

**BEFORE THE WASHINGTON STATE
UTILITIES AND TRANSPORTATION COMMISSION**

In the Matter of the Petition of)	DOCKET PG-110814
)	
PUGET SOUND ENERGY,)	ORDER 01
)	
Petitioner,)	
)	
Seeking Authorization to Operate a)	
Facility with a Maximum Allowable)	
Operating Pressure Greater Than 250)	
PSIG Pursuant to WAC 480-93-020)	ORDER GRANTING PETITION
.....)	

BACKGROUND

- 1 On May 4, 2011, Puget Sound Energy (PSE or Company), filed with the Washington Utilities and Transportation Commission (Commission) a petition requesting Commission approval to operate a pipeline at greater than 250 psig (pounds per square inch gauge).

- 2 A gas pipeline company must have permission from the Commission to operate a pipeline at greater than 250 psig, up to and including 500 psig, within one hundred feet of certain buildings described in WAC 480-93-020.

- 3 The proposed pipeline has one structure identified which is a family residence, within 100 feet of the proposed pipeline.

- 4 The Company proposes to construct a 16-inch diameter gas main of approximately 800 linear feet, along Union Hill Road at Evans Creek, located in Redmond, WA. This fifth phase will be constructed along with King County road improvements which include replacement of the existing Evans Creek Bridge. The purpose of the Redmond Supply Main is to provide additional capacity to serve the cities of Bellevue, Kirkland, and Redmond.

- 5 The Commission has adopted the Code of Federal Regulation, Title 49, Part 192 and 480-93 of the Washington Administrative Code as minimum standards for natural gas pipeline construction. The most restrictive natural gas pipeline safety rules specify that pipelines

in a highly populated area (Class 4 Location) be operated at pressures producing a hoop stress of no greater than 40 percent of the specified minimum yield strength (SMYS) of the pipe. The pipeline will be constructed for a maximum allowable operating pressure (MAOP) of 500 psig or a hoop stress of 19.05 percent of SMYS, less than 40 percent SMYS for Class 4 Location. The normal operating pressure will be at 300 psig and that corresponds to a hoop stress of 11.43 percent SMYS. The pipeline will be pressure tested at a minimum of one and one-half times the MAOP or 750 psig or a hoop stress of 28.6 percent of SMYS.

6 Commission Staff reviewed the request and recommended the Commission grant the petition subject to the following condition(s):

(a) Filings and Notices

1. Notify the Commission two business days prior to the commencement of construction.
2. Residents along the pipeline right-of-way will be contacted and informed of the future pipeline construction and any additional information found in the public awareness requirements of Code of Federal Regulation (CFR), Title 49, Part 192.616.
3. Submit ESRI GIS Shapefiles of the pipeline route, valves, rectifiers, and cathodic protection testing points, to the Commission within six months of project completion.

(b) Design and Construction

1. The 16-inch diameter pipe will be constructed of American Petroleum Institute (API) 5L X-56 with a nominal wall thickness of 0.375 inch.
2. The pipeline will be built to maintain the pipe stress level for natural gas at or below 19.05 percent of the SMYS at the MAOP of 500 psig.

3. PSE will construct the pipeline to accommodate in-line inspection tools such as “Smart Pigs.” The pipe bend radius will be a minimum of three diameters to facilitate a wide range of inspection tools.
4. PSE will radiographically examine 100 percent of all girth welds or at a minimum 90 percent for the pipeline and above ground piping, except for welds that cannot be radiographed. PSE will provide upon request by Staff, written documentation where radiographs are impractical including the certified radiographer’s statement. All welds and any defects will be remediated in accordance with PSE standards. All repaired welds will be radiographed to ensure pipeline integrity and compliance with existing standards.
5. The entire pipeline coating will be electrically tested or “jeeped” for flaws to ensure coating integrity. Any flaws will be repaired in accordance with PSE’s standards.
6. PSE will apply backfill materials around the pipe to protect the pipe and coating, in accordance with their operating standards. The material around the pipe will be free of sharp rocks with a maximum particle size of one half inch and containing a large percentage of fines. Rock shield is allowed where the use of sand is impractical or prohibited. The backfill material shall be free from sharp objects and large clods that could damage the pipe and coating.
7. The pipeline will be buried with at least 48-inches of cover. However, cover of no less than 36-inches is allowed where 48-inches is unattainable.
8. PSE will hydro-test the pipeline to a minimum of one and one-half times the MAOP. The test will be for 24 hours without pressure loss unless the pressure loss can be justified by corresponding change in pipe temperature. If PSE identifies any leak, PSE will stop the pressure test, repair the leak and then restart the pressure test.
9. PSE will install cathodic protection within 90 days after the pipeline is installed.

10. Cathodic protection test locations will be installed at intervals sufficient to determine the adequate protection of the pipeline during surveys.

(c) **Operations and Maintenance**

1. PSE shall not operate the pipeline in excess of 500 psig, without further Commission approval.
2. PSE will provide a 24-hour Supervisory Control and Data Acquisition system to monitor the system operating pressures.
3. PSE will conduct leak surveys on the pipeline in accordance with PSE Operating Standard 2625.1100. The survey is to be conducted no less frequently than annually, not to exceed 15 months, unless additional surveys are required by Commission rules.

FINDINGS AND CONCLUSIONS

- 7 (1) The Washington Utilities and Transportation Commission is an agency of the State of Washington vested by statute with the authority to adopt and enforce rules for gas pipeline safety. *RCW 81.88.040 and RCW 81.88.065.*
- 8 (2) PSE is a gas pipeline company and subject to Commission jurisdiction.
- 9 (3) The Commission has adopted the Code of Federal Regulation, Title 49, Part 192 and 480-93 of the Washington Administrative Code as minimum standards for natural gas pipeline construction. The most restrictive natural gas pipeline safety rules specify that pipelines in a highly populated area (Class 4 Location) be operated at pressures producing a hoop stress of no greater than 40 percent of the SMYS of the pipe. PSE's proposed design factor of 0.20 exceeds the 0.40 factor for Class 4 locations.
- 10 (4) The proposed 16-inch pipeline will be constructed and operated by Puget Sound Energy. The purpose of the pipeline is to provide increased gas supply to the Redmond, Kirkland, and Bellevue areas.

- 11 (5) This matter came before the Commission at its regularly scheduled meeting on July 28, 2011.
- 12 (6) After reviewing PSE's petition and giving due consideration to all relevant matters and for good cause shown, the Commission finds it is consistent with the public interest to conditionally grant PSE's request to operate at greater than 250 pounds per square inch gauge up to and including 500 psig subject to the conditions recommended by Commission Staff in paragraph 6 of this order.

ORDER

THE COMMISSION ORDERS:

- 13 (1) After the effective date of this Order, the petition of Puget Sound Energy for authorization to operate a pipeline at greater than 250 psig up to and including 500 psig is granted.
- 14 (2) This authorization is conditioned on PSE meeting the following, which exceed the minimum regulatory requirements:
- (a) **Filings and Notices**
1. Notify the Commission two business days prior to the commencement of construction.
 2. Residents along the pipeline right-of-way will be contacted and informed of the future pipeline construction and any additional information found in the public awareness requirements of CFR 192.616.
 3. Submit ESRI GIS Shapefiles of the pipeline route, valves, rectifiers, and cathodic protection testing points, to the Commission within six months of project completion.

(b) **Design and Construction**

1. The 16-inch diameter pipe will be constructed of American Petroleum Institute (API) 5L X-56 with a nominal wall thickness of 0.375 inch.
2. The pipeline will be built to maintain the pipe stress level for natural gas at or below 19.05 percent of the SMYS at the MAOP of 500 psig.
3. PSE will construct the pipeline to accommodate in-line inspection tools such as “Smart Pigs.” The pipe bend radius will be a minimum of three diameters to facilitate a wide range of inspection tools.
4. PSE will radiographically examine 100 percent of all girth welds or at a minimum 90 percent for the pipeline and above ground piping, except for welds that cannot be radiographed. PSE will provide upon request by Staff, written documentation where radiographs are impractical including the certified radiographer’s statement. All welds and any defects will be remediated in accordance with PSE standards. All welds will be radiographed to ensure pipeline integrity and compliance with existing standards.
5. The entire pipeline coating will be electrically tested or “jeeped” for flaws to ensure coating integrity. Any flaws will be repaired in accordance with PSE standards.
6. PSE will apply backfill materials around the pipe to protect the pipe and coating, in accordance with their operating standards. The material around the pipe will be free of sharp rocks with a maximum particle size of one half inch and containing a large percentage of fines. Rock shield is allowed where the use of sand is impractical or prohibited. The backfill material shall be free from sharp objects and large clods that could damage the pipe and coating.

7. The pipeline will be buried with at least 48-inches of cover. However, cover of no less than 36-inches is allowed where 48-inches is unattainable.
8. PSE will hydro-test the pipeline to a minimum of one and one-half times the MAOP. The test will be for 24 hours without pressure loss unless the pressure loss can be justified by corresponding change in pipe temperature. If PSE identifies any leak, PSE will stop the pressure test, repair the leak and then restart the pressure test.
9. PSE will install cathodic protection within 90 days after the pipeline is installed.
10. Cathodic protection test locations will be installed at intervals sufficient to determine the adequate protection of the pipeline during surveys.

(c) Operations and Maintenance

1. PSE shall not operate the pipeline in excess of 500 psig, without further Commission approval.
2. PSE will provide a 24-hour Supervisory Control and Data Acquisition system to monitor the system operating pressures.
3. PSE will conduct leak surveys on the Union Hill supply main in accordance with PSE Operating Standard 2625.1100. The survey is to be conducted no less frequently than annually, not to exceed 15 months, unless additional surveys are required by Commission rules.

- 15 (3) The Commission retains jurisdiction over the subject matter and Puget Sound Energy to effectuate the provisions of this Order.

DATED at Olympia, Washington, and effective July 28, 2011.

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

JEFFREY D. GOLTZ, Chairman

PATRICK J. OSHIE, Commissioner

PHILIP B. JONES, Commissioner