NW Natural®

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September 30, 2026

VIA ELECTRONIC FILING

Public Utility Commission of Oregon
Attention: Filing Center
201 High Street SE Suite 100
PO Box 1088
Salem, Oregon 97308-1088

Re: UM 1900: NW Natural's 2027 Oregon Safety Project Plan in Compliance with Order No. 17-084

Northwest Natural Gas Company, dba NW Natural (NW Natural or Company), hereby submits its 2027 Safety Project Plan in compliance with Commission Order No. 17-084 entered on March 6, 2017.

Please address correspondence on this matter to me with copies to the following:

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Sincerely,

/s/ Rebecca Trujillo

Rebecca Trujillo
Regulatory Advisor

Enclosure



2027 SAFETY PROJECT PLAN

OREGON

September 30, 2026

250 SW Taylor Street
Portland, Oregon 97204
503-226-4211

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1 Introduction

In compliance with the Public Utility Commission of Oregon ("Commission" or "OPUC") Order No. 17-084 ("Order") in Docket UM 1722, this Safety Project Plan ("SPP") outlines NW Natural's safety project investments for 2027. The SPP includes updated capital and O&M projects and programs and projects that carry over from 2026.

This SPP demonstrates NW Natural's commitment to pipeline safety by providing insight into NW Natural's safety activities and identifies NW Natural's response to regulatory changes that may drive safety program priorities or modify existing programs. In the future if NW Natural seeks approval for a Safety Cost Recovery Mechanism ("SCRM"), this SPP is intended to expedite the review process of safety investments.

Safety is a core value at NW Natural, and we appreciate the opportunity to present this information to the Commission.

2 Background Information

NW Natural is a regulated natural gas utility conducting business in Oregon and southwest Washington. The Company serves ~810,000 customers and owns, operates and maintains ~660 miles of natural gas transmission pipeline, and ~14,600 miles of distribution pipelines. In addition, NW Natural operates three energy storage facilities in Oregon – Portland and Newport LNG Plants and Mist Underground Storage.

NW Natural's pipelines and storage facilities are governed by the following sections of the Code of Federal Regulations ("CFR"), Oregon Revised Statutes ("ORS") and Oregon Administrative Rules ("OAR"):

- 49 CFR Part 192 – Minimum Safety Standard – Transmission & Distribution Systems
- 49 CFR Part 193 – LNG Safety Standards
- 49 CFR Part 196 – Protection of Underground Pipelines from Excavations Activity
- Additional OARs (OAR 860-024 – Safety, OAR 860-031 – Pipeline Inspections), and ORSs such as ORS 757.039 – Regulation of hazardous substance distribution and storage operations, and ORS 757.542-993 – One call notification.

In addition to the federal and state regulations identified above, NW Natural's safety program considers the findings of past Oregon legislative actions directing the Oregon Seismic Safety Policy Advisory Commission to prepare the Oregon Resiliency Plan. Consequently, the Oregon Resiliency Plan Implementation Task Force issued a report recommending that the Commission require regulated energy providers to conduct seismic assessments of regulated facilities and allow cost recovery for prudent investments related to assessments and mitigation of vulnerabilities identified during those assessments.

The State of Oregon has since continued to advance resiliency planning efforts, including the "Resiliency 2025" plan. A key strategy of the plan is to improve the energy infrastructure to prevent and mitigate catastrophic failure and ensure fuel supplies and alternate energy sources are available to responders and the public.

3 Threat Identification

NW Natural's four highest ranking threats, as identified in the DIMP (Distribution Integrity Management Program) Plan are:

3.1 Excavation Damage

Excavation damage continues to be the principal threat to NW Natural's gas distribution system, comprising approximately 63 percent of all recorded leak repairs. Excavation damage is a system-wide threat brought on predominantly by improper excavation practices. NW Natural's efforts to reduce excavation damages are described below.

3.1.1 Excavation Training and Education:

NW Natural actively engages in training and education for contractors, general public, and other utilities, to promote safe excavation procedures and practices. These efforts include classes on Oregon dig laws, displays at public events, and the use of media including print, radio, television, and internet to promote safety, best practices, and the use of 811.

NW Natural's Damage Prevention Department works to reduce the number of excavation damages through investigation, cause analysis, locate ticket risk modeling and proactively works to identify and support contractors engaging in high-risk construction activity.

3.1.2 One-Call Notification Practices:

NW Natural actively participates in local and state-level Utility Coordinating Councils as well as the One Call Utility Notification board. A primary function of these organizations is to reduce damages to underground utilities through excavation best practices, public awareness, and the use of the Oregon one call system (811).

NW Natural also maintains a robust Public Awareness Program based on the American Petroleum Institute (API) Recommended Practice (RP) 1162, which includes advertising, direct mailing, and public event outreach to increase awareness of One-call notification.

3.1.3 Locating Practices:

NW Natural is an active member of Oregon's one call system and responds to all locate requests. Due to the high volume of locate requests this work is contracted. All locating is performed by qualified personnel, and oversight is performed by Company contract

management personnel. In addition, locating activity is included in NW Natural's Quality Assurance program to minimize the incidences of errors, mismarks, and missed due dates.

3.1.4 Incorrect Facility Marking:

Incorrectly marked facilities may be due to underground interference, equipment issues, inaccurate facility maps, or procedural issues. Locating personnel responsible for a mismark receive additional training and are required to re-qualify prior to being allowed to locate gas facilities. Review of mismarks are conducted by supervisor or other qualified personnel and the results are used to identify deficiencies, correct facility maps, and ensure the facilities can be reliably located.

3.2 Material, Weld or Joint Failure

Material, weld, or joint failure is the second largest threat to the NW Natural gas distribution system, comprising approximately 22 percent of all recorded leak repairs. NW Natural is proactive in its efforts to reduce these occurrences, as described below.

3.2.1 Plastic Pipe Installed from 1960s to 1980s:

In 2026, NW Natural performed a complete review of the mapping records to identify all plastic pipe installed prior to 1974. The review resulted in identification of 5 sites with plastic pipe installed prior to 1974. These sites will be addressed by the end of 2026. For plastic pipe installed between 1974 and 1982, NW Natural continually evaluates the leak history of these facilities and evaluates any conditions that may threaten the integrity of the pipe. Based on these ongoing evaluations, NW Natural will take appropriate action, including replacement, to mitigate any risk associated with this vintage of plastic pipe.

3.2.2 Plexco Service Tee Celcon Caps:

NW Natural is aware of industry issues regarding Plexco Service Tee Celcon Caps possibly leaking when over-tightened during installation. These caps exist within the gas distribution system and are replaced as found and scheduled for replacement when leaks are identified.

3.2.3 Polyethylene ("PE") Fusion Failure:

NW Natural has a robust training and Quality Assurance/Quality Control program in place to ensure proper PE fusion quality. This program includes testing, biannual qualification, and ongoing training. All PE fusions are visually inspected, and pressure tested prior to being placed in service.

3.2.4 Flat Back Risers:

In 2012 NW Natural identified a type of riser stop valve, internally known as a "Flat Back Riser," that contained components prone to atmospheric corrosion in the coastal areas of NW Natural's service territory. NW Natural identified that corrosion-related failure

on a retaining pin could result in a hazardous leak. NW Natural developed an Accelerated Action Plan to replace these valves in coastal areas.

3.3 Equipment Failure

Equipment Failure is the third largest threat to the NW Natural gas distribution system, comprising approximately 7 percent of all recorded leak repairs. NW Natural's efforts to reduce these occurrences are described below.

3.3.1 Valves:

Valves are vital to the safe operation of a gas distribution system. NW Natural has in place a key operating valve inspection and maintenance program to ensure key valves are operable and available for use. Valves that are found to be inoperable, inaccessible, and/or paved over are identified and remediated as necessary.

3.3.2 Pressure Control / Relief Equipment:

NW Natural has an established inspection and maintenance program in place for pressure control/relief equipment to ensure reliable and safe operation.

3.3.3 Mechanical Couplings:

Pipe may pull out from compression couplings due to tensile forces including excavation damage, cyclic fatigue from changes in the temperature of natural gas as a result of the Joule-Thomson effect, ground movement from earthquakes or after heavy rains. Mechanical fitting failures are investigated, tracked, and reported per PHMSA and OPUC requirements.

In the past as an alternative to welding small diameter steel fittings, mechanical couplings were sometimes used to install valves and service tees. These types of fittings may develop leaks through the elastomer seal between the coupling and the pipe. NW Natural replaces these fittings with welded steel fittings or polyethylene as discovered during routine operations and maintenance activity.

3.3.4 Other:

Other types of material or equipment failure may occur in the gas distribution system. Failure reports are reviewed to detect trends or patterns that may affect the distribution system.

Many of the safety projects identified in this plan are in direct response to the above threats, and to maintain compliance with safety codes and regulations.

3.4 Other

Leaks classified as Other is the fourth largest threat to the NW Natural gas distribution system compromising 3 percent of all recorded leaks. Other leaks are leaks where a cause cannot be determined upon initial discovery. All reasonable efforts are made to assign each leak to the most appropriate cause category; if a leak is found on pipeline segment with a history of material, weld, or joint failure and the leak cannot be directly examined and

evaluated, engineering may reasonably conclude that a material, weld, or joint failure caused the leak and classify it accordingly.

4 Safety Activities Performed by NW Natural

Safety activities at NW Natural can be divided into categories:

4.1 Prescriptive Regulatory Actions – Includes actions which must be performed to meet minimum federal safety standards.

49 CFR 192 includes multiple prescriptive activities, intended to safeguard public safety, and fall into broad categories such as "operations" (Subpart L) and "maintenance" (Subpart M). Most of these activities require inspections at prescribed intervals to confirm that a facility or asset is meeting operational requirements prescribed by federal code. These activities provide the baseline data for other performance-based activities and include, but are not limited to:

- Atmospheric corrosion surveys
- Leakage surveys
- Cathodic protection surveys
- Right of way ("ROW") patrols
- Valve maintenance
- Water crossing inspections
- Odorization
- Odorometer Reads
- Line Marking
- Pressure Regulation Inspection
- Large Meter Inspections
- Record Keeping
- Control Room Management
- Bridgeline Inspections
- Equipment Calibration
- Houseboat Inspections

The safety activities from this category are prescriptive in nature and are not driven by risk analysis alone. Because these activities are required, they are not discussed further in this SPP, which instead focuses on projects and/or programs identified by NW Natural as essential to enhancing safety and reliability.

4.1.1 Transmission Integrity (TIMP)

Transmission Integrity refers to 49 CFR 192 Subpart O-Gas Transmission Pipeline Integrity Management. This federally mandated program covers natural gas transmission pipelines located in High Consequence Areas ("HCA"). NW Natural exceeds

code requirements in TIMP to include pipelines subject to CFR 192.710 and conditions outside of HCA and 192.710 segments.

Activities in this category include baseline (initial) assessments and reassessments of transmission lines using in-line inspection ("ILI") and other direct assessment methods. They may also include pipeline replacements and modifications in compliance with integrity management rules, best practices, and relocation of facilities to mitigate threats posed by natural forces such as flooding, land movement, and erosion.

4.2 Proactive, Performance-Based Actions

Other sections of 49 CFR 192 include more proactive performance-based risk reduction activities, such as Subpart P – Distribution Integrity Management Program ("DIMP"), Damage Prevention, and Public Awareness. These programs utilize a performance-based approach to mitigate risk and ensure that mitigation efforts are effective, drawing on operational experience and best practices.

4.2.1 Distribution Integrity (DIMP)

Distribution Integrity is outlined in 49 CFR 192 Subpart P- Gas Distribution Pipeline Integrity Management. This federally mandated program requires operators to create a written Distribution Integrity Management Program that takes into consideration: system knowledge, threat identification, evaluation and risk ranking, identification and implementation of measures to address risk, measurement of results, and reporting.

Activities in this category include projects warranting Accelerated Action ("AA") to address a system integrity risk. These AA projects are identified through risk modeling, industry identified threats, and by subject matter experts within the Company, and include:

- Replacement of vintage plastic services
- Relocation of facilities under structures
- Remediation of idle risers
- Replacement of valves, fittings, and materials susceptible to leakage
- Protection of above grade gas facilities
- Crossbore investigation
- Relocation of distribution gas lines to mitigate threats posed by natural forces such as:
  - Flooding
  - Land movement, and
  - Erosion
- Proactive EFV (Excess Flow Valve) Installation – installation of EFVs on services that were installed prior to the EFV rule issued in 2006.
- Dithiazine – a sulfur compound found in natural gas that has been known to cause equipment failure especially in district regulators.
- Ongoing assessment and relocation of meters inside of building to exteriors.

4.3 Safety Policy and Practices

NW Natural also implements risk reduction activities not explicitly required by the federal code. These actions have been identified as prudent safety practices intended to enhance public safety, improve system reliability, and maintain the safe operation of NW Natural's above and below-ground facilities including LNG Plants and underground natural gas storage facilities. These risk reduction actions include:

- Seismic vulnerability assessments of LNG Plants, the Mist Underground Storage Facility, and Transmission Pipeline System as recommended by SB 33 (2013) and consistent with the Governor's Resiliency 2025 Plan
- Accelerated replacement of vintage materials
- In line assessment of Transmission pipelines outside of high and moderate consequence areas.
- Development of a PSMS (Pipeline Safety Management System)
- Proactive EFV installation.
- Locate ticket risk modeling.
- Natural forces assessments of NW Natural's transmission system as part of NW Natural patrol and surveillance programs.
- Installation of guard posts and traffic barricades to protect above ground facilities from vehicular damage.

5 Projected and Preliminary Costs Presented in this Plan

The 2027 Capital and O&M costs presented in this plan are projected based on current expenditures for each of the identified projects through the end of the year. Costs presented for the significant safety initiatives are preliminary for planning purposes and do not include NW Natural overhead costs. Costs for safety projects under consideration will be presented in future SPPs.

6 2027 Capital Safety Investment

6.1 In 2027, NW Natural estimates it will invest $19.9 MM in capital to comply with DIMP, TIMP, and other regulations. Significant projects in this category include:P09.06 & .07 St. Helens Trans (2026-27 estimate of $3.6MM)

This project involves the first inline inspection assessment of the 8" and 6" St. Helens Trans line which was primarily built in 1961 to support Scappoose and St. Helens. This pipeline is an approximately 22-mile transmission pipeline that initiates at the Sauvie Island Gate station and runs north through Sauvie Island, Scappoose, St. Helens and Columbia City. This pipeline includes a 2000' section of 12" pipe which will be replaced with a 6" pipe to facilitate in line inspection technology. Design for this multi-year project will begin in 2026 with pipeline construction expected in 2027 and inline inspections continuing into 2028.

6.2 P53.03 Front Ave. Robot Pig (2027 estimate of $1MM)

This project involves the first inline assessment of 1000 ft. of 16" transmission main from River Parkway to the Marquam bridge station south of downtown Portland utilizing robotic technology. This pipeline was constructed in 1989 and due to existing infrastructure in downtown Portland this pipeline was previously assessed using ECDA.

6.3 P25.09 - NE 181st and Sandy (2027 estimate of $900k)

This project involves the replacement of 300 feet of 8" transmission main on NE 181st Street from Sandy Blvd to an existing regulator station to a higher grade pipe which will update the classification of this pipeline to High pressure distribution. Design for this work will start in 2026 with construction scheduled for 2027.

6.4 Hwy 212 Launcher relocation (2027 estimate of $1.5MM)

This project involves the relocation of an existing 12" launcher facility on Hwy 212 in Clackamas. The launcher is currently located in a NW Natural easement that was adjacent to a restaurant that had a limited traffic pattern. In 2025 the restaurant was purchased and converted to a fueling station. Due to increased traffic to this facility and the risks associated with fueling activities being performed adjacent to natural gas facilities it was decided to relocate this launcher to an area with less risk. Design for this work started in 2026 with construction scheduled for 2027.

6.5 Blowdown #6 (2027 estimate of $1M)

During the ILI assessment of the 12" P30-Central Coast Feeder, a section of pipe that did not have any as-build or pressure test records was discovered. This project involves a removal of that section of pipe in addition to updating the existing valve and blowdown station that was constructed in 1960. This project is being designed in 2026 with construction in 2027.

6.6 West Twin 16 Internal Metal Loss (2027 estimate $600k)

During the inline inspection of the P64-West Twin 16, locations of internal corrosion were discovered on this pipeline. This project involves removal of the sections of pipe subject to internal corrosion, investigation of the source of the corrosion and development of a remediation plan to prevent further impacts to the pipeline.

6.7 IP Springfield (2027 estimate $500k)

During a recent rebuild of the IP Springfield meter set in Springfield, OR, it was discovered in the field and legacy mapping identified a section of pipe as non-standard per the installation practices at the time of original installation. This project removes this section of non-standard pipe from the system.

6.8 Milepoint 98 (2026-2027 estimate $3.8M)

This project involves the installation of approximately 2500 feet of 12" transmission main at a location known as Mile Post 98 located east of the town of Fairview, OR. The original installation of this section of 12" E34 Coos County transmission main was installed in 2004 via direct bury up a steep hillside in 2004. In 2019 NW Natural crews identified evidence of

landslide activity during routine compliance patrols. In response to the landslide NW Natural coordinated with Coos County to install inclinometers, strain gauges and increase patrol frequency on the pipeline. The data from the strain gauges identified stress on the pipeline from ground movement. On multiple occasions NW Natural crews relieved the stress on the pipeline by removing unstable soil surrounding the pipe and replacing it with sand, however the landslide continued to place stress on the pipeline. NW Natural's geotechnical consultant has determined that rerouting the pipeline into stable soil at deeper depths via horizontal directional drill (HDD) technology is necessary. This project will reroute 2500 feet of 12 pipeline to stable soils at deeper depth and eliminate the risk to the pipeline due to the landslide activity.

6.9 Pro-active EFV Installations (2027 estimate of $2MM):

On October 14, 2016, the U.S. Department of Transportation's ("DOT's") Pipeline and Hazardous Materials Safety Administration ("PHMSA") adopted code requiring the installation of EFVs or shut-off valves on all new or replaced branched service lines (Docket No. PHMSA-2011-009). While the code requires EFV installation on all new or replaced branched service lines, it did not require retrofitting EFVs on existing services.

NW Natural believes a proactive EFV installation program is a prudent action that can mitigate the consequence of a gas release resulting from excavation damage to a gas service line. NW Natural is implementing a policy to retrofit EFVs on existing gas service lines when the buried portion of the service line is exposed, and the work involves the interruption of gas service.

This pro-active EFV program was initiated in 2020 and will continue to be a safety program.

6.10 Sewer Crossbore Inspections (2027 estimate of $2.4MM):

The sewer crossbore program involves the visual inspection of sanitary sewers for incidences of gas line crossbores. In installations where trenchless technology was used to install polyethylene pipe, there exists the possibility the gas line was bored through a sewer main or lateral. NW Natural's policy is to expose all foreign line crossings when performing trenchless work. Sewer crossbores typically occur when facility owners fail to locate their pipe, creating a situation where NW Natural is unable to expose facilities during construction. This is an industry-wide threat. Although sewer crossbores are not isolated to gas operators, the consequence when gas lines are involved can be high. This program identifies existing trenchless polyethylene installations and inspects the sewers in the vicinity to identify crossbores. In addition to the field work for this program, NW Natural plans to implement risk modeling to better identify where sewer crossbores are located in the system. This risk modeling will use past data and industry information to identify high risk areas for sewer crossbores and allow crews to focus visual inspections in high risk areas.

6.11 Underground Storage – Well Integrity (2027 estimate of $2.7MM)

On December 19, 2016, PHMSA issued an interim final rule ("IFR") establishing regulations for underground natural gas storage facilities (UNGSF). The IFR incorporated by reference RP 1171, "Functional Integrity of Natural Gas Storage in Depleted Hydrocarbon Reservoirs and Aquifer Reservoirs" (First Edition, September 2015). The IFR implemented PHMSA's authority to regulate underground gas storage and the Congressional mandate in section 12 of the PIPES Act to establish minimum safety standards.

The final rule published on February 12, 2020, modified compliance timelines, clarified regulatory roles, reduced recordkeeping and reporting requirements, and formalized integrity management practices. In accordance with the final rule, NW Natural has completed baseline casing inspection logs on each of its active gas storage wells prior to the March 13, 2027, deadline.

Work in 2027 will involve the reassessment of the production casing of three gas storage wells and mechanical integrity tests on eight other gas storage wells in the Mist Underground Gas Storage field.

6.12 Other safety projects and programs (2027 estimate of $3.7 MM):

Pipeline Replacement due to Seismic/Natural Forces

Portions of NW Natural's distribution and transmission system cross through landslide faults, seismic faults, sensitive areas, and waterways. Due to significant weather events or the passage of time, the integrity of these pipelines may be compromised. When identified during patrols, routine maintenance, or other stakeholders, the Integrity Team develops plans to remediate these at-risk pipelines as they are identified.

DIMP Risk Model Projects

In 2025, NW Natural implemented a probabilistic risk model for the NW Natural distribution system. This type of model quantifies the probability of an event depending on the threats and impact of a pipeline event. This type of model has been recognized by PHMSA as an industry best practice. NW Natural had the initial report from this model issued in 2025 and will utilize the results of this model to proactive address areas of risk.

Meter Protection Installation

NW Natural will continue installation of guard posts adjacent to meter sets that are determined to be at risk of damage due to vehicle or equipment contact.

Pipeline Modification due to ROW Encroachment

Patrols of NW Natural Pipelines may discover structures or other encroachments built over or adjacent to pipelines that can impact the safe operation of or access to a pipeline. This program works with landowners to remediate these encroachments.

Pipeline Material Identification
At selected transmission pipeline anomaly remediation sites, NW Natural has instituted a process using technology to non-destructively test and acquire data regarding pipe material properties. In addition, when the Transmission Integrity rule went into effect over twenty years ago, NW Natural began keeping short (18”-24” long) sections of pipe for future reference. These spools were destructively tested to obtain pipe material properties that were not required as part of the original installation documentation. The material data obtained through this program are being stored in the permanent record for each pipe segment.

Non-hazardous Leakage Projects
As part of NW Natural’s continued efforts to reduce fugitive methane emissions, actions are being taken to proactively replace facilities identified as producing non-hazardous leaks. Per NW Natural Standard Practices these facilities are reevaluated and monitored on a routine basis until the leak classification changes or the facility is repaired or replaced. To address these frequent revaluations and reduce fugitive methane emissions a more proactive approach is being taken towards these facilities and projects are being developed to accelerate replacements.

Removal of Class A Services
NW Natural has performed work to eliminate a low-pressure system and transition to a full distribution system. During this transition to eliminate the low-pressure system a small number of Class A services still exist in the system. These Class A services have an MAOP of 12 inches of water column and are a legacy from the low-pressure system. NW Natural has initiated DIMP project to work with these customers to eliminate these Class A services from the system.

Idle Risers
Idle risers are the above ground portion of a service line that remains after meter removal when a customer closes their account, or a home or business is vacated. In these cases NW Natural maintains the service (idle) riser above ground where it is capped/plugged and tagged as idle. These idle risers are maintained in accordance with code requirements in the event a customer or a new tenant requests gas service. Over extended periods of time and in some instances these idle risers may present an elevated risk of damage and may be removed.

Steel in Steel Projects
Steel in Steel installations refer to distribution pipelines where steel gas carrying pipes were inserted into steel casings or sleeves. These installations present a corrosion risk because spacers used to create separation between the casing and gas pipeline may not have been installed. This type of configuration may compromise effectiveness of the cathodic protection system. A program to identify and eliminate these installations has been initiated.

6.13 Historical Capital Expenditure – Safety Project Plan (System Integrity)

The Historical Capital Expenditures below are actual expenditures for each of the presented years.

Year	Expenditure
2015	$17,190,356*
2016	$ 7,772,763
2017	$ 5,925,409
2018	$ 9,699,814
2019	$10,231,431
2020	$ 8,900,000
2021	$ 8,200,000
2022	$ 9,000,000
2023	$13,000,000
2024	$14,500,000
2025	$18,300,000
2026	$14,100,000

*Final year of known bare steel main replacement

Historical capital expenditures include:

- Work to modify pipelines to accept inline inspection devices, including removal or replacement of non-piggable fittings and facilities required to launch and receive inline inspection devices.
- Pipeline relocation to mitigate threats including outside forces and natural forces. This work does not include relocations due to utility conflicts, or third-party improvement projects.
- Pipe replacements and testing in compliance with federal and state regulations.
- Ongoing DIMP AA programs/projects such as Vintage Plastic, Guard post installations, Proactive EFV installations, etc.
- All costs shown above do not include construction overhead (COH).

7 2027 O&M Expenditures

In 2027, NW Natural expects to spend $4.63MM in O&M to address and comply with DIMP, TIMP, damage prevention, and public awareness.

Activities that reflect expenditures in this category include costs for supplies (office/field), reference materials, education (conferences/workshops), vendor and contract costs associated with transmission assessments, public awareness program materials, advertisements and mailings, and natural forces investigation and remediation. Additionally, this category covers the development, initiation, and execution of studies and consulting fees related to integrity

requirements, such as class location studies and third-party geotechnical site evaluations to address and mitigate risk.

O&M also includes some non-capital internal labor in support of NW Natural's system integrity program ("SIP"). These costs include the Integrity Management staff (7 FTE), damage prevention staff (4.5 FTE) involved in damage prevention/investigation, and a public information officer for safety outreach, training, and program administration. The Integrity Management group may also utilize other internal resources in support of SIP activities which include GIS analysts, Customer Service, Construction, and other subject matter experts. Significant O&M projects include:

7.1 Transmission Inline and Direct Assessment Reassessment and Remediation (2027 estimate of $2.5MM):

This work includes the federally prescribed seven-year reassessment of transmission pipelines in HCAs and is comprised of both inline inspection and direct assessment of transmission assets and associated repairs.

7.2 Natural Forces (2027 estimate of $100,000):

Where the threat of natural forces can be mitigated without pipe replacement or rerouting, NW Natural may choose to address the threat through site work. This option is necessary in situations where a reroute is not feasible due to environmental restrictions or where a pipeline serves a critical customer or provides a single feed to a distribution system. Work may include armoring of slopes, re-grading of sites, culvert improvements, and retaining structures to address land movement and drainage issues.

7.3 Damage Prevention (2027 estimate of $1MM):

In compliance with DIMP regulations, and to address the single largest threat to gas facilities, NW Natural maintains a damage prevention department. The department consists of a supervisor and 4.5 FTE damage prevention specialists whose responsibilities include damage prevention through high risk locate ticket intervention, training, attendance at pre-construction meetings, participation in Utility Coordinating Councils, and support of the 811 One-call system. Damage prevention specialists are also responsible for the investigation, enforcement, and contractor training related to excavation and third-party damage.

7.4 Public Awareness (2027 estimate of $930,000):

NW Natural's Public Awareness program meets the requirements mandated in API RP 1162, adopted by reference by PHMSA into Part 192.616(a), (b), and (c). This program promotes public safety through communication and outreach focused on educating customers and the public about natural gas safety. The program includes customer correspondence, mailers, advertisements, community events, a mobile phone application, and brochures to excavators, contractors, public officials, residences and businesses along pipeline rights-of-way and in high consequence areas, and floating homes.

The Public Awareness Plan utilizes television and radio advertising, bill inserts, social media, streaming video and audio media, and events to promote natural gas safety awareness. Targeted outreach and public awareness materials are provided annually to customers near transmission pipelines, as well as contractors, excavators, and first responders within NW Natural's service territory.

7.5 Right-of-Way Encroachments (2027 estimate of $100,000):

Pipeline patrols are used to identify changes in site conditions. An example of such a change is the installation of structures over pipelines, and inside dedicated pipeline rights-of-way, or easements. In some instances, the remediation may involve the relocation of structures and other non-gas facilities.

7.6 Historical O&M Expenditure – Safety Project Plan (System Integrity):

The historical O&M expenditures below are actual expenditures for each of the presented years (not including PSMS, damage prevention or public awareness expenditures).

Year	Expenditure
2015	$4,034,218
2016	$4,889,618
2017	$4,771,267
2018	$4,000,000
2019	$3,052,000
2020	$3,100,000
2021	$2,900,000
2022	$2,800,000
2023	$3,000,000
2024	$ 700,000
2025	$3,300,000
2026	$3,900,000

Historic O&M expenditure included:

- Regulatory transmission assessments including the investigation and remediation of identified anomalies resulting from inline inspection and external corrosion direct assessment (ECDA).
- Investigation and remediation of natural forces including landslides, flooding, erosion, etc.
- Buildover remediation where structures encroach into pipeline right-of-way.
- Remediation of difficult to operate valves.
- Maintenance of Integrity Risk model as a result of geographical and system changes.

These above costs do not reflect those related to ongoing maintenance of facilities including right-of-way clearing, patrols, leakage, cathodic protection, and other ongoing routine O&M work.

8 2027 Significant Safety Initiatives

8.1 Changes in TIMP Assessment Methodology

In 2027, NW Natural will extend the use of inline inspection (ILI) for integrity assessment of transmission pipelines assessed at seven-year intervals. Inline inspection tools have the advantage over direct assessment and pressure testing because they assess the entire pipeline maintaining constant contact with the inner wall providing data allowing for the identification of interacting anomalies such as pipe deformation and metal loss. In 2027, NW Natural will change the assessment methodology of the following pipelines.

- P53.03 Front Ave. - Approximately 1000 feet of 16" transmission main in downtown Portland under the Marquam Bridge.

8.2 DIMP Risk Model Projects

In 2025, NW Natural, in coordination with a risk model software vendor, conducted the initial run of a probabilistic risk model on the entire NW Natural distribution system. The results of this risk model identified locations in the NW Natural system of elevated risk. With this new risk model methodology, NW Natural will begin to proactively take on projects based on the results of the probabilistic risk model to reduce risk and improve the safety of the system.

8.3 Pro-active EFV Installations

NW Natural has installed EFVs on all new single-family residential services since February 1999. In 2006, Federal Code was modified to require the installation of EFVs on all new residential and small commercial services. NW Natural will continue and expand the program installing EFVs on existing residential and small commercial services when the buried portion of the service line is exposed and service to the customer is interrupted. NW Natural believes proactive installation of EFVs is a prudent and pragmatic approach that can mitigate the consequence of an excavation damage to a service line.

9 Transmission Material Verification

In compliance with Regulatory Mandates involving material verification of steel transmission pipelines, NW Natural has implemented a non-destructive material verification program to collect material property data on transmission pipeline assets. This program involves material testing of in-service pipelines during planned work to collect data including metallurgy that was not required at the time of installation.

NW Natural has also developed a program to destructively test segments of pipeline that were removed from past transmission projects to collect the material property information. Collecting material information from the in-service transmission mains and the destructive tests from the historical transmission mains will allow NW Natural to enhance the existing library of pipeline material property data.

10 Cost Benefit Analyses & Alternative Analysis

The performance of a cost benefit analysis and alternatives analysis is difficult in the context of safety programs mandated by regulation. As a result, a cost benefit analysis has not been a primary consideration in this report because these safety projects are mandated by CFR, dictated by industry best practices, or driven by operational requirements. The assigned risk and prioritization for implementing these projects are based on in-depth studies and analysis of NW Natural's transmission and distribution systems as well as plant and storage assets. Studies performed as part of normal operations provide measurable and continual feedback needed to perform safety related work for which there are few practicable alternatives.

Alternative analysis and in-depth studies are useful when they identify threats and risks that can be mitigated or eliminated through the application of performance-based best practices, engineering analysis, operational knowledge, and subject matter experts. Where the Code of Federal Regulations prescribe compliance activity or mandate programs, the use of cost benefit, or alternative analysis is not warranted.

When a pipeline safety initiative requires a cost benefit or alternative analysis, NW Natural may select a qualified external resource to perform the analysis.

11 Legislative Update

Pipeline safety legislation continues to move forward as Congress works to author a bipartisan Pipeline Safety Reauthorization Bill which includes efforts to address third party damages, enhance emergency response, address the use of new technologies for leak detection, align information collection requirements with risk-management principles, and update reporting requirements.

PHMSA has shifted from issuing broad and complex rulemakings to smaller focused rulemakings directed at issues and concerns supported by stakeholders allowing the agency to make incremental safety improvements to regulations without the complexity of large contentious rulemakings.

Recent rulemaking activities include:

- Eliminating duplicative reporting requirements;
- Improving clarity and consistency in reporting instructions;

- Modernizing forms to better align with current practices and available information systems;
- Focusing information collection in support of risk-based safety decisions;
- Adopting current versions of industry documents incorporated into pipeline safety regulations by reference; and
- Updating regulations to allow for the use of remote sensing technologies and drones.

PHMSA has shifted regulatory focus from broad policy-oriented initiatives toward core pipeline safety priorities. This reflects a deliberate effort to concentrate on the immediate threats to natural gas transmission and distribution systems including leak detection and repair, integrity management, emergency response, and system modernization. These are areas where PHMSA has expertise, clear regulatory authority, and broad stakeholder support.

12 Completed Projects

Below is the list of projects scheduled to be completed in 4th quarter of 2025 and 2026.

12.1 Underground Storage – Well Integrity ($3.2MM – Estimated)

This project involved the plugging and abandonment of one gas storage well, the reassessment of the production casing of three gas storage wells, and mechanical integrity tests on seven other gas storage wells in the Mist Underground Gas Storage field. The 2026 project represents year nine of NW Natural's well integrity assessment work. The reassessments include down hole assessment of production casing and replacement of select tubulars, downhole equipment, wellhead components, and/or mechanical integrity testing. The program was developed to meet compliance with PHMSA's adoption of APR RP 1171 - Functional Integrity of Natural Gas Storage in Depleted Hydrocarbon Reservoirs and Aquifer Reservoirs. The reassessment intervals are determined by risk assessment and information from the baseline and subsequent assessments. This year's well integrity project will be completed by the end of the third quarter.

12.2 GP Wauna (2026 actual $800k)

A segment of 8-inch transmission main that crosses US Highway 30 and supplies gas to Georgia Pacific's Wauna facility was discovered by Company Operations crews to have a shallow depth of cover in roadway drainage ditches that did not meet current depth of cover standards and was at risk due to ODOT ditch clearing activities that occur where the pipeline crosses US Highway 30. The relocation of the shallow 8-inch transmission main to a deeper depth of cover was completed in 2026.

12.3 Coquille River Project (2026 estimated actual $2.6M):

Construction for this project began in September, 2026 and is expected to be completed before the end of October, 2026. This section of pipe was constructed by Coos County adjacent to the Coquille River and is the single source of natural gas for the City of Coquille.

Between 2019 and 2022, the Coquille River began to erode the riverbank to the point of exposing the pipeline and putting the natural gas supply to the City of Coquille at risk. The erosion reached the point that in 2022 a 300 foot section of this pipe had to be routed outside of the riverbank. This project will relocate the entire section of the pipeline adjacent to the Coquille River out of the riverbank area, mitigating risk to the pipeline due to riverbank erosion.

13 Conclusion

This SPP provides an overview of NW Natural's pipeline safety initiatives and commitment to the safe and reliable delivery of natural gas to the communities we serve. Through its more-than 167-year history, NW Natural has been committed to identifying threats to pipeline safety and taking steps to address and mitigate those threats. Looking forward to the role natural gas will play in our energy future, and as members of the communities we serve, NW Natural recognizes the trust placed on us by our neighbors and customers. NW Natural will continually work to ensure public safety and maintain the integrity of our natural gas system.