

Agenda Date: October 29, 2009  
Item Number: A6

Docket: PG-091440  
Company Name: Puget Sound Energy

Staff: Al Jones, Pipeline Safety Engineer

### **Recommendation**

Grant Puget Sound Energy's request to operate the Everett Delta pipeline at a pressure greater than 500 pounds per square inch gauge subject to the following conditions.

- (a) PSE shall not operate the Everett Delta pipeline in excess of 960 psig without further Commission approval.
- (b) Remote telemetry units (RTU) monitor the pressure in the system. The RTU polls system pressure every 3 seconds. PSE will monitor the pressure 24-hours a day in PSE's 24-Hour Operations Center.
- (c) PSE will conduct leak surveys in accordance with PSE Operating Standard 2625.1100. The survey will be conducted annually, not to exceed 15 months.

### **Background**

On September 8, 2009 Puget Sound Energy (PSE) filed with the Washington Utilities and Transportation Commission (Commission) a petition requesting approval to operate a pipeline above 500 pounds per square inch gauge (psig), pursuant to WAC 480-93-020. PSE proposes to operate the existing 16-inch diameter Everett Delta pipeline (pipeline) currently operated by Williams Northwest Pipeline Company (Northwest). The purpose of the pipeline is to provide a high pressure system in North Everett and an intermediate pressure system west of Lake Stevens. A gas pipeline company must have permission from the Commission to operate a pipeline at greater than 500 psig within five hundred feet of certain locations such as a residence, business, playground, or other place of public assembly as described in [WAC 480-93-020](#).

The pipeline consists of a 16-inch in diameter pipeline that extends approximately 9.15 miles from the outlet of the Everett Delta Gate Station located at the intersection of State Road 92 and North Machias Road and terminates in North Everett at the Everett Limit Station which is located north of East Marine View Drive in Snohomish County.

The pipeline was installed in 2004 by Northwest under Federal Energy Regulatory Commission (FERC) docket number PF-04-10-000. PSE owns the pipeline and Northwest operates it under a Facilities Agreement with PSE. The agreement expires on November 9, 2009. On May 28, 2009, Northwest and PSE filed a "Joint Abbreviated Application for Approval to Abandon Operation of the Everett Lateral Facilities and Request for Non-Jurisdictional Determination" with the FERC.

The pipeline was designed and tested for a 960 Maximum Allowable Operating Pressure (MAOP) and has been operating at pressures between 465 psig and 500 psig since it was initially placed into service. In September 2004, the Commission allowed PSE in Docket PG-041370 to operate piping at the Everett Delta Gate Station, Everett Limit Station and Soper Hill District Regulator Station in excess of 500 psig.

The Commission has adopted the Code of Federal Regulation, Title 49, Part 192 and Washington Administrative Code 480-93 as minimum standards for natural gas pipeline construction. The existing pipeline is located in an area that is classified as both Class 2 and 3 Location. Pipelines in these locations may operate a hoop stress to no more than 60 and 50 percent, respectively of the specified minimum yield strength (SMYS) of the pipe. The pipeline was constructed with a MAOP of 960 psig equal to a maximum hoop stress of 34.4 percent of SMYS, exceeding the most restrictive gas pipeline safety design rules for highly populated areas (40 percent in Class 4 Locations).

In its September 8, 2009, petition, PSE proposes to operate the pipeline within the limits prescribed for a Class 3 or 4 Location, *i.e.*, at a normal operating pressure of 550 psig equal to less than 20 percent SMYS and potentially could operate at the MAOP.

The pipeline was constructed to exceed the minimum federal safety regulations in operation and maintenance, including:

- a. Class Location – the design and construction specifications meet or exceed the requirement for Class 4 while the pipeline is in Class 2 and 3 locations.
- b. Design Factor – The design factor of 0.20 exceeds the 0.40 factor for a Class 4 location. (49 C.F.R. § 192.111)
- c. Nondestructive Testing – Radiographic inspection was performed on 100 percent of all welds on 6-inch and larger pipe and fittings. This inspection level exceeds the minimum federal safety regulations which do not require nondestructive testing of pipelines operating below 20 percent SMYS (normal operating pressure). Testing was also performed on 100 percent of all welds in Class 3 Locations at crossings of all railroad or public highway rights-of-way, including tunnels, bridges, and overhead road crossings. (49 C.F.R. § 192.243)

### **Design and Construction:**

1. The pipeline was constructed with American Petroleum Institute (API) 5L Grade X-65 steel pipe with a nominal wall thickness of 0.344 inch. The pipe is coated with fusion bonded epoxy.
2. The pipeline was constructed to maintain the pipe stress level for natural gas below 34.4 percent of SMYS at an MAOP of 960 psig.

3. The pipeline was constructed with a launcher and receiver to accommodate in-line inspection tools such as "Smart Pigs." The pipe bends will facilitate a wide range of inspection tools.
4. The pipeline includes a mainline block valve assembly with above ground blow down stacks located approximately mid-way along the 9.15 mile pipeline for emergency isolation.
5. The pipeline was installed with a minimum of four feet of cover.
6. The pipeline was hydro-tested to a minimum of 1.5 times the maximum allowable operating pressure.
7. The pipeline was installed with a cathodic protection system for corrosion control including test sites to monitor for adequate protection.

### **Conclusion**

Staff recommends that the commission grant Puget Sound Energy request to operate the Everett Delta pipeline at a pressure greater than 500 pounds per square inch gauge subject to the conditions noted above.