

Agenda Date: March 16, 2017  
Item Number: A3

**Docket:** PG-170052  
Company Name: Cascade Natural Gas Corporation

Staff: Derek Norwood, Pipeline Safety Engineer

### **Recommendation**

Issue an order granting Cascade Natural Gas Corporation's (Cascade or company) request to construct and operate 400 feet of 6-inch steel pipeline at a maximum allowable operating pressure (MAOP) of 400 pounds per square inch gauge (psig) within 100 feet of an existing building not owned by Cascade, as proposed in Cascade's Toppenish-Zillah Transmission Line Replacement proximity request.

### **Discussion**

A gas pipeline company must have permission from the Washington Utilities and Transportation Commission (commission) to operate a pipeline at greater than 250 psig, up to and including 500 psig, within 100 feet of an existing building not owned by the gas pipeline company, as described in Washington Administrative Code (WAC) 480-93-020. The commission has adopted the Code of Federal Regulations, Title 49, Part 192 and 480-93 of the WAC as minimum standards for natural gas pipeline construction.

Cascade is proposing to construct and operate a new 6-inch pipeline with a MAOP of 400 psig within 100 feet of one existing building in Zillah, Washington. Yakima County has proposed construction plans to improve the intersection of Cheyne Road and Highland Drive in Zillah, Washington. Cascade currently has a natural gas pipeline in an 8-foot wide easement parallel to Cheyne Road.

The improvement project proposed by Yakima County would require Cascade to replace 400 feet of their pipeline along Cheyne Road, as shown in the attached aerial diagram (Attachment 1). The new pipeline will be constructed in the public right-of-way, parallel to Cascade's existing pipeline which will be abandoned in place. The existing pipeline is part of Cascade's MAOP validation plan. It will be sampled and tested upon abandonment to determine pipeline characteristics.

Staff reviewed the proposed proximity request and calculations. As the facility will be new, there are no existing records. Staff notes the following facts:

- (a) The proposed MAOP of the new pipeline will be the same as the MAOP of the current pipeline, 400 psig.
- (b) The proposed piping and all fittings are commensurate with the proposed MAOP.

- (c) The proposed MAOP is commensurate with the current class location, which is Class 1.
- (d) The new pipeline will be 36 feet from one building not owned by Cascade. All other buildings are greater than 100 feet from the pipeline.
- (e) At the proposed MAOP of 400 psig, the maximum stress level of the pipe and pipeline fittings would be 9.1 percent of the specified minimum yield strength (SMYS). Pipelines that operate under 20 percent of SMYS are considered low-stress lines and pose a lower risk than pipelines operating above 20 percent of SMYS.
- (f) The proposed pipeline and fittings will be pressure tested with nitrogen for 8 hours at 750 psig prior to operation. This test pressure is at least 1.5 times the MAOP of the pipeline.
- (g) The proposed pipeline will be buried at least 36 inches deep over the entire length of the pipeline.

### **Conclusion**

A review of Cascade's proposed construction plans indicate that it meets all of the pertinent requirements of the Code of Federal Regulation, Title 49, Part 192 and 480-93 of the WAC and that the selected location of the new pipeline has the least impact on surrounding population densities.

The commission's proximity rule, WAC 480-93-020, is one such rule and allows pipeline staff the opportunity to review construction plans of high pressure pipelines in close proximity to structures to address safety considerations. Staff's recommended conditions described below appropriately minimize the public safety risk associated with the proposed pipeline.

For these reasons, staff recommend that the commission issue an Order approving Cascade's request to install and operate a 6-inch pipeline with a MAOP of 400 psig subject to the following conditions:

- a) For underground installations, Cascade must electrically inspect (jeep) the pipe coating and repair any coating defects in accordance with Cascade's operating standard prior to backfilling.
- b) If the pipeline is installed via horizontal directional drilling, the pipeline must be protected by an abrasion resistant overcoat.
- c) Where practical, Cascade must apply backfill material around the pipe to protect the pipe and coating. The material around the pipe must be free of any sharp rocks or other objects with a maximum particle size of one half inch and must contain a large percentage of

finer, such as sand, native soil, or soil-based select materials.

- d) Cascade must non-destructively test 100 percent of all welds. Cascade must remedy defects in the welds in accordance with Cascade's operating standards and procedures. Cascade must non-destructively test all repaired welds to ensure pipeline integrity and compliance with existing standard.
- e) Cascade must install cathodic protection within 90 days after the pipeline is installed.
- f) Cascade must provide telephonic notice to the Commission Pipeline Safety Program followed by an email confirmation at least two business days prior to the beginning of project construction.
- g) Cascade must contact residents within 100 feet of the pipeline and inform them of the project construction and any additional information consistent with the public awareness requirements in Title 49 CFR, Part 192.616.

