

Agenda Date: March 16, 2017
Item Number: A2

Docket: PG-161272
Company Name: Puget Sound Energy

Staff: Scott Anderson, Pipeline Safety Engineer

Recommendation

Issue an order granting Puget Sound Energy's (PSE or company) request to install and operate new piping, two stages of pressure regulation, overpressure protection, and line heating equipment at the Frederickson Gate Station that will operate at a pressure of up to 960 pounds per square inch (psig) within 500 feet of an existing building not owned by PSE.

Discussion

PSE is proposing to operate new piping, two stages of pressure regulation, overpressure protection, a line heater, and pressure and temperature instrumentation at the Frederickson Gate Station that will operate at a pressure of up to 960 pounds per square inch (psig) within 500 feet of one existing commercial building in Tacoma, Washington. Existing piping owned by Williams Northwest Pipeline (NWP) is being retired, and PSE is planning to construct and operate a new station as shown in the attached photo (Attachment 1).

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 WAC 480-93-020. The commission has adopted the Code of Federal Regulation, Title 49, Part 192 and 480-93 of the Washington Administrative Code (WAC) as minimum standards for natural gas pipeline construction.

NWP currently owns and supplies gas to the Frederickson Gate Station located at 4910 192nd St SE, Tacoma, Washington. This station provides gas to the Lakewood/Tacoma region via PSE's 16-inch Frederickson Supply main, which currently operates at 380 psig. To serve growing demand in the Tacoma area, PSE must increase both the pressure and flow through the Frederickson Gate Station. To accomplish this, NWP will be retiring their regulation equipment. PSE will be rebuilding the facilities completely, assuming operation responsibilities, and installing new regulation, overpressure protection and line heating equipment at the existing gate station site. The gate station will be redesigned, constructed and tested for an MAOP of 1000 psig, sufficient to handle line pressure from NWP. The pipeline facilities upstream of regulation will operate at NWP line pressure.

According to PSE, the finished regulator station piping will operate at the following maximum pressures: approximately 50 percent of PSE piping on site will be operating at 960 psig, approximately 30 percent of PSE piping on site will be operating at 490 psig, and approximately

20 percent of PSE piping on site (existing IP station – no proposed changes) will be operating at 60 psig. The downstream piping of the station has been running at 380psig MAOP and was designed and tested to operate at an MAOP of 500psig.

Staff reviewed the proposed proximity request and calculations. Staff notes the following facts:

- (a) The location of the new facilities would be fully within the fenced gate station grounds.
- (b) The proposed regulator station materials and connection piping are commensurate with the proposed MAOP.
- (c) The one building within 500 feet of new facilities is currently located within 500 feet of existing NWP facilities operating at a pressure above 500 psig.
- (d) At the proposed MAOP of 960 psig, the maximum stress level of the pipe and pipeline fittings would be under 20 percent of specified minimum yield strength (SMYS).
- (e) The design and construction specifications meet or exceed the requirements for a class 4 location
- (f) The proposed facilities will be pressure tested to 1440 psig prior to operation. This test pressure is 1.5 times the maximum allowable operating pressure.

Conclusion

A review of PSE'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 Washington Administrative Code 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 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 PSE's request to install and operate new piping, two stages of pressure regulation, overpressure protection, and line heating equipment at the Frederickson Gate Station that will operate at a pressure of up to 960 psig subject to the following conditions:

- (a) For underground installations, PSE must electrically inspect (jeep) the pipe coating and repair any coating defects in accordance with PSE's operating standard prior to backfilling.
- (b) For underground installations, PSE 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) PSE must perform radiograph inspections of 100 percent of all welds. PSE must remedy defects in the welds in accordance with PSE's operating standards and procedures. PSE must radiograph all repaired welds to ensure pipeline integrity and compliance with existing standard.
- (d) PSE must install cathodic protection within 90 days after the pipeline is installed.
- (e) PSE 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.
- (f) PSE must contact residents within 500 feet of the regulator station and inform them of the project construction and any additional information consistent with the public awareness requirements in Title 49 CFR, Part 192.616.

