

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

In the Matter of the Petition of)	DOCKET PG-111061
)	
CASCADE NATURAL GAS)	ORDER 01
CORPORATION,)	
)	
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 June 13, 2011, Cascade Natural Gas Corporation (Cascade 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 Cascade proposes to replace an 8,000 foot segment of 8-inch transmission pipe with a new segment of 12-inch diameter high pressure pipeline of greater wall thickness and stronger grade of material utilizing current construction practices. The proposed 12-inch pipeline will be designed and tested to establish a maximum allowable operating pressure (MAOP) of 500 psig. The proposed pipeline will be located inside the City of Sedro-Woolley and within 100 feet of approximately 65 residential homes. The existing 8-inch transmission line segment will be down rated from a MAOP of 400 psig to a MAOP of 60 psig.

- 4 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.

Cascade proposed pipeline route (Class 3 Location) for 46 or more building intended for human occupancy or well-defined outside public area that is limited to a hoop stress no greater than 50 percent of the SMYS of the pipe. The pipeline will be constructed for a MAOP of 500 psig or a hoop stress of 16.4 percent of SMYS, less than 50 percent SMYS for Class 3 Location. The pipeline will be pressured tested at a minimum of one and one-half times the MAOP or 750 psig or a hoop stress of 24.5 percent of SMYS.

5 The proposed pipeline will begins at Cascade's Sedro-Woolley Gate Station (R-138) at Fruitdale Road just north of McGarigle Road and will end at Sapp Road just west of the Burlington Northern Santa Fe Railway right-of-way.

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. 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 12-inch diameter pipe will be constructed of American Petroleum Institute (API) 5L Grade X-52 Steel line pipe with a nominal wall thickness of 0.375 inch and coated with fusion bonded epoxy. Fittings will be ANSI 16.9 WPHY-52 to meet or exceed the design rating of the 12-inch line pipe specifications.
2. The pipeline will be built to maintain the pipe stress level for natural gas at or below 16.4 percent of the specified minimum yield strength (SMYS) at the MAOP of 500 psig.

3. Mainline valves will be installed at both ends of the pipeline segment.
4. The pipeline will be built to accommodate internal inspection devices with provisions for launcher and receiver.
5. Cascade will radiographically examine 100 percent of all girth welds or at a minimum 90 percent of the pipeline and above ground piping except welds that cannot be radiographed. Cascade will provide, upon request by Staff, written documentation where radiographs are impractical including the certified radiographer's statement. All welds will be inspected and defects will be replaced or repaired in accordance with Cascade's standards. All repaired welds will be radiographed to ensure pipeline integrity and compliance with existing standards.
6. The entire pipeline coating will be electrically tested or "jeeped" for flaws to ensure coating integrity. Any flaws will be repaired in accordance with Cascade's standards.
7. The back fill materials around the pipe to protect the pipe and coating will be in accordance with Cascade's standards; free from sharp objects and large clods that could damage the pipe and coating with the 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.
8. The pipeline will be buried with at least 42-inches of cover.
9. A hydrostatic test must be conducted to a test pressure of at least 150 percent of the MAOP on the 8,000 foot segment of the pipeline. The test duration will be a minimum of 24 hours without pressure loss unless the pressure loss can be justified by corresponding change in pipe temperature. Any leaks identified during the test will be repaired and the pressure test shall be restarted.

10. Exposed (unburied) pipe areas will be posted with signs three days prior to the day of the pipeline test. The signs will be easily seen warning people to keep out of the area during a high pressure pipeline test. The signs will provide specific date and time of the test. The lettering for the signs will be typical labeling for Cascade's right-of-way markers.
11. Cathodic protection will be installed within 90 days after the pipeline is installed.
12. 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. Cascade shall not operate the pipeline in excess of 500 psig, without further Commission approval.
2. Leak surveys will be conducted in accordance with Cascade's Operating Standard. The survey will be conducted annually, not to exceed 15 months.

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) Cascade is a gas pipeline company and subject to Commission jurisdiction.
- 9 (3) In WAC 480-93, the Commission has adopted minimum standards for gas pipeline construction. Pursuant to these standards, gas pipelines are designed to withstand higher pressure than the MAOP prescribed by these rules. The most restrictive gas pipeline safety rules specify that pipelines in a highly populated area (Class 4 Location) must be operated at pressures producing a hoop stress of no greater than 40 percent of the SMYS of the pipe.

- 10 (4) The proposed 12-inch diameter pipeline approximately 8,000 feet in length will begins at Cascade's Sedro-Woolley Gate Station (R-138) at Fruitdale Road just north of McGarigle Road and will end at Sapp Road just west of the Burlington Northern Santa Fe Railway right-of-way in Skagit County, Washington. The proposed pipeline will be constructed and operated by Cascade Natural Gas Corporation. The purpose of the pipeline is to provide increased safety to residences near the pipeline.
- 11 (5) This matter came before the Commission at its regularly scheduled meeting on July 28, 2011.
- 12 (6) After reviewing Cascade'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 Cascade's request to operate at 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 Cascade Natural Gas Corporation for authorization to operate a pipeline given in paragraph 5 at greater than 250 psig up to and including 500 psig is granted.
- 14 (2) This authorization is conditioned on Cascade 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. 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 12-inch diameter pipe will be constructed of American Petroleum Institute (API) 5L Grade X-52 Steel line pipe with a nominal wall thickness of 0.375 inch and coated with fusion bonded epoxy. Fittings will be ANSI 16.9 WPHY-52 to meet or exceed the design rating of the 12-inch line pipe specifications.
2. The pipeline will be built to maintain the pipe stress level for natural gas at or below 16.4 percent of the specified minimum yield strength at the MAOP of 500 psig.
3. Mainline valves will be installed at both ends of the pipeline segment.
4. The pipeline will be built to accommodate internal inspection devices with provisions for launcher and receiver.
5. Cascade will radiographically examine 100 percent of all girth welds or at a minimum 90 percent of the pipeline and above ground piping except welds that cannot be radiographed. Cascade will provide, upon request by Staff, written documentation where radiographs are impractical including the certified radiographer's statement. All welds will be inspected and defects will be replaced or repaired in accordance with Cascade's standards. All repaired welds will be radiographed to ensure pipeline integrity and compliance with existing standards.

6. The entire pipeline coating will be electrically tested or “jeeped” for flaws to ensure coating integrity. Any flaws will be repaired in accordance with Cascade’s standards.
7. The back fill materials around the pipe to protect the pipe and coating will be in accordance with Cascade’s standards; free from sharp objects and large clods that could damage the pipe and coating with the 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.
8. The pipeline will be buried with at least 42-inches of cover.
9. A hydrostatic test must be conducted to a test pressure of at least 150 percent of the MAOP on the 8,000 foot segment of the pipeline. The test duration will be a minimum of 24 hours without pressure loss unless the pressure loss can be justified by corresponding change in pipe temperature. Any leaks identified during the test will be repaired and the pressure test shall be restarted.
10. Exposed (unburied) pipe areas will be posted with signs three days prior to the day of the pipeline test. The signs will be easily seen warning people to keep out of the area during a high pressure pipeline test. The signs will provide specific date and time of the test. The lettering for the signs will be typical labeling for Cascade’s right-of-way markers.
11. Cathodic protection will be installed within 90 days after the pipeline is installed.
12. 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. Cascade shall not operate the pipeline in excess of 500 psig, without further Commission approval.
 2. Leak surveys will be conducted in accordance with Cascade's Operating Standard. The survey will be conducted annually, not to exceed 15 months.
- 15 (3) The Commission retains jurisdiction over the subject matter and Cascade Natural Gas Corporation 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