Agenda Date: December 5, 2019
Item Number: A3

Docket: **PG-190654**
Company Name: Cascade Natural Gas Corporation

Staff: Dave Cullom, Pipeline Safety Engineer
Darren Tinnerstet, Pipeline Safety Engineer

Recommendation

Issue an order granting Cascade Natural Gas Corporation's (Cascade or company) request to increase the pressure from 250 pounds per square inch, gauge (psig) to 500 psig on the existing Southridge high-pressure pipeline which is within 100 feet of existing buildings or those that are under construction. Cascade is performing this work due to a necessary increase in capacity to residential customers in Richland and the addition of a new industrial customer.

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 Regulation, Title 49, Part 192 and 480-93 of the WAC as minimum standards for natural gas pipeline construction.

CNGC is proposing to install two new regulator stations and increase the pressure on 2,200 feet of 8-inch steel pipe, as well as approximately 5.3 miles of 6-inch steel pipe, on the existing Southridge high-pressure pipeline. This pipeline was designed, constructed, and pressure tested to operate at 500 psig based on a previous 750 psig pressure test. Cascade is requesting approval to operate the Southridge pipeline and two new regulator stations at a 500 psig MAOP.

The two new regulator stations proposed to be installed in conjunction with this project are regulator station (R-124) and regulator station (R-123). R-124 will tie-in the 500 psig MAOP Southridge line to the existing 8 inch, 250 psig MAOP line. R-123 will be tying in from the Southridge high-pressure line to Cascade's distribution system located at the Northwest corner of West 10th Avenue and South Clodfelter Road. The new regulator stations and associated pipeline necessary for their installation will be designed with a minimum component rating of 720 psig and will be pressure tested to a minimum of 750 psig.

Commission staff (staff) reviewed the proposed proximity request and calculations. As the facility is an existing pipeline, staff reviewed historical records. Staff notes the following facts:

(a) The proposed MAOP of the pipeline will be 500 psig, which is a 100 percent increase over the current 250 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 3.

(d) The Southridge high-pressure pipeline will be within 100 feet of 98 structures. As a proactive measure, Cascade will be moving the existing high-pressure line further into the road away from three homes.

(e) It is not possible to increase the distance between the pipeline and the other buildings as this is an existing pipeline; however, the newly proposed regulator stations do not increase the number of buildings within the same proximity limit.

(f) At the proposed MAOP of 500 psig, the maximum stress level of the pipe would be 16.94 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.

(g) The proposed pipeline and fittings will be pressure tested to a minimum of 750 psig in accordance with the company's procedures prior to operation. This test pressure is at least 1.5 times the MAOP of the pipeline as required for a Class 3 location.

(h) Cascade will repair any leaks found on the system during the annual leak survey.

Conclusion

A review of Cascade's proposed construction plans indicate that it meets all 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 that 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 pressure increase.

For these reasons, staff recommend that the commission issue an Order approving CNGC's request to increase the pressure from 250 psig to 500 psig on the existing Southridge high-pressure pipeline 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) For underground installations, 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 fines, such as, sand, native soil, or soil-based select materials.

(c) Cascade must non-destructively test 100 percent of all new construction welds operating above 250 psig. Cascade must remedy defects in the welds in accordance with Cascade's operating standards and procedures. Cascade must non-destructively test all repaired welds operating above 250 psig to ensure pipeline integrity and compliance with existing standards.

(d) Cascade must install cathodic protection within 90 days after the pipeline is installed.

(e) Cascade must provide notification via email to pipelineprogram@utc.wa.gov at least two business days prior to the beginning of project construction.

(f) Cascade will submit ESRI Shapefiles and final construction specifications to the commission within 90 days of project completion.

(g) Cascade will conduct leak surveys on the Southridge high-pressure pipeline in accordance with the company's standards. The pipeline will be leak surveyed annually when it operates at 500 psig. Cascade will conduct leak surveys near high occupancy structures or areas – no less frequently than annually, not to exceed fifteen months between surveys, unless additional surveys are required by commission rules.

(h) Cascade will notify the affected public no less than 14 days prior to the open meeting date to allow the public an opportunity to comment or have questions answered by staff.

(i) Cascade will bury the pipeline with a minimum of 48-inches of cover. Where 48-inches of cover cannot be achieved, a minimum of 36-inches of cover will be maintained