

Agenda Date: May 28, 2015
Item Number: A2

Docket: PG-150022
Company: Puget Sound Energy

Staff: Dave Cullom, Pipeline Safety Engineer

Recommendation

Issue an Order granting Puget Sound Energy's request to operate a pipeline above 250 psig, subject to the conditions in the Order.

Discussion

A gas pipeline company must have permission from the Washington Utilities and Transportation Commission (commission) to operate a gas pipeline at greater than 250 pounds per square inch gauge (psig) within 100 hundred feet of certain buildings 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 as minimum standards for natural gas pipeline construction.

Puget Sound Energy (PSE or company) proposes to operate Phase 1 of the new Tolt 16-inch pipeline at a pressure of 500 psig with a maximum specified minimum yield strength (SMYS) of 19.05 percent. This system will provide additional natural gas supply to North King County to ensure system reliability. There are three phases to this project. The remaining phases will be filed with the commission at a later date and will complement this portion of the project. This pipeline will be installed in the portion of Woodinville known as the "Tolt Pipeline Corridor," and is named the "Tolt 16-inch pipeline."

Phase 1 will begin by tying in to an existing 8" pipeline at the intersection of the Tolt Pipeline corridor and 155th Ave NE, and will follow the corridor approximately 2.8 miles east until Mink Rd NE, where it will tie in with another existing 8" pipeline.

PSE's system modeling shows that future demand in the area will require reinforcements to this HP system. Installation of a new gate station and 16" HP line from the intersection of 132th Ave NE and 143rd PI NE to approximately 800'N of 216th Ave NE will alleviate the demand on station #2499 and strengthen the natural gas system in North King County.

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.

System improvements are necessary to ensure adequate natural gas capacity in PSE's growing distribution system.

For these reasons, staff recommend that the commission issue an Order approving PSE's request to install and operate Phase 1 of the new Tolt 16-inch pipeline at a pressure of up to 500 psig subject to the following condition(s):

- (a) PSE will submit a map of the pipe location and final construction specifications to the commission within 30 days of project completion.
- (b) The Tolt 16-inch pipeline will be constructed and operated to maintain a pipe hoop stress below 20 percent of SMYS of the pipe at the maximum allowable operating pressure (MAOP) of 500 psig.
- (c) PSE will construct the pipeline to accommodate in-line inspection tools such as "Smart Pigs."
- (d) PSE will test the pipeline to a minimum of 750 psig in all locations along the pipeline route. The test pressure is at least 1.5 times the MAOP of 500 psig. The test will be for 24 hours 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 then start the pressure test anew.
- (e) The pipe coating will be electrically inspected and coating defects repaired prior to backfilling. Coating defects shall be repaired in accordance with PSE's Operating Standard.
- (f) PSE will bury the pipeline with a minimum of 48-inches of cover. Where 48-inches of cover cannot be maintained, a minimum of 36-inches of cover will be maintained.
- (g) PSE will apply backfill material around the pipe to protect the pipe and coating. The material around the pipe will be free of any sharp rocks with a maximum particle size of one half inch and containing a large percentage of fines, such as, sand, native soil, or soil-based select materials. Rock shield is allowed where the use of sand is impractical or prohibited. The backfill material shall be free of sharp objects and large clods that could damage the pipe and coating.
- (h) PSE will perform radiograph inspections of 100 percent of all welds unless impractical. Upon request by the commission, PSE will provide written documentation where radiographs are impractical including the written radiographer's statement. Defects will be remedied in accordance with PSE's operating standards and procedures. PSE will radiograph all repaired welds to ensure pipeline integrity and compliance with existing standards.

- (i) PSE will install and maintain mainline valves spaced at intervals not to exceed 1 mile if practical, but at no time shall the interval be more than 2 miles.
- (j) PSE will conduct leak surveys on the Tolt 16-inch pipeline in accordance with PSE standards, the pipeline will be leak surveyed once every three calendar years not to exceed 39 months while it operates below 250 psig, and will be leak surveyed annually when it operates at 500 psig. PSE 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.
- (k) PSE will install cathodic protection within 90 days after the pipeline is installed.