

Agenda Date: October 26, 2017
Item Number: A4

Docket: PG-170693
Company Name: Puget Sound Energy

Staff: Joe Subsits, Chief Pipeline Safety Engineer
Dave Cullom, Pipeline Safety Engineer

Recommendation

Issue an order approving Puget Sound Energy's (PSE or company) Pipeline 2017-2019 Two-Year Replacement Plan (PRP) filed on June 1, 2017. Puget Sound Energy's plan is consistent with Commission Policy and adequately addresses elevated risk pipeline facilities in Washington.

Background

On December 31, 2012, the Washington Utilities and Transportation Commission (commission) issued a Policy Statement entitled "Commission Policy on Accelerated Replacement of Pipeline Facilities with Elevated Risk"¹ (Policy Statement). Pursuant to the Policy Statement, each investor-owned gas pipeline utility company filed a plan for replacing pipe that represents an elevated risk of failure (plan).

The commission contemplated that each company's plan would likely be tied to the company's Distribution Integrity Management Plan² (DIMP), its Transmission Integrity Management Plan³ (TIMP), if any, and certain other requirements found throughout Washington Administrative Code⁴ pertaining to pipeline safety.

On June 1, 2017, PSE filed an updated plan with the commission.

I. Plan Requirements

Under the Policy Statement, the third Two-Year Plan was to be filed by June 1, 2017,⁵ covering planned pipeline replacement through 2019. The plan has three parts: (1) a Master Plan for

¹ "Commission Policy on Accelerated Replacement of Pipeline Facilities with Elevated Risk (December 31, 2012) (Policy Statement) (Docket 120715).

² Title 49 CFR, Part 192, Subpart O.

³ Title 49 CFR, Part 192, Subpart P.

⁴ WAC 480-93.

⁵ Subsequent plan filings are to be filed by June 1 every two years thereafter (*i.e.*, June 1, 2015, 2017, 2019, etc.). "If the gas company makes no changes to its Master Plan, it need file only the Two-Year plan in each filing after June 1, 2013. If the company makes a material change either to its Master Plan, its Two-Year plan or its Pipe Location Plan, it should file plan changes with the commission within 30 days." Policy Statement at 11, ¶ 43.

replacing all facilities with an elevated risk of failure; (2) a Two-Year Plan that specifically identifies the pipe replacement program goals for the upcoming two year period; and, if applicable, (3) a Pipe Location Plan for identifying the location of pipe or facilities that present an elevated risk of failure.⁶

Each plan must also:

- Target pipe or facilities that pose an elevated risk of failure.
- Be a measured and reasonable response in relation to the elevated risk, and the program must not unduly burden ratepayers.
- Be in the public interest.⁷

II. Commission Staff Review of PSE's 2017-2019 Two-Year Plan

A. Overview

PSE operates the largest natural gas distribution system in Washington. PSE has a large and varied service territory and PSE's gas system uses a variety of different pipeline materials. PSE's plan indicates that several types of facilities exist with an elevated risk of failure and that PSE is addressing these facilities through various replacement plans. Some of these replacement plans are the result of settlement agreements between PSE and the commission and some are voluntary. In 2011 PSE identified cross bores as a top risk in the Distribution Integrity Management Program due to the quantity in PSE's system, the risk of failure, and magnitude of consequence. In 2012 a cross bore pilot program was conducted, and in 2013 the PSE cross bore safety program was officially launched. PSE is continuing to replace locations where cross bores are discovered according to the Master Plan. By the end of 2016, PSE also completed the targeted excavations to identify locations of DuPont Aldyl "HD" plastic pipe in the system. PSE is actively replacing older vintage wrapped steel main and associated service pipe that poses an elevated risk of failure.

PSE's plan contains a Master Plan, a Two-Year Plan, and a Pipe Identification (Location) Plan for each of the components in the replacement program.

⁶ Policy Statement at 11, ¶ 42

⁷ Policy Statement at 12-14, ¶¶ 45-56

B. Evaluation of the Required Plan Elements

PSE's plan addresses the following types of facilities that have an elevated risk of failure in Washington:

- Larger diameter ($\geq 1\text{-}1/4$ ") Aldyl "HD" polyethylene pipe.⁸
- Older vintage Steel Wrapped Mains⁹
- Older vintage Steel Wrapped Services¹⁰
- Sewer Cross Bore Trends¹¹

PSE implemented a Pipe Identification Plan in 2013 which is designed to locate older Aldyl "HD" (Aldyl) polyethylene pipe. This pipe is prone to "brittle-like cracking" due to slow crack growth (SCG) and failure, resulting from secondary loads such as rock impingement or squeeze-off.¹² In the 2017 PRP Plan, PSE currently plans to replace approximately 245 miles of larger diameter DuPont Aldyl "HD" plastic pipe within the first 10 years of the 20-year plan beginning in 2013. The pipe replacement in the first 10 years targets the population with a history of brittle-like cracking and fusion failures. The miles of pipe planned for replacement and the replacement schedule were updated from 190 miles and 8 years, respectively, based on new risk knowledge acquired since 2015.¹³ By 2022, the Master Plan will be reviewed to determine the appropriate replacement schedule for the remaining pipe in service.¹³

PSE commits that at the end of 2017, the Master Plan for replacing older vintage wrapped steel mains and services with an elevated risk of failure will be complete, but will continue to monitor data and trends to determine if the remaining wrapped steel without an elevated risk of failure needs to be included in future PRPs.¹⁴

Sewer cross bores are being identified through the use of PSE's public awareness program and a service provider to perform physical inspections of post-construction sewer inspections near new

⁸ PSE DIMP, Appendix F-3, Section 1 - DuPont ALDYL "HD" Plastic Pipe.

⁹ PSE DIMP, Appendix F-2, Section 1, Wrapped Steel Mains. PSE's DIMP identifies an increased risk of leakage on some older steel wrapped mains. The risk is due to a combination of factors, including corrosion, existing third party damage to the pipe coating, welds, and equipment including vintage valves. These mains are replaced based on past leak history and PSE expects to replace approximately 20 miles of steel wrapped main with a completion date of 2018.

¹⁰ PSE's 2017 PRP plan, Older Wrapped Steel Services, Section 6. PSE is addressing these services under a settlement agreement approved by the commission in Docket PG-041624, the Wrapped Steel Service Assessment Program (WSSAP). PSE has identified and located all services that are targeted under the WSSAP program. Based on current risk knowledge, PSE is targeting to replace approximately 200 services in 2017.

¹¹ PSE 2016 Continuing Surveillance Annual Report, Pg. 61

¹² PE pipe is designed to be squeezed shut with a mechanical device during operations, maintenance and emergency response.

¹³ PSE's 2017 PRP plan, DuPont Aldyl "HD" Plastic Pipe, Section 4.

¹⁴ PSE's 2017 PRP plan, Older Vintage Wrapped Steel, Section 5 (Mains) and Section 6 (Services).

gas trenchless installations, and sewers near legacy gas trenchless installations. The awareness program targets plumbers, other utility contractors, municipalities, and customers to call PSE before clearing a blocked sewer. There are approximately 200,000 parcels to inspect for potential sewer cross bores.¹¹

Based on staff's review, PSE's plan, analyzed in conjunction with PSE's DIMP, is measured and its continuation is a reasonable response in relation to the elevated risks identified. PSE's plan adequately addresses facilities with an elevated risk of failure. Staff has previously audited PSE's DIMP¹⁵ and found that it addresses all known threats and implements accelerated actions that adequately address those threats.

C. Impact on Rates

In accordance with Paragraph 64 of the commission's policy statement, PSE submitted information for a Cost Recovery Mechanism (CRM) with its plan. Regulatory Services staff will present the CRM in a separate filing.

Per PSE's PRP, the replacement programs that are included the CRM include DuPont Aldyl "HD" plastic pipe, older vintage wrapped steel mains, and older vintage wrapped steel services. Sewer cross bores are currently not included in the CRM.

III. Conclusion

Staff is satisfied that the analysis presented by PSE is consistent with the commission policy, and adequately addresses all known elevated risk pipeline facilities in Washington. The current 2017-2019 Two-Year Plan is updated to reflect newly added projects and completed projects since the initial 2013-2015 Two-Year Plan. Staff recommends approval of Puget Sound Energy's 2017-2019 Two-Year Plan filed on June 1, 2017.

¹⁵ Inspection number 2609, October 2012.