for Boiler External Piping

136.2.1 Piping for which inspection and stamping is required as determined in accordance with para. 100.1.2(A) shall be inspected during construction and after completion and at the option of the Authorized Inspector at such stages of the work as he/she may designate. For specific requirements see the applicable parts of Section I of the ASME Boiler and Pressure Vessel Code, PG-104 through PG-113. Each manufacturer, fabricator, or assembler is required to arrange for the services of Authorized Inspectors.

136.2.1.1 The inspections required by this Section shall be performed by an Inspector employed by an ASME accredited Authorized Inspection Agency.

136.2.2 Certification by stamping and Data Reports, where required, shall be as per PG-104, PG-105, PG-109, PG-110, PG-111, and PG-112 of Section I of the ASME Boiler and Pressure Vessel Code.

136.3 Examination

← **136.3.1 General.** Examination denotes the functions performed by the manufacturer, fabricator, erector, or a party authorized by the Owner that include nondestructive examinations (NDE), such as visual, radiography, ultrasonic, eddy current, liquid penetrant, and magnetic particle methods. The degree of examination and the acceptance standards beyond the requirements of this Code shall be a matter of prior agreement between the manufacturer, fabricator, or erector and the Owner.

← **136.3.2 Qualification of NDE Personnel.** Personnel who perform nondestructive examination of welds shall be qualified and certified for each examination method in accordance with a program established by the



→ employer of the personnel being certified, which shall be based on the following minimum requirements:

(A) instruction in the fundamentals of the nondestructive examination method.

(B) on-the-job training to familiarize the NDE personnel with the appearance and interpretation of indications of weld defects. The length of time for such training shall be sufficient to ensure adequate assimilation of the knowledge required.

(C) an eye examination performed at least once each year to determine optical capability of NDE personnel to perform the required examinations.

(D) upon completion of (A) and (B) above, the NDE personnel shall be given an oral or written examination and performance examination by the employer to determine if the NDE personnel are qualified to perform the required examinations and interpretation of results.

(E) certified NDE personnel whose work has not included performance of a specific examination method for a period of 1 yr or more shall be recertified by successfully completing the examination of (D) above and also passing the visual examination of (C) above. Substantial changes in procedures or equipment shall require recertification of the NDE personnel.

As an alternative to the preceding program, the requirements of the ASME Boiler and Pressure Vessel Code, Section V, Article 1 may be used for the qualification of NDE personnel. Personnel qualified to AWS QCI may be used for the visual examination of welds.

136.4 Examination Methods of Welds

→ 136.4.1 Nondestructive Examination. Nondestructive examinations shall be performed in accordance with the requirements of this Chapter. The types and extent of mandatory examinations for pressure welds and welds to pressure retaining components are specified in Table 136.4. For welds other than those covered by Table 136.4, only visual examination is required. Welds requiring nondestructive examination shall comply with the applicable acceptance standards for indications as specified in paras. 136.4.2 through 136.4.6. As a guide, the detection capabilities for the examination method are shown in Table 136.4.1. Welds not requiring examination (i.e., RT, UT, MT, or PT) by this Code or the engineering design shall be judged acceptable if they meet the examination requirements of para. 136.4.2 and the pressure test requirements specified in para. 137. NDE for P-Nos. 3, 4, 5A, 5B, and 15E material welds shall be performed after postweld heat treatment unless directed otherwise by engineering design. Required NDE for welds in all other materials may be performed before or after postweld heat treatment.

136.4.2 Visual Examination. Visual examination as defined in para. 100.2 shall be performed in accordance with the methods described in Section V, Article 9, of

the ASME Boiler and Pressure Vessel Code. Visual examinations may be conducted, as necessary, during the fabrication and erection of piping components to provide verification that the design and WPS requirements are being met. In addition, visual examination shall be performed to verify that all completed welds in pipe and piping components comply with the acceptance standards specified in (A) below or with the limitations on imperfections specified in the material specification under which the pipe or component was furnished.

(A) *Acceptance Standards.* The following indications are unacceptable:

(A.1) cracks — external surface.

(A.2) undercut on surface that is greater than $\frac{1}{32}$ in. (1.0 mm) deep.

(A.3) weld reinforcement greater than specified in Table 127.4.2.

(A.4) lack of fusion on surface.

(A.5) incomplete penetration (applies only when inside surface is readily accessible).

(A.6) any other linear indications greater than $\frac{3}{16}$ in. (5.0 mm) long.

(A.7) surface porosity with rounded indications having dimensions greater than $\frac{3}{16}$ in. (5.0 mm) or four or more rounded indications separated by $\frac{1}{16}$ in. (2.0 mm) or less edge to edge in any direction. Rounded indications are indications that are circular or elliptical with their length less than three times their width.

136.4.3 Magnetic Particle Examination. Whenever required by this Chapter (see Table 136.4), magnetic particle examination shall be performed in accordance with the methods of Article 7, Section V, of the ASME Boiler and Pressure Vessel Code.

(A) *Evaluation of Indications*

(A.1) Mechanical discontinuities at the surface will be indicated by the retention of the examination medium. All indications are not necessarily defects; however, certain metallurgical discontinuities and magnetic permeability variations may produce similar indications that are not relevant to the detection of unacceptable discontinuities.

(A.2) Any indication that is believed to be nonrelevant shall be reexamined to verify whether or not actual defects are present. Surface conditioning may precede the reexamination. Nonrelevant indications that would mask indications of defects are unacceptable.

(A.3) Relevant indications are those that result from unacceptable mechanical discontinuities. Linear indications are those indications in which the length is more than three times the width. Rounded indications are indications that are circular or elliptical with the length less than three times the width.

(A.4) An indication of a discontinuity may be larger than the discontinuity that causes it; however, the size of the indication and not the size of the discontinuity is the basis of acceptance or rejection.



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Table 136.4 Mandatory Minimum Nondestructive Examinations for Pressure Welds or Welds to Pressure-Retaining Components

Type Weld	Piping Design Conditions and Nondestructive Examination		
	Temperatures Over 750°F (400°C) and at All Pressures	Temperatures Between 350°F (175°C) and 750°F (400°C) Inclusive, With All Pressures Over 1,025 psig [7 100 kPa (gage)]	All Others
Butt welds (girth and longitudinal) [Note (1)]	RT or UT for over NPS 2, MT or PT for NPS 2 and less [Note (2)].	RT or UT for over NPS 2 with thickness over 3/4 in. (19.0 mm). VT for all sizes with thickness 3/4 in. (19.0 mm) or less.	Visual for all sizes and thicknesses
Welded branch connections (size indicated is branch size) [Notes (3) and (4)]	RT or UT for over NPS 4, MT or PT for NPS 4 and less [Note (2)].	RT or UT for branch over NPS 4 and thickness of branch over 3/4 in. (19.0 mm) MT or PT for branch NPS 4 and less with thickness of branch over 3/4 in. (19 mm) VT for all sizes with branch thickness 3/4 in. (19.0 mm) or less	VT for all sizes and thicknesses
Fillet, socket, attachment, and seal welds	PT or MT for all sizes and thicknesses [Note (5)]	VT for all sizes and thicknesses	VT for all sizes and thicknesses

GENERAL NOTES:

- (a) All welds shall be given a visual examination in addition to the type of specific nondestructive examination specified.
- (b) NPS — nominal pipe size.
- (c) RT — radiographic examination; UT — ultrasonic examination; MT — magnetic particle examination; PT — liquid penetrant examination; VT — visual examination.
- (d) For nondestructive examinations of the pressure retaining component, refer to the standards listed in Table 126.1 or manufacturing specifications.
- (e) Acceptance standards for nondestructive examinations performed are as follows: MT — see para. 136.4.3; PT — see para. 136.4.4; VT — see para. 136.4.2; RT — see para. 136.4.5; UT — see para. 136.4.6.
- (f) All longitudinal welds and spiral welds in pipe intended for sustained operation in the creep range (see paras. 104.1.1 and 123.4, and Table 102.4.7) must receive and pass a 100% volumetric examination (RT or UT) per the applicable material specification or in accordance with para. 136.4.5 or 136.4.6.

NOTES:

- (1) The thickness of butt welds is defined as the thicker of the two abutting ends after end preparation.
- (2) RT may be used as an alternative to PT or MT when it is performed in accordance with para. 136.4.5.
- (3) RT or UT of branch welds shall be performed before any nonintegral reinforcing material is applied.
- (4) In lieu of volumetric examination (RT, UT) of welded branch connections when required above, surface examination (PT, MT) is acceptable and, when used, shall be performed at the lesser of one-half of the weld thickness or each 1/2 in. (12.5 mm) of weld thickness and all accessible final weld surfaces.
- (5) Fillet welds not exceeding 3/4 in. (6 mm) throat thickness which are used for the permanent attachment of nonpressure retaining parts are exempt from the PT or MT requirements of the above Table.

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ASME B31.1-2010



EXHIBIT "E"
EXCERPTS FROM ORS CHAPTER 480.580 et seq. (*Emphasis Added*)
PAGE 1

480.510 Short title. ORS 480.510 to 480.670 may be cited as the Boiler and Pressure Vessel Law. [1961 c.485 §1; 1969 c.582 §1; 1983 c.676 §2]

480.515 Definitions for ORS 480.510 to 480.670. As used in ORS 480.510 to 480.670, unless the context requires otherwise:

(1) "Alteration" means a change or addition to equipment, other than the ordinary repair or replacement of an existing part of the equipment.

(2) "Board" means the Board of Boiler Rules created under ORS 480.535.

(3) "Boiler" or "boilers" means:

(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; and

(c) Pressure piping consisting of boiler or nonboiler external piping connected to a boiler, but not potable water nonboiler external piping.

(4) "Boiler external piping" has the meaning given the term in the 1986 Pressure Piping Code B 31.1, adopted by the American Society of Mechanical Engineers.

(5) "Certificate of competency" means a certificate issued under the provisions of ORS 480.565 (3).

(6) "Department" means the Department of Consumer and Business Services.

(7) "Director" means the Director of the Department of Consumer and Business Services.

(8) "Installation permit" means a permit issued by the department for the installation, alteration or repair of a boiler or pressure vessel.

(9) "Minimum safety standards" means the rules, regulations, formulae, definitions and interpretations for the safe construction, installation, operation and repair of boilers and pressure vessels either adopted by ORS 480.510 to 480.670 or adopted by the board, under ORS 480.510 to 480.670.

(10) "Nonboiler external piping" has the meaning given the term in the 1986 Pressure Piping Code B 31.1, adopted by the American Society of Mechanical Engineers.

(11) "Operating permit" means a permit issued by the department authorizing the operation of a boiler or pressure vessel.

(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.

(13) "Related appurtenances" means any equipment instrumental to the safe operation of a boiler or pressure vessel.

(14) "Shop inspection" means an inspection at a boiler or pressure vessel manufacturing, construction or repair facility.

(15) "Temporary operation authorization" means an authorization issued by the department to operate a boiler or pressure vessel for a specified period pending the issuance of an operating permit. [1961 c.485 §3; 1969 c.582 §2; 1971 c.753 §58; 1973 c.830 §1; 1983 c.676 §3; 1987 c.414 §35; 1991 c.518 §2; 1993 c.744 §142; 2007 c.487 §3; 2009 c.696 §11]

EXHIBIT "E"
EXCERPTS FROM ORS CHAPTER 480.580 et seq. (*Emphasis Added*)
PAGE 2

480.520 Purpose of ORS 480.510 to 480.670. The purpose of ORS 480.510 to 480.670 is to protect the safety of the people of Oregon and to protect property situated in Oregon from the hazard of fires and explosions caused by boilers and pressure vessels. To accomplish this purpose the Legislative Assembly intends by ORS 480.510 to 480.670 to provide a system:

(1) For determining where and by whom boilers and pressure vessels are being constructed, installed, repaired, used and operated.

(2) To ensure that only qualified persons do welding on boilers and on pressure vessels.

(3) To ensure that boilers and pressure vessels are *manufactured*, installed, repaired, operated, inspected and maintained so as to meet the minimum safety standards formulated and promulgated by the Board of Boiler Rules.

(4) For the administration and enforcement of ORS 480.510 to 480.670 by the Department of Consumer and Business Services and the board.

(5) To defray the cost of administration and the cost of enforcing ORS 480.510 to 480.670 by establishing fees to be charged for:

(a) Issuing operating permits;

(b) Issuing installation permits;

(c) Giving examinations; and

(d) Making inspections. [1961 c.485 §2; 1969 c.583 §3; 1983 c.676 §4; 2007 c.487 §4; 2009 c.696 §12]

480.550 Minimum safety standards; effect on existing vessels; application of subsequent amendments. (1) Until different rules are adopted, there is adopted as the minimum safety standards for boilers and pressure vessels the published codification of standard engineering practices and formulae known as the "Boiler and Pressure Vessel Code of the American Society of Mechanical Engineers," together with the published revisions and interpretations thereof in effect as of January 1, 1969.

(2) Any vessel in use on July 1, 1961, or in use on the effective date of any adoption of different rules, shall be deemed to meet the minimum safety standards so long as the same use continues and no change occurs which would reduce the safety of its operation. Provided that if the Board of Boiler Rules finds that there is a variation from the minimum safety standards which is dangerous to health or safety, it may order that all vessels having a like variation be brought into conformity with the rules created under this section, or adopted after July 1, 1961, without variation.

(3) The Board of Boiler Rules shall adopt minimum safety standards for pressure piping substantially equal to the published codification of standard engineering practices and formulae known as the "Code for Pressure Piping" of the American Society of Mechanical Engineers, numbered B 31.1, B 31.3, B 31.5, B 31.7 and B 31.9 together with the published revisions and interpretations thereof. [1961 c.485 §8; 1969 c.582 §8; 1973 c.830 §3; 1983 c.676 §9a; 1999 c.823 §1]





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DEPARTMENT OF CONSUMER AND BUSINESS SERVICES, BUILDING CODES DIVISION

DIVISION 225

BOILERS AND PRESSURE VESSELS

Part 1 — Administrative Requirements

918-225-0240

Definitions

As used in OAR 918, division 225, unless the context requires otherwise:

(1) "Agricultural Purposes" means:

(a) Sowing, tending, and harvesting of products of the soil grown under natural conditions;

(b) Raising of poultry or fowl;

(c) Pasturage or raising of livestock or other animals; or

(d) Original processing of the farm product, but not the processing of the product of a different operator, or reprocessing work as freezing, canning, or packing if performed substantially for commercial purposes.

(2) "Available" to determine inspection fees at cost, means the vessels must be due for inspection in the year the notification is applicable, and must all be ready for inspection at the time designated by the inspector.

(3) "Board" is defined in ORS 480.515(2).

(4) "Boiler Room" means any enclosed room or designated space within a building, intended by design or by usage to contain a boiler that is connected and available for use. A boiler located in an area not meeting the definition of "boiler room" under OAR 918-225-0465 shall apply to any space within 20 feet of any burner.

(5) "Building Service Piping" means piping systems operating at or less than 150 psig steam; and water at or less than 160 psig and 250° F as described in ANSI/ASME Standard B31.9.

(6) "Chief Inspector" means the inspector appointed by the director pursuant to ORS 480.565(1).

(7) "Farm" means an area of land:

(a) Located in a rural district;

(b) Of sufficient size to generally be considered as a farm in its locale; and

(c) Devoted primarily to tillage and raising crops under natural conditions, or to raising animals, fowl, or poultry.

(8) "Emergency" as used in ORS 480.630(6) means an unplanned circumstance requiring immediate repair, installation, replacement, or shutdown because of risk to health, life, or property.

(9) "Hobby" or "Demonstration" means recreational or other noncommercial use.

(10) "Immediate Safety Hazard" means hazardous conditions exist requiring immediate correction to a boiler, pressure vessel, or pressure piping system to preserve the safety of people or property.

(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 the purposes of these rules, an electrical power supply connection to a boiler or pressure vessel is not an installation.

(12) "National Board" means the National Board of Boiler and Pressure Vessel Inspectors.

(13) "Operating" means any vessel connected and ready for service.

(14) "Person" means any individual, partnership, corporation, association, governmental subdivision, or public or private organization of any character.

(15) "Place of Public Assembly" means a building used or held for use, in whole or in part, for worship; health treatment; rest, recuperation, or retirement living; child care nurseries or institutions; public meetings; education; instruction; entertainment; eating; recreation; or awaiting transportation.

(16) "Pressure Piping" means piping systems and components under the scope of ASME B31.1, B31.3, B31.5, and B31.9.

(17) "Pressure Relief Valve" means a valve activated by inlet static pressure which opens in proportion to the increase in pressure over the opening pressure range. Only ASME approved valves are allowed under the boiler rules.

(18) "Pressure Vessel" is defined in ORS 480.515(12).

(19) "Process Piping Inspector" means the owner's inspector, for the inspection of ASME B31.3 Process Piping, Category "M" fluid service only.

(20) "Psig" means pounds per square inch gauge pressure.

(21) "Related Appurtenance" is defined in ORS 480.515(13).

(22) "Repair" means:

(a) Welded or Riveted Repairs, meaning welding or riveting within or on the pressure boundaries of a boiler, pressure vessel or related appurtenance to restore the vessel or appurtenance to a safe and satisfactory operating condition, or any work that might impair the integrity of the pressure retaining item;

(b) Non-welded Major Repairs, meaning work performed on a boiler or pressure vessel and its related appurtenances by non-welded means to restore the vessel or appurtenance to a safe and satisfactory operating condition, including but not limited to the replacement of burners, tubes and cast iron sections; and

(c) Minor Repairs, meaning the non-welded replacement of safety devices, including but not limited to, low water cut-offs, pressure relief valves, safety valves, safety switches, rupture discs, high pressure or temperature limits, low pressure or temperature limits, fuel train components, flame detectors, flame safeguards, heat exchanger elements, and burner components.

(23) "Safety Valve" means a valve activated by inlet static pressure and characterized by rapid opening or pop action. Only ASME approved valves are allowed under the boiler rules.

(24) "Same Location," to determine inspection fees at cost, means that all vessels are within 2,000 feet of one another.

(25) "Service of Process" means deposit in the U.S. mail a copy of a notice addressed to the respondent at the respondent's last known address.

(26) "Single Family Dwelling" means a one-family dwelling structure.

(27) "Structure" means a building or shed with a roof and enclosed on the sides 75 percent or more.

(28) "Traction Boiler" means a boiler constructed before January 1, 1961, designed to operate or pull equipment, or to convert steam power into a flywheel energy driving apparatus such as a thresher, road roller, or grinding equipment.

(29) "Vessel That is Considered Subject to Corrosion or Erosion" means the vessel contains or is intended to contain contents having a corrosive or erosive effect on any portion of the vessel. The use of glass linings leaves a vessel subject to corrosion unless all portions of the vessel are impervious to the corrosive or erosive effects of the contents.

Stat. Auth.: ORS 455.030 & 480.545

Stats. Implemented: ORS 480.525, 480.545, 480.550, 480.560 & 480.565

Hist.: DC 17, f. 7-31-72, ef. 8-15-72; DC 3-1982, f. & ef. 2-3-82; DC 1-1984, f. & ef. 1-5-84; BCA 4-1989, f. & cert. ef. 4-17-89; Renumbered from 814-025-0003; BCA 4-1989, f. & cert. ef. 4-17-89; BCA 5-1991, f. & cert. ef. 3-15-91; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0005; BCD 18-1997, f. 12-3-97, cert. ef. 1-1-98; BCD 26-1998, f. 12-30-98, cert. ef. 1-1-99; BCD 36-2000, f. 12-29-00, cert. ef. 1-1-01; BCD 4-2003, f. & cert. ef. 3-14-03; BCD 17-2005(Temp), f. & cert. ef. 7-12-05 thru 9-30-05; BCD 20-2005, f. 9-15-05, cert. ef. 10-1-05; BCD 14-2007, f. 12-28-07 cert. ef. 1-1-08; BCD 10-2009, f. 12-30-09, cert. ef. 1-1-10; BCD 36-2011, f. 12-30-11, cert. ef. 1-1-12

Part II -- Exemptions

918-225-0300

Fired Water Heaters

Fired water heaters used exclusively for heating water for swimming pools or spas are considered pool boilers and are exempt from the requirements of ORS 480.510 to 480.665 if:

(1) Units are equipped with a flow switch or pressure switch set at a minimum of 1-1/2 psig;

(2) No intervening stop valves are installed on the discharge side of the unit;

(d) Technischer Überwachungsverein (TUV) also known as the "German National Standard."

Stat. Auth.: ORS 480.545

Stats. Implemented: ORS 480.545

Hist.: BCD 15-1994, f. & cert. ef. 6-14-94; BCD 29-1994, f. & cert. ef. 12-23-94

918-225-0370

Coil-Type Water Boilers

Coil-type water boilers, where the water can flash into steam when released directly to the atmosphere through a manually operated nozzle, are exempt from ORS 480.510 to 480.665 if the following conditions are met:

- (1) There is no drum, header, or other steam space;
- (2) No steam is generated within the coil;
- (3) Tubing outside diameter does not exceed one inch;
- (4) Pipe size does not exceed NPS 3/4;
- (5) Nominal water capacity does not exceed six gallons;
- (6) Water temperature does not exceed 350° F.;
- (7) Adequate safety relief valves and controls are provided.

Stat. Auth.: ORS 480.560

Stats. Implemented: ORS 480.560

Hist.: BCA 19-1991(Temp), f. 6-14-91, cert. ef. 6-15-91; BCA 30-1991, f. & cert. ef. 9-9-91; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0096

918-225-0380

Refrigeration Chillers

(1) Waterside vessels of refrigeration chillers are exempt under ORS 480.510 to 480.665 if:

- (a) The design pressure does not exceed 300 pounds per square inch gauge, the temperature does not exceed 210°F., and the system includes an ASME-approved relieving device set at a maximum working pressure of 300 pounds per square inch gauge at 210°F;
 - (b) The refrigerant side is built in accordance with the minimum safety standards and equipped with an ASME-approved relieving device set at or below the maximum working pressure and temperature as specified on the nameplate for the vessel; and
 - (c) All installations of refrigeration chillers comply with ORS 480.630.
- (2) Systems connected to an outside heat energy source shall not be exempt from ORS 480.510 to 480.665.
- (3) If any of the limitations in section (1) of this rule are exceeded, the chiller must comply with the minimum safety standards.
- (4) This exemption does not apply to systems using ammonia as a refrigerant.

[Publications: The publication(s) referred to or incorporated by reference in this rule are available from the agency.]

Stat. Auth.: ORS 480.560

Stats. Implemented: ORS 480.560

Hist.: DC 20 1085(Temp), f. & of. 9-20-86; DC 5 1086, f. & of. 3-7-86; Renumbered from 918-225-0040; BCA 4 1000, f. & cert. ef. 2-6-90; BCA 36 1000, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0115

Part III — Codes and Vessel Operations

Subpart A — Codes

918-225-0430

Adopted Oregon Boiler and Pressure Vessel Specialty Code

(1) The **Oregon Boiler and Pressure Vessel Specialty Code** is adopted and amended by reference. Any matters included in the referenced publications below that are in conflict with Oregon Revised Statutes or Oregon Administrative Rules are superseded by the applicable statute or rule. All remaining parts or application of the code or standard remain in effect. Items which are superseded by applicable statute or rule include but are not limited to: licensing or certification requirements; inspection schedules and requirements; quality assurance or quality control procedures or requirements; structures or equipment maintenance requirements; matters covered by federal or state law; and matters that conflict with other specialty codes or publications adopted by the department. Any matters included in the referenced publications below which are beyond the scope of the State Building Code as defined in ORS Chapter 455 are not adopted or enforced as part of the **Oregon Boiler and Pressure Vessel Specialty Code**.

(2) Effective April 1, 2015, the **2015 Oregon Boiler and Pressure Vessel Specialty Code** consists of the following minimum safety standards for boilers, pressure vessels, pressure piping, parts, items, and repair and alteration procedures:

Code Complaint Exhibit F
Page 3 of 17

(a) ORS 480.510 to 480.670 and OAR chapter 918, division 225;

(b) The Boiler and Pressure Vessel Code of The American Society of Mechanical Engineers (ASME), 2013 Edition as published, including Section I; Section II, Parts A, B, C, and D; Section IV; Section V; Section VIII, Division 1, 2, and 3; Section IX; and Section X only;

(c) The 2012 Edition of the ANSI/ASME B31.1 Power Piping Code;

(d) The 2012 Edition of the ANSI/ASME B31.3 Process Piping Code;

(e) The 2013 Edition of the ANSI/ASME B31.5 Refrigeration Piping Code;

(f) The 2011 Edition of the ANSI/ASME B31.9 Building Service Piping Code;

(g) The 2013 Edition of the National Board Inspection Code ANSI/NB 23, including Parts 1, 2, and 3, as amended by the division in Table 2-B;

(h) The 2011 Edition of NFPA 85, Boiler and Combustion Systems Hazards Code; and,

(i) The 2012 Edition of ASME, CSD-1, Controls and Safety Devices for Automatically Fired Boilers.

(3) The standards and requirements applicable to boiler and pressure vessel business and trade licenses, as well as inspector certifications, issued by the Building Codes Division are established in ORS Chapters 455 and 480, and OAR chapter 918, divisions 30, 90, and 225.

[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 455.020, 480.545 & 480.550

Stats. Implemented: ORS 480.545, 480.550 & 480.560

Hist.: DC 17, f. 7-31-72, ef. 8-15-72; DC 19, f. 6-21-73, ef. 7-1-73; DC 27(Temp), f. & ef. 12-31-73; DC 33, f. 5-6-74, ef. 5-25-74; DC 38(Temp), f. & ef. 11-1-74; DC 50, f. 7-2-75, ef. 7-25-75; DC 89, f. & ef. 6-2-77; DC 93, f. & ef. 7-19-76; DC 1-1978, f. 1-5-78, ef. 1-15-78; DC 4-1980, f. & ef. 5-30-80; DC 6-1982, f. & ef. 2-4-82; DC 23-1982, f. & ef. 11-9-82; DC 18-1983, f. & ef. 8-11-1983; DC 21-1983, f. & ef. 9-29-83; DC 1-1984, f. & ef. 1-5-84; DC 18-1984, f. & ef. 5-9-84; DC 36-1984, f. & ef. 12-4-84; DC 16-1985, f. & ef. 7-1-85; DC 6-1986, f. & ef. 5-5-86; DC 2-1987, f. & ef. 2-18-87; BCA 5-1987, f. & ef. 8-24-87; BCA 15-1988, f. & cert. ef. 11-16-88; BCA 25-1989, f. & cert. ef. 7-27-89; Renumbered from 814-025-0006; BCA 5-1990, f. & cert. ef. 2-6-90; BCA 26-1990, f. & cert. ef. 10-30-90; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0015; BCD 17-1996, f. & cert. ef. 9-17-96; BCD 18-1997, f. 12-3-97, cert. ef. 1-1-98; BCD 26-1998, f. 12-30-98, cert. ef. 1-1-99; BCD 36-2000, f. 12-29-00, cert. ef. 1-1-01; BCD 13-2002, f. 6-28-02, cert. ef. 7-1-02; BCD 17-2005(Temp), f. & cert. ef. 7-12-05 thru 9-30-05; BCD 20-2005, f. 9-15-05, cert. ef. 10-1-05; BCD 16-2006, f. 12-29-06, cert. ef. 1-1-07; BCD 33-2008, f. 12-31-08, cert. ef. 1-1-09; BCD 31-2011, f. 12-30-11, cert. ef. 1-1-12; BCD 1-2015, f. 3-23-15, cert. ef. 4-1-15

918-225-0435

Amendments to the Oregon Boiler and Pressure Vessel Specialty Code

(1) The Oregon Boiler and Pressure Vessel Specialty Code is amended pursuant to OAR chapter 918, division 8. Amendments adopted for inclusion into the Oregon Boiler and Pressure Vessel Specialty Code are placed in this rule.

(2) Effective April 1, 2015, the 2013 Edition of the National Board Inspection Code ANSI/NB 23, parts 1 and 2 are amended in Oregon as provided in Table 2-B.

[Publications: Publications referenced are available from the agency.]

[ED. NOTE: Table referenced is not included in rule text. [Click here for PDF copy of table.](#)]

Stat. Auth.: ORS 455.020, 480.545 & 480.550

Stats. Implemented: ORS 480.545 & 480.550

Hist.: BCD 16-2006, f. 12-29-06, cert. ef. 1-1-07; BCD 6-2007, f. 6-8-07, cert. ef. 6-15-07; BCD 33-2008, f. 12-31-08, cert. ef. 1-1-09; BCD 31-2011, f. 12-30-11, cert. ef. 1-1-12; BCD 1-2015, f. 3-23-15, cert. ef. 4-1-15

918-225-0445

Other Installation Standards

(1) Boilers or pressure vessels not designed or constructed in accordance with the Boiler and Pressure Vessel Code of the American Society of Mechanical Engineers (ASME) may be installed in Oregon if the boiler or pressure vessel was designed or constructed in accordance with the applicable standards issued by one of the following organizations:

(a) British Standards Institute;

(b) Canadian Standards Association;

(c) European Committee for Standardization; or

(d) Syndicat National de la Chaudronnerie de la Tuyauterie & de la Maintenance Industrielle (SNCT).

(2) Boilers and pressure vessels constructed in accordance with the standards listed in (1)(a) through (d) of this rule must:

(a) Have controls and safety devices that are comparable to the controls and safety devices outlined in ASME CSD-1, Controls and Safety Devices for Automatically Fired Boilers, including, but not limited to, data plates and warning labels that are written in English;

(b) Be fitted with pressure relief valves that are built to ASME standards; and,

(c) Be installed, operated, maintained, and repaired in accordance with the provisions of ORS 480.510 to 480.670 and these rules.

Stat. Auth.: ORS 480.545 & 480.560
Stats. Implemented: ORS 480.545 & 480.560
Hist.: BCD 32-2008, f. 12-31-08, cert. ef. 1-1-09

Subpart B — Vessel Operations

918-225-0450

Manufacturer's Data Reports

(1) For new boilers or pressure vessels built to ASME or Canadian Standards Association standards, a Manufacturer's Data Report shall be filed with the National Board of Boiler and Pressure Vessel Inspectors before installing any new boiler or pressure vessel subject to installation inspection in Oregon. A copy of the filing is provided to the chief inspector by the National Board of Boiler and Pressure Vessel Inspectors when the boiler is to be installed in Oregon.

(2) For new boilers or pressure vessels not built to ASME or Canadian Standards Association standards, that are approved for installation in Oregon through administrative rule or an alternate method ruling, shall require manufacturer's construction specifications that are comparable to a Manufacturer's Data Report and that are written in English, to be filed with the division before installation.

(3) A Manufacturer's Data Report shall be filed with the chief inspector before installing any new unfired miniature pressure vessel or used boiler or pressure vessel subject to installation inspection in Oregon.

(4) This rule does not apply to cast iron boilers.

Stat. Auth.: ORS 480.545
Stats. Implemented: ORS 480.545

Hist.: DC 19, f. 6-21-73, ef. 7-1-73; DC 2-1982, f. & ef. 2-3-82; DC 21-1984, f. & ef. 5-15-84; DC 32-1984, f. & ef. 10-19-84; Renumbered from 814-025-0008; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0020; BCD 18-1997, f. 12-3-97, cert. ef. 1-1-98; BCD 31-2008, f. 12-31-08, cert. ef. 1-1-09

918-225-0460

Reporting of Accidents and Conditions of Use

(1) Any accident, which includes an explosion, fire or major failure of a vessel or a related appurtenance shall be reported to the chief inspector by telephone or FAX, or both, at the Building Codes Division within 24 hours of the occurrence by:

- (a) Vessel owner, whether legal or equitable;
- (b) Vessel user, whether agent of the owner or independent thereof;
- (c) Deputy and special inspectors; or
- (d) Any person licensed or certified under ORS 480.630.

(2) The chief inspector shall cause an immediate inspection of the vessel reported under section (1) of this rule.

(3) Neither the vessel, nor its related appurtenances, shall be changed, altered, repaired or moved (except to give emergency aid or assistance to injured persons), before a deputy or special inspector has been notified of the nature, extent and cause of the accident. The deputy or special inspector shall, at that time, make a determination whether repairs may be undertaken and by what method. The vessel owner or user shall keep any damaged parts of the vessel available, until the inspection required by section (2) of this rule has been made.

(4) Reports made under section (1) of this rule shall not relieve any person from the requirements of an inspection as provided by section (2) of this rule.

Stat. Auth.: ORS 480.545
Stats. Implemented: ORS 480.545

Hist.: DC 17, f. 7-31-72, ef. 8-15-72; DC 3-1981, f. & ef. 1-23-81; Renumbered from 814-025-0071; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0160

918-225-0465

Boiler Room Usage

(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.

(2) Boiler water treatment chemicals, boiler maintenance or repair tools and equipment and boiler record-keeping materials are exempted from section (1) of this rule.

(3) Boiler rooms shall be maintained in an orderly manner. Lighting shall be provided and maintained in accordance with Table 220-3(a) of the Electrical Specialty Code adopted in OAR 918-305-0100. Trash receptacles containing combustible materials shall be of the self-closing type.

[Publications: The publication(s) referenced in this rule are available from the agency.]

Stat. Auth.: ORS 480.545
Stats. Implemented: ORS 480.545

Hist.: BCD 26-1998, f. 12-30-98, cert. ef. 1-1-99; BCD 36-2000, f. 12-29-00, cert. ef. 1-1-01

918-225-0470

Boiler Operation

The owner-user of a boiler, designed for operation at or above 15 psi steam; or 160 psi or 250 F. water shall insure that all boiler control and safety devices are thoroughly inspected and tested at regular intervals consistent with the provisions of OAR 918-225-0560 and OAR 918-225-0570. A daily record of boiler operation, tests, inspections, maintenance and feed water treatment shall be maintained in or near the boiler room and shall be available for examination by any deputy or special inspector. The record shall include the name and signature of the person assigned responsibility for boiler operations.

(1) A person suitably trained in boiler operation and control must be assigned responsibility for the boiler and shall be in close proximity of the boiler whenever it is in operation. While in operation, the boiler may not be left unattended for any period longer than the response time described in section (3) of this rule.

(2) Each boiler must be equipped with an alarm which operates at the lowest permissible water level or highest permissible operating temperature. The alarm must be audible to the person responsible for operation of the boiler at any time the boiler is in operation. The person must be able to respond to a boiler fault within the response time described in section (3) of this rule. At least one low water control device designed to shut down the boiler when activated, must require manual resetting before the boiler may be restarted.

(3) Response time for a boiler subject to this rule shall be the time required to lower the water level from the normal operating level to the minimum allowable level when the boiler is firing at the maximum rate and the feed water is shut off; or to raise the operating pressure or temperature of a water boiler to the maximum allowable rating.

(4) Boilers using solid fuel not in suspension shall have fuel and water control devices approved by the chief inspector, and in case of feed water failure shall be equipped with a means to effectively reduce or eliminate fuel heat input to the boiler.

(5) Miniature boilers built to ASME Section I, part PMB are exempt from this rule. Boilers of historical design, operated for hobby use only, are exempt from section (2) of this rule.

[Publications: The publication(s) referenced in this rule is available for review at the agency.]

Stat. Auth.: ORS 480.545

Stats. Implemented: ORS 480.545

Hist.: DC 17, f. 7-31-72, ef. 8-15-72; DC 24-1982, f. & ef. 11-16-82; Renumbered from 814-025-0085; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0190; BCD 4-1995, f. & cert. ef. 3-15-95; BCD 13-1995, f. & cert. ef. 9-15-95; BCD 18-1997, f. 12-3-97, cert. ef. 1-1-98; BCD 36-2000, f. 12-29-00, cert. ef. 1-1-01

918-225-0510

Installation of Buried Vessels

Under no circumstances shall any pressure vessel subject to the Boiler and Pressure Vessel Laws and these rules be buried underground or located in an inaccessible place. Where necessary to install a vessel underground, it shall be enclosed in a concrete or masonry pit with removable cover so that inspection of entire shell and heads of the vessel can be made.

Stat. Auth.: ORS 480.545

Stats. Implemented: ORS 480.545

Hist.: DC 92, f. & ef. 7-19-77; DC 10-1983, f. & ef. 4-28-83; Renumbered from 814-025-0046; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0105

**Part IV — Inspection Requirements
Subpart A — Powers of Special Inspector**

918-225-0540

Scope of Special Inspector's Authority

(1) General inspection requirements are in ORS 480.560.

(2) The type of inspections a special inspector can do is set out in ORS 480.570.

(3) The special inspector's enforcement powers are in ORS 480.660.

(4) Appeals from special inspector actions are under ORS 480.660(4).

Stat. Auth.: ORS 480.560, ORS 480.570 & ORS 480.660

Stats. Implemented: ORS 480.560, ORS 480.570 & ORS 480.660

Hist.: BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94

Subpart B — Responsibility of Inspectors

918-225-0560

Responsibility of Inspectors

(1) All deputy and special inspectors shall perform boiler, pressure vessel and pressure piping inspections in accordance with the Boiler and Pressure Vessel Specialty Code adopted in OAR 918-225-0430 and the following requirements of the division:

Code Complaint Exhibit F

(a) For new boilers, the inspector shall verify that the controls and safety devices required by ASME CSD-1 or other construction codes are installed and function as designed in accordance with manufacturer's instructions;

(b) External boiler inspections shall be performed with the boiler in normal operation. The inspector shall examine all controls, safety devices, water columns and gauge glasses for evidence of tampering and shall verify that all testing has been performed to ensure proper functioning;

(c) Internal boiler inspections shall be performed in a thorough and complete manner. Manways and other inspection openings necessary to perform a particular inspection shall be removed for access to the boiler internals. Water columns, feed water controllers and feed piping shall be inspected internally. The inspector shall visually examine pressure boundary retaining devices, boiler refractory, hangers, clips, boiler tubes and headers and drum internals for damage, corrosion, overheating, welded repairs, feedwater treatment or any detrimental conditions;

(d) The inspector shall explain to the owner or user that any boiler, pressure vessel or pressure piping deficiency requires correction under the **Oregon Boiler Specialty Code**. The inspector shall require conditions not hazardous to health or safety to be corrected within 30 days. The inspector shall require conditions hazardous to health or safety to be corrected prior to operating the equipment. The owner or user of the equipment may apply to the chief inspector for extension of the 30-day correction requirement; and

(e) All inspectors witnessing installation, repair or alteration of boilers, pressure vessels or pressure piping shall verify that the contractor and workers performing the work are appropriately licensed and hold valid permits as required by ORS 480.630.

(2) Failure to comply with subsections (1)(a) through (e) of this rule, or failure of an owner or user to perform a required deficiency correction may cause additional inspections to be performed per ORS 480.570 as directed by the chief inspector.

(3) The responsibilities of process piping inspectors are located in OAR 918-225-0562.

[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 455.030 & 480.545

Stats. Implemented: ORS 480.545, 480.555, 480.560, 480.565 & 480.570

Hist.: DC 17, f. 7-31-72, ef. 8-15-72; DC 37-1984, f. & ef. 12-4-84; Renumbered from 814-025-0020; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94;

Renumbered from 918-225-0045; BCD 26-1998, f. 12-30-98, cert. ef. 1-1-99; BCD 4-2003, f. & cert. ef. 3-14-03; BCD 17-2005(Temp), f. & cert. ef. 7-12-05 thru 9-30-05; BCD 20-2005, f. 9-15-05, cert. ef. 10-1-05

918-225-0562

Process Piping Inspector Responsibilities

(1) The process piping inspector shall:

(a) Inspect the Category "M" fluid service process piping to the extent necessary to be satisfied that it conforms to all applicable examination requirements of **ASME B31.3**;

(b) Verify that all required examinations and testing have been completed; and

(c) Complete and sign division-supplied forms and provide them to the authority having jurisdiction, the division and the registered owner a summary report of the inspections on at least a quarterly basis including information showing who did the inspections.

(2) A certified process piping inspector may delegate inspection responsibility only to other persons when the process piping inspector has:

(a) Provided the name or list of names of the delegates to the authority having jurisdiction and the division; and

(b) Determined the person to whom an inspection function is delegated is qualified to perform that function.

(3) The division may review inspection and installation activities as necessary to determine compliance and may assess an hourly review fee as appropriate.

[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 480.565

Stats. Implemented: ORS 480.565

Hist.: BCD 6-2003, f. 3-14-03, cert. ef. 7-1-03

918-225-0565

Reporting of Immediate Hazards to Health or Safety

Deputy and special inspectors shall report immediate hazards to health or safety concerning boilers or pressure vessels to the chief inspector immediately by telephone and also that a notice of defective condition was issued and that the hazardous operations were stopped.

Stat. Auth.: ORS 480.545

Stats. Implemented: ORS 480.545

Hist.: DC 17, f. 7-31-72, ef. 8-15-72; DC 11-1985, f. & ef. 5-22-85; BCA 4-1988, f. & cert. ef. 2-22-88; Renumbered from 814-025-0070; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0155; BCD 18-1997, f. 12-3-97, cert. ef. 1-1-98 Renumbered from 918-225-0800

Subpart C — Timing of Inspections

918-225-0570

Boiler and Pressure Vessel Inspection Schedules

Unless the division grants special permission, all inspectors must comply with the following inspection schedule:

(1) Power boilers must be inspected, at minimum:

- (a) Internally — every year, when physical construction of the boiler allows; and
- (b) Externally — every year, while under pressure.

(2) Cast iron boilers must be inspected externally — every two years, while under pressure.

(3) Low pressure steam boilers must be inspected, at minimum:

- (a) Internally — every two years, when physical construction of the boiler allows; and
- (b) Externally — every two years, while under pressure.

(4) Hot water heating and hot water supply boilers must be inspected:

- (a) Internally — every six years, when physical construction of the boiler allows; and
- (b) Externally — every two years, while under pressure.

(5) Pressure vessels containing anhydrous ammonia intended for use as fertilizer must be inspected, at minimum, externally every three years.

(6) Fixed pressure vessels, containing only air, not located at a place of public assembly, not exceeding 20 cubic feet in volume, and operated at gauge pressures of not more than 200 pounds per square inch must be inspected, at minimum:

- (a) Internally — every six years, subject to section (13) of this rule; and
- (b) Externally — every six years.

(7) Co2 vessels and hydro-pneumatic pressure vessels, used for beverage service, not exceeding 20 cubic feet in volume, and operated at gauge pressures of not more than 300 pounds per square inch must be inspected, at minimum:

- (a) Internally — every six years, subject to section (13) of this rule; and
- (b) Externally every six years.

(8) Pressure vessels, not classified in sections (5), (6), and (7) of this rule, and subject to internal corrosion or erosion must be inspected, at minimum:

- (a) Internally — every two years, subject to section (13) of this rule; and
- (b) Externally — every two years.

(9) Unfired pressure vessels, not classified in sections (5), (6), (7), (10) and (11) of this rule, and not subject to internal corrosion must be inspected, at minimum, externally — every four years.

(10) Unfired pressure vessels not subject to internal corrosion but containing a substance which, if it were to leak, might cause serious irreversible harm to a person must be inspected, at minimum:

- (a) Internally — every two years, subject to section (13) of this rule; and
- (b) Externally — every two years.

(c) A substance "might cause serious irreversible harm" if the substance's Material Safety Data Sheet describes serious health or physical risks caused by short-term exposure to the substance.

(11) Unfired pressure vessels not subject to internal corrosion that are located at a place of public assembly and are not classified in section (8) of this rule must be inspected, at minimum:

- (a) Internally — every two years, subject to section (13) of this rule; and
- (b) Externally — every two years.

(12) Pressure piping systems containing refrigerants, steam, or pressurized condensate: Inspection during fabrication, installation, repair, or alteration for verification of compliance with material, welding, brazing, and structural support requirements. The inspector may require other tests to verify quality of weldments. This rule does not apply to welded repair of pressure piping under OAR 918-225-0720.

(13) The inspector may waive an internal inspection, under section (6), (7), (8), (10) or (11) of this rule if the inspector believes from alternate inspection methods an internal inspection is not necessary to verify the safe condition of the vessel.

(14) An inspector may require additional internal or external inspections, or tests, other than those required in this rule, if the inspector has reason to believe that the boiler or pressure vessel does not meet minimum safety standards.

(15) Failure to comply with sections (1) through (14) of this rule may cause inspections to be performed by a deputy inspector per ORS 480.570(6) as directed by the chief inspector.

[ED. NOTE: Table referenced is not included in rule text. [Click here for PDF copy of table.](#)]

Stat. Auth.: ORS 480.545, 480.550 & 480.560

Stats. Implemented: ORS 480.545, 480.550 & 480.560

Hist.: DC 17, f. 7-31-72, ef. 8-15-72; DC 12-1980, f. & ef. 9-12-80; BCA 1-1987, f. & ef. 7-1-87; Renumbered from 814-025-0075; BCA 22-1992(Temp), f. 12-15-92, cert. ef. 1-1-93; BCA 4-1993, f. & cert. ef. 4-5-93; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0175; BCD 18-1996, f. & cert. ef. 9-17-96; BCD 18-1997, f. 12-3-97, cert. ef. 1-1-98; BCD 36-2000, f. 12-29-00, cert. ef. 1-1-01; BCD 15-2006, f. 12-29-06, cert. ef. 1-1-07; BCD 7-2007, f. 7-13-07, cert. ef. 9-1-07; BCD 29-2008, f. 12-31-08, cert. ef. 1-1-09; BCD 31-2011, f. 12-30-11, cert. ef. 1-1-12; BCD 1-2015, f. 3-23-15, cert. ef. 4-1-15

Part V — Fees and Permits
Subpart A — Permits

918-225-0600

Permits

(1) Except as otherwise provided in this rule, an installation permit is required before installing, altering, or repairing a nonexempt boiler or pressure vessel.

(2) Notwithstanding section (1) of this rule:

(a) An installation permit is not required for minor repairs performed under a minor repair permit in accordance with OAR 918-225-0606 to 918-225-0618.

(b) An installation permit is not required for minor repairs or non-welded major repairs to a pressure vessel containing liquefied petroleum gas that is under the jurisdiction of the State Fire Marshal.

(c) If the installation, alteration, or repair will be performed by the owner of the boiler or pressure vessel or an employee of the owner, an installation permit is only required if the boiler or pressure vessel is located in a structure that:

(A) Is classified as an Education Group "E" Occupancy under the Oregon Structural Specialty Code;

(B) Is classified as an Institutional Group "I-2" Occupancy under the Oregon Structural Specialty Code; or

(C) Has an occupant load greater than 100, as calculated under the Oregon Structural Specialty Code.

(d) Notwithstanding subsection (c) of this rule, an installation permit is not required for a boiler or pressure vessel that is installed, altered, or repaired by its owner or an employee of its owner in a location that is staffed 24 hours a day, seven days a week, by individuals knowledgeable in the operation and maintenance of the boiler or pressure vessel.

(3) An operating permit or a temporary operation authorization is required before placing a nonexempt vessel into operation.

(4) If an inspection is scheduled, and the inspector is at the site but the boiler or pressure vessel is not ready or cannot be accessed, the rescheduled inspection will be at an additional cost. The fee for such inspections is the hourly rate specified in ORS 480.605.

(5) Permits to operate boilers or pressure vessels shall be issued periodically according to vessel type, based on the schedule established by the division in Table 1-A.

(6) Operating and installation permit fees are as shown in Table 3-B.

(7)(a) Operating permit fees not received within 90 days of the billing date may be considered delinquent and subject to a late penalty of double the fee amount. It is the equipment owner's responsibility to maintain a current operating permit. This responsibility includes notifying the division of address and other billing information changes. Late penalties may only be waived under exceptional circumstances.

(b) All waiver requests must be submitted in writing and must clearly state the reason for the request. A waiver may be granted for all or part of the additional fee.

(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.

(a) The installation permit must be posted at the job site before beginning the work; or.

(b) This rule does not change the provisions for emergency permits in ORS 480.630(6). It is recommended, but not required, that emergency permits be reviewed and coordinated with the inspector responsible for inspecting the completed work.

(c) Commissioning of a boiler by a commissioning agent or manufacturer's representative does not require a separate installation permit.

(9) An installation permit or operating permit issued under this rule is not transferable.

(10) An installation permit automatically expires 18 months from the date of issuance unless the installation, alteration, or repair begins before the end of the 18th month.

(a) The holder of an un-expired installation permit may submit a written request for an unconditional six-month extension of the expiration date. The division may not extend an installation permit more than twice.

(b) An expired installation permit may not be extended or renewed. A new application and fee will be required. The division will not refund the fees for an expired installation permit.

(c) Fees for installation permits are non-refundable.

(11) Any person who commences any work on a boiler or pressure vessel before obtaining the necessary permits shall be subject to an investigative fee. The amount of the investigative fee shall be the average or actual additional cost of ensuring that a boiler or pressure vessel is in conformance with the **Oregon Boiler and Pressure Vessel Specialty Code** and shall be in addition to the required permit fees.

NOTE: Table 1-A, Boiler and Pressure Vessel Operating Permit Periods, and Table 3-B, Boiler and Pressure Vessel Permit Fees, are available on the division's Web site at <http://www.bcd.oregon.gov/rules.html#oar>.

[ED. NOTE: Table referenced is not included in rule text. [Click here for PDF copy of table.](#)]

Stat. Auth.: ORS 480.585, 480.595 & 480.605

Stats. Implemented: ORS 455.058, 480.585, 480.595, 480.605, & 480.630

Hist.: BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; BCD 18-1997, f. 12-3-97, cert. ef. 1-1-98; BCD 14-2007, f. 12-28-07 cert. ef. 1-1-08; BCD 4-2009(Temp), f. & cert. ef. 7-16-09 thru 1-1-10; BCD 10-2009, f. 12-30-09, cert. ef. 1-1-10; BCD 31-2011, f. 12-30-11, cert. ef. 1-1-12; BCD 36-2011, f. 12-30-11, cert. ef. 1-1-12; BCD 1-2015, f. 3-23-15, cert. ef. 4-1-15

918-225-0606

Issuance and Purchase of Minor Repair Permits

(1) The Building Codes Division will issue minor repair permits in lots of five at a cost of \$175 per lot. Each lot of minor repair permits is valid for one year from the date of purchase.

(2) The following persons may purchase minor repair permits:

(a) Contractors holding a verified Construction Contractors Board license and a valid boiler contractor license under ORS 480.630; or

(b) Owners of boilers and pressure vessels and their designated representatives.

(3) Minor repair permits are not transferable.

Stat. Auth.: ORS 480.595, 455.154 & 455.155

Stats. Implemented: ORS 480.595, 455.154 & 455.155

Hist.: BCD 36-2011, f. 12-30-11, cert. ef. 1-1-12; BCD 36-2011, f. 12-30-11, cert. ef. 1-1-12; BCD 1-2015, f. 3-23-15, cert. ef. 4-1-15

918-225-0609

Use of Minor Repair Permits

(1) Only those minor repairs described in OAR 918-225-0612 may be performed under a minor repair permit.

(2) A minor repair permit authorizes work on a single boiler or pressure vessel. Multiple minor repairs may be performed under a minor repair permit provided that each minor repair is completed within the five day period that begins when the first minor repair is completed.

(3) All work performed under a minor repair permit must conform to the Oregon Boiler and Pressure Vessel Specialty Code.

(4) An individual performing work under a minor repair permit must:

(a) Hold the appropriate license, if required, under ORS 480.630 and OAR 918-225-0691 for the type of work performed;

(b) Fill out the information required on the minor repair permit; and

(c) Post the minor repair permit in a secure and visible location near the site of the repair.

(5) Within five business days of work being completed, the purchaser of the minor repair permit is responsible for ensuring that all work that was performed under the minor repair permit is recorded in the manner approved by the division.

[Publications referenced are available from the agency.]

Stat. Auth.: ORS 480.595, 455.154 & 455.155

Stats. Implemented: ORS 480.595, 455.154 & 455.155

Hist.: BCD 36-2011, f. 12-30-11, cert. ef. 1-1-12

918-225-0612

Scope of Work Allowed under Minor Repair Permit

(1) Only minor repairs may be performed under a minor repair permit. Minor repairs include, but are not limited to, the non-welded replacement of the following:

(a) Low water cut-off;

(b) Pressure relief valve;

(c) Safety valve;

(d) Safety switch;

(e) Rupture disc;

- (f) High pressure or temperature limit;
- (g) Low pressure or temperature limit;
- (h) Fuel train component;
- (i) Flame detector;
- (j) Flame safeguard;
- (k) Heat exchanger element; and
- (l) Burner components.

(2) Nothing in this rule prohibits purchasing an installation permit to ensure that a minor repair will be individually inspected.

(3) A minor repair permit is not required for minor repairs made to pressure vessels containing liquefied petroleum gas that are under the jurisdiction of the State Fire Marshal.

Stat. Auth.: ORS 480.595, 455.154 & 455.155

Stats. Implemented: ORS 480.595, 455.154 & 455.155

Hist.: BCD 36-2011, f. 12-30-11, cert. ef. 1-1-12

918-225-0615

Inspection of Minor Repair Permits

(1) The division will randomly inspect at least one permit from each lot of minor repair permits

(2) The division will initially select one minor repair permit from each lot for inspection. If the division determines that the work done under the first permit does not comply with the Oregon Boiler and Pressure Vessel Specialty Code, the division will inspect a second permit from the same lot. If the division determines that the work done under the second permit is also non-compliant, the division will individually inspect all remaining permits from the same lot.

(3) The purchase price for each lot of minor repair permits includes the fee for one inspection. The division will charge for any additional inspections at its hourly inspection rate.

(4) If the division determines that work performed under a minor repair permit did not comply with the Oregon Boiler and Pressure Vessel Specialty Code, the division will require corrections to bring the boiler or pressure vessel into code compliance. Such corrections may not be performed under a minor repair permit. Installation permit and inspection requirements apply.

(5) Work performed under a minor repair permit that is not randomly inspected in accordance with this rule will be inspected during the boiler or pressure vessel's next regularly scheduled inspection.

Stat. Auth.: ORS 480.595, 455.154 & 455.155

Stats. Implemented: ORS 480.595, 455.154 & 455.155

Hist.: BCD 36-2011, f. 12-30-11, cert. ef. 1-1-12

918-225-0618

Misuse of Minor Repair Permits

(1) An individual performing work under a minor repair permit misuses the minor repair permit if the work performed does not conform to the Oregon Boiler and Pressure Vessel Specialty Code.

(2) The purchaser of a lot of minor repair permits misuses minor repair permits if:

(a) Two or more repairs performed under the lot do not conform to the Oregon Boiler and Pressure Vessel Specialty Code; or

(b) In the case of a purchaser who has purchased and used ten or more lots of minor repair permits, more than 5% of all repairs performed under minor repair permits issued to the purchaser did not conform to the Oregon Boiler and Pressure Vessel Specialty Code.

(3) If the division determines that a person or entity has misused minor repair permits, the division may immediately suspend that person or entity from purchasing, using, or performing work under minor repair permits for not less than one year. In the case of a purchaser, the period of suspension may be extended until all unused minor repair permits have been returned to the division.

(4) Violations of the minor repair permit rules may also be subject to civil penalties and license revocations.

Stat. Auth.: ORS 480.595, 455.154 & 455.155

Stats. Implemented: ORS 480.595, 455.154 & 455.155

Hist.: BCD 36-2011, f. 12-30-11, cert. ef. 1-1-12

Subpart C — Volume Inspections

918-225-0620

Bulk Rate Permits

(1) Bulk rate permits may be granted if there is a quantity of either six (6) or more boilers or six (6) or more pressure vessels in the same location.

(2) To obtain bulk rate permits, the owner or user must make a written request to the division at least 30 days before the expiration of existing operating permits.

(3) If a bulk rate site requires two or more inspections during an inspection cycle, the division may rescind bulk rate permits and charge the full operating permit fees, as provided in Table 3-B. Inspection cycles are listed in Table 1-B.

NOTE: Table 1-B, Boiler & Pressure Vessel Inspection Cycles, and Table 3-B, Boiler & Pressure Vessel Permit Fees, are available on the division's Web site at <<http://www.bcd.oregon.gov/rules.html#oar>>

[ED. NOTE: Tables referenced are not included in rule text. [Click here for PDF copy of table\(s\).](#)]

Stat. Auth.: ORS 480.600

Stats. Implemented: ORS 480.600

Hist.: DC 17-1982, f. 7-31-72, ef. 8-15-72; Renumbered from 814-025-0050; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0120; BCD 10-2009, f. 12-30-09, cert. ef. 1-1-10; BCD 31-2011, f. 12-30-11, cert. ef. 1-1-12

918-225-0630

Special Fee for Dryer Permits

The operating permit fee for dryer rolls for a paper machine is \$5.50 per roll, if the machine is under the inspection requirements of ORS 480.600(2).

Stat. Auth.: ORS 480.600

Stats. Implemented: ORS 480.600

Hist.: DC 10-1981, f. & ef. 7-6-81; Renumbered from 814-025-0051; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0125; BCD 18-1997, f. 12-3-97, cert. ef. 1-1-98; BCD 36-2000, f. 12-29-00, cert. ef. 1-1-01; BCD 4-2009(Temp), f. & cert. ef. 7-16-09 thru 1-1-10; BCD 10-2009, f. 12-30-09, cert. ef. 1-1-10

Part VI — Certification

Subpart A — Licenses and Certificates; Fees

918-225-0640

Business and Trade License Fees

(1) Licenses required by ORS 480.630 shall be issued by the division to applicants who meet the requirements for the license and apply as established in OAR division 30.

(2) For applications received by the division prior to May 15, 2008 the application fee for a business license shall be \$165 and the application fee for a trade license shall be \$27.50. Any license issued prior to May 15, 2008 expires on July 1, 2008.

(3) The following fees apply for a three-year license term as established in OAR 918-030-0220:

(a) Boiler business license application and renewal fees — \$495

(b) Class 1 and 6 boiler trade license application and renewal fees — \$82.50

(c) Class 2, Class 3, Class 4, Class 5, Class 5A and 5-B boiler trade license fees:

(A) Application fee — \$82.50

(B) Renewal fee — \$112.50, which includes a \$30 fee to track continuing education under ORS 480.545 and OAR 918-225-0670.

Stat. Auth.: ORS 455.117, 480.545, 480.630

Stats. Implemented: ORS 480.630

Hist.: BCD 36-2000, f. 12-29-00, cert. ef. 1-1-01; BCD 10-2006(Temp), f. 6-30-06, cert. ef. 7-1-06 thru 12-28-06; BCD 13-2006, f. 9-29-06, cert. ef. 10-1-06; BCD 17-2007, f. 12-28-07, cert. ef. 1-1-08

918-225-0650

Practical Experience Requirement

Inspectors shall have at least the following practical experience in activities listed by ORS 480.565(1):

(1) Chief Inspector, ten years experience;

(2) Deputy or Special Inspector, experience required by the bylaws of the National Board for a commission as a National Board Inspector.

Stat. Auth.: ORS 480.565

Stats. Implemented: ORS 480.565

Hist.: BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94

918-225-0660

Certification of Special Inspectors

(1) An application for special inspector certification shall be filed by an employer described in ORS 480.565(3) using forms provided by the division and submitting the appropriate application fee.

(2) The person to be certified shall meet the experience requirements in OAR 918-225-0650 and shall have passed the National Board of Boiler and Pressure Vessel Inspectors Examination.

(3) An examination covering the Oregon Boiler and Pressure Vessel Law, ORS 480.510 to 480.990 and OAR chapter 918, division 225, the **National Board Inspection Code** and **ASME CSD-1** shall be given by the chief inspector to all special inspector applicants.

(4) Special inspector certifications shall be renewed annually, by paying a renewal fee of \$25 prior to January 1 of each year.

(5) When a special inspector leaves the employment of the employer covered by ORS 480.565, the employer shall notify the division and return the special inspector certification.

(6) Process piping inspectors shall be certified pursuant to OAR 918-225-0665.

[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 455.030 & 480.545

Stats. Implemented: ORS 480.565

Hist.: DC 17, f. 7-31-72, ef. 8-15-72; DC 27(Temp), f. & ef. 12-31-73; DC 33, f. 5-6-74, ef. 5-25-74; Renumbered from 814-025-0065; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0135; BCD 18-1997, f. 12-3-97, cert. ef. 1-1-98; BCD 4-2003, f. & cert. ef. 3-14-03; BCD 17-2005(Temp), f. & cert. ef. 7-12-05 thru 9-30-05; BCD 20-2005, f. 9-15-05, cert. ef. 10-1-05

918-225-0665

Certification of Process Piping Inspectors

(1) Applicants for process piping inspector shall submit an application on division-supplied forms along with a \$110 application fee. The applicant shall pass a division-approved examination on the substance and requirements of **ASME B31.3**, related standards and administrative rules.

(2) Applicants shall demonstrate to the satisfaction of the division not less than 10 years experience in the design, fabrication or inspection of industrial process piping. Each 20 percent of satisfactorily completed work toward an engineering degree recognized by the Accreditation Board for Engineering and Technology shall be considered equivalent to one year of experience, up to five years total.

(3) The board may consider other experience and education to determine if the experience is equivalent to the requirements in this rule.

(4) Process piping inspector certificate of competency shall be renewed annually. The annual renewal fee shall be \$27.50.

[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 480.545, ORS 480.565, ORS 480.605, ORS 480.607, ORS 480.647

Stats. Implemented: ORS 480.545, ORS 480.565, ORS 480.605, ORS 480.607, ORS 480.647

Hist.: BCD 4-2003, f. & cert. ef. 3-14-03

Subpart B — Examination and Certification Fees

918-225-0670

Fees for Inspector Examination, Certification and Renewal

(1) Fee for each National Board examination, \$165.

(2) Fee for Certificate of Competency Examination, \$110.

(3) Fee for annual renewal of Certificate of Competency, \$27.50.

(4) Fee to administer continuing education program to be added to the cost of annual renewals of certified individuals, \$10.

(5) Fee to prepare and provide continuing education programs, \$66 per hour or part thereof.

Stat. Auth.: ORS 480.605

Stats. Implemented: ORS 480.605

Hist.: DC 27(Temp), f. & ef. 12-31-73; DC 33, f. 5-6-74, ef. 5-25-74; Renumbered from 814-025-0016; BCA 5-1991, f. & cert. ef. 3-15-91; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0040; BCD 36-2000, f. 12-29-00, cert. ef. 1-1-01; BCD 2-2003, f. & cert. ef. 2-3-03; BCD 13-2006, f. 9-29-06, cert. ef. 10-1-06

Subpart D — Certification of Employees of Businesses

918-225-0691

Boiler, Pressure Vessel and Pressure Piping Installation, Alteration or Repair Licensing Requirements

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.

(1) Persons desiring to obtain certification under these rules shall:

(a) Meet the qualifications for that license;

(b) Apply as established by the division in OAR division 30.

(2) Definitions. For the purpose of this rule:

(a) "Direct Supervision" means the person supervised is in the physical presence of a qualified licensed person at the job site 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.

(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 involved without supervision;

(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.

(3) Class 1 Trainee/Helper License. A person holding this 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 qualifications required for applicants to obtain this license.

(4) Class 2 Pressure Vessel Installer License. A person holding this license may install or repair unfired pressure vessels by any non-welded method of attachment.

(a) There are no minimum qualifications required to obtain this license. Applicants shall pass an examination testing the applicant's knowledge of the **Boiler and Pressure Vessel Law**, ORS 480.510 to 480.665; OAR chapter 918, division 225; and **American Society of Mechanical Engineers, Boiler and Pressure Vessel Code, Section VIII, Division 1, General Requirements**.

(b) Persons who install refrigeration process equipment assembled and sold as a modular unit by the manufacturer and who do not attach piping to a pressure vessel during the installation are exempt from this rule. To qualify for this exemption, the attachment shall be made by any method other than fusion welding.

(5) Class 3 Building Service Mechanic License. A person holding this license may install or repair boilers (including boiler and non-boiler external piping) and unfired pressure vessels by a non-welded method of attachment. Applicants shall:

(a) Have at least 2,000 hours of experience installing and repairing boilers verified as established in OAR division 30;

(b) Pass an examination testing the applicant's knowledge of:

(A) Boiler and Pressure Vessel Laws, ORS 480.510 to 480.665; OAR chapter 918, division 225; and the general requirements of the **American Society of Mechanical Engineers, Boiler and Pressure Vessel Code, Sections I, IV, VI, VII and VIII, and CSD-1**;

(B) The State of Oregon Boiler Safety Program Study Guide;

(C) Building Service Systems (Hydronics) for boilers and related appurtenances, American Society of Mechanical Engineers/ASME B31.1 Power Piping and B31.9 Building Service Piping; and

(D) Structural and mechanical blueprints with the ability to interpret specifications.

(6) Class 4 Boilermaker License. A person holding this license may install, alter or repair boilers and pressure vessels (excluding non-boiler external piping) by welding or other methods of attachment. Applicants shall:

(a) Have 2,000 hours of experience doing welding and 2,000 hours of experience doing non-welding applications involving boilers or pressure vessels. Experience must be verified as established in OAR division 30; the verification must cover welding and non-welding applications separately; and

(b) Pass an examination testing the applicant's knowledge of:

(A) Boiler and Pressure Vessel Laws, ORS 480.510 to 480.665; OAR chapter 918, division 225; and the general requirements of the **American Society of Mechanical Engineers, Boiler and Pressure Vessel Code, Sections I, II, IV, V, VI, VII, VIII and IX, CSD-1, B31.1 and B31.9**;

(B) General boilermaker skills and procedures;

(C) Blueprint reading, layout and shop mathematics;

(D) Interpreting plans and specifications covering installation, alteration, repair, fabrication and erection of boilers and pressure vessels;

(E) Welding process, metallurgy and other procedures particularly applicable to boilers and pressure vessels; and

(F) The State of Oregon Boiler Safety Program Study Guide.

(c) Class 4 Boilermakers may also perform the scope of work allowed under section (7) of these rules providing;

(A) Work may only be done under the supervision of a qualified licensed person under section (7) of these rules; and

(B) Prior to any welding, the individual must qualify to supervisor's employer's welding procedures.

(7) Class 5 Pressure Piping Mechanic License. A person holding this license may:

(a) Fabricate, install, alter and repair pressure piping; and

(b) Install boilers and pressure vessels by attachment of piping connections;

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

(A) Applicants shall have a minimum of 2,000 hours of experience performing pipe-welding on ASME B31 pressure piping and 2,000 hours of experience performing work on pressure piping and boilers. Experience must be verified as established in OAR division 30; and

(B) Pass an examination testing the applicant's knowledge of:

(i) American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Sections I, II, IV, V, VI, VII, VIII, IX, CSD-1 and B31 Pressure Piping;

(ii) Structural and mechanical blueprints with the ability to interpret specifications;

(iii) Pressure piping systems and controls;

(iv) Boiler and Pressure Vessel Laws, ORS 480.510 to 480.665 and OAR chapter 918, division 225;

(v) The State of Oregon Boiler Safety Program Study Guide; and

(vi) Welding and brazing processes, heat treatment, metallurgy and other procedures applicable to pressure piping systems.

(d) Class 5 Pressure Piping Mechanics may also perform the scope of work allowed under section (6) of these rules providing;

(A) Work may only be done under the supervision of a qualified licensed person under section (6) of these rules; and

(B) Prior to any welding, the individual must qualify to supervisor's employer's welding procedures.

(8) Class 5-A Process Piping Mechanic License. A person holding this license may fabricate, install, alter or repair B31.3 process piping. Applicants shall:

(a) Have a minimum of 2,000 hours of experience performing pipe-welding or brazing on B31.3 process piping and 2,000 hours of experience performing work on pressure piping. Experience must be verified as established in OAR division 30; and

(b) Pass an examination testing the applicant's knowledge of:

(A) American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section B31.3;

(B) Structural and mechanical blueprints with the ability to interpret specifications;

(C) Pressure piping controls;

(D) Boiler and Pressure Vessel Laws, ORS 480.510 to 480.665 and OAR chapter 918, division 225; and

(E) Welding, brazing, chemical bonding procedures, heat treatment, metallurgy and other procedures applicable to pressure piping systems.

(9) Class 5-B Refrigeration Piping Mechanic License. A person holding this license may fabricate, install, alter or repair B31.5 refrigeration piping. Applicants shall:

(a) Have a minimum of 2,000 hours of experience performing pipe-welding or brazing on B31.5 refrigeration piping and 2,000 hours of experience performing work on pressure piping. Experience must be verified as established in OAR division 30; and

(b) Pass an examination testing the applicant's knowledge of:

(A) American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section B31.5;

(B) Structural and mechanical blueprints with the ability to interpret specifications;

(C) Pressure piping controls;

(D) Boiler and Pressure Vessel Laws, ORS 480.510 to 480.665 and OAR chapter 918, division 225; and

(E) Welding, brazing, heat treatment, metallurgy and other procedures applicable to pressure piping systems.

(10) Class 6 Welder License. A person holding this 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.

(a) A Class 6 Welder may also perform the scope of work under section (3) of this rule providing the work performed is under the direct supervision of a qualified licensed person under sections (4) through (9) of these rules.

(b) Applicants shall be qualified as a welder in accordance with the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section IX, Part QW. The employer shall attest in writing that the applicant is qualified under that code section and is currently qualified to that employer's welding procedures. This written statement is not transferable to another employer.

[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 480.545, 480.630 & 455.117

Stats. Implemented: ORS 480.630 & 455.117

Hist.: BCD 7-2003, f. 3-14-03, cert. ef. 7-1-03; BCD 13-2003, f. 6-26-03, cert. ef. 7-1-03; BCD 3-2004(Temp), f. & cert. ef. 3-8-04 thru 9-3-04; BCD 9-2004, f. 6-21-04, cert. ef. 7-1-04; BCD 10-2006(Temp), f. 6-30-06, cert. ef. 7-1-06 thru 12-28-06; BCD 11-2006, f. & cert. ef. 9-5-06; BCD 13-2006, f. 9-29-06, cert. ef. 10-1-06

Subpart E — Contractor Responsibilities

918-225-0700

Responsibility of Boiler Contractors

(1) Persons licensed by the division for the business of installing, repairing or altering boilers, pressure vessels or pressure piping must correct any condition or deficiency resulting from installations, repairs or alterations, which are determined by any deputy, special inspector or process piping inspector to be a violation of the minimum safety standards of the **Oregon Boiler and Pressure Vessel Specialty Code**.

(2) Contractors must prepare and submit any documentation required by construction codes, repair and alteration standards or the authority having jurisdiction.

(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. Supervisors of persons holding a Class 1 or Class 6 certification must meet the requirements of OAR 918-225-0691.

[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 480.545

Stats. Implemented: ORS 480.545

Hist.: BCD 36-2000, f. 12-29-00, cert. ef. 1-1-01; BCD 6-2003, f. 3-14-03, cert. ef. 7-1-03; BCD 4-2007, f. 3-30-07, cert. ef. 4-1-07

Part VII — Code Welding Requirements

Subpart A — Owners-Users

918-225-0720

Welding Requirements for Owner-Users

(1) An owner-user may use its own employees to repair or install boilers, pressure vessels or pressure piping, provided it develops, certifies and maintains a welding program meeting the requirements of the **Boiler Specialty Code (ASME Section IX, Part QW)**.

(2) The owner-user's welding program shall be reviewed for conformance with welding program requirements by the authorized inspector performing welding inspections.

(3) The owner-user is responsible for the use of proper materials when doing code repairs.

(4) Prior to welding on code materials, the owner-user shall notify a deputy, special inspector or process piping inspector who will review the proposed work and who will inspect the work when it is completed.

[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 480.545 & ORS 480.647

Stats. Implemented: ORS 480.545 & ORS 480.647

Hist.: BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; BCD 18-1997, f. 12-3-97, cert. ef. 1-1-98; BCD 16-1998, f. 9-30-98, cert. ef. 10-1-98; BCD 36-2000, f. 12-29-00, cert. ef. 1-1-01; BCD 6-2003, f. 3-14-03, cert. ef. 7-1-03

Subpart B — Businesses that Do Welding

918-225-0730

Requirements for Businesses Doing Welding or Brazing

All persons in the business of installing, altering or repairing boilers, pressure vessels, or pressure piping shall develop and maintain a quality control system before doing welding or brazing:

(1) Boilers and pressure vessels. For welding on a boiler, boiler external piping as defined by ORS 480.515 and pressure vessels, the person shall develop and maintain a quality control system under the "R" Stamp requirements of the **National Board Inspection Code**.

(2) Pressure piping. For welding or brazing on pressure piping, the person shall develop and maintain a quality control system under either Section (1) of this rule or under OAR 918-225-0740.

[Publications: The publication(s) referenced in this rule is available from the agency.]

Stat. Auth.: ORS 480.545 & ORS 480.647

Stats. Implemented: ORS 480.545 & ORS 480.647

Hist.: BCA 6-1990, f. & cert. ef. 3-13-90; BCA 24-1991(Temp), f. 7-3-91, cert. ef. 7-1-91; BCA 30-1991, f. & cert. ef. 9-9-91; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0195; BCD 18-1997, f. 12-3-97, cert. ef. 1-1-98; BCD 16-1998, f. 9-30-98, cert. ef. 10-1-98; BCD 35-2000, f. 12-29-00, cert. ef. 7-1-01

918-225-0740

Quality Control System for Pressure Piping; Oregon "O" Certificate of Authorization

(1) This rule contains procedures for persons to develop and qualify a quality control system for welding or brazing on pressure piping other than boiler external piping.

(2) An application for approval of a quality control system shall include one copy of a proposed quality control manual. The manual shall include the elements described by the Building Codes Division Sample Quality Control Manual provided to the applicant as a guide. A Quality Control Manual will be reviewed and the applicant billed at board-established shop inspection rates.

(3) If welding, brazing, mechanical or chemical assembly will occur on Category M fluid service process piping, the quality control manual shall include processes and procedures demonstrating compliance with ASME B31.3. The registered business or owner-user shall ensure that the process piping inspector provides and updates a list of persons to whom the inspector has delegated responsibility under OAR 918-225-0562.

(4) After acceptance of the proposed quality control system, the applicant must demonstrate practical application of the system and the proficiency of the persons doing welding or brazing. The applicant shall provide the facilities, equipment and materials for the demonstration.

(5) The Certificate of Authorization issued to a successful applicant expires three years from date of issue. The same procedures for qualifying shall be followed for renewal. Copies of the manual do not need to be resubmitted if the only change is the effective date.

[Publications: Publications referenced are available from the agency.]

Stat. Auth.: ORS 480.647

Stats. Implemented: ORS 480.647

Hist.: BCA 24-1991(Temp), f. 7-3-91, cert. ef. 7-1-91; BCA 30-1991, f. & cert. ef. 9-9-91; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0196; BCD 18-1997, f. 12-3-97, cert. ef. 1-1-98; BCD 35-2000, f. 12-29-00, cert. ef. 7-1-01; BCD 13-2002, f. 6-28-02, cert. ef. 7-1-02; BCD 6-2003, f. 3-14-03, cert. ef. 7-1-03

Subpart C — Safety and Safety Relief Valves

918-225-0745

Contractor Registration

(1) All persons in the business of assembling, repairing or adjusting safety or safety relief valves shall adopt a quality control system under the "VR" Symbol Stamp of the National Board.

(2) An owner-user may use its own employees to repair or adjust safety or safety relief valves for its own use, provided it adopts a quality control system under the "VR" Symbol Stamp requirements of the National Board.

Stat. Auth.: ORS 480.545

Stats. Implemented: ORS 480.545

Hist.: BCD 18-1997, f. 12-3-97, cert. ef. 1-1-98

Part IX — Insured Vessels

918-225-0780

Filing of Insurance Notices

Insurance companies shall notify

the Division within 30 days of providing insurance, cancellation or suspension of insurance or non-renewal of insurance regarding boilers or pressure vessels. This notice shall be on a Division-approved form and shall use Oregon State Numbers to designate the boilers or pressure vessels involved.

Stat. Auth.: ORS 480.545

Stats. Implemented: ORS 480.545

Hist.: DC 92, f. & ef. 7-19-77; Renumbered from 814-025-0066; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0140

918-225-0800

Reporting of Immediate Hazards to Health or Safety

Special inspectors shall report immediate hazards to health or safety concerning insured vessels to the chief inspector immediately by telephone and also advise whether a notice of defective condition was issued and whether operations were stopped.

Stat. Auth.: ORS 480.545

Stats. Implemented: ORS 480.545

Hist.: DC 17, f. 7-31-72, ef. 8-15-72; DC 11-1985, f. & ef. 5-22-85; BCA 4-1988, f. & cert. ef. 2-22-88; Renumbered from 814-025-0070; BCA 36-1993, f. 12-30-93, cert. ef. 1-1-94; Renumbered from 918-225-0155

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Boiler Inspection Checklist

Pressure Piping Inspection for Welded Applications

Department of Consumer & Business Services
 Building Codes Division • 1535 Edgewater St. NW, Salem, Oregon
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 Phone: (503) 378-4133 • Fax: (503) 378-2322
 Web: bcd.oregon.gov

SITE INFORMATION

Name of permit holder: _____ Permit number: _____
 Address: _____ Inspector: _____
 Date of inspection: _____ Time of inspection: _____

CHECKLIST

- 1. Boiler business license
- 2. Certificate of Authorization (R or O certificate)
- 3. Posted permit
- 4. QC manual and traveler
- 5. Individual license
- 6. Welding procedure specification
- 7. Welder's qualification
- 8. Weld stamp or weld map
- 9. Welder's continuity log
- 10. Material Test Report (as required by code or QC manual)
- 11. Heat number (or other identification as required by QC manual)
- 12. Hanger spacing (code requirement for pipe diameter)
- 13. Code material storage area
- 14. Welding rod storage
- 15. Pressure gauge calibration
- 16. Pressure test or NDE
- 17. QCM and inspector sign off on traveler
- 18. _____
- 19. _____
- 20. _____



Oregon

Kate Brown, Governor

Department of Consumer and Business Services
Building Codes Division
1535 Edgewater Street NW
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Salem, OR 97309-0404
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Fax: 503-378-2322
bcd.oregon.gov

September 23, 2016

Douglas Gallagher
245 W 5th Ave.
Eugene, OR 97401

Re: Public Records Request

The Building Codes Division received your request for boiler program permit, inspection, and approval records for the Carty Generating Station at 73396 Tower Rd, Boardman OR. The records are enclosed.

If you have any questions, please contact me.

Sincerely,

Holly Tucker
Public Records Coordinator
Building Codes Division
503-378-5331
Holly.A.Tucker@oregon.gov



Oregon

Kate Brown, Governor

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Building Codes Division
1535 Edgewater Street NW
P.O. Box 14470
Salem, OR 97309-0404
503-378-4133
Fax: 503-378-2322
oregon.gov/bcd

September 19, 2016

Douglas Gallagher Law Office PC
245 W. 5th Avenue
Eugene OR 97401

Mr. Gallagher,

Following this cover letter please find the compilation of public records as of September 9th, 2016 per your request of the BCD boiler program dated August 31, 2016.

As part of your request identified in "No.2", you asked for "confirmation that there are no records of any inspection reports associated with a particular permit" where no inspection was performed under a particular permit. The records enclosed represent all of the records in the custody of BCD covered by your request, there are no additional inspection reports related to the enclosed permits.

In regard to "Request No. 3. BCD documentation relied upon to confirm the existence of NDE records and traveler packages for non-boiler external pipe installed at the project.", although BCD inspectors may review this information in the course of their work, BCD does not retain such records.

Sincerely,

Shane Sumption,
Manager Statewide & Field Services



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division * Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax 503-378-4101
www.bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 60330	Issue date:	4/19/2016
Job start:	4/20/2016		
Issued to:	Apollo Sheet Metal Inc		B99-2083 / R-3433
Applicant name		Contractor license number	
Applicant phone no.:	(509) 586-1104	Applicant fax/email:	509-582-6590
For	Portland General Electric		
Site name		Site number	Phone
73396 Tower Rd - N side of GB		Boardman	97818
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Garold Barcom		1345CL5	
Authorized inspector:		Tom Klug - 503-507-2489	
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	Temp Boiler	NB state no.:	90 270543
Size and length of piping:			
Nature of work:	Install		
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations:			
<hr/> <hr/> <hr/>			
Inspector's name (print)	Tom Clark		
Inspector's signature:			
Date:	4/22/16		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division * Boiler Section
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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 59621	Issue date:	1/26/2016
Job start:	1/4/2016		BB163 / R-1958
Issued to:	DAY AND ZIMMERMAN NPS INC		Contractor license number
Applicant name	Contractor license number		
Applicant phone no.:	(541) 314-3736	Applicant fax/email:	541-481-2489
For	PGE	New	
Site name	Site number	Phone	
73396 Tower Rd	Boardman	97818	
Site address	City	Zip	
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Toby Tolbert		E94-5555	
John McLeod		2516CL5	
Steven Matheny		E94-5498	
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	Hot reheat power piping	NB state no.:	S25,182
Size and length of piping:	Various lengths		
Nature of work:	Piping Install NBEP B31.1		
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory			
<input type="checkbox"/> Failed. Reinspection required. Violations:			
Reversed Documentation			
Inspector's name (print)	Tom Klug		
Inspector's signature:	<i>Tom Klug</i>		
Date:	04/07/16		



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extension has been granted. **Exhibit H, 0**
Page 4 of 90, 5



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division * Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax 503-378-4101
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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 59622	Issue date:	1/26/2016
Job start:	1/4/2016		BB163 / R-1958
Issued to:	DAY AND ZIMMERMAN NPS INC		Contractor license number
Applicant name			
Applicant phone no.:	(541) 317-3736	Applicant fax/email:	541-481-2489
For	PGE	Site number	Phone
Site name	73396 Tower Rd		Boardman
Site address	City	Zip	
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Toby Tolbert		E94-5555	
John McLeod		2516CL5	
Steven Matheny		E94-5498	
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	High pressure steam (main steam) power piping	NB state no.:	S 25,182 N/A.
Size and length of piping:	Various lengths		
Nature of work:	Piping install NBEP B31.1		
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory			
<input type="checkbox"/> Failed. Reinspection required. Violations:			
PLST walk through			
Inspector's name (print) Tom Klug			
Inspector's signature: <i>[Signature]</i>			
Date: 08/03/16			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
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 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 59623	Issue date:	1/26/2016
Job start:	1/4/2016		
Issued to:	DAY AND ZIMMERMAN NPS INC		BB163 / R-1958
Applicant name		Contractor license number	
Applicant phone no.:	(541) 341-3736	Applicant fax/email:	541-481-2489
For	PGE		
Site name		Site number	Phone
73396 Tower Rd		Boardman	97818
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Toby Tolbert		E94-5555	
Joh McLeod		2516CL5	
Steven Matheny		E94-5498	
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	Low pressure steam power piping		NB state no.: S 25,182
Size and length of piping:	Various lengths		
Nature of work:	Piping install NBEP B31.1		
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: <div style="text-align: center; margin-left: 100px;">ILST walk through</div>			
Inspector's name (print) <u>Tom Klug</u>			
Inspector's signature: <u>[Signature]</u>			
Date: <u>08/03/16</u>			



440-4853 (6/10/COM1)

This Permit will expire 18 months from the date of issuance unless an extensions has been granted. **Exhibit H Page 6 of 80**



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 59624	Issue date:	1/26/2016
Job start:	1/4/2016		
Issued to:	DAY AND ZIMMERMAN NPS INC		BB163 / R-1958
Applicant name		Contractor license number	
Applicant phone no.:	(541) 314-3736	Applicant fax/email:	541-481-2489
For	PGE		New
Site name		Site number	Phone
73396 Tower Rd		Boardman	97818
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Toby Tolbert		E94-5555	
John McLeod		2516CL5	
Steven Matheny		E94-5498	
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	Cold reheat power piping	NB state no.:	S 25,182
Size and length of piping:	Various lengths		
Nature of work:	Piping install NBEP B31.1		
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory			
<input type="checkbox"/> Failed. Reinspection required. Violations:			
Revised Documentation			
Inspector's name (print)	Tom Klug		
Inspector's signature:	<i>Tom Klug</i>		
Date:	04/07/16		



440-4853 (6/10/COM)

This Permit will expire 18 months from date of issuance unless an extensions has been granted. **Exhibit H Page 7 of 90**



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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Building Codes Division * Boiler Section
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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 60816	Issue date:	6/28/2016
Job start:	6/28/2016		
Issued to:	Portland General Electric - PGE		N/A
Applicant name		Contractor license number	
Applicant phone no.:	(541) 481-4479	Applicant fax/email:	541-481-1270
For	Carty Generating Station		(541) 481-4479
Site name		Site number	Phone
73396 Tower Rd		Boardman	97818
Site address		City	Zip
Class I through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Owner Install			
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	HRSG	NB state no.:	1459
Size and length of piping:			
Nature of work:	Installation final inspection & start up of HRSG		
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: <i>Verified trips tested via documentation + check sheets</i>			
Inspector's name (print)	<i>Tom Klug</i>		
Inspector's signature:	<i>[Signature]</i>		
Date:	<i>08/17/16</i>		



This Permit will expire 18 months from the date of issuance unless an extensions has been granted.



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division * Boiler Section
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www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(B)

PERMIT INFORMATION			
Permit no.:	16- 61253	Issue date:	8/17/2016
Job start:	1/15/2016		
Issued to:	Portland General Electric - PGE		N/A
Applicant name		Contractor license number	
Applicant phone no.:	(541) 481-4479	Applicant fax/email:	541-481-1270
For:	Carty Generating Station	29289	(541) 481-4479
Site name		Site number	Phone
73396 Tower Rd		Boardman	97818
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Owner: Install			
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	Nooter Erricson NE HRSG Power Boiler		NB state no.: 1459
Size and length of piping:			
Nature of work:	Install certification of the original boiler		
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: <p style="text-align: center;">Duplicate by owner/installer</p>			
Inspector's name (print) <u>Tom Klug</u> Inspector's signature: <u>[Signature]</u> Date: <u>08/17/16</u>			



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Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 60819	Issue date:	6/28/2016
Job start:			6/28/2016
Issued to:	Portland General Electric - PGE		N/A
Applicant name		Contractor license number	
Applicant phone no.:	(541) 481-4479	Applicant fax/email:	541-481-1270
For	Carty Generating Station		(541) 481-4479
Site name		Site number	Phone
73396 Tower Rd		Boardman	97818
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Owner Install			
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	Ammonia Vaporizer A		NB state no.: 41
Size and length of piping:	10"		
Nature of work:	Installation of all piping to vessel		
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print)	Tom Klug		
Inspector's signature:	<i>Tom Klug</i>		
Date:	06/29/16		



This Permit will expire 18 months from the date of issuance unless an extensions has been granted.



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division * Boiler Section
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PERMIT INFORMATION			
Permit no.:	16- 60818	Issue date:	6/28/2016
Job start:	6/28/2016		
Issued to:	Portland General Electric - PGE		N/A
Applicant name		Contractor license number	
Applicant phone no.:	(541) 481-4479	Applicant fax/email:	541-481-1270
For	Carty Generating Station	(541) 481-4479	
Site name		Site number	Phone
73396 Tower Rd		Boardman	97818
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Owner Install			
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	Ammonia Vaporizer B	NB state no.:	42
Size and length of piping:	10"		
Nature of work:	Installation of all piping to vessel		
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print)	Tom Klug		
Inspector's signature:	<i>Tom Klug</i>		
Date:	06/29/16		



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extentions has been granted.



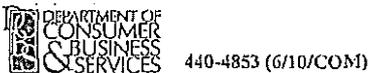
Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 60822	Issue date:	6/28/2016
Job start:	6/28/2016		
Issued to:	Portland General Electric - PGE		N/A
Applicant name		Contractor license number	
Applicant phone no.:	(541) 481-4479	Applicant fax/email:	541-481-4479
For	Carty Generating Station		(541) 481-4479
Site name		Site number	Phone
73396 Tower Rd		Boardman	97818
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Owner Install			
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	Air Chamber Low Pressure Bleed Valve	NB state no.:	783439
Size and length of piping:	1'8"		149 5625
Nature of work:	Installation of all piping to vessel		149 624
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations:			
<hr/> <hr/> <hr/>			
Inspector's name (print)	Tom Klug		
Inspector's signature:	<i>Tom Klug</i>		
Date:	06/29/16		



This Permit will expire 18 months from the date of issuance unless an extensions has been granted.



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 60821	Issue date:	6/28/2016
Job start:			6/28/2016
Issued to:	Portland General Electric - PGE		N/A
Applicant name		Contractor license number	
Applicant phone no.:	(541) 481-4479	Applicant fax/email:	541-481-1270
For	Carty Generating Station		(541) 481-4479
Site name		Site number	Phone
73396 Tower Rd		Boar dman	97818
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Owner Install			
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	Air Chamber - Middle Pressure Bleed Valve		NB state no.:
Size and length of piping:	1'8"		783439
Nature of work:	Installation of all piping to vessel		
	1495625		
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory			
<input type="checkbox"/> Failed. Reinspection required. Violations:			
Inspector's name (print)	Tom Klug		
Inspector's signature:	<i>Tom Klug</i>		
Date:	6/24/16		



This Permit will expire 18 months from the date of issuance unless an extensions has been granted.

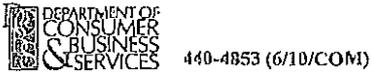


**Boiler/Pressure Vessel Installation,
Alteration, or Repair Permit**

Department of Consumer and Business Services
Building Codes Division * Boiler Section
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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 60823	Issue date:	6/28/2016
Job start:	6/28/2016		
Issued to:	Portland General Electric - PGE		N/A
Applicant name		Contractor license number	
Applicant phone no.:	(541) 481-4479	Applicant fax/email:	541-481-1270
For	Carty Generating Station	(541) 481-4479	
Site name		Site number	Phone
73396 Tower Rd		Boardman	97818
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Owner Install			
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	Anhydrous Ammonia Storage Tank		NB state no.:
Size and length of piping:	9'2"		
Nature of work:	Installation of all piping to vessel		
INSPECTION RESULTS			
<input type="checkbox"/> Satisfactory			
<input type="checkbox"/> Failed. Reinspection required. Violations:			
Needs U-1A for Vessel 06/29/16 (cc)			
Inspector's name (print)	Tom Klug		
Inspector's signature:	<i>Tom Klug</i>		
Date:	07/13/16		



This Permit will expire 18 months from the date of issuance unless an extensions has been granted.

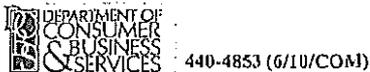


Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with inspection results.
YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 60824	Issue date:	6/28/2016
Job start:	6/28/2016		
Issued to:	Portland General Electric - PGE		N/A
Applicant name		Contractor license number	
Applicant phone no.:	(541) 481-4479	Applicant fax/email:	541-481-1270
For	Carty Generating Station	24289	(541) 481-4479
Site name		Site number	Phone
73396 Tower Rd		Boardman	97818
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Owner Install			
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	Steam Drain Flash Tank		NB state no.:
			191
Size and length of piping:	66"		
Nature of work:	Installation of all piping to vessel		
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory			
<input type="checkbox"/> Failed. Reinspection required. Violations:			
Vented to atmosphere - no operating permit required per manufacturer			
Inspector's name (print)	Tom Klug		
Inspector's signature:	<i>Tom Klug</i>		
Date:	7/13/16		



This Permit will expire 18 months from the date of issuance unless an extention has been granted.



**Boiler/Pressure Vessel Installation,
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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(B)

PERMIT INFORMATION			
Permit no.:	16- 60828	Issue date:	6/28/2016
Job start:	6/28/2016		
Issued to:	Portland General Electric - PGE		N/A
Applicant name		Contractor license number	
Applicant phone no.:	(541) 481-4479	Applicant fax/email:	541-481-1270
For	Carty Generating Station		(541) 481-4479
Site name		Site number	Phone
73396 Tower Rd		Boardman	97818
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Owner Install			
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	Air Dryer Left Chamber A	NB state no.:	51847
Size and length of piping:	20"		
Nature of work:	Installation of all piping to vessel		
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory			
<input type="checkbox"/> Failed. Reinspection required. Violations:			

Inspector's name (print)	Tom Klug		
Inspector's signature:	<i>Tom Klug</i>		
Date:	06/29/16		



This Permit will expire 18 months from the date of issuance unless an extensions has been granted.



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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 Building Codes Division * Boiler Section
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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 60826	Issue date:	6/28/2016
Job start:	6/28/2016		
Issued to:	Portland General Electric - PGE		N/A
Applicant name		Contractor license number	
Applicant phone no.:	(541) 481-4479	Applicant fax/email:	541-481-1270
For	Carty Generating Station		(541) 481-4479
Site name		Site number	Phone
73396 Tower Rd		Boardman	97818
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Owner Install			
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	Air Dryer Right Chamber A	NB state no.:	51848
Size and length of piping:	20"		
Nature of work:	Installation of all piping to vessel		
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print)	Tom Klug		
Inspector's signature:	<i>Tom Klug</i>		
Date:	06/29/16		



This Permit will expire 18 months from the date of issuance unless an extensions has been granted.

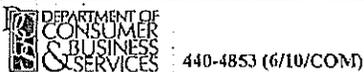


Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 60825	Issue date:	6/28/2016
Job start:	6/28/2016		
Issued to:	Portland General Electric - PGE		N/A
Applicant name		Contractor license number	
Applicant phone no.:	(541) 481-4479	Applicant fax/email:	541-481-1270
For	Carty Generating Station		(541) 481-4479
Site name		Site number	Phone
73396 Tower Rd		Boardman	97818
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Owner Install			
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	Air Dryer Right Chamber B left Right.	NB state no.:	51849
Size and length of piping:	20"		51850
Nature of work:	Installation of all piping to vessel		
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print)	Tom Klug		
Inspector's signature:	<i>Tom Klug</i>		
Date:	06/29/16		



This Permit will expire 18 months from the date of issuance unless an extention has been granted.



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 60827	Issue date:	6/28/2016
Job start:	6/28/2016		
Issued to:	Portland General Electric - PGE		N/A
Applicant name		Contractor license number	
Applicant phone no.:	(541) 481-4479	Applicant fax/email:	541-481-1270
For	Carty Generating Station	(541) 481-4479	
Site name		Site number	Phone
73396 Tower Rd		Boardman	97818
Site address		City	Zip
Class I through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Owner Install			
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	Air Dryer Left Chamber B Right Left		NB state no.: 51850
Size and length of piping:	20"		31849
Nature of work:	Installation of all piping to vessel		
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print)	Tom Klug		
Inspector's signature:	<i>Tom Klug</i>		
Date:	06/29/16		



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extention has been granted.



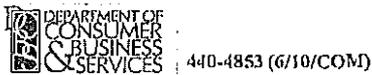
Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 60820	Issue date:	6/28/2016
Job start:	6/28/2016		
Issued to:	Portland General Electric - PGE		N/A
Applicant name		Contractor license number	
Applicant phone no.:	(541) 481-4479	Applicant fax/email:	541-481-1270
For	Carty Generating Station		(541) 481-4479
Site name		Site number	Phone
73396 Tower Rd		Boardman	97818
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Owner Install			
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	Aux Boiler Deaerator	NB state no.:	3949902
Size and length of piping:	48"		
Nature of work:	Installation of all piping to vessel		
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print)	Tom Klug		
Inspector's signature:	<i>Tom Klug</i>		
Date:	06/30/16		



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Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 60817	Issue date:	6/28/2016
Job start:	6/28/2016		
Issued to:	Portland General Electric - PGE		N/A
Applicant name		Contractor license number	
Applicant phone no.:	(541) 481-4479	Applicant fax/email:	541-481-1270
For	Carty Generating Station		(541) 481-4479
Site name		Site number	Phone
73396 Tower Rd		Boardman	97818
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Owner Install			
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	Air Receiver	NB state no.:	783439
Size and length of piping:	48"		
Nature of work:	Installation of all piping to vessel		
INSPECTION RESULTS.			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print)	Tom Klug		
Inspector's signature:	<i>Tom Klug</i>		
Date:	06/29/16		



440-4853 (6/10/COM)

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Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 60815	Issue date:	6/28/2016
Job start:	6/28/2016		
Issued to:	Portland General Electric - PGE		N/A
Applicant name		Contractor license number	
Applicant phone no.:	(541) 481-4479	Applicant fax/email:	541-481-1270
For	Carty Generating Station	29289	(541) 481-4479
Site name		Site number	Phone
73396 Tower Rd		Boardman	97818
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Owner Install			
Authorized inspector:	Tom Klug - 503-507-2489		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:	TCA Cooler	NB state no.:	32
Size and length of piping:	110.24"		
Nature of work:	Installation of piping to vessel		
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations:			
<hr/> <hr/> <hr/>			
Inspector's name (print)	Tom Klug		
Inspector's signature:	<i>Tom Klug</i>		
Date:	07/13/16		



440-4853 (6/10/COM)

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Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58044	Issue date:	7/20/2015
Job start:	7/20/2015		Contractor license number
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name	Contractor license number		
Applicant phone no.:	Applicant fax/email:		
For	PGE		
Site name	Site number	Phone	
73396 TOWER RD	BOARDMAN		
Site address	City	Zip	
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:			NB state no.:
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input checked="" type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

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Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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 503-373-7538, Fax: 503-378-4101
 Web: bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION			
Permit no.: 15-58044	Issue date: 7/20/2015	Job start: 7/20/2015	
Issued to: Abacus Project Management, Inc.			BB199
Contractor name			License number
Contractor phone no.: 480-544-3017		Contractor fax no.:	
For: PGE		480 - 543 - 8303	
Site name	Site number	Phone	
73396 Tower Rd	Boardman	97818	
Site address	City	ZIP	
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
See attached List			
Authorized inspector: Tom Klug			
Phone: 541-507-2489	Fax:	E-mail:	
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel: Gland Steam Condenser			NB state no.:
Size and length of piping:			
Nature of work: Heat exchanger condenser			
INSPECTION RESULTS			
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 			
Inspector's name (print): _____			
Inspector's signature: _____			
Date: _____			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58045	Issue date:	7/20/2015
Job start:	7/20/2015		
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name	Site number	Phone	
73396 TOWER RD		BOARDMAN	
Site address	City	Zip	
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extensions has been granted.
 Code Complaint Exhibit H
 Page 25 of 90



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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 Building Codes Division • Boiler Section
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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58045	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc. <small>Contractor name</small>		BB199 <small>License number</small>
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE <small>Site name</small>	<small>Site number</small>	480 - 543 - 8303 <small>Phone</small>
73396 Tower Rd <small>Site address</small>	Boardman <small>City</small>	97818 <small>ZIP</small>
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
<small>Name</small>	<small>License number</small>	
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Air Chamber (for low pressure bleed valve)		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58046	Issue date:	7/20/2015
Job start:	7/20/2015	Issued to: Abacus Project Management, Inc - Expired 2/11/16	
Contractor license number		BB199	
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name	Site number	Phone	
73396 TOWER RD		BOARDMAN	
Site address	City	Zip	
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

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Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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PERMIT INFORMATION		
Permit no.: 15-58046	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc. Contractor name		BB199 License number
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE Site name	Site number	480 - 543 - 8303 Phone
73396 Tower Rd Site address	Boardman City	97818 ZIP
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
Name		License number
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Air Chamber (for middle pressure bleed valve)		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58047	Issue date:	7/20/2015
		Job start:	7/20/2015
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input type="checkbox"/> Satisfactory <input checked="" type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extensions has been granted.



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division • Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax: 503-378-4101
Web: bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with the inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58047	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc. <small>Contractor name</small>		BB199 <small>License number</small>
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE <small>Site name</small>	480 - 543 - 8303 <small>Site number</small>	480 - 543 - 8303 <small>Phone</small>
73396 Tower Rd <small>Site address</small>	Boardman <small>City</small>	97818 <small>ZIP</small>
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
<small>Name</small>	<small>License number</small>	
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Air Dryer - Right Chamber		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58048	Issue date:	7/20/2015
Job start:	7/20/2015		
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name	Site number	Phone	
73396 TOWER RD		BOARDMAN	
Site address	City	Zip	
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations:			
<hr/> <hr/> <hr/>			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division • Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax: 503-378-4101
Web: bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with the inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58048	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc.		BB199
Contractor name		License number
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE		480 - 543 - 8303
Site name	Site number	Phone
73396 Tower Rd	Boardman	97818
Site address	City	ZIP
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
Name		License number
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Air Dryer - Left Chamber		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58049	Issue date:	7/20/2015
Job start:	7/20/2015		BB199
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extensions has been granted.
 Code Complaint Exhibit H



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division • Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax: 503-378-4101
 Web: bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58049	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc. <small>Contractor name</small>		BB199 <small>License number</small>
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE <small>Site name</small>	<small>Site number</small>	480 - 543 - 8303 <small>Phone</small>
73396 Tower Rd <small>Site address</small>	Boardman <small>City</small>	97818 <small>ZIP</small>
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
<small>Name</small>	<small>License number</small>	
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Air Dryer - Left Chamber		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division * Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax 503-378-4101
www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58050	Issue date:	7/20/2015
Job start:	7/20/2015		
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division • Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax: 503-378-4101
Web: bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58050	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc. <small>Contractor name</small>		BB199 <small>License number</small>
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE <small>Site name</small>	<small>Site number</small>	480 - 543 - 8303 <small>Phone</small>
73396 Tower Rd <small>Site address</small>	Boardman <small>City</small>	97818 <small>ZIP</small>
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
<small>Name</small>	<small>License number</small>	
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Air Dryer - Right Chamber		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
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 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58051	Issue date:	7/20/2015
		Job start:	7/20/2015
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations:			
<hr/> <hr/> <hr/>			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extensions has been granted.

Code Complaint Exhibit H



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division • Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax: 503-378-4101
 Web: bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with the inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58051	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc. <small>Contractor name</small>		BB199 <small>License number</small>
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE <small>Site name</small>	<small>Site number</small>	480 - 543 - 8303 <small>Phone</small>
73396 Tower Rd <small>Site address</small>	Boardman <small>City</small>	97818 <small>ZIP</small>
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
<small>Name</small>	<small>License number</small>	
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Air Receiver	NB state no.:	
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58052	Issue date:	7/20/2015
Job start:	7/20/2015		
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division • Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax: 503-378-4101
 Web: bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58052	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc. Contractor name		BB199 License number
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE Site name	Site number	480 - 543 - 8303 Phone
73396 Tower Rd Site address	Boardman City	97818 ZIP
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
Name		License number
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Anhydrous Ammonia Storage Tank		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58053	Issue date:	7/20/2015
Job start:	7/20/2015		BB199
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



This Permit will expire 18 months from the date of issuance unless an extension has been granted.
 Code Compliant Exhibit H
 Page 41 of 90



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division • Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax: 503-378-4101
 Web: bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58053	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc.		BB199
Contractor name		License number
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE		480 - 543 - 8303
Site name	Site number	Phone
73396 Tower Rd	Boardman	97818
Site address	City	ZIP
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
Name		License number
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Auxiliary Boiler Blowdown Tank		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		





Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58054	Issue date:	7/20/2015
Job start:	7/20/2015		
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name	Site number	Phone	
73396 TOWER RD		BOARDMAN	
Site address	City	Zip	
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division • Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax: 503-378-4101
Web: bod.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58054	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc. <small>Contractor name</small>		BB199 <small>License number</small>
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE <small>Site name</small>	<small>Site number</small>	480 - 543 - 8303 <small>Phone</small>
73396 Tower Rd <small>Site address</small>	Boardman <small>City</small>	97818 <small>ZIP</small>
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
<small>Name</small>	<small>License number</small>	
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Auxiliary Boiler Deaerator	NB state no.:	
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58055	Issue date:	7/20/2015
		Job start:	7/20/2015
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
	Applicant name		Contractor license number
Applicant phone no.:		Applicant fax/email:	
For	PGE		
	Site name	Site number	Phone
	73396 TOWER RD	BOARDMAN	
	Site address	City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
	Name	License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input type="checkbox"/> Satisfactory <input checked="" type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extensions has been granted.



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division • Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax: 503-378-4101
Web: bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with the inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58055	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc. <small>Contractor name</small>		BB199 <small>License number</small>
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE <small>Site name</small>	<small>Site number</small>	480 - 543 - 8303 <small>Phone</small>
73396 Tower Rd <small>Site address</small>	Boardman <small>City</small>	97818 <small>ZIP</small>
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
<small>Name</small>	<small>License number</small>	
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Closed Cooling Heat Exchanger A	NB state no.:	
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58056	Issue date:	7/20/2015
Job start:	7/20/2015		
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input type="checkbox"/> Satisfactory <input checked="" type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

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Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division • Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax: 503-378-4101
Web: bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58056	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc. <small>Contractor name</small>		BB199 <small>License number</small>
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE <small>Site name</small>	480 - 543 - 8303 <small>Site number</small>	480 - 543 - 8303 <small>Phone</small>
73396 Tower Rd <small>Site address</small>	Boardman <small>City</small>	97818 <small>ZIP</small>
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
See attached List	Name	License number
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Closed Cooling Heat Exchanger B		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58057	Issue date:	7/20/2015
Job start:	7/20/2015		BB199
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extensions has been granted.
 Code Complaint Exhibit H
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Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division • Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax: 503-378-4101
 Web: bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with the inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58057	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc.		BB199
Contractor name		License number
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE		480 - 543 - 8303
Site name	Site number	Phone
73396 Tower Rd	Boardman	97818
Site address	City	ZIP
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
Name		License number
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: CO2 Storage Tank		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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 503-373-7538, Fax 503-378-4101
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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58058	Issue date:	7/20/2015
Job start:	7/20/2015		BB199
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extensions has been granted.

Code Complaint Exhibit H



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division • Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax: 503-378-4101
Web: bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with the inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58058	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc. <small>Contractor name</small>		BB199 <small>License number</small>
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE <small>Site name</small>	<small>Site number</small>	480 - 543 - 8303 <small>Phone</small>
73396 Tower Rd <small>Site address</small>	Boardman <small>City</small>	97818 <small>ZIP</small>
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
<small>Name</small>	<small>License number</small>	
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Condenser Vacuum Pump Heat Exchanger		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
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 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58059	Issue date:	7/20/2015
Job start:	7/20/2015		BB199
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name	Site number	Phone	
73396 TOWER RD		BOARDMAN	
Site address	City	Zip	
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extensions has been granted.



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division • Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax: 503-378-4101
 Web: bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION			
Permit no.: 15-58059	Issue date: 7/20/2015	Job start: 7/20/2015	
Issued to: Abacus Project Management, Inc.			BB199
Contractor name			License number
Contractor phone no.: 480-544-3017		Contractor fax no.:	
For: PGE		480 - 543 - 8303	
Site name	Site number	Phone	
73396 Tower Rd	Boardman	97818	
Site address	City	ZIP	
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
See attached List			
Authorized inspector: Tom Klug			
Phone: 541-507-2489	Fax:	E-mail:	
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel: Condenser Vacuum Pump Heat Exchanger			NB state no.:
Size and length of piping:			
Nature of work: Install			
INSPECTION RESULTS			
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 			
Inspector's name (print): _____			
Inspector's signature: _____			
Date: _____			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division * Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax 503-378-4101
www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58060	Issue date:	7/20/2015
Job start:			7/20/2015
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name	Site number	Phone	
73396 TOWER RD		BOARDMAN	
Site address	City	Zip	
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations:			
<hr/> <hr/> <hr/>			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extension has been granted.
Code Compliance Exhibit H
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Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division • Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax: 503-378-4101
Web: bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58060	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc.		BB199
Contractor name		License number
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE		480 - 543 - 8303
Site name	Site number	Phone
73396 Tower Rd	Boardman	97818
Site address	City	ZIP
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
Name		License number
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Electric Fuel Gas Heater		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extension has been granted. **Exhibit H**
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Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58061	Issue date:	7/20/2015
Job start:			7/20/2015
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For PGE			
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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 Building Codes Division • Boiler Section
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 503-373-7538, Fax: 503-378-4101
 Web: bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58061	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc.		BB199
Contractor name		License number
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE		480 - 543 - 8303
Site name	Site number	Phone
73396 Tower Rd	Boardman	97818
Site address	City	ZIP
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
Name		License number
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Final Separator Drain Tank		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58062	Issue date:	7/20/2015
Job start:	7/20/2015		BB199
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations:			
<hr/> <hr/> <hr/>			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax: 503-378-4101
Web: bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION			
Permit no.: 15-58062	Issue date: 7/20/2015	Job start: 7/20/2015	
Issued to: Abacus Project Management, Inc.			BB199
Contractor name			License number
Contractor phone no.: 480-544-3017		Contractor fax no.:	
For: PGE		480 - 543 - 8303	
Site name	Site number	Phone	
73396 Tower Rd	Boardman	97818	
Site address	City	ZIP	
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
See attached List			
Authorized inspector: Tom Klug			
Phone: 541-507-2489	Fax:	E-mail:	
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel: Fuel Gas Coalescer - Right			NB state no.:
Size and length of piping:			
Nature of work: Install			
INSPECTION RESULTS			
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 			
Inspector's name (print): _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extension has been granted. Exhibit H
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Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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 Building Codes Division * Boiler Section
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Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58063	Issue date:	7/20/2015
Job start:	7/20/2015		BB199
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:	Applicant fax/email:		
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:			NB state no.:
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extension has been granted.
 Code Compliant Exhibit H
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Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division • Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax: 503-378-4101
 Web: bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with the inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58063	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc. <small>Contractor name</small>		BB199 <small>License number</small>
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE <small>Site name</small>	<small>Site number</small>	480 - 543 - 8303 <small>Phone</small>
73396 Tower Rd <small>Site address</small>	Boardman <small>City</small>	97818 <small>ZIP</small>
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
<small>Name</small>	<small>License number</small>	
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Fuel Gas Coalescer Drain Tank		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58064	Issue date:	7/20/2015
Job start:	7/20/2015		Contractor license number
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name	Contractor license number		
Applicant phone no.:	Applicant fax/email:		
For PGE			
Site name	Site number	Phone	
73396 TOWER RD	BOARDMAN		
Site address	City	Zip	
Class I through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:			NB state no.:
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



This Permit will expire 18 months from the date of issuance unless an extension has been granted.
 Code Compliance Exhibit H
 Page 63 of 90



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division • Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax: 503-378-4101
Web: bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with the inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION			
Permit no.: 15-58064	Issue date: 7/20/2015	Job start: 7/20/2015	
Issued to: Abacus Project Management, Inc.			BB199
Contractor name			License number
Contractor phone no.: 480-544-3017		Contractor fax no.:	
For: PGE		480 - 543 - 8303	
Site name	Site number	Phone	
73396 Tower Rd	Boardman	97818	
Site address	City	ZIP	
Class I through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
See attached List			
Authorized inspector: Tom Klug			
Phone: 541-507-2489	Fax:	E-mail:	
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel: Fuel Gas Final Separator			NB state no.:
Size and length of piping:			
Nature of work: Install			
INSPECTION RESULTS			
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 			
Inspector's name (print): _____			
Inspector's signature: _____			
Date: _____			



This Permit will expire 18 months from the date of issuance unless an extension has been granted. **Permit Complete Exhibit H**
Page 64 of 90



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58065	Issue date:	7/20/2015
Job start:	7/20/2015		
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extention has been granted.
 Code Complaint Exhibit H
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Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division • Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax: 503-378-4101
 Web: bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION			
Permit no.: 15-58065	Issue date: 7/20/2015	Job start: 7/20/2015	
Issued to: Abacus Project Management, Inc.			BB199
Contractor name			License number
Contractor phone no.: 480-544-3017		Contractor fax no.:	
For: PGE		480 - 543 - 8303	
Site name		Site number	Phone
73396 Tower Rd		Boardman	97818
Site address		City	ZIP
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
See attached List			
Authorized inspector: Tom Klug			
Phone: 541-507-2489	Fax:	E-mail:	
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel: Fuel Gas Heater			NB state no.:
Size and length of piping:			
Nature of work: Install			
INSPECTION RESULTS			
<input type="checkbox"/> Satisfactory			
<input type="checkbox"/> Failed. Reinspection required. Violations			

Inspector's name (print): _____			
Inspector's signature: _____			
Date: _____			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58066	Issue date:	7/20/2015
Job start:	7/20/2015		BB199
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class I through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division • Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax: 503-378-4101
 Web: bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58066	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc. <small>Contractor name</small>		BB199 <small>License number</small>
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE <small>Site name</small>	<small>Site number</small>	480 - 543 - 8303 <small>Phone</small>
73396 Tower Rd <small>Site address</small>	Boardman <small>City</small>	97818 <small>ZIP</small>
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
<small>Name</small>	<small>License number</small>	
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Cooling Air Cooler	NB state no.:	
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58067	Issue date:	7/20/2015
Job start:	7/20/2015		
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division • Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax: 503-378-4101
Web: bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with the inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58067	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc. <small>Contractor name</small>		BB199 <small>License number</small>
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE <small>Site name</small>	<small>Site number</small>	480 - 543 - 8303 <small>Phone</small>
73396 Tower Rd <small>Site address</small>	Boardman <small>City</small>	97818 <small>ZIP</small>
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
<small>Name</small>	<small>License number</small>	
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Cooling Gas Coalescer - Left		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58068	Issue date:	7/20/2015
Job start:			7/20/2015
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For PGE			
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input checked="" type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extension has been granted.



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division • Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax: 503-378-4101
 Web: bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION			
Permit no.: 15-58068	Issue date: 7/20/2015	Job start: 7/20/2015	
Issued to: Abacus Project Management, Inc. <small>Contractor name</small>			BB199 <small>License number</small>
Contractor phone no.: 480-544-3017		Contractor fax no.:	
For: PGE <small>Site name</small>	 <small>Site number</small>	480 - 543 - 8303 <small>Phone</small>	
73396 Tower Rd <small>Site address</small>		Boardman <small>City</small>	97818 <small>ZIP</small>
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
See attached List			
Authorized inspector: Tom Klug			
Phone: 541-507-2489	Fax:	E-mail:	
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel: Fuel Gas Heater			NB state no.:
Size and length of piping:			
Nature of work: Install			
INSPECTION RESULTS			
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 			
Inspector's name (print): _____			
Inspector's signature: _____			
Date: _____			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58069	Issue date:	7/20/2015
Job start:	7/20/2015		
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extension has been granted.



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division • Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax: 503-378-4101
 Web: bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION			
Permit no.: 15-58069	Issue date: 7/20/2015	Job start: 7/20/2015	
Issued to: Abacus Project Management, Inc.			BB199
Contractor name			License number
Contractor phone no.: 480-544-3017		Contractor fax no.:	
For: PGE		480 - 543 - 8303	
Site name	Site number	Phone	
73396 Tower Rd	Boardman	97818	
Site address	City	ZIP	
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
See attached List			
Authorized inspector: Tom Klug			
Phone: 541-507-2489	Fax:	E-mail:	
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel: HRSB Atmospheric Blowdown Tank			NB state no.:
Size and length of piping:			
Nature of work: Install			
INSPECTION RESULTS			
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 			
Inspector's name (print): _____			
Inspector's signature: _____			
Date: _____			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58070	Issue date:	7/20/2015
Job start:	7/20/2015		BB199
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division • Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax: 503-378-4101
Web: bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58070	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc. <small>Contractor name</small>		BB199 <small>License number</small>
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE <small>Site name</small>	480 - 543 - 8303 <small>Site number</small>	480 - 543 - 8303 <small>Phone</small>
73396 Tower Rd <small>Site address</small>	Boardman <small>City</small>	97818 <small>ZIP</small>
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
See attached List	Name	License number
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Steam Drain Flash Tank	NB state no.:	
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
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 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

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YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58071	Issue date:	7/20/2015
Job start:			7/20/2015
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extension has been granted.
 Code Complaint Exhibit H
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Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division • Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax: 503-378-4101
Web: bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with the inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58071	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc. <small>Contractor name</small>		BB199 <small>License number</small>
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE <small>Site name</small>	<small>Site number</small>	480 - 543 - 8303 <small>Phone</small>
73396 Tower Rd <small>Site address</small>	Boardman <small>City</small>	97818 <small>ZIP</small>
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
<small>Name</small>	<small>License number</small>	
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: TCA Cooler	NB state no.:	
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58072	Issue date:	7/20/2015
Job start:	7/20/2015		BB199
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extension has been granted.



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division • Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax: 503-378-4101
Web: bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with the inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION			
Permit no.: 15-58072	Issue date: 7/20/2015	Job start: 7/20/2015	
Issued to: Abacus Project Management, Inc.			BB199
Contractor name			License number
Contractor phone no.: 480-544-3017		Contractor fax no.:	
For: PGE		480 - 543 - 8303	
Site name	Site number	Phone	
73396 Tower Rd	Boardman	97818	
Site address	City	ZIP	
Class I through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
See attached List			
Authorized inspector: Tom Klug			
Phone: 541-507-2489	Fax:	E-mail:	
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel: Ammonia Vaporizer A			NB state no.:
Size and length of piping:			
Nature of work: Install			
INSPECTION RESULTS			
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 			
Inspector's name (print): _____			
Inspector's signature: _____			
Date: _____			



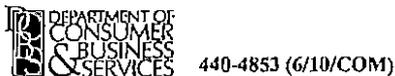
Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58073	Issue date:	7/20/2015
Job start:			7/20/2015
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name	Site number	Phone	
73396 TOWER RD		BOARDMAN	
Site address	City	Zip	
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



This Permit will expire 18 months from the date of issuance unless an extension has been granted.
 Code Compliant Exhibit H
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Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division • Boiler Section
1535 Edgewater St. NW, Salem, OR
Mailing address: P.O. Box 14470, Salem, OR 97309-0404
503-373-7538, Fax: 503-378-4101
Web: bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with the inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58073	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc.		BB199
Contractor name		License number
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE		480 - 543 -- 8303
Site name	Site number	Phone
73396 Tower Rd	Boardman	97818
Site address	City	ZIP
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
Name		License number
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Ammonia Vaporizer B		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory		
<input type="checkbox"/> Failed. Reinspection required. Violations		

Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
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 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58074	Issue date:	7/20/2015
Job start:			7/20/2015
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:	Applicant fax/email:		
For	PGE		
Site name	Site number	Phone	
73396 TOWER RD		BOARDMAN	
Site address	City	Zip	
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:			NB state no.:
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations:			
<hr/> <hr/> <hr/>			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division • Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax: 503-378-4101
 Web: bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with the inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58074	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc. <small>Contractor name</small>		BB199 <small>License number</small>
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE <small>Site name</small>	<small>Site number</small>	480 - 543 - 8303 <small>Phone</small>
73396 Tower Rd <small>Site address</small>	Boardman <small>City</small>	97818 <small>ZIP</small>
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
<small>Name</small>	<small>License number</small>	
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: Auxiliary Boiler		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58075	Issue date:	7/20/2015
Job start:	7/20/2015		BB199
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:	Applicant fax/email:		
For	PGE		
Site name	Site number	Phone	
73396 TOWER RD		BOARDMAN	
Site address	City	Zip	
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:			NB state no.:
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input type="checkbox"/> Satisfactory <input checked="" type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division • Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax: 503-378-4101
 Web: bcd.oregon.gov

Any installtions, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with the inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58075	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc.		BB199
Contractor name		License number
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE		480 - 543 - 8303
Site name	Site number	Phone
73396 Tower Rd	Boardman	97818
Site address	City	ZIP
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
Name		License number
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: HRSG LP Steam Drum	NB state no.:	
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations 		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division * Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax 503-378-4101
 www.bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58076	Issue date:	7/20/2015
Job start:	7/20/2015		BB199
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations: 			
Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
 Building Codes Division • Boiler Section
 1535 Edgewater St. NW, Salem, OR
 Mailing address: P.O. Box 14470, Salem, OR 97309-0404
 503-373-7538, Fax: 503-378-4101
 Web: bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with the inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION		
Permit no.: 15-58076	Issue date: 7/20/2015	Job start: 7/20/2015
Issued to: Abacus Project Management, Inc.		BB199
Contractor name		License number
Contractor phone no.: 480-544-3017	Contractor fax no.:	
For: PGE		480 - 543 - 8303
Site name	Site number	Phone
73396 Tower Rd	Boardman	97818
Site address	City	ZIP
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):		
Name		License number
See attached List		
Authorized inspector: Tom Klug		
Phone: 541-507-2489	Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION		
Description of vessel: HRSO IP Steam Drum		NB state no.:
Size and length of piping:		
Nature of work: Install		
INSPECTION RESULTS		
<input type="checkbox"/> Satisfactory <input type="checkbox"/> Failed. Reinspection required. Violations		
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>		
Inspector's name (print): _____		
Inspector's signature: _____		
Date: _____		



440-4853 (6/10/COM)

This Permit will expire 18 months from the date of issuance unless an extension has been granted. Exhibit H
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Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

Department of Consumer and Business Services
Building Codes Division * Boiler Section
1535 Edgewater St. NW, Salem, OR
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503-373-7538, Fax 503-378-4101
www.bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(8)

PERMIT INFORMATION			
Permit no.:	16- 58077	Issue date:	7/20/2015
Job start:	7/20/2015		BB199
Issued to:	Abacus Project Management, Inc - Expired 2/11/16		BB199
Applicant name		Contractor license number	
Applicant phone no.:		Applicant fax/email:	
For	PGE		
Site name		Site number	Phone
73396 TOWER RD		BOARDMAN	
Site address		City	Zip
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
Authorized inspector:	TOM KLUG		
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel:		NB state no.:	
Size and length of piping:			
Nature of work:			
INSPECTION RESULTS			
<input checked="" type="checkbox"/> Satisfactory			
<input type="checkbox"/> Failed. Reinspection required. Violations:			

Inspector's name (print) _____			
Inspector's signature: _____			
Date: _____			



This Permit will expire 18 months from the date of issuance unless an extension has been granted.
Case Complaint Exhibit H
Page 89 of 90



Boiler/Pressure Vessel Installation, Alteration, or Repair Permit

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 Building Codes Division • Boiler Section
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 503-373-7538, Fax: 503-378-4101
 Web: bcd.oregon.gov

Any installations, alterations, or repairs must be done according to the Oregon Boiler Specialty Code. The authorized inspector must sign this permit and return it to the Building Codes Division (BCD) with the inspection results.

YOU MUST CONTACT YOUR AUTHORIZED INSPECTOR BEFORE STARTING WORK. OAR 918-225-0600(7)

PERMIT INFORMATION			
Permit no.: 15-58077	Issue date: 7/20/2015	Job start: 7/20/2015	
Issued to: Abacus Project Management, Inc.			BB199
Contractor name			License number
Contractor phone no.: 480-544-3017		Contractor fax no.:	
For: PGE	Site number	Phone: 480 - 543 - 8303	
Site name		City	ZIP
73396 Tower Rd		Boardman	97818
Site address		City	ZIP
Class 1 through 6 mechanics performing work on this project (attach additional sheet, if necessary):			
Name		License number	
See attached List			
Authorized inspector: Tom Klug			
Phone: 541-507-2489		Fax:	E-mail:
INSTALLATION, ALTERATION, OR REPAIR INFORMATION			
Description of vessel: HRSG HP Steam Drum			NB state no.:
Size and length of piping:			
Nature of work: Install			
INSPECTION RESULTS			
<input type="checkbox"/> Satisfactory			
<input type="checkbox"/> Failed. Reinspection required. Violations			

Inspector's name (print): _____			
Inspector's signature: _____			
Date: _____			

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of The Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): December 4, 2015

PORTLAND GENERAL ELECTRIC COMPANY

(Exact name of registrant as specified in its charter)

Oregon
(State or other jurisdiction
of incorporation)

001-5532-99
(Commission
File Number)

93-0256820
(I.R.S. Employer
Identification No.)

121 SW Salmon Street, Portland, Oregon 97204
(Address of principal executive offices, including zip code)

Registrant's telephone number, including area code: (503) 464-8000

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 8.01 Other Events

In 2013, Portland General Electric Company (PGE or Company) entered into an agreement (Construction Agreement) with Abeinsa Abener Teyma General Partnership, an affiliate of Abengoa S.A., and affiliates of Abeinsa Abener Teyma General Partnership (Abeinsa) for the construction of a 440 MW natural gas-fired power plant in eastern Oregon known as the Carty Generating Station (Carty or the Project).

On November 3, 2015, the Oregon Public Utility Commission (OPUC) issued an order approving settlements reached in PGE's 2016 General Rate Case (GRC) filing, including capital costs of \$514 million for Carty. Carty will be included in customer prices when the plant becomes operational, provided that occurs by July 31, 2016. If actual capital costs exceed this amount, PGE will not recover the additional costs at that time. However, the Company may seek recovery of the additional capital costs in a subsequent general rate case proceeding.

On November 25, 2015, Abengoa S.A. filed a notice under Article 5bis of the Spanish Bankruptcy Act, indicating its intent to initiate attempts to reach out of court debt restructuring agreements with its lenders. A 5bis notice does not commence a formal insolvency proceeding for Abengoa and, as of the date of this report, neither Abengoa nor Abeinsa has initiated bankruptcy or ancillary proceedings in the United States. In addition, while Abeinsa has informed PGE that Abeinsa is attempting to secure funding from Abengoa to complete the Project, PGE is currently funding certain of the work pursuant to an agreement with Abeinsa and will offset such funding against amounts payable by PGE to Abeinsa under the Construction Agreement.

PGE believes that, if necessary, it can fund the current estimated costs for the remaining work to complete the Project from amounts not yet paid to Abeinsa under the Construction Agreement and from amounts that PGE believes will be available through a performance bond provided under the Construction Agreement. Discussions are ongoing with the sureties who issued the performance bond. While the Company is committed to completing the Project, Abeinsa's failure to perform its remaining obligations under the Construction Agreement could increase the costs incurred by the Company to complete the Project and could delay completion of the Project. If the costs incurred by PGE to complete the Project were to exceed the \$514 million amount approved by the OPUC in the Company's 2016 GRC, the Company would seek recovery of the excess amount in customer prices, but there is no assurance that such recovery would be granted by the OPUC. In addition, if the expected date of completion of construction of Carty were to be delayed beyond July 31, 2016, PGE would pursue one or more alternative avenues to obtain new OPUC approval for the inclusion of Carty costs in customer prices. Under this circumstance, the Company might not be able to recover some or all of the net revenue requirements for Carty from the date Carty is placed into service until the time when new customer prices for Carty are approved by the OPUC.

As of the date of this report, construction of Carty is continuing and PGE estimates that construction is approximately 75 percent complete. The foregoing developments have created uncertainty concerning Abeinsa's ability to complete the Project and perform its obligations under the Construction Agreement. However, barring currently unforeseen problems that may arise in the future, the Company believes that completion of the Project on budget and in the second quarter of 2016 remains achievable.

SIGNATURE

SIGNATURE

○ Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

PORTLAND GENERAL ELECTRIC
COMPANY
(Registrant)

Date: December 4, 2015

By: /s/ James F. Lobdell
James F. Lobdell
*Senior Vice President of Finance,
Chief Financial Officer and Treasurer*



David A. Bledsoe, OSB No. 851548
DBledsoe@perkinscoie.com
Joanna T. Perini-Abbott, OSB No. 141394
JPeriniAbbott@perkinscoie.com
PERKINS COIE LLP
1120 N.W. Couch Street, 10th Floor
Portland, OR 97209-4128
Telephone: 503.727.2000
Facsimile: 503.727.2222

Attorneys for Plaintiff
Portland General Electric Company

UNITED STATES DISTRICT COURT
DISTRICT OF OREGON
PORTLAND DIVISION

Portland General Electric Company,
Plaintiff

v.

Abeinsa EPC LLC, Abener Construction
Services, LLC (formerly known as Abener
Engineering and Construction Services,
LLC), Teyma Construction USA LLC, and
Abeinsa Abener Teyma General
Partnership

Defendants.

Case No.

COMPLAINT

By Plaintiff Portland General Electric
Company

Pursuant to Fed. R. Civ. P. 7

Portland General Electric Company (“PGE” or “Owner”) alleges as follows:

PARTIES

1. PGE is a corporation incorporated under the laws of the State of Oregon, with its principal place of business in Portland, Oregon.

2. Abeinsa EPC LLC is a Delaware limited liability company whose principal place of business is in Arizona. Abeinsa EPC LLC is wholly owned by Abeinsa LLC. No member or owner of Abeinsa EPC LLC is a citizen of Oregon. Abeinsa LLC is wholly owned by Abengoa US Operations, LLC. No member or owner of Abeinsa, LLC is a citizen of Oregon. Abengoa US Operations, LLC is wholly owned by Abengoa US, LLC. No member or owner of Abengoa US Operations, LLC is a citizen of Oregon. Abengoa US, LLC is jointly owned by Abengoa Bioenergy Holdco, Inc.; Abengoa Solar Holdings Inc.; Abengoa Water Holding USA, Inc.; Abener Energia, S.A.; Abacus Project Management, Inc.; and Abeinsa Holding, Inc. No member or owner of Abengoa US, LLC is a citizen of Oregon.

3. Abener Construction Services, LLC (formerly known as Abener Engineering and Construction Services, LLC) is a Delaware limited liability company whose principal place of business is in Missouri. Abener Construction Services, LLC is wholly owned by Abeinsa Business Development, LLC. No member or owner of Abener Construction Services, LLC is a citizen of Oregon. Abeinsa Business Development, LLC is wholly owned by Abeinsa, LLC. No member or owner of Abeinsa Business Development, LLC is a citizen of Oregon. Abeinsa LLC's corporate ownership structure is discussed in paragraph 2.

4. Teyma Construction USA LLC is a Delaware limited liability company whose principal place of business is in Arizona. Teyma Construction USA, LLC is wholly owned by Abeinsa, LLC. Abeinsa LLC's corporate ownership structure is discussed in paragraph 2.

5. Abeinsa Abener Teyma General Partnership is a Delaware general partnership whose principal place of business is in Arizona. Abener Construction Services, LLC and Teyma Construction USA, LLC each own 49.5% of Abeinsa Abener Teyma General Partnership.

Abeinsa EPC, LLC owns a 1% interest in the Abeinsa Abener Teyma General Partnership. The corporate ownership structure of Abeinsa EPC LLC is discussed in paragraph 2. The corporate ownership structure of Abener Construction Services LLC is discussed in paragraph 3. The corporate ownership structure of Teyma Construction USA LLC is discussed in paragraph 4. No partner of Abeinsa Abener Teyma General Partnership is a citizen of Oregon.

JURISDICTION AND VENUE

6. This Court has jurisdiction of the subject matter of this claim pursuant to 28 U.S.C. § 1332 (diversity jurisdiction). As outlined in paragraphs 1-5, no defendant is a citizen of Oregon and therefore complete diversity exists among the parties. The amount in controversy in this action exceeds the sum or value of \$75,000, exclusive of interest and costs.

7. Venue is proper in this Court pursuant to 28 U.S.C. § 1391(a).

GENERAL ALLEGATIONS

PGE and the Abeinsa Companies Enter into the EPC Contract

8. In 2011, PGE began a request for proposals (“RFP”) process to solicit proposals for a baseload resource, as well as for a capacity resource. Twelve proposals were submitted to PGE.

9. Abeinsa EPC LLC; Abener Construction Services, LLC (formerly known as Engineering and Construction Services, LLC); Teyma Construction USA, LLC; and Abeinsa Abener Teyma General Partnership (collectively, the “Abeinsa Companies,” “Abeinsa,” or “Contractor”) were selected as the EPC contractor of the Carty Project through a competitive proposal process. The terms and conditions of the EPC Contract are attached as Exhibit 1.

10. The Abeinsa Companies and PGE entered into a Turnkey Engineering, Procurement & Construction Agreement for Carty Generating Station between PGE and the Abeinsa Companies (“EPC Contract” or “Construction Contract”) on or about June 3, 2013.

11. The preamble to the EPC Contract defines Abeinsa EPC LLC; Abener Engineering and Construction Services, LLC; Teyma Construction USA, LLC; and Abeinsa Abener Teyma General Partnership as “collectively, and jointly and severally,” “Contractor.”

12. Article 1, the definitions section of the EPC Contract, defines “Contractor” to mean “each of the entities named in the preamble of this Agreement, or their respective successors, in each case, jointly and severally.”

13. Article 1 of the EPC Contract defines “Turnkey” to mean “the complete and total performance by Contractor of all of the Work to complete the Project Assets and all of its other obligations under this Agreement for the amounts expressly provided for in this Agreement and in accordance with Section 3.1.”

14. Article 3.1 of the EPC Contract (“Article 3.1”) provides in part that Contractor accepts to be engaged to perform the Work and to supply the Project Assets on a Turnkey basis and in accordance with the EPC Contract and Owner is relying upon the expertise of Contractor to furnish completed Project Assets in accordance with the terms of this Agreement. Also, it provides that Contractor acknowledges Owner’s reliance upon the expertise of Contractor as set forth in Section 3.1 of the Construction Contract. Also, it provides that EPC is a Turnkey contract and Contractor’s obligation is to provide Owner with fully operational Project Assets, completed in accordance with the terms of this Agreement; provided, however, that Owner shall be responsible, with assistance from Contractor, for performing the items listed in Section 3.8.

15. Article 3.3 provides in part that Owner will not be responsible for and will not have control over or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, and Owner will not be responsible for Contractor’s failure to carry out the Work in accordance with this Agreement. Also, it provides that Owner will not be responsible for or have control or charge over the acts or omissions of Contractor, any Subcontractor, or any of their agents or employees,

and no inspection, or failure to inspect, by Owner shall be a waiver of Contractor's obligations, or be construed as approval; or acceptance of the Work or any part thereof.

16. Article 3.6 provides in part that by accepting the Work performed and Equipment installed by Contractor at the Job Sites, Owner assumes no responsibility for injury or claims resulting from (a) failure of such Work or Equipment to comply with applicable Laws or Government Approvals as applicable to the performance of the Work, or (b) Defects or Deficiencies. Also, it provides that Contractor's performance of the Work shall include the provision of all necessary temporary and permanent safety devices required by applicable federal, state and local authorities (including the Occupational Safety and Health Administration) and applicable Law or Government Approvals in effect at the time the Work was performed.

17. Article 3.9 provides in part that except as set forth in Section 3.8 as responsibilities of Owner or otherwise specifically set forth in the EPC Contract, all responsibilities and obligations for performance of the Work are responsibilities and obligations of Contractor.

18. Article 3.9.1 provides in part that Contractor shall prosecute the Work continuously and diligently in accordance with the Project Schedule, using only qualified and competent personnel and Subcontractors, and complete the Work in a manner that meets Project Standards and in accordance with the provisions of this Agreement.

19. Article 3.9.3 provides in part that Contractor shall perform the Work, including designing, engineering, procuring, construction, Start-up, commissioning, and performance testing of the Facility, in accordance with Good Utility Practices, all Laws and Government Approvals (as applicable to the performance of the Work), and the Quality Control and Inspection Program provided for in Article 8.

20. Article 3.9.10 provides in part that Contractor shall promptly provide any data that is deliverable under the EPC Contract in a form reasonably specified by Owner.

21. Article 3.9.18 provides in part that Owner shall not be responsible, by reason of review or failure to review of the design of the Transmission Facilities, for strength, details of design, adequacy or capacity of the Transmission Facilities or any part thereof, and effect Interconnection by interconnecting and synchronizing the Facility with the Electric Grid in accordance with this Agreement.

22. Article 3.9.27 provides in part that Contractor shall provide proper protection from damage or loss to the Project Assets, the Job Sites, Additional Site Areas, materials, Construction-Related Equipment/Materials and tools during its performance of the Work.

23. Article 3.9.34 provides in part that Contractor shall at its sole cost and expense, store all material and supplies, the Equipment, and all Construction-Related Equipment/Materials, as specified in this Agreement or, where not specified, in such a manner as is consistent with Good Utility Practice and so as to facilitate prompt inspection by Owner; and confine the storage of the foregoing to locations, and in a manner, specified in this Agreement and in accordance with technical specifications, manufacturer's instructions, and all applicable ordinances, regulations, or Laws.

24. Article 3.9.35 provides in part that Contractor shall maintain at the Facility Site an orderly and adequate file of up-to-date copies of all contract documents and contract implementation documents including submittals and specifications, manufacturer's prints and specifications, field mark-up submittals, field installation notes, and other contract documents and supplementary data.

25. Article 3.9.39 provides in part that Contractor shall maintain fiscal records, books and accounts pertaining to the Project in accordance with generally accepted accounting principles, consistently applied, and provide to Owner (as a matter of Final Completion) the project costs associated with a set of project property accounts supplied by Owner to Contractor as required in Exhibit "V".

26. Article 7.1 provides that as full compensation and consideration for the full and complete performance of all of the Work and all of Contractor's other obligations under this Agreement and all costs in connection therewith, PGE shall pay to the Abeinsa Companies \$364,029,449. This compensation was adjusted subsequently.

27. Article 7.10.2 provides in part that if at any time during the progress of the Work Contractor incurs any indebtedness for labor, equipment, materials, or apparatus, which indebtedness has become a lien upon the Work or any part thereof, or any equipment, materials, or apparatus, Contractor shall immediately, upon request by Owner, pay such indebtedness or cause such lien to be released and discharged by giving a bond or otherwise at Contractor's expense; and, upon any failure so to do, Owner may in its discretion (a) withhold any money due Contractor until such indebtedness is paid, or (b) apply such money toward the discharge thereof, or (c) declare this Agreement to be terminated, take possession and control of the Work, accept such portion of the equipment, apparatus, and materials covered by this Agreement as in the opinion of Owner may be used on the Work, and complete the Work or cause the same to be completed according to the Submittals and Specifications, all at Contractor's expense.

28. Article 7.17 provides in part that Contractor shall use the sums paid to it pursuant to this Article 7 solely for the purpose of paying for or reimbursing itself for performance of the Work and for designing, furnishing, equipping, testing and commissioning the Project Assets in accordance with the Work Scope. No provision hereof shall be construed; however, to require Owner to see to the proper disposition or application of the monies so paid to Contractor.

29. Article 7.19 provides in part that Contractor shall, at its expense, keep and maintain such records and accounts in connection with the performance of the EPC Contract as will permit Contractor to furnish to Owner records (excluding Contractor's tax returns) as required to verify costs incurred of the various contract price(s) for performance of work under the EPC Contract as such may be required by Owner for making payment in the event of

termination and for public record requirements under applicable Law, for three (3) years after Final Completion; provided, however, that Contractor shall not be required to or provide access to those of its costs expressed as fixed rates, a lump sum, or of costs which are expressed in terms of percentages of such costs.

30. Article 8.1 provides in part that Contractor shall perform all quality control and inspection activities related to the Work as required by all Government Authorities and/or Contractor's Quality Control and Inspection Program, as defined in the EPC Contract; Contractor may not rely upon Owner or any other individual or Government Authority to provide such services; Contractor shall inspect and test the Work, including all design, installation, engineering, materials, equipment, tools and supplies performed or provided; and, at all times during the performance of the Work, Contractor shall correct all Defects or Deficiencies in a reasonable time. Also, it provides that Contractor shall take reasonable steps to keep Owner apprised of Defects or Deficiencies and of its correction or efforts to correct such Defects or Deficiencies.

31. Article 8.3.1 provides in part that neither the failure to make any inspection or test nor to discover defective design, workmanship, materials, or equipment, nor acceptance of or payment to Contractor shall relieve Contractor from its obligation to do and complete the Work in accordance with the plans, Submittals and Specifications, and conditions of the EPC Contract.

32. Article 8.3.2 provides in part that Contractor shall carry on the Work at its own risk until the Substantial Completion Date, and shall, in the event of any accident, destruction, or injury to the Work, including any materials, equipment, or apparatus provided therefor, before the Substantial Completion Date, (and except to the extent of any negligence of Owner or any Person for which Owner is responsible), promptly repair or replace the same at its own expense.

33. Article 8.3.3 provides in part that with respect to any Work containing Defects or Deficiencies, if Contractor fails to initiate correction of such Defects or Deficiencies, or to have

submitted to Owner a course of action for doing so that is acceptable to Owner (in its reasonable judgment) and to have diligently commenced implementation of such plan, within ten (10) Business Days of its having received Notice thereof from Owner, Owner may, without prejudice to any other remedy Owner may have, correct such defective Work. Owner's correction of such defective Work will not relieve Contractor of its obligations under the EPC Contract. All reasonable costs and expenses related to such actions of Owner will be for the account of Contractor, and Contractor will promptly reimburse such amounts to Owner, or Owner may set such costs off as against any amount due from Owner to Contractor under the EPC Contract.

34. Article 8.5 provides in part that if Owner shall waive or fail to exercise its right to inspect and witness any test as herein provided, it shall in no way relieve Contractor of full liability for the quality, character, proper operation and performance of the completed Work, and every part of it, nor shall it prejudice or affect any right of Owner set forth in this Agreement; nor shall any witness of any test or inspection by Owner or any failure to witness any test or inspect be construed as an approval or acceptance of the Work or any part thereof.

35. Article 11.2 provides in part that Contractor shall prosecute the Work generally in accordance with or in advance of the Project Schedule which may only be revised by a Change Order issued per the specific provisions of the EPC Contract.

36. Article 11.3.2 provides in part Contractor will submit a proposed Recovery Plan to Owner within five (5) Days of receiving Notification from Owner of its requirement and, within ten (10) Days of Contractor's initial submission of its proposed Recovery Plan, begin implementation of, and use its best efforts to adhere to, such Recovery Plan in order to regain compliance with the Project Schedule, including the utilization of additional shifts, additional manpower, overtime and re-sequencing of activities.

37. Article 11.3.4 provides in part that if Contractor fails to submit a feasible proposed Recovery Plan or fails to implement the approved Recovery Plan or fails to use its best

efforts to adhere to such implemented Recovery Plan, then Owner may take such actions, including without limitation such actions as are permitted in accordance with Article 29 hereunder, as it may deem necessary or appropriate, including taking over and completing any Work items, in order to attempt to cause the Work to regain compliance with the Project Schedule.

38. Article 19.1 provides in part that Contractor represents, covenants and warrants to Owner that the Equipment furnished under this Agreement will be of specified quality and new unless otherwise specified, and the Work will be free from Defects and Deficiencies.

39. Article 24.4 provides in part that without prejudice to Section 14.2.5.2, but subject to Section 24.2, at all times until the end of the Day when Owner takes over the Project Assets pursuant to Section 17.4, Contractor shall bear the risk of loss and full responsibility for the cost of replacing or repairing damage to the Work, Equipment, and the Project Assets resulting from any cause whatsoever, and regardless of whether Owner has title thereto under this Agreement.

40. Article 29.1 provides that except in the case of Sections 29.1.1, 29.1.2, 29.1.3, 29.1.4, 29.1.9, 29.1.10, 29.1.12, 29.1.13, 29.1.14, and 29.1.15, as to which no remediation opportunity for Contractor shall be allowed; then Owner may provide Notice to Contractor that Contractor is in default of the Construction Contract.

41. Article 29.1 also provides in part that if (a) an event under Section 29.1.1, 29.1.2, 29.1.3, 29.1.4, 29.1.9, 29.1.10, 29.1.12, 29.1.13, 29.1.14, or 29.1.15 shall arise or exist, then a "Contractor Event of Default" will have occurred, and Owner may, by Notice to Contractor, terminate the Construction Contract.

42. Article 29.1.1 provides in part that a Contractor Event of Default shall occur if Contractor or Guarantor becomes insolvent, or generally does not pay its debts as they become due, or admits in writing its inability to pay its debts, or makes an assignment for the benefit of creditors.

43. Article 29.1.2 provides in part that a Contractor Event of Default shall occur if Contractor or Guarantor commences any case, proceeding or other action seeking reorganization, arrangement, adjustment, liquidation; dissolution, or composition of itself or its debts or assets, or adopts an arrangement with creditors, under any bankruptcy, moratorium, rearrangement, insolvency, reorganization or similar law of the United States or any state thereof for the relief of creditors or affecting the rights or remedies of creditors generally (collectively, “Debtor Relief Laws”).

44. Article 29.1.5 provides in part that a Contractor Event of Default shall occur if Contractor fails to make prompt payment for labor, equipment or materials in accordance with the terms of the applicable subcontract.

45. Article 29.1.7 provides in part that a Contractor Event of Default shall occur if any representation or warranty made by Contractor was materially incorrect when made, or any representation or warranty made by Guarantor was materially incorrect when made, or any representation or warranty made by Guarantor was materially incorrect when made, or any such representation or warranty of Contractor or Guarantor becomes materially incorrect and thereof it reasonably could be expected that Contractor or Guarantor will be unable to observe and perform its material obligations under the Construction Contract or under the Guaranty.

46. Article 29.1.12 provides in part that a Contractor Event of Default shall occur if Contractor Abandons the Work (except due to a suspension of the Work permitted under the EPC Contract) and Contractor fails to recommence construction activities at the Job Site(s) within five (5) Days after receipt of Notice from Owner regarding the same.

47. Article 29.1.14 provides in part that a Contractor Event of Default shall occur if Contractor fails to adhere to the Project Schedule for reasons not otherwise excused under the terms of this Agreement, and either (a) Owner has not received a Recovery Plan from Contractor which Owner, exercising reasonable judgment, believes will result in the criteria for Substantial

Completion being achieved before Contractor's liability for Substantial Completion Liquidated Damages will have reached its cap as described in Section 20.7.1, or (b) having received a Recovery Plan from Contractor (that was reasonably acceptable to Owner), Contractor fails to use its reasonable commercial efforts to adhere to such Recovery Plan.

48. Article 29.2.2 provides in part that in the event of a default by Contractor under Section 29.1 of the EPC Contract, Contractor, upon request from Owner, must withdraw from the site and give Owner possession of all designs, materials, equipment, tools, purchase orders, correspondence, schedules, Submittals and Specifications (defined in the EPC), and facilities of Contractor on the job site or which have been prepared in connection with the work.

49. Article 29.3.1 provides in part that in the event of a default by Contractor under Section 29.1 of the EPC Contract, in addition to other amounts payable pursuant to the EPC Contract, Contractor shall be liable to Owner for any costs in excess of the Contract Price incurred by Owner or any party acting on Owner's behalf in completing the Work or having the Work completed.

50. Article 29.3.3 provides in part that in the event of a default by Contractor under Section 29.1 of the EPC Contract, in addition to other amounts payable pursuant to the EPC Contract, upon completion of the Work by Owner or third parties, the total cost of the Work shall be determined, and Owner shall Notify Contractor of the amount, if any, that Contractor shall pay Owner or Owner shall pay Contractor.

51. Article 29.3.4 provides in part that in the event of a default by Contractor under Section 29.1 of the EPC Contract, in addition to other amounts payable pursuant to the EPC Contract, in addition to all costs incurred by Owner or third parties in completing the Work, Contractor shall promptly reimburse Owner in an amount equal to Owner's costs, demonstrated in writing to the reasonable satisfaction of Contractor, for all additional internal expenses

incurred by Owner and for all additional damages suffered by Owner, in each case as a result of Contractor's default.

52. Article 36.2 provides in part that Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to: (i) all employees engaged in connection with the Work and all other Persons who may be affected thereby; (ii) all the Work and the Equipment and all materials to be incorporated therein, whether in storage on or off the Job Sites, under the care, custody or control of Contractor or any of its Subcontractors; and (iii) other property at the Job Sites or Additional Site Areas or adjacent thereto.

53. Article 40.13 provides in part that unless expressly provided otherwise in this Agreement, this Agreement is for the exclusive benefit of the Parties and for any Person or entity who purchases, leases, or takes a security interest in the Project Assets, or any other Person to the extent expressly provided in this Agreement, and then only to the extent provided by the terms herein and is not for the benefit of any other third party.

54. Article 40.17 provides in part that in any litigation arising out of the EPC Contract, the prevailing Party shall be entitled to recover from the other Party all expenses which the prevailing Party may reasonably incur in taking such action, including, but not limited to, attorney's fees at trial and on any appeal.

55. Article 40.18 provides in part that the EPC Contract shall be governed and interpreted in accordance with the substantive law of the State of Oregon, excluding any conflict of law principles; the Parties irrevocably consent to the exclusive jurisdiction of any U.S. federal court with jurisdiction over Oregon; the Parties waive any objection to the venue of any such court; and the Parties waive any right they may have to a jury trial in connection with any action arising out of or related in any way to the EPC Contract.

Abengoa's 5bis Filing

56. On November 25, 2015, Abengoa, S.A. ("Abengoa" or "Guarantor"), a company affiliated with the Abeinsa Companies and the guarantor under a guaranty agreement with PGE, made a filing with the Commercial Court No. 2 of Seville under Article 5bis of Spanish law 22/2003 of July 9, 2009 ("Article 5bis").

57. An Article 5bis filing allows a company in debt a three-month grace period, which can be extended to four months, during which the debtor company may negotiate with creditors to try to resolve its financial difficulties.

58. A debtor company is entitled to submit an Article 5bis filing only if it is currently in a period of financial difficulty -- current insolvency or inability to pay obligations regularly as they come due -- or risks insolvency in the near future.

59. If, following the three- or four-month period following the Article 5bis filing, the debtor company is insolvent, it must file a request for insolvency ("Solicitud de Concurso").

60. During the period following the 5bis filing, many limits have been placed on the creditors of the debtor company. Also, bankruptcy filings by Abengoa and the Abeinsa Companies show that they have long been insolvent.

The Two Interim Funding Agreements

61. In November 2015 the Abeinsa Companies requested that PGE advance payments relating to the EPC Contract that were not yet due under the EPC Contract.

62. PGE agreed to do so subject to certain conditions by means of a letter agreement dated November 28, 2015 ("11-28-15 Letter Agreement"). The 11-28-15 Letter Agreement is attached as Exhibit 2.

63. Under the 11-28-15 Letter Agreement, PGE agreed subject to certain conditions to advance \$3,402,108 in funds to pay subcontractors to whom the Abeinsa Companies owed money.

64. The Abeinsa Companies, like PGE, signed the 11-28-15 Letter Agreement.

65. The Abeinsa Companies then requested that PGE advance further payments relating to the EPC Contract which were not yet due under either the EPC Contract or the 11-28-15 Letter Agreement. PGE made payment under the 11-28-15 Letter Agreement of \$3,521,455 and under the 12-5-15 Letter Agreement of \$1,883,992.

66. PGE and the Abeinsa Companies, as well as the Sureties, entered into another letter agreement, this one dated December 5, 2015 (“12-5-15 Letter Agreement”), under which PGE agreed subject to certain conditions to advance an additional \$1,865,367. The 12-5-15 Letter Agreement is attached as Exhibit 3.

67. The Abeinsa Companies, like PGE and the Sureties, signed this writing, too.

The Meeting of PGE, the Abeinsa Companies and the Sureties on December 14, 2015

68. On December 14, 2015, representatives of the Sureties (Sam Barker (senior surety counsel for international claims for Liberty), Jamie Ziegler (vice president of international claims for Liberty), Mike Mason (senior claims counsel for Zurich), Jan Sokol (outside counsel for Sureties), and John Stewart (outside counsel for Sureties)); the Abeinsa Companies (Pelayo Dominguez Bohorquez (project director for the Abeinsa Companies), Pablo Schenone (U.S. and Canada chief operating officer and regional director for Abeinsa EPC), Maria Eliset Techera Vergara (legal counsel and insurance director of Abeinsa EPC), James Miner (in-house legal counsel for Abeinsa EPC), and Sebastian Felicetti (chief financial officer for Abeinsa EPC)); and PGE (Maria Pope (senior vice president of PGE), Jaisen Mody (project manager for the Carty Project for PGE), Brett Greene (director of treasury for PGE), Nora Arkonovich (assistant general counsel for PGE), Stephen Redshaw (associate general counsel for PGE), Graehm Wallace (outside counsel for PGE), and Al Smith (outside counsel for PGE)) held an in-person meeting (“12-14-15 Meeting”).

69. At the 12-14-15 Meeting, Maria Eliset Techera Vergara stated that the workers at the Carty Project site had been ordered not to show up for work because there was no money to pay any of the subcontractors or vendors.

70. The Abeinsa Companies did not have any of their non-management employees or subcontractors' non-management employees at work on December 14 or for any of the remainder of the week of December 14-18, 2015.

71. During the meeting, Jim Miner, a lawyer for the Abeinsa Companies, stated that he would make four points that he was authorized by the Abeinsa Companies to make on their behalf.

72. First, Mr. Miner said that the Abeinsa Companies did not have the financial ability to continue work on the Carty Project unless the Abeinsa Companies received additional outside financial assistance and, because of that, work on the Carty Project had come to a full stop. Mr. Miner emphasized that the Abeinsa Companies needed financial help.

73. Second, Mr. Miner said the Abeinsa Companies wanted to aggressively pursue the possibility of receiving financial assistance from the Sureties, but they had been told by the Sureties that it would take several weeks before the Sureties could agree to any such funding, even if one were to assume the Sureties would ever agree to provide Abeinsa any funding.

74. Third, Mr. Miner said the Abeinsa Companies would provide PGE unfettered access to all Carty Project records, including all financial information related to payments to subcontractors and vendors.

75. Fourth, Mr. Miner said the Abeinsa Companies needed PGE's immediate financial assistance or it could not proceed with the Carty Project, because Abeinsa had no other sources available for funding in the immediate future. He also said that although the Abeinsa Companies had hoped to have access to funding from Abengoa, the Abeinsa Companies'

affiliated company in Spain, Abengoa had said any such renewed funding from Spain would not be forthcoming in the near term.

76. Sebastian Felicetti said, in response to questions from Steve Redshaw and others, that it would take much more money to complete the Carty Project than the payments that would become due for payment by PGE under the EPC Agreement. Mr. Felicetti said that if the Abeinsa Companies completed the construction of the Carty Project, the Abeinsa Companies would end up with a loss of approximately \$75 million.

77. Mr. Felicetti said that the Abeinsa Companies calculated that it would cost a total of \$425 million to get the Carty Project complete by May 30, 2016, including costs paid and incurred to date as well as the costs anticipated to complete the Carty Project.

78. In response to further questions about past due invoices, Mr. Felicetti explained that there was currently approximately \$7 million due and unpaid as of that day (December 14, 2015), but that amount would increase to \$12 million by the end of the following day (December 15, 2015) because there was another \$5 million due and owing to vendors by the end of December 15 and the Abeinsa Companies had no means to pay those invoices.

79. Mr. Felicetti stated that the Abeinsa Companies had a total of \$84 million of accounts payable with no ability to pay those amounts. Of this \$84 million, \$15 million was owed to a bank on a line of credit; \$31 million was owed to companies within the Abengoa family of entities; and \$38 million was owed to non-Abengoa-affiliated parties. This \$38 million included the \$12 million that would be past due and owing by the end of the day on December 15, 2015. Mr. Felicetti said the remaining \$26 million of the \$38 million was incurred and was also owing, but was not yet due under the payment terms of various contracts.

80. Representatives of PGE and the Abeinsa Companies discussed what kind of terms would need to be included in any potential future funding agreement between PGE and the Abeinsa Companies.

81. Jaisen Mody of PGE said that PGE was very dissatisfied with Abeinsa's recent progress on the Carty Project and Abeinsa's deteriorating and then absent workforce, and was concerned because Abengoa had filed a prebankruptcy notice in Spain.

82. Graehm Wallace said PGE needed the Abeinsa Companies to acknowledge default for PGE to agree to advance further funds. Mr. Wallace noted that the prior two interim financing agreements had done little more than keep the Carty Project marginally active and the Abeinsa Companies' immediate creditors at bay, but if PGE was to agree to another round of funding, PGE would need the ability to immediately move in a different direction if either funding from the Sureties failed to materialize or if the Abeinsa Companies continued their slow pace of work.

83. Maria Eliset Techera Vergara stated that the Abeinsa Companies could not agree to such a term without approval from higher up persons within the organization.

84. Ms. Techera Vergara stated that PGE needed the Abeinsa Companies' cooperation to be able to complete the Carty Project.

85. Pelayo Dominguez Bohorquez of the Abeinsa Companies said that if PGE would not provide additional interim funding to the Abeinsa Companies, then they would have no reason to cooperate with PGE in turning over information or otherwise allow the Carty Project to continue.

86. Mr. Stewart told the Abeinsa Companies that the Sureties would not even consider any financing of the Carty Project unless the Abeinsa Companies admitted in writing that they were already in default under the EPC Contract.

87. The representatives of the Abeinsa Companies at the 12-14-15 Meeting said they doubted they could do so, but would respond to this request by December 16, 2015.

88. On December 15, 2015, Pablo Schenone sent an email to Jaisen Mody of PGE and others, reiterating the Abeinsa Companies' request for acceleration of payment from PGE to

the Abeinsa Companies so they could pay wages. Mr. Schenone wrote, "As commented yesterday, we need this payment to be done. Situation with Union labor payment can't be held further. Please confirm transfer is going to happen today."

89. Later that day, Mr. Schenone emailed to PGE, "Thanks for your prompt response. Below answers in red. The monies really need[] to be at the bank today to provide the checks to the people tomorrow."

90. On December 16, 2015, Maria Eliset Techera Vergara wrote an email to various persons, including PGE representatives. She concluded by saying that "A new agreement needs to be developed in the next couple of days to avoid serious consequences to the project."

PGE's Termination of the Abeinsa Companies on December 18, 2015

91. PGE had notified the Abeinsa Companies and the Sureties on November 27, 2015 that PGE was considering declaring a Contractor Default.

92. PGE had met with the Abeinsa Companies and the Sureties by telephone on November 30, 2015, and in person on December 14, 2015 to discuss matters relating to the Abeinsa Companies' performance.

93. By December 18, 2015, the Abeinsa Companies had shown that they generally were not paying their debts as they became due.

94. By December 18, 2015, the Abeinsa Companies had shown that they generally were insolvent.

95. By December 18, 2015, the Abeinsa Companies had admitted in writing their inability to pay their debts.

96. By December 18, 2015, Abengoa had, by submitting an Article 5bis filing, sought an arrangement or adjustment of itself or its debts or assets.

97. By December 18, 2015, the Abeinsa Companies had incurred indebtedness to Apollo Sheet Metal, Inc. dba Apollo Mechanical Contractors which had become a lien upon the

Carty Project in the amount of \$399,820.95, recorded in the Morrow County real estate records. The Abeinsa Companies did not make payment to Apollo, did not cause the lien to be released, and still has not done so.

98. On December 18, 2015, PGE wrote the Abeinsa Companies a letter (the "Termination Letter") declaring a Contractor Default and formally terminated the Abeinsa Companies from working on the EPC Contract. The same day, PGE wrote to the Sureties to inform them, under Section 3.2 of the Performance Bond, that PGE had terminated the Abeinsa Companies.

99. In the Termination Letter, PGE informed the Abeinsa Companies that the termination was for events or conditions of default under Articles 29.1.1, 29.1.2, 29.1.14, and 7.10.2 of the EPC Agreement.

100. PGE sent a copy of the Termination Letter to the Sureties on December 18, 2015.

101. PGE agreed to pay the balance of the contract price under the EPC Contract. PGE met all the preconditions for the Sureties' obligations arising under Section 3 of the Performance Bond.

102. Since PGE's termination of the Abeinsa Companies, PGE discovered numerous examples of defective work by the Abeinsa Companies.

103. Most of the defective work that PGE discovered was latent defects.

104. Much of the defective work presented severe safety hazards.

105. For example, though the Abeinsa Companies indicated that the site-wide copper grounding grid necessary for safe grounding at the plant had been completely installed, in fact PGE discovered that sections of the grid for which the Abeinsa Companies had been paid had not been installed at all, or were installed in the wrong location, while other sections had been installed improperly and did not meet code requirements.

106. Other examples of latent defects identified at the Carty Project site include construction debris left inside closed piping associated with the Boiler Feed Water Pump, material left behind in high voltage buses and improper installation and alignment (due to Abeinsa's faulty survey) of the Closed Cooling Water System.

107. Some of the latent defects posed serious and potentially deadly safety hazards.

108. PGE also discovered that the Abeinsa Companies failed to pay numerous subcontractors, which resulted in the subcontractors placing liens on the Carty Project and asserting claims against PGE in an amount of approximately \$29.5 million.

PGE Has Suffered Damages Due to the Abeinsa Companies' Breach of the EPC Contract

109. Since PGE terminated the Abeinsa Companies on December 18, 2015, PGE has to date incurred costs to correct and complete the work on the Carty Project that exceed the contract price under the EPC Contract, as modified, by approximately \$160,000,000, which are recoverable under Article 29.3 of the EPC Agreement. Much of this work was incurred in order to correct defective work performed under the Abeinsa Companies' management and to perform work that the Abeinsa Companies reported as performed, but was not, as well as completion of construction generally, and start-up and commissioning. PGE expects to incur additional costs to complete the Carty Project.

110. Because PGE became the manager of the Carty Project after the Abeinsa Companies' default and termination, PGE is entitled to a market rate management fee in the amount of approximately \$24,000,000 for its management of the Carty Project after December 18, 2015.

111. Because of the Abeinsa Companies' failure to pay contractors and vendors, PGE has incurred to date approximately \$11,000,000 in damages to settle claims and remove liens on the Carty Project. PGE expects to incur additional costs to settle claims and remove liens on the Carty Project.

112. PGE has incurred to date approximately \$3,000,000 in legal fees and costs that are recoverable under Article 40.17 of the EPC Contract, and expects to incur further legal expenses.

113. Under Article 20.2 of the EPC Contract, PGE is entitled to recover substantial completion liquidated damages until the substantial completion of the Carty Project, up to a cap of 15% of the value of the EPC Contract. PGE has incurred to date approximately \$13,000,000 in such damages and expects to incur further such damages.

114. Under Article 20.4 of the EPC Contract, PGE is entitled to recover performance liquidated damages in the event the performance guarantees are not met. PGE reserves its right to seek recovery of performance liquidated damages and to recover damages due to delay of the work on the Carty Project.

115. Under Article 19 of the EPC Contract, PGE is entitled to warranty costs for the Carty Project. PGE expects to incur such damages.

116. Under ORS 82.010, PGE is entitled to prejudgment interest in the amount of nine percent (9%) per annum, accruing from March 2, 2016, the date that PGE was able to quantify the amount of its damages resulting from the Abeinsa Companies' breach of the EPC Contract.

FIRST CLAIM FOR RELIEF

Breach of Contract

117. PGE realleges and incorporates herein by reference the allegations of Paragraph 1-116 above as though set forth in full.

118. The EPC Contract is a valid and enforceable contract between PGE and the Abeinsa Companies.

119. One or more of the Abeinsa Companies were in default under the EPC Contract and were properly terminated by PGE under Articles 29.1.1, 29.1.2, 29.1.14, and 7.10.2 of the EPC Contract.

120. To date, PGE has suffered damages, including correction of defective work, completion of construction, start-up and commissioning costs of approximately \$160 million, management fee damages of approximately \$24 million, damages to settle claims and remove liens from contractors and vendors of approximately \$11 million, recoverable legal expenses of approximately \$3 million, substantial completion liquidated damages in the current amount of approximately \$13 million, all due to the Abeinsa Companies' material breaches of the EPC Contract, for a total of approximately \$211 million in incurred damages. PGE is entitled to recover these damages and also prejudgment interest at the rate of 9% per annum. PGE reserves its right to amend this Complaint to recover damages for defects not yet discovered or costs not yet incurred.

SECOND CLAIM FOR RELIEF

Declaratory Judgment

121. PGE realleges and incorporates herein by reference the allegations of Paragraphs 1-121 above as though set forth in full.

122. 28 U.S.C. §2201 provides a remedy for declaratory judgment.

123. One or more of the Abeinsa Companies will continue to cause damages to PGE, due to their material breaches of the EPC Contract, including damages in the forms of costs to correct and complete the work on the Carty Project; a 15% management fee for substantial completion of the Carty Project; claim settling and lien removal costs; recoverable legal fees; substantial completion liquidated damages; performance liquidated damages; warranty costs; plus prejudgment interest at the rate of 9% per annum.

124. PGE is entitled to a declaratory judgment that the Abeinsa Companies must pay all of these future damages to PGE for the period through the end of the warranty period under the EPC Contract.

PRAYER FOR RELIEF

PGE prays for judgment and relief against the Abeinsa Companies for:

1. Breach of the EPC Contract, damages incurred as of the time of trial, which damages currently approximate \$211 million;
2. Breach of the EPC Contract, a declaratory judgment that Abeinsa must pay all of PGE's damages for breach of the EPC Contract incurred after trial and through the warranty period for the Carty Project;
3. Prejudgment interest, at the statutory rate of 9% per annum running from March 2, 2015;
4. Attorney's fees, pursuant to Article 40.17 of the EPC Agreement;
5. Costs and disbursements incurred in this action; and
6. Such other relief as this Court may deem just and proper.

DATED: October 21, 2016

PERKINS COIE LLP

By: *s/ David A. Bledsoe*

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Attorneys for Plaintiff
Portland General Electric Company

CIVIL COVER SHEET

The JS 44 civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. (SEE INSTRUCTIONS ON NEXT PAGE OF THIS FORM.)

<p>I. (a) PLAINTIFFS Portland General Electric Company</p> <p>(b) County of Residence of First Listed Plaintiff <u>Multnomah, OR</u> (EXCEPT IN U.S. PLAINTIFF CASES)</p> <p>(c) Attorneys (Firm Name, Address, and Telephone Number) Perkins Coie, LLP 1120 N.W. Couch Street, 10th Floor Portland, OR 97209-4128 Telephone: 503.727.2000</p>	<p>DEFENDANTS Abeinsa EPC LLC, Abener Construction Services, LLC (formerly known as Abener Engineering and Construction Services, LLC), Teyma Construction USA LLC, and Abeinsa Abener Teyma General P</p> <p>County of Residence of First Listed Defendant <u>Maricopa, AZ</u> (IN U.S. PLAINTIFF CASES ONLY)</p> <p>NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE TRACT OF LAND INVOLVED.</p> <p>Attorneys (If Known) Nathan D. O'Malley (California Bar No. 212193) 1880 Century Park East, 12th Floor Los Angeles, CA 90067</p>
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<p>II. BASIS OF JURISDICTION (Place an "X" in One Box Only)</p> <p><input type="checkbox"/> 1 U.S. Government Plaintiff</p> <p><input type="checkbox"/> 2 U.S. Government Defendant</p> <p><input type="checkbox"/> 3 Federal Question (U.S. Government Not a Party)</p> <p><input checked="" type="checkbox"/> 4 Diversity (Indicate Citizenship of Parties in Item III)</p>	<p>III. CITIZENSHIP OF PRINCIPAL PARTIES (Place an "X" in One Box for Plaintiff and One Box for Defendant)</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%;"></td> <td style="width:10%; text-align: center;">PTF</td> <td style="width:10%; text-align: center;">DEF</td> <td style="width:33%;"></td> <td style="width:10%; text-align: center;">PTF</td> <td style="width:10%; text-align: center;">DEF</td> </tr> <tr> <td>Citizen of This State</td> <td style="text-align: center;"><input type="checkbox"/> 1</td> <td style="text-align: center;"><input type="checkbox"/> 1</td> <td>Incorporated or Principal Place of Business In This State</td> <td style="text-align: center;"><input type="checkbox"/> 4</td> <td style="text-align: center;"><input type="checkbox"/> 4</td> </tr> <tr> <td>Citizen of Another State</td> <td style="text-align: center;"><input type="checkbox"/> 2</td> <td style="text-align: center;"><input checked="" type="checkbox"/> 2</td> <td>Incorporated and Principal Place of Business In Another State</td> <td style="text-align: center;"><input checked="" type="checkbox"/> 5</td> <td style="text-align: center;"><input type="checkbox"/> 5</td> </tr> <tr> <td>Citizen or Subject of a Foreign Country</td> <td style="text-align: center;"><input type="checkbox"/> 3</td> <td style="text-align: center;"><input type="checkbox"/> 3</td> <td>Foreign Nation</td> <td style="text-align: center;"><input type="checkbox"/> 6</td> <td style="text-align: center;"><input type="checkbox"/> 6</td> </tr> </table>		PTF	DEF		PTF	DEF	Citizen of This State	<input type="checkbox"/> 1	<input type="checkbox"/> 1	Incorporated or Principal Place of Business In This State	<input type="checkbox"/> 4	<input type="checkbox"/> 4	Citizen of Another State	<input type="checkbox"/> 2	<input checked="" type="checkbox"/> 2	Incorporated and Principal Place of Business In Another State	<input checked="" type="checkbox"/> 5	<input type="checkbox"/> 5	Citizen or Subject of a Foreign Country	<input type="checkbox"/> 3	<input type="checkbox"/> 3	Foreign Nation	<input type="checkbox"/> 6	<input type="checkbox"/> 6
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IV. NATURE OF SUIT (Place an "X" in One Box Only) Click here for: Nature of Suit Code Descriptions.

<p>CONTRACT</p> <p><input type="checkbox"/> 110 Insurance</p> <p><input type="checkbox"/> 120 Marine</p> <p><input type="checkbox"/> 130 Miller Act</p> <p><input type="checkbox"/> 140 Negotiable Instrument</p> <p><input type="checkbox"/> 150 Recovery of Overpayment & Enforcement of Judgment</p> <p><input type="checkbox"/> 151 Medicare Act</p> <p><input type="checkbox"/> 152 Recovery of Defaulted Student Loans (Excludes Veterans)</p> <p><input type="checkbox"/> 153 Recovery of Overpayment of Veteran's Benefits</p> <p><input type="checkbox"/> 160 Stockholders' Suits</p> <p><input checked="" type="checkbox"/> 190 Other Contract</p> <p><input type="checkbox"/> 195 Tort Contract Product Liability</p> <p><input type="checkbox"/> 196 Franchise</p>	<p>TORTS</p> <p>PERSONAL INJURY</p> <p><input type="checkbox"/> 310 Airplane</p> <p><input type="checkbox"/> 315 Airplane Product Liability</p> <p><input type="checkbox"/> 320 Assault, Libel & Slander</p> <p><input type="checkbox"/> 330 Federal Employers' Liability</p> <p><input type="checkbox"/> 340 Marine</p> <p><input type="checkbox"/> 345 Marine Product Liability</p> <p><input type="checkbox"/> 350 Motor Vehicle</p> <p><input type="checkbox"/> 355 Motor Vehicle Product Liability</p> <p><input type="checkbox"/> 360 Other Personal Injury</p> <p><input type="checkbox"/> 362 Personal Injury - Medical Malpractice</p> <p>PERSONAL INJURY</p> <p><input type="checkbox"/> 365 Personal Injury - Product Liability</p> <p><input type="checkbox"/> 367 Health Care/ Pharmaceutical Personal Injury Product Liability</p> <p><input type="checkbox"/> 368 Asbestos Personal Injury Product Liability</p> <p>PERSONAL PROPERTY</p> <p><input type="checkbox"/> 370 Other Fraud</p> <p><input type="checkbox"/> 371 Truth in Lending</p> <p><input type="checkbox"/> 380 Other Personal Property Damage</p> <p><input type="checkbox"/> 385 Property Damage Product Liability</p>	<p>FORFEITURE/PENALTY</p> <p><input type="checkbox"/> 625 Drug Related Seizure of Property 21 USC 881</p> <p><input type="checkbox"/> 690 Other</p> <p>LABOR</p> <p><input type="checkbox"/> 710 Fair Labor Standards Act</p> <p><input type="checkbox"/> 720 Labor/Management Relations</p> <p><input type="checkbox"/> 740 Railway Labor Act</p> <p><input type="checkbox"/> 751 Family and Medical Leave Act</p> <p><input type="checkbox"/> 790 Other Labor Litigation</p> <p><input type="checkbox"/> 791 Employee Retirement Income Security Act</p> <p>IMMIGRATION</p> <p><input type="checkbox"/> 462 Naturalization Application</p> <p><input type="checkbox"/> 465 Other Immigration Actions</p>	<p>BANKRUPTCY</p> <p><input type="checkbox"/> 422 Appeal 28 USC 158</p> <p><input type="checkbox"/> 423 Withdrawal 28 USC 157</p> <p>PROPERTY RIGHTS</p> <p><input type="checkbox"/> 820 Copyrights</p> <p><input type="checkbox"/> 830 Patent</p> <p><input type="checkbox"/> 840 Trademark</p> <p>SOCIAL SECURITY</p> <p><input type="checkbox"/> 861 HIA (1395ff)</p> <p><input type="checkbox"/> 862 Black Lung (923)</p> <p><input type="checkbox"/> 863 DIWC/DIWW (405(g))</p> <p><input type="checkbox"/> 864 SSID Title XVI</p> <p><input type="checkbox"/> 865 RSI (405(g))</p> <p>FEDERAL TAX SUITS</p> <p><input type="checkbox"/> 870 Taxes (U.S. Plaintiff or Defendant)</p> <p><input type="checkbox"/> 871 IRS—Third Party 26 USC 7609</p>	<p>OTHER STATUTES</p> <p><input type="checkbox"/> 375 False Claims Act</p> <p><input type="checkbox"/> 376 Qui Tam (31 USC 3729(a))</p> <p><input type="checkbox"/> 400 State Reapportionment</p> <p><input type="checkbox"/> 410 Antitrust</p> <p><input type="checkbox"/> 430 Banks and Banking</p> <p><input type="checkbox"/> 450 Commerce</p> <p><input type="checkbox"/> 460 Deportation</p> <p><input type="checkbox"/> 470 Racketeer Influenced and Corrupt Organizations</p> <p><input type="checkbox"/> 480 Consumer Credit</p> <p><input type="checkbox"/> 490 Cable/Sat TV</p> <p><input type="checkbox"/> 850 Securities/Commodities/ Exchange</p> <p><input type="checkbox"/> 890 Other Statutory Actions</p> <p><input type="checkbox"/> 891 Agricultural Acts</p> <p><input type="checkbox"/> 893 Environmental Matters</p> <p><input type="checkbox"/> 895 Freedom of Information Act</p> <p><input type="checkbox"/> 896 Arbitration</p> <p><input type="checkbox"/> 899 Administrative Procedure Act/Review or Appeal of Agency Decision</p> <p><input type="checkbox"/> 950 Constitutionality of State Statutes</p>
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V. ORIGIN (Place an "X" in One Box Only)

1 Original Proceeding 2 Removed from State Court 3 Remanded from Appellate Court 4 Reinstated or Reopened 5 Transferred from Another District (specify) 6 Multidistrict Litigation - Transfer 8 Multidistrict Litigation - Direct File

VI. CAUSE OF ACTION

Cite the U.S. Civil Statute under which you are filing (Do not cite jurisdictional statutes unless diversity):
Fed. R. Civ. P. 7

Brief description of cause:
Breach of Turnkey Construction Contract

VII. REQUESTED IN COMPLAINT: CHECK IF THIS IS A CLASS ACTION UNDER RULE 23, F.R.Cv.P. DEMAND \$ 211,000,000.00 CHECK YES only if demanded in complaint: JURY DEMAND: Yes No

VIII. RELATED CASE(S) IF ANY (See instructions): JUDGE Hernández DOCKET NUMBER 3:16-cv-00495-HZ

DATE 10/21/2016 SIGNATURE OF ATTORNEY OF RECORD s/ David A. Bledsoe Code Complaint Exhibit J

INSTRUCTIONS FOR ATTORNEYS COMPLETING CIVIL COVER SHEET FORM JS 44

Authority For Civil Cover Sheet

JS 44 civil cover sheet and the information contained herein neither replaces nor supplements the filings and service of pleading or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. Consequently, a civil cover sheet is submitted to the Clerk of Court for each civil complaint filed. The attorney filing a case should complete the form as follows:

- I.(a) Plaintiffs-Defendants.** Enter names (last, first, middle initial) of plaintiff and defendant. If the plaintiff or defendant is a government agency, use only the full name or standard abbreviations. If the plaintiff or defendant is an official within a government agency, identify first the agency and then the official, giving both name and title.
- (b) County of Residence.** For each civil case filed, except U.S. plaintiff cases, enter the name of the county where the first listed plaintiff resides at the time of filing. In U.S. plaintiff cases, enter the name of the county in which the first listed defendant resides at the time of filing. (NOTE: In land condemnation cases, the county of residence of the "defendant" is the location of the tract of land involved.)
- (c) Attorneys.** Enter the firm name, address, telephone number, and attorney of record. If there are several attorneys, list them on an attachment, noting in this section "(see attachment)".
- II. Jurisdiction.** The basis of jurisdiction is set forth under Rule 8(a), F.R.Cv.P., which requires that jurisdictions be shown in pleadings. Place an "X" in one of the boxes. If there is more than one basis of jurisdiction, precedence is given in the order shown below.
- United States plaintiff. (1) Jurisdiction based on 28 U.S.C. 1345 and 1348. Suits by agencies and officers of the United States are included here.
- United States defendant. (2) When the plaintiff is suing the United States, its officers or agencies, place an "X" in this box.
- Federal question. (3) This refers to suits under 28 U.S.C. 1331, where jurisdiction arises under the Constitution of the United States, an amendment to the Constitution, an act of Congress or a treaty of the United States. In cases where the U.S. is a party, the U.S. plaintiff or defendant code takes precedence, and box 1 or 2 should be marked.
- Diversity of citizenship. (4) This refers to suits under 28 U.S.C. 1332, where parties are citizens of different states. When Box 4 is checked, the citizenship of the different parties must be checked. (See Section III below; **NOTE: federal question actions take precedence over diversity cases.**)
- III. Residence (citizenship) of Principal Parties.** This section of the JS 44 is to be completed if diversity of citizenship was indicated above. Mark this section for each principal party.
- IV. Nature of Suit.** Place an "X" in the appropriate box. If there are multiple nature of suit codes associated with the case, pick the nature of suit code that is most applicable. Click here for: [Nature of Suit Code Descriptions](#).
- V. Origin.** Place an "X" in one of the seven boxes.
- Original Proceedings. (1) Cases which originate in the United States district courts.
- Removed from State Court. (2) Proceedings initiated in state courts may be removed to the district courts under Title 28 U.S.C., Section 1441. When the petition for removal is granted, check this box.
- Remanded from Appellate Court. (3) Check this box for cases remanded to the district court for further action. Use the date of remand as the filing date.
- Reinstated or Reopened. (4) Check this box for cases reinstated or reopened in the district court. Use the reopening date as the filing date.
- Transferred from Another District. (5) For cases transferred under Title 28 U.S.C. Section 1404(a). Do not use this for within district transfers or multidistrict litigation transfers.
- Multidistrict Litigation – Transfer. (6) Check this box when a multidistrict case is transferred into the district under authority of Title 28 U.S.C. Section 1407.
- Multidistrict Litigation – Direct File. (8) Check this box when a multidistrict case is filed in the same district as the Master MDL docket.
- PLEASE NOTE THAT THERE IS NOT AN ORIGIN CODE 7.** Origin Code 7 was used for historical records and is no longer relevant due to changes in statute.
- VI. Cause of Action.** Report the civil statute directly related to the cause of action and give a brief description of the cause. **Do not cite jurisdictional statutes unless diversity.** Example: U.S. Civil Statute: 47 USC 553 Brief Description: Unauthorized reception of cable service
- VII. Requested in Complaint.** Class Action. Place an "X" in this box if you are filing a class action under Rule 23, F.R.Cv.P. Demand. In this space enter the actual dollar amount being demanded or indicate other demand, such as a preliminary injunction. Jury Demand. Check the appropriate box to indicate whether or not a jury is being demanded.
- VIII. Related Cases.** This section of the JS 44 is used to reference related pending cases, if any. If there are related pending cases, insert the docket numbers and the corresponding judge names for such cases.

Date and Attorney Signature. Date and sign the civil cover sheet.

ENERGY FACILITY SITING COUNCIL

OF THE

STATE OF OREGON

**Site Certificate
for the
Carty Generating Station**

ISSUE DATE

June 29, 2012

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Acronyms and Abbreviations

ACEC	Area of Critical Environmental Concern
ADA	Americans with Disabilities Act
Btu	British Thermal Unit
Carty	Carty Generating Station
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
Council	Oregon Energy Facility Siting Council
CTG	Combustion Turbine Generator
Department	Oregon Department of Energy
DEQ	Oregon Department of Environmental Quality
DOGAMI	Oregon Department of Geology and Mineral Industries
DPO	Draft Proposed Order
EPCRA	Emergency Planning and Community Right-to-Know Act
ESCP	Erosion and Sediment Control Plan
FAA	Federal Aviation Administration
FERC	Federal Energy Regulatory Commission
GTN	Gas Transmission Northwest Corporation
HMA	Habitat Mitigation Area
HRSG	Heat Recovery Steam Generator
kV	Kilovolt
MCZO	Morrow County Zoning Ordinance
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
OAR	Oregon Administrative Rule
ODFW	Oregon Department of Fish and Wildlife
ORS	Oregon Revised Statutes
OSSC	Oregon Structural Specialty Code
PGE	Portland General Electric Company

SHPO Oregon State Historic Preservation Office
STG Steam Turbine Generator
USFWS United States Fish and Wildlife Service
WGS Washington Ground Squirrel
WPCF Water Pollution Control Facilities

1.0 INTRODUCTION

The Oregon Energy Facility Siting Council (Council) issues this site certificate for the Carty Generating Station (Carty) in the manner authorized under the Oregon Revised Statutes (ORS) Chapter 469. This site certificate is a binding agreement between the State of Oregon (State), acting through the Council, and Portland General Electric Company (certificate holder) authorizing the certificate holder to construct and operate the facility in Morrow County, Oregon.

The findings of fact, reasoning, and conclusions of law underlying the terms and conditions of this site certificate are set forth in the Council's *Final Order in the Matter of the Application for a Site Certificate for the Carty Generating Station* (Final Order on the Application) issued on June 29, 2012 and incorporated herein by this reference. In interpreting this site certificate, any ambiguity will be clarified by reference to the following, in order of priority: (1) this Site Certificate, (2) the Final Order on the Application and (3) the record of the proceedings that led to the Final Order on the Application.

This site certificate does not address, and is not binding with respect to, matters that were not addressed in the Council's Final Order on the Application. Such matters include, but are not limited to: building code compliance; wage; hour; and other labor regulations; local government fees and charges; other design or operational issues that do not relate to siting the facility [ORS 469.401(4)]; and permits issued under statutes and rules for which the decision on compliance has been delegated by the federal government to a state agency other than the Council. ORS 469.503(3).

The obligation of the certificate holder to report information to the Department or the Council under the conditions listed in this site certificate is subject to the provisions of ORS 192.502 *et seq.* and ORS 469.560. To the extent permitted by law, the Department and the Council will not publicly disclose information that may be exempt from public disclosure if the certificate holder has clearly labeled such information and stated the basis for the exemption at the time of submitting the information to the Department or the Council. If the Council or the Department receives a request for the disclosure of the information, the Council or the Department, as appropriate, will make a reasonable attempt to notify the certificate holder and will refer the matter to the Attorney General for a determination of whether the exemption is applicable, pursuant to ORS 192.450.

The Council recognizes that many specific tasks related to the design, construction, operation and retirement of the facility will be undertaken by the certificate holder's agents or contractors. Nevertheless, the certificate holder is responsible for ensuring compliance with all provisions of the site certificate. The definitions in ORS 469.300 and Oregon Administrative Rule (OAR) 345-001-0010 apply to terms used in this site certificate, except where otherwise stated, or where the context clearly indicates otherwise.

2.0 SITE CERTIFICATION

2.1 To the extent authorized by state law and subject to the conditions set forth herein, the State authorizes the certificate holder to construct, operate, and retire a natural gas-fueled energy generating facility, together with certain related or supporting facilities, at the site in Morrow County, Oregon, as described in Section 3.0 of this site certificate.

[ORS 469.401(1)]

2.2 This site certificate is effective until 1) it is terminated under OAR 345-027-0110 or the rules in effect on the date that termination is sought; or 2) until the site certificate is revoked under ORS 469.440 and OAR 345-029-0100 or the statutes and rules in effect on the date that revocation is ordered.

[ORS 469.401(1)]

2.3 Both the State and the certificate holder shall abide by local ordinances, state law, and the rules of the Council in effect on the date this site certificate is executed. ORS 469.401(2). In addition, upon a clear showing of a significant threat to public health, safety, or the environment that requires application of later-adopted laws or rules, the Council may require compliance with such later-adopted laws or rules.

[ORS 469.401(2)]

2.4 For a permit, license, or other approval addressed in and governed by this site certificate, the certificate holder shall comply with applicable state and federal laws adopted in the future to the extent that such compliance is required under the respective state agency statutes and rules.

[ORS 469.401(2)]

2.5 Subject to the conditions herein, this site certificate binds the State and all counties, cities, and political subdivisions in Oregon as to the approval of the site and the construction, operation, and retirement of the facility as to matters that are addressed in and governed by this site certificate.

[ORS 469.401(3)]

2.6 Each affected state agency, county, city, and political subdivision in Oregon with authority to issue a permit, license, or other approval addressed in or governed by this site certificate shall, upon submission of the proper application and payment of the proper fees, but without hearings or other proceedings, issue such permit, license, or other approval subject only to conditions set forth in this site certificate.

[ORS 469.401(3)]

2.7 After issuance of this site certificate, each state agency or local government agency that issues a permit, license, or other approval for the facility shall continue to exercise enforcement authority over such permit, license, or other approval.

[ORS 469.401(3)]

2.8 After issuance of this site certificate, the Council shall have continuing authority over the site and may inspect, or direct the Oregon Department of Energy (Department) to inspect, or request another state agency or local government to inspect, the site at any time in order to ensure that the facility is being operated consistently with the terms and conditions of this site certificate.

[ORS 469.430]

2.9 The certificate holder shall design, construct, operate and retire the facility:

a. Substantially as described in the site certificate:

b. In compliance with the requirements of ORS Chapter 469, applicable Council rules, and applicable state and local laws, rules and ordinances in effect at the time the site certificate is issued; and

c. In compliance with all applicable permit requirements of other state agencies.

[Final Order III.D.2] [Mandatory Condition OAR 345-027-0020(3)]

2.10 Before any transfer of ownership of the facility or ownership of the site certificate holder, the certificate holder shall inform the Department of the proposed new owners. The requirements of OAR 345-027-0100 apply to any transfer of ownership that requires a transfer of the site certificate.

[Final Order IV.B.2.8] [Mandatory Condition OAR 345-027-0020(15)]

2.11 Any matter of non-compliance under the site certificate shall be the responsibility of the certificate holder. Any notice of violation issued under the site certificate shall be issued to the certificate holder. Any civil penalties assessed under the site certificate shall be levied on the certificate holder.

[Final Order IV.B.2.5]

2.12 Within 72 hours after discovery of conditions or circumstances that may violate the terms or conditions of the site certificate, the certificate holder shall report the conditions or circumstances to the Department.

[Final Order IV.B.2.7]

2.13 The Council shall not change the conditions of this site certificate except as provided for in OAR Chapter 345, Division 27.

[Final Order VI.1] [Mandatory Condition OAR 345-027-0020(1)]



EXHIBIT W

FACILITY RETIREMENT

OAR 345-021-0010(1)(w)

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W.1 INTRODUCTION

OAR 345-021-0010(1)(w) *Information about site restoration, providing evidence to support a finding by the Council as required by OAR 345-022-0050(1).*

Response: Under OAR 345-022-0050(1), before the Energy Facility Siting Council (EFSC) will approve the proposed energy facility, it must find that the proposed energy facility site can be restored adequately to a useful, non-hazardous condition following permanent cessation of construction or operation of the facility. EFSC must also determine whether the applicant has a reasonable likelihood of obtaining a bond or letter of credit in a form and amount satisfactory to EFSC to restore the site to a useful, non-hazardous condition. This exhibit describes the expected operating life of the proposed energy facility, how it would be retired, how the site would be restored at the end of its useful life, and an estimate of the total and unit costs of restoring the site based on the Oregon Department of Energy's *First Revised Cost Guide for Decommissioning Oregon Energy Facilities*. This exhibit also provides a proposed monitoring plan for site contamination by hazardous materials.

W.2 SUMMARY

For the purposes of this Application for a Site Certificate (ASC), the useful life of the proposed energy facility is 30 years. At the end of its useful life, the proposed facility would be retired and the site restored to a useful, non-hazardous condition in accordance with the approved retirement plan and in compliance with all laws and regulations in effect at the time of retirement. The cost of site restoration is expected to be \$10.4 million, expressed in 2009 dollars.

W.3 USEFUL LIFE

OAR 345-021-0010(1)(w)(A) *The estimated useful life of the proposed facility.*

Response: Portland General Electric Company (PGE) would operate the Carty Generation Station for as long as a market exists for the electrical energy that it produces. For the purpose of the ASC, the estimated useful life of the proposed facility is 30 years. When it is determined that there will be no future market for the electrical energy produced by the facility, a retirement plan will be developed that is appropriate for the intended use of the site and then-current technology and submitted to EFSC for its approval. The retirement plan would outline how the facility would be retired and the site restored to a useful, non-hazardous condition.