

Agenda Date: May 7, 2020
Item Number: E4

Docket: PG-200259
Company Name: Cascade Natural Gas Corporation

Staff: Darren Tinnerstet, Pipeline Safety Engineer

Recommendation

Issue an order granting Cascade Natural Gas Corporation's (Cascade or company) request to operate a new gate station with a 4-inch inlet pipe at 850 psig MAOP, which is within 500-feet of existing and new structures intended for human occupancy. Cascade is performing this work in order to serve the growing communities in and around the City of Walla Walla. This proposal is referred to as the South Walla Walla gate station by Cascade in their 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 500 psig within 500-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.

Cascade is proposing to install a new gate station in Walla Walla County at an interconnect location with Northwest Pipeline (NWP). In addition to custody transfer of the gas, the gate station also odorizes the gas for distribution to customers and reduces the pressure from an MAOP of 850 psig to an MAOP of 250 psig. The proposed gate station would require Cascade to reduce the pressure from NWP, which would entail operating facilities at an MAOP of 850 psig. Cascade is proposing to take custody of the gas at an MAOP of 850 psig and immediately reduce the pressure to 250 psig through a regulator station located within gate station.

The only new facilities that will operate at an MAOP of 850 psig would include the 4-inch inlet of the line heater and regulator station, and a short segment of pipe from the custody transfer point leading into the line heater. The line heater, regulator station, and short pipe segment would all be above ground and fully enclosed within the gate station grounds.

Included in this proposal is the construction of a new regulator station. The new regulator station and associated pipeline necessary for its installation will be designed with a minimum component rating of 850 psig and will be pressure tested to a minimum of 1275 psig for the requested 850 MAOP. At the proposed upstream MAOP of 850 psig, the maximum stress level of the pipe and pipeline fittings would be 15.52 percent of specified minimum yield strength (SMYS). At the proposed downstream MAOP of 250 psig, the maximum stress level of the pipe and pipeline

fittings would be 6.4 percent of SMYS. This will result in the pipeline be classified as a high-pressure distribution facility.

The proposed regulator station is located within 500-feet of five buildings, one of which is owned and operated by NWP. The other buildings are an existing shop, two single family residences, and one single family residence that is currently under construction. An alternative location was pursued but not permitted by any other property owners along the NWP pipeline. Cascade believes the proposed location is the most practical as it is approved by the property owner, minimizes the length of pipe that Cascade would operate at high pressure, and minimizes the level of proximity concerns to residential homes.

Commission staff (staff) reviewed the proposed proximity request and calculations. Staff notes the following facts:

- (a) The proposed MAOP of the South Walla Walla gate station will be 850 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.
- (d) The South Walla Walla gate station will be within 500 feet of five structures.
- (e) It is not feasible to increase the distance between the pipeline and the other buildings. Cascade considered alternate routes which ultimately had higher installation difficulties and would have increased the number of structures within the 500-foot proximity limit.
- (f) At the proposed MAOP of 850 psig, the maximum stress level of the pipe would be 15.52 percent of the specified minimum yield strength. 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 1275 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 WAC 480-93 and that the selected location of the new gate station 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 recommends that the commission issue an Order approving Cascade's request to install a new gate station which will operate at 850 psig MAOP 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 on all newly installed pipe 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 on all newly installed pipe 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 South Walla Walla gate station in accordance with the company's standards. The pipeline will be leak surveyed annually when it operates at or above 250 psig. Cascade will conduct leak surveys near high occupancy structures or areas – no less frequently than annually, not to exceed 15 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