EXH. DJL-3 (Apdx. L)
DOCKETS UE-240004/UG-240005
2024 PSE GENERAL RATE CASE
WITNESS: DAVID J. LANDERS

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PUGET SOUND ENERGY,** **Respondent.**	**Docket UE-240004** **Docket UG-240005**

APPENDIX L (NONCONFIDENTIAL) TO THE SECOND EXHIBIT TO THE PREFILED DIRECT TESTIMONY OF

DAVID J. LANDERS

ON BEHALF OF PUGET SOUND ENERGY

FEBRUARY 15, 2024

PUGET SOUND ENERGY

Pipeline Replacement Plan - Buried Meters

Corporate Spending Authorization (CSA)

Date Created:	Friday, February 10, 2023
Discretionary/ Non-Discretionary:	Discretionary
Multi Year Rate Plan:	Programmatic
Equity Impact:	Yes
Strategic Alignment:	Operate the Business-Safety
Estimated In-Service Date:	Sunday, December 31, 2028
Current State (Business Need):	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. Referred to as "Buried Meters", this condition occurs when the homeowner/building owner makes changes to the ground elevation in the area of the MSA and may result in hazardous leaks due to corrosion occurring at or near a building wall. Buried meters are identified from routine leak surveys and subsequent field inspections. With the meter set at the building wall, the consequence of a leak or failure poses a greater risk as gas can travel into the home. As of the end of 2020, there are over 65,000 buried MSAs in the system and approximately 5,000 new reports are identified each year. After San Bruno explosion, Regulators came under scrutiny regarding policies that dis-incented investments in pipeline safely. The UTC issued policy associated with RCW 80.28.42, Commission Policy on Accelerated Replacement of Pipeline Facilities with Elevated Risk, Docket UG-120715, requiring utilities to develop a plan to address elevated pipeline safety risks, submit them for approval by the Commission, and then, if necessary, seek cost recovery mechanism (CRM) that ensured utilities would stay focused, resourced, and committed to resolving these risks. PSE has included the replacement of Buried Meter remediation in this report and sought recovery through the established mechanism. This CRM is now included in the MYRP, but the reporting and review by the Commission will still be an on-going process and scrutiny as plans are approved.

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Desired State (Proposed Solution):

The solution may include recontouring the landscaping around the MSA, or complete pipe replacement of the meter set or relocation. Work to eliminate new leaks by adding the taller rises for any new/replacement meter set assemblies and communicate with customers who meters continue to be reburied. PSE will tackle the first 40,000, at a pace of 7,000 per year, as originally identified in the master plan of the Pipeline Replacement Plan approved by the Commission and then expand the program to address the additional 15,000. PSE has also continued to refine new MSA work in hope of eliminating this risk in the future. The end goal would be to reduce the number to the extent that they could be addressed upon finding them as part of the leak survey. PSE anticipates completing all 65,000 buried meters by 2029.

Capital and O&M funding is needed for this project, $47M Capex and $9M Opex.

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Outcome/Results (What are the anticipated benefits):	The primary benefit of this program is public safety, remediating or replacing meter set risers before a hazardous leak against a building wall occurs. Completion of the remediation of 40,000 buried meter sets results a total risk reduction of 23 as defined by PSE's DIMP risk analysis tools. Additionally, this program avoids 12 metric tons of CO2e from methane emissions.

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Dependencies: no

Dependencies comment: None.

Escalation Included: No, escalation has not been included.

Total Estimated Costs: $56,525,000

Estimated Five Year Allocation:

Funds Type	ID	Line Item Description	Previous Years Actuals	Fiscal 2024 Requested	Fiscal 2025 Requested	Fiscal 2026 Requested	Fiscal 2027 Requested	Fiscal 2028 Requested
Capital	W_R.10015.03.09.15	G Buried Meter Riser Replacement	$ -	$ 6,200,000	$ 6,500,000	$ 7,000,000	$ 7,500,000	$ 7,800,000

Incremental O&M: Labor

Qualitative Benefits: In additional to the risk reduction and methane reduction, this program reduces reputational risk by staying compliant with the Commission approved PRP plan.

Quantitative Benefits:

Quantitative Benefits	Benefit Type	Previous Years	Fiscal 2024	Fiscal 2025	Fiscal 2026	Fiscal 2027	Fiscal 2028	Fiscal 2029	Remaining Costs	Life Total
Pipeline Safety - Health and Safety	Other	$ -	$ 9,203,962	$ 9,203,962	$ 9,203,962	$ 9,203,962	$ 9,203,962	$ -	$ 9,203,962	$ 55,223,772

Risk Summary: Project risk is low as permitting is not challenging, just coordinating with customers and where relighting appliances is necessary. Risk exists if O&M is not funded which has traditionally not be accounted for as an additional funding need, but absorbed by the traditional 2% escalation. Capital and O&M funding is needed for this project, $47M Capex and $9M Opex.

Benefit risk is minimized as the benefits are realized when the projects are completed.

System risk exists until all buried meters are addressed, as corrosion continues. Building wall leaks bring significant risk.

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Corporate Spending Authorization (CSA)

Change Summary:

Planning Cycle	Change Summary	Last Update Date
2022 Baseline Cycle	This CSA has been migrated into the EPPM tool at go-live as part of the Phase 1 EPPM implementation effort. The projects in this CSA were previously approved for the 2023-2027 capital plan. Please refer to the original CSA document for additional information (if available.)	2/10/2023
2023 Cycle 1	Updated from last business plan	4/2/2023

PUGET SOUND ENERGY

Pipeline Replacement Plan - Buried Meters

Corporate Spending Authorization (CSA)

Approval History:

Approved By	Date Approved
Approved by Cost Center Owner: Weatherby , Niecie	4/4/2023
Approved by Director Sponsor: Roque Bamba	4/6/2023
Approved by Director Sponsor: Landers , David	4/7/2023
Approved by Executive Sponsor: Jacobs , Josh	4/8/2023
Approved by Executive Sponsor: Koch , Dan	4/18/2023
CSA Status changed to Approved	4/18/2023
Approved by Cost Center Owner: Shrum , Bailey	12/4/2023
Approved by Director Sponsor: Shrum , Bailey	12/4/2023
Approved by Executive Sponsor: Shrum , Bailey	12/4/2023
CSA Status changed to Approved	12/4/2023
Approved by Cost Center Owner: Weatherby , Niecie	1/29/2024
Approved by Director Sponsor: Landers , David	1/29/2024
Approved by Executive Sponsor: Jacobs , Josh	2/2/2024
CSA Status changed to Approved	45324.01315

BURIED MSA REMEDIATION

ENERGY TYPE: GAS

1. SHORT DESCRIPTION

From field reports and leak history data, PSE has identified an increased risk from buried meter set assemblies due to corrosion, leading to hazardous leaks at or near the building wall. To mitigate this risk, PSE conducts field inspections to evaluate and carry out remediation options. This business plans aligns with the Pipeline Replacement Master plan filed with the UTC in 2019.

2. BACKGROUND

A meter set assembly (MSA) is located on the service riser and includes the meter shut-off valve, service regulator, and meter. If the riser is an anodeless PE riser, there is typically a PE to steel transition fitting adjacent to the shut-off valve. The fittings on the riser and MSA are installed and intended to remain aboveground, but can subsequently become buried by changes in landscaping, hard surface additions, or other changing field conditions. Unintentionally buried fittings may result in corrosion and buried shut-off valves are not readily operable and can impede emergency response. Since the MSA is generally located at an exterior wall of the served building, there is likely a higher consequence if a leak occurs.

The Buried MSA Remediation plan was first initiated in 2007 in response to increased reports of buried meters identified during routine leak surveys and reported through the Abnormal or Unusual Operation Condition Report (called a “Blue Card”).. The prioritization and process to concurrently re-inspect and unbury components was developed and implemented based on a pilot completed in 2008. Work requests to replace the riser and MSA were initiated at locations that could not be unburied at the time of the re-inspection. Increased leak surveys were initiated due to the significant number of reports. Customer communication was developed to provide education on the need to protect the MSA from reburial.

In 2019, the plan was elevated in priority and incorporated into the Pipe Replacement Program (PRP) for accelerated replacement of gas facilities with elevated risk.

Table 1 – Historical Buried MSA Remediation Plan Actions (2010 – 2022)

Year	# of New Reports of Buried MSAs	# of Facilities Remediated	# of Reports of Corrosion Requiring Remediation	# of Leaks
2010 - 2014	35,350	7,184	417	16
2015	4,315	499	410	2
2016	5,538	2,290	271	7
2017	5,676	1,635	486	6
2018	7,840	4,112	403	6
2019	14,295	2,340	647	2
2020	16,091	6,283	998	0
2021	9,276	8,202	1214	2
2022	13,170	8,628	925	7

3. STATEMENT OF NEED

The Buried MSA Remediation plan identifies and remediates issues proactively that could otherwise lead to corrosion leaks at the building wall.

3.1. NEED DRIVERS

- **Safety:** The main driver for the Buried MSA Remediation plan is to increase safety. Buried MSAs have a greater potential of corrosion leaks at the building wall and emergency shut off valves may become inaccessible.
- **Environmental:** A secondary driver for the Buried MSA Remediation plan is to reduce future methane emissions resulting from leaks.

3.2. EQUITY

PSE evaluates equity in the planning process with consideration of the four core tenets of energy justice: Recognition Justice, Procedural Justice, Distributional Justice, and Restorative Justice in various steps of the process.

As specific studies are performed and projects proposed to further a business plan, planners review system, customer, and now equity data to recognize the specific customer burdens, whether there are highly impacted or vulnerable customers that are or will be affected by addressing the specific business need. Planners must prioritize where to focus their study each year, thus historic and ongoing inequities for the business plan are extrapolated at this time and will mature over time with greater tools and data.

PSE is building process and tools to enable procedural inclusion in defining the need and solutions through engagement with specific communities and community based organizations, increasing understanding of local needs and consequences to inform

specific study development as well as options to address need. Maturity in where and how this occurs will increase over the next several years. Business plans will be updated as informed by this collective engagement to reflect broader equity benefits and burdens as engagement increases over time.

As specific projects are proposed, PSE investment decision optimization tool captures equity benefits. An optimized portfolio of projects across many business plans ensures the distribution of benefits and burdens are spread across all segments of the community and aim to ensure that marginalized and vulnerable communities do not receive an inordinate share of burdens or are denied access to benefits. As an initial step, PSE leverages Customer Benefit Indicators ("CBI") and information established as part of the 2021 Clean Energy Implementation Plan ("CEIP") to identify an equity framework to evaluate system projects. The CBI approach was developed through an iterative process that was coordinated with the Equity Advisory Group. These CBI span the core tenets of energy justice and provide a framework to evaluate the comparative equity benefit of each solution alternative considered. Refer to Table 2 for a brief description of the CBIs that address equity and the applicable benefits for the Buried Meter Set Assembly Remediation program. PSE will continue to adjust and refine equity consideration in projects when necessary as the process continues to mature.

Projects will be evaluated on each CBI category and a total equity benefit score will be provided.

Table 2 – Equity Applicable Benefits

Customer Benefit Indicator	Description	Program Applicable Benefit
Customer Energy Savings	Solutions that lead customers to use less energy, which leads to less energy that must be purchased and potentially a reduction in planned system upgrades.	No
Greenhouse Gas Emissions	Solutions that lead to a reduction of greenhouse gas emissions, either directly or indirectly	Yes
Enables Cleaner Energy	Solutions that either directly integrate DER on the system or enable the grid to more readily accommodate future DER.	No
Air Quality	Solutions that either directly eliminate the source of a common pollutant or reduce the risk that could cause a common pollutant to increase, such as enabling Electric Vehicle or DER adoption	No
Resilience	Solutions that address major event outages or harden critical facilities to prevent catastrophic events from creating long duration outages.	No
Cost Reduction	Solutions that identify least cost alternatives and therefore reduce costs for all customers	No

Clean Energy Jobs	Solutions that increase clean energy jobs by furthering clean energy technology application, as described in the CEIP	No
Home Comfort	Solutions that deploy residential energy efficiency in either a targeted solution area or by leveraging load reduction from system wide energy efficiency installations	No

The program attempts to annually address the risk of buried meters and is programmatically optimized based on total benefit value to cost. Specific program projects are identified based total benefit to cost with named communities receiving additional scored benefit based on vulnerable population designation and highly impact community characteristics, essentially ensure investments are distributed appropriately to named communities.

Business plans in isolation do not address restorative justice, but continued planning process improvements which include considerations of data, tools, and documentation as well as operational practices will help to restore equity over time.

4. PLAN DETAIL

4.1. PLAN SIZE/POPULATION

As of year-end 2022, the population of MSA locations in the system was approximately 841,000 and, there were approximately 67,000 buried MSAs in the system. When the PRP master plan was filed in 2019 there were 40,000 buried MSAs in the system. Since 2019, there have been improvements made in field identification of buried MSAs which has led to an increase of approximately 50,000 new reports. At the completion of the PRP master plan population there will need to be an evaluation of the remaining population based on total number of new reports.

4.2. PROPOSED COMPLETION DATE

The current target is to remediate the original population of 40,000 buried MSAs by 2026, in alignment with the PRP master plan.

4.3. SUMMARY OF PROGRAM BENEFITS

- **Safety:** The Buried MSA Remediation plan mitigates the risk of corrosion leaks at the building wall by remediating buried MSA's. Remediation of the original population of 40,000 buried MSAs is expected to reduce risk by 23 risk points[1], out of 482 total distribution system risk points as of year-end 2022. Risk is scored based

[1] The plan benefit of risk reduction is quantified by using DIMP risk points. Through DIMP, plans are scored based on the probability of a failure or leak occurring and the consequence resulting from a failure or leak.

on plan population, historical leak data, field identified integrity concerns, and subject matter expert feedback.

- **Stakeholder Relationships:** The plan demonstrates our commitment to safety to stakeholder groups such as UTC, Cities, and Customers through efforts to eliminate issues that could result in hazardous leaks at the building wall.
- **Methane Reduction:** Environmental safety benefits relative to methane emission reduction are measured by converting methane to carbon dioxide equivalent (CO2e). The plan reduces CO2e emissions by remediating issues that would otherwise lead to corrosion leaks. Remediation of the original population of 40,000 buried MSAs is expected to reduce the average annual CO2e emission rate by 10.2 metric tons.

Table 3 - CO2e Emission Reduction Potential

Buried MSA Leaks Per Year (5 year average)	Average CO2e Per Leak (metric tons)	Annual CO2e Emissions (metric tons)
3.4	3	10.2

4.4. PRIMARY iDOT CATEGORIES

PSE employs an Investment Decision Optimization Tool (iDOT) to evaluate benefits of projects and optimize the annual portfolios for construction. The primary iDOT Categories this plan addresses are:

- Health and Safety
- Stakeholders

Table 4 – iDOT Benefit

2025 Forecast Cost ($)	2025 iDOT Benefit ($)	2025 Benefit / Cost Ratio
$6,500,000 (CAP)	$16,027,548	2.47
$1,000,000 (O&M)	$1,000,000	1

O&M programs cannot be calculated in iDOT. For O&M Benefit/ Cost Ratio it is assumed every dollar spent gives a benefit of the same amount.

4.5. ESTIMATED COSTS

The programmatic costs to complete the Buried MSA Remediation plan from 2020 until 2026 is approximately $35 million. This is based on remediating the original population of 40,000 buried meters by prioritizing the higher risk locations first and remediating the remaining identified locations at an accelerated rate.

5. ALTERNATIVES

5.1. SOLUTION ALTERNATIVES

Proactive Remediation: The selected alternative is to remediate all buried MSAs in the system as part of a planned approach prior to leaks occurring.

Reactive Remediation: The alternative not selected would be to wait until the buried MSAs leak and then remediate. This would lead to potentially hazardous leaks at the building wall.

5.2. FUNDING ALTERNATIVES

No Action: Without a plan in place, PSE would face the risk of corrosion leaks at the building wall. If they are not remediated, the consequence of a leak is significant.

Increased Funding: With increased funding, buried MSAs could be remediated at a quicker rate. In order to fully realize the benefits of increased funding there would need to be additional field resources dedicated to the Buried MSA Remediation plan. Since 2019, there have been approximately 50,000 new reports of buried MSAs. If this trend continues an increase in funding would be necessary in future years to reduce this growing population.

Decreased Funding: Reducing the current funding levels would result in buried MSAs being remediated at a slower rate. If these MSAs remain buried they are more likely to leak due to corrosion.

6. PLAN DOCUMENT HISTORY

Date	Reason(s) for Update	Summary of Significant Change(s)	Modified By
1/27/2019	Initial Program Documentation - New plan template	Initial Program Document – Summarize historical plans	Parker Indorf
4/30/2021	2021 Business Case Update	Revised language throughout. Updated program summary and background	Parker Indorf
9/20/2021	Initial Program Documentation - New plan template	Initial Program Document – Summarize historical plans	Parker Indorf
12/17/2021	Annual Review	Minor word and format changes	Parker Indorf
9/7/2023	2024 MYRP update	Includes Equity, remove ISP, remove plan budgetary info	Parker Indorf

7. SUPPORTING DOCUMENTATION

Document Name
DIMP SUMMARY OF ADDITIONAL AND ACCELERATED ACTIONS
PIPELINE REPLACEMENT PROGRAM PLAN
CONTINUING SURVEILLANCE ANNUAL REPORT
DIMP RISK GRAPHIC