Agenda Date: August 26, 2021
Item Number: E4

Docket: **PG-210407**
Company Name: Puget Sound Energy

Staff: Sean Mayo, Director Pipeline Safety
Darren Tinnerstet, Pipeline Safety Engineer

Recommendation

Issue an order approving Puget Sound Energy's (PSE or Company) 2021-2023 Pipeline Replacement Program Plan (Plan) filed on June 1, 2021. PSE's plan is consistent with the Commission Policy addressing 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 Master Plan in 2013 for replacing pipe that represents an elevated risk of failure. The Policy Statement also requires that PSE file a Two-Year Plan that specifically identifies the pipe replacement program goals for the upcoming two-year period.

On June 1, 2021, PSE filed its Two-Year Plan for 2021-2023. Commission Staff (Staff) finds that the Company's 2021-2023 Two-Year Plan meets the requirements of the Policy Statement, with respect to pipeline safety.

I. Plan Requirements

Under the Policy Statement, the fifth Two-Year Plan was to be filed by June 1, 2021,[2] covering planned pipeline replacement through 2023. The plan has three parts: (1) a Master Plan for replacing all facilities with an elevated risk of failure; (2) a Two-Year Plan that specifically

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

[2] 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.

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.[3]

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.[4]

II. Commission Staff Review of PSE's 2021-2023 Two Year Plan

A. Overview

PSE's plan indicates that the following types of gas pipe with an elevated risk of failure are present within its natural gas service area: DuPont Aldyl "HD" Plastic Pipe (DuPont pipe), Buried Meters, and Sewer Cross Bores. PSE's plan contains a Master Plan, a Two-Year Plan, and a Pipe Identification Plan for each of these types of facilities. The facilities described in PSE's plan are consistent with the Distribution Integrity Management Plan (DIMP) model and data collected during the last two-year cycle.

B. Evaluation of the Required Plan Elements

1. Whether the Company's Plan Targets Pipe that Poses an Elevated Risk of Failure

The three types of facilities in PSE's Plan each pose an elevated risk of failure.

- PSE has identified DuPont pipe as having an increased risk of brittle-like cracking due to slow crack growth (SCG). PSE began installing this pipe in the 1970's and early 1980's and initially estimated there to be approximately 400 miles remaining in service as of 2013. Due to additional discovery, this number increased to 435 miles prior to any pipe replacement completed under the PRP plan. In PSE's experience, SCG is caused by rock impingement, squeezing and other stress concentrations. PSE's experience is similar to industry experience, which is highlighted by a safety recommendation from the National Transportation Safety Board (NTSB) on April 30, 1998[5].

[3] Policy Statement at 11, ¶ 42

[4] Policy Statement at 12-14, ¶¶ 45-56.

[5] NTSB Safety Recommendation P-98-019

- PSE has identified an increased risk on meter set assembly (MSA) piping where pipe, fittings, or equipment intended for above ground exposure are unintentionally buried. These types of facilities are referred to as "Buried Meters" and can occur when a property owner makes alterations to the ground elevation near the MSA, which may result in hazardous leaks due to corrosion occurring at or near a building wall. In 2010, PSE's DIMP identified buried meters as a moderate risk but since that time PSE has seen an increase in the number of hazardous leaks due to corroded meter set components and an increase in the number of buried meter reports. Due to these increases, PSE's DIMP has identified buried meters as a high risk.

- The threat of sewer cross bores was identified through DIMP as an elevated risk to certain pipe installations. A sewer cross bore is a gas pipeline that has accidentally been installed through a sewer pipe. Sewer cross bores pose an elevated risk of failure due to the higher consequence that would result if damage to the pipe occurs, and gas were to leak into the sewer and nearby buildings. Since 2013, more than 871 sewer cross bores have been discovered in PSE's system.

2. Whether the pipe replacement program plan contains a plan for identifying the location of pipe that presents elevated risk of failure

PSE's plan outlines their strategy for identifying the location of all three types of facilities listed.

- DuPont pipe location is continually identified through Exposed PE Pipe Reports whenever plastic pipe is exposed during routine operations and maintenance activities. PSE's initial identification effort confirmed 2,700 original installations that had some amount of DuPont pipe. These installations were determined through historical data and targeted excavations

- Buried meters are determined through annual leak surveys and patrol data. The current list is approximately 40,000 buried meters in PSE's system with approximately 5,000 new reports each year.

- PSE utilizes a computer-based risk model to develop a prioritized and systematic approach to identifying and alleviating the elevated risk that sewer cross bores pose. PSE has identified 8,500 locations with a high consequence and 51,500 with a lower consequence.

3. Whether the pipe replacement program plan is a measured and reasonable response in relation to the elevated risk

Based on staff's review, PSE's plan is a measured and reasonable response in relation to the elevated risk. The plan adequately addresses facilities with an elevated risk of failure. Staff has previously audited PSE's DIMP[6] and found that it addresses all known threats and implements accelerated actions that adequately addresses those threats. PSE's plan is consistent with their DIMP.

C. Methane Reduction Plan

On June 11, 2020, the Washington State Legislature passed House Bill 2518 for natural gas transmission and distribution that added a new section to chapter 80.28 of the Revised Code of Washington (RCW). This new section encourages safer and more efficient gas systems through investments that address and minimize leaks in pipelines. This new section also allows natural gas companies to seek interim recovery between rate cases as part of a Commission-approved interim rate mechanism for equipment and new facilities that aid in the reduction of methane emissions. In the current proposed plan, PSE has identified and is focusing on three key DIMP accelerated actions which are aimed at reducing leaks which contribute the most to methane emissions:

- Active Leak Remediation Program Plan – PSE plans to eliminate the on-going monitoring of active Grade "C" leaks and target repair within four months of discovery. Grade "B" leaks will also be accelerated and repaired within four months of discovery. PSE will change its operating procedure and remediate approximately 1,875 nonhazardous leaks earlier than required to reduce methane emission within five years beginning in 2021.
- Excavation Damage – Damages from improper excavation practices is PSE's leading cause of natural gas leaks in the distribution system and the highest risk from PSE's DIMP risk model. Approximately 900 damages occur each year to the gas system as the result of improper excavation practices. PSE plans to combat this issue with more field representatives being present at high profile dig ticket requests, which are identified via a predictive analytic software called Urbint which is currently being used. This program provides real-time risk analysis of data provided on locate request tickets, which in turn allows PSE to focus their efforts on the highest risk projects. PSE projects that over the first five years of implementation the total number of avoided excavation damages will be approximately 500.

[6] Inspection number 8046, July 2020.

- Above ground meter set remediations – PSE has found that the common construction practice of using multiple threaded joints at natural gas meter sets may create more methane release opportunities. PSE has targeted repair of these nonhazardous release of gas (NARG) occurring at meter sets. Based on current leak survey knowledge, PSE intends to remediate approximately 7,300 of the highest emitting meter sets within five years beginning in 2022.

D. Impact on Rates

In accordance with Paragraph 64 of the Commission's Policy Statement, PSE may submit information for a Cost Recovery Mechanism (CRM). Should this occur, Regulatory Services Staff will present the CRM in a separate filing.

Per PSE's PRP, the replacement programs that will be requested to be included in the 2022-2023 CRM rate period include DuPont Aldyl "HD" plastic pipe, buried meter remediation, and sewer cross bore remediation. The programs that reduce methane emissions that would be requested in the 2022-2023 CRM rate period include the active leak reduction program, damage prevention measures, and above ground meter set repairs.

Conclusion

PSE is remediating elevated risk pipeline facilities according to their Master Plan. The 2021-2023 Two-Year Plan has been updated to reflect newly added projects and completed projects. Since initiation of the replacement program, PSE has replaced over 182 miles of DuPont pipe, remediated 6,283 buried meters, and has cleared 8,009 potential sewer cross bores segments in their system. PSE has also provided the required elements for their methane reduction plan as mandated by House Bill 2518, which was signed into law on June 11, 2020. Staff recommends approval of PSE's 2021-2023 Two-Year Plan as filed on June 1, 2021.