

Agenda Date: February 8, 2018
Item Number: A2

Docket: PG-171217
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 construct and operate a new limit station and 1.07 miles of 12-inch high pressure (HP) piping at a pressure of 490 per square inch, gauge (psig). This project will help serve the needs of the Tacoma customer base and improve HP system reliability. The construction of this pipeline and limit station will be within 100 feet of approximately 145 commercial and residential structures not owned by PSE.

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 within 100 feet of an existing building not owned by the gas pipeline company, as described in Washington Administrative Code (WAC) WAC 480-93-020. The commission has adopted the Code of Federal Regulation, Title 49, Part 192 and WAC 480-93 of the as minimum standards for natural gas pipeline construction.

This project will provide additional natural gas supply to the general Tacoma gas distribution system. The project will ensure reliability and growth increases. The pipeline will tie in to an existing 12-inch pipeline near the intersection of 112th Street East and Golden Given Road East in Tacoma. The pipeline will follow Golden Given Road north to the intersection of 99th Street East, then continue west on 99th Street East approximately 500 feet to the new Golden Given Limit Station at 964 99th Street East, as shown in the attached photo (Attachment 1). The pipeline and limit station will be connected to the North Tacoma HP supply system. This new pipeline and limit station will be designed, constructed and tested for a maximum allowable operating pressure (MAOP) of 490 psig with a specified minimum yield strength (SMYS) of below 20 percent.

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 pipe and pipeline materials are commensurate with the proposed MAOP.
- (b) There are currently approximately 145 structures within 100 feet of new facilities operating at a pressure at 490 psig.

- (c) At the proposed MAOP of 490 psig, the maximum stress level of the pipe and pipeline fittings would be below 20 percent of specified minimum yield strength (SMYS) for the pipe and pipeline fittings.
- (d) The proposed new pipeline and limit station will be located in a Class 4 location (0.40 design factor), but is being designed with a design factor of 0.20. This design factor is more stringent than what code requires.
- (e) The proposed new pipeline will have valves installed at a spacing of less than 1 mile apart. This spacing is more stringent than code requirements (minimum of 2.5 miles apart).
- (f) The new pipeline will be pressure tested to at least 735 psig using water. The limit station will be pressure tested to at least 735 psig using water or nitrogen.
- (g) At least one of the sections of the proposed pipe will be installed via directional drill. That pipe will have abrasion coated overlay (ARO) coating applied to guard against abrasive damage that could occur as part of the installation process.
- (h) All welding and welding inspection will conform to PSE Gas Operating Standards.
- (i) Any field joints and fittings not factory-supplied with protective coatings will have field-applied coating. All above-ground piping will be painted in accordance with written specifications.

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 WAC 480-93 of the 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 recommends that the commission issue an Order approving PSE's request to install and operate a 12-inch pipeline and limit station, with a MAOP of 490 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) PSE must submit "as-built" ESRI GIS Shapefiles of the pipeline location with final construction specifications to the commission within six months of completing the project.
- c) 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.
- d) PSE must perform non-destructive testing (NDT) of 100 percent of all welds. PSE must remedy any defects in the welds in accordance with PSE's operating standards and procedures. PSE must NDT all repaired welds to ensure pipeline integrity and compliance with existing standard prior to the pipeline becoming operational.
- e) PSE must install cathodic protection within 90 days after the pipeline is installed.
- f) 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.
- g) PSE must contact residents within 100 feet of the new pipeline prior to the commission's open meeting and inform them of the project construction and any additional information consistent with the public awareness requirements in Title 49 CFR, Part 192.616.
- h) PSE must test the pipeline to a minimum of 735 psig in all locations along the pipeline route at a test pressure that is at least 1.5 times the MAOP of 490 psig. The test will be held without pressure loss unless the loss can be justified by a corresponding change in temperature. If PSE identifies any leaks, PSE will stop the pressure test, repair the leak, and start the pressure test anew.
- i) Where physically practicable, PSE will bury the pipeline with a minimum of 48-inches of cover. Where 48-inches of cover is not practicable, PSE will bury the pipeline with a minimum of 36-inches of cover.

Attachment 1

Golden Given road natural gas pipeline



Legend

- Existing pipeline
- New natural gas pipeline
- Portion of new pipeline with pressure increase
- New intermediate (P) pressure pipeline
- Existing regulator station
- Golden Given new limit station

