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March 8, 2018 Docket UM 1900

VIA ELECTRONIC FILING

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

Re: UM 1900 - NW Natural's Revised Oregon Safety Project Plan

Northwest Natural Gas Company, dba NW Natural ("NW Natural" or the "Company"), hereby submits its Revised 2017 Safety Project Plan (Revised SPP).

The SPP was originally filed on September 29, 2017, in compliance with Commission Order 17-084 entered March 6, 2017 in Docket No. UM 1722. Upon Staff's recommendation, the Company is now filing a Revised SPP expanding upon and clarifying sections of the original SPP.

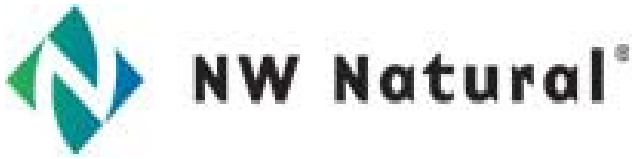
If you have any questions, please contact me at (503) 226-4211, extension 5865 or Jose Gonzalez at (503) 226-4211, extension 4431.

Sincerely,

/s/ Gail A. Hammer

Gail A. Hammer
NW Natural

Enclosure



REVISED 2017 SAFETY PROJECT PLAN

OREGON

2018

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I. Introduction

On March 06, 2017, the Oregon Public Utility Commission ("Commission") issued Order No 17-084 (Order), adopting a stipulation addressing the cost recovery of local distribution companies' (LDCs) safety investments. As part of that Order, the Commission required LDCs to file an annual safety project plan (SPP) for Commission Safety Staff and stakeholder review. The SPP is intended to increase transparency into LDCs' safety investments by providing Safety Staff and stakeholders a yearly "snapshot" of the expected level of capital investment and operations and maintenance expense required to mitigate issues identified by risk analysis or to meet newly implemented federal code. The additional purposes of the SPP are to demonstrate to the public the LDC's commitment to safety; explain technical safety reports provided to the Commission; and identify when major regulatory changes will drive new safety planning priorities or change existing safety plans. In the event that an LDC seeks approval for, or already has, a Safety Cost Recovery Mechanism (SCRM), the SPP is intended to expedite the review process of safety investments. Safety is a core value at NW Natural and is critically important in all aspects of the Company's pipeline and storage operations. This 2017 SPP is intended to provide additional insight into our Company's most significant safety activities on an annual basis. We appreciate the opportunity to present this information to the Commission and look forward to continued engagement with our stakeholders on these important issues.

II. Background Information

NW Natural is a regulated utility in the States of Oregon and Washington with approximately 730,000 total customers, operating 654 miles of transmission pipelines, 13,604 miles of distribution pipelines, and three energy storage facilities – Portland and Newport LNG Plants and Mist Underground Storage.

NW Natural's pipelines and storage facilities are governed by:

- 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 and ORSs such as ORS 757.039, and ORS 757.542-993 – One call notification.

In addition to the federal and state regulation described above, another important topic of safety on NW Natural's system stems from the major effort that

was undertaken in Oregon pursuant to House Resolution (HR) 3 in 2011, which directed the Oregon Seismic Safety Policy Advisory Commission to prepare the Oregon Resiliency Plan with the purpose of identifying recommendations for how Oregon's critical energy infrastructures could be made seismically resilient towards a Cascadia subduction zone earthquake. Upon completion of that work on February 28, 2013, the Oregon Senate passed Senate Bill (SB) 33, which recommends that LDCs conduct seismic assessments of their regulated facilities.

III. The Greatest Safety Threats for NW Natural

As general information, at NW Natural the three greatest threats identified in the DIMP Plan are:

A. Excavation Damage

Excavation damage is the largest threat to the NW Natural's gas distribution system, representing approximately 60% of all recorded leak repairs from 2005 to 2015. Excavation damage is a system-wide threat. The most significant root-cause factors are discussed below.

- Improper excavation practice

  NW Natural actively engages in educating the general public, customers, employees, other utilities, and contractors about excavation procedures, using state dig laws and industry best practices.

- Failure to request a locate

  NW Natural is active in local and state-level Utility Coordinating Councils as well as area One Call Utility Notification board work. One of the primary functions of all of these entities is increasing public awareness around the use and laws of the state's one call system. NW Natural also utilizes a robust Public Awareness Program which includes advertising, direct mailings and public event outreach to increase this awareness.

- Facility not located or marked

  NW Natural is a participating member in the one call state system and responds to all applicable one call tickets received. NW Natural experiences a low volume of this type of incident, which is due to a failure to request locates, locates requested in the wrong location or locates not completed on time.

- Mismarked Facilities

  Mismarked facilities may be due to deficiencies in training, job execution, or equipment. NW Natural investigates every mismark. If a NW Natural employee is responsible for a mismark, their direct supervisor and the Damage Prevention Department are notified. An investigation by the Damage Prevention Department and a Quality Assurance review are completed and the results are shared with the supervisor for further follow up and training if needed. NW Natural follows the same procedure for all contractors.

- Incorrect Facility Records

  Gas Distribution facilities may be mismarked or left unmarked due to inaccurate facility maps. NW Natural has a process in place for correcting and updating facility maps as inaccuracies are identified.

B. Material, Weld or Joint Failure

Material, weld, or joint failure is the second largest threat to the NW Natural gas distribution system, representing approximately 15% of all recorded leak repairs from 2005 to 2015. Material, Weld or Joint Failure is a system wide threat. A further description of this type of threat is described below:

- Plastic Pipe Installed from 1960s to 1980s

  NW Natural makes every effort to identify all pre-1982 plastic pipe installations, analyze leak histories, evaluate any conditions that may threaten integrity of the pipe, and take appropriate remedial action, including replacement, to mitigate risks to public safety.

- ABS (Acrylonitrile-Butadiene-Styrene)

  NW Natural used ABS in the 1960s to renew existing steel services. These services have been identified for replacement. NW Natural's use of ABS was limited to ½" pipe inserted into existing steel service lines mitigating the risk of rock impingement and slow crack growth related to backfill and construction practices.

- 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 NW Natural system and are replaced as found and scheduled for replacement if leaks are identified.

- PE (polyethylene) Fusion Failure

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

C. Equipment Failure

Equipment Failure is the third largest threat to the NW Natural gas distribution system, representing approximately 13% of all recorded leak repairs from 2005 to 2015. Equipment Failure is a system-wide threat, explained more fully below:

- Valves

  Many 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 these valves are operable and available for use. Valves that are found to be inoperable, inaccessible, and/or paved over are identified and maintained or remediated as necessary.

- 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.

- Mechanical Couplings

  Pipe may pull out from compression couplings due to pullout forces that could include cyclic fatigue from changes in the temperature of the natural gas as a result of the Joule-Thomson effect, ground movement from earthquakes or after heavy rains, improper installation, and deterioration of the gasket/elastomer. Failure of mechanical fittings may be classified as Natural Forces or Excavation Damage depending on the root cause of the failure.

  Mechanical couplings may leak through the seal between the coupling and the pipe. Contributing factors may include a degradation of the seal material over time or a change in gas quality.

- Other:

  Other types of equipment failure may occur in the gas distribution system. Failure reports may be reviewed to detect trends or patterns of equipment failure occurring within the distribution system.

Many of the safety projects identified in this plan are in response to these threats, as well as to comply with safety codes and regulations.

IV. Categories of Safety Activities Performed by NW Natural

Safety Activities at NW Natural can generally be separated into three categories:

A. Prescriptive regulatory actions – those which must be performed to meet federal minimum safety standards;
B. Proactive, performance based actions – those which must be performed to meet federal minimum safety standards based on risk analysis; and
C. Safety Policies – NW Natural has identified additional prudent risk reduction actions not currently identified by safety standard codes, which actions are beyond current prudent engineering practices. The Safety Policies adopted by NW Natural go above minimum safety standards, improve public safety, and meet the intent of Oregon's Legislature Policy (SB 33) recommending Energy Operators in Oregon to Seismically harden its critical energy infrastructure, so as to withstand the Cascadia Subduction Zone Earthquake as soon as practicable.

A. Prescriptive Regulatory Actions

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

- Atmospheric corrosion surveys
- Leakage surveys
- Cathodic protection surveys
- Right of way 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 not driven by risk analysis, but are prescriptive in nature. Because these activities are specified requirements, they are not discussed further in this SPP, which instead focuses more on measures that relate to NW Natural's risk analysis and plans for safety projects.

B. Proactive, Performance-Based Actions

Other sections of CFR 192 include more proactive performance-based risk reduction activities, such as Subpart O – Transmission Integrity Management Program (TIMP), Subpart P – Distribution Integrity Management Program (DIMP), Damage Prevention, and Public Awareness. These programs focus on activities to mitigate pipeline safety risk. Specifically, these programs include:

i. 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 (HCAs).

Activities in this category include baseline assessments and reassessments of transmission lines using in-line and direct assessment methods. They also include pipeline replacements and modifications in compliance with integrity management guidelines, MAOP validation agreements with the OPUC, and the relocation of pipelines and transmission facilities to mitigate threats posed by natural forces such as flooding, land movement, and erosion.

ii. 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 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 risk-based projects warranting Accelerated Action (AA) to address system integrity risks. These AA's are made up of projects that have been identified through risk modeling, industry identified

threats, and by subject matter experts within the Company. Projects include replacement of vintage plastic services, relocation of facilities under structures, replacement of valves and fittings susceptible to leakage, protection of above grade gas facilities, crossbore investigation, and relocation of distribution gas lines to mitigate threats posed by natural forces such as flooding, land movement, and erosion.

C. Additional Prudent Risk Reduction Actions (Safety Policy)

Additional active risk reduction activities are not explicitly required by federal code, nor expected under engineering prudent safety practices, but increase public safety, safety for the operations of the network systems, safety for the LNG Plants, and safety for the UG Storage facilities. These risk reduction actions are:

- Seismic vulnerability assessments of LNG Plants and Mist Underground Storage Facility, as recommended by SB 33;
- Accelerated additional replacement of vintage materials (e.g. bare steel); and
- Proactive improvements to pipelines to allow for increased use of inline inspection (ILI).

V. Projected and Preliminary Costs Presented in this Plan

The 2017 Capital and O&M costs presented in this plan are projected costs based on current expenditures for each of the identified projects through the end of the year. Costs for the significant safety initiatives planned for 2018 are preliminary or expected costs, for planning purposes. Costs for other safety projects under consideration will be presented in the 2018 SPP.

VI. 2017 Capital Safety Investment

In 2017, NW Natural estimates it will invest $6.2MM in capital to comply with DIMP and TIMP. Significant projects in this category include:

North Coast ILI ($3,200,000)

This project is part of NW Natural's continuing commitment to inspect transmission lines using inline inspection. The North Coast Feeder is part of this effort. The line consists of 16-inch and 10-inch transmission pipeline installed in 1965. The pipeline begins at Deer Island in Rainer, Oregon and traverses the Columbia River and North Coast, where it terminates and feeds smaller diameter pipelines to the north, serving Astoria/Warrenton, and the south, serving

Seaside/Cannon Beach. The work involves installation of launchers and receivers as well as retrofitting the pipeline to permit the passage of inline inspection tools.

Salem Feeder MAOP Validation ($270,000)

This project relates to the agreement between the OPUC and NW Natural to address missing pressure test documentation. The work includes the replacement of pipe at Salem Parkway and pressure test of 269 feet of 8-inch pipe under the paved portion of the roadway.

Eugene Industrial Feeder MAOP Validation ($510,000)

This project relates to the agreement between the OPUC and NWN to address missing pressure test documentation. The work includes the replacement and relocation of a blowdown/bridle and associated 10-inch and 6-inch pipe at the intersection of Coburg Road and Crescent Avenue in Eugene Oregon.

CZ (Crown Zellerbach) West Linn MAOP Validation ($550,000)

This project relates to the agreement between the OPUC and NWN to address missing pressure test documentation. The work included the replacement and relocation of 10-inch, 8-inch, and 6-inch pipe as well as the reconstruction of a district regulator station on the west side of the Oregon City – West Linn Bridge.

Dethman Ridge ($331,000)

Replacement of 187 feet of 4-inch pipe exposed in Odell Creek in Hood River. A temporary bypass was needed because the 4-inch was a one-way feed into the distribution system. The work includes extensive coordination and environmental permitting with Hood River and the Army Corp of Engineers because of the in-water work required.

Other safety projects and programs of lower priority include natural forces pipe replacement, ABS (vintage plastic) replacement program, bare steel identification and replacement, meter protection installation, ROW encroachment identification and remediation, and Automatic Shut-off Valves/Remote Controlled Valves installation.

Historical Capital Expenditure - Safety Project Plan (System Integrity)

Year	Expenditure
2015	$17,190,356*
2016	$ 7,772,763

Capital expenditure includes:

- Work to modify pipelines to accept inline inspection devices. This work includes removal of non-piggable fittings and facilities required to launch and receive inline inspection devices.
- Pipeline relocations 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.

*Final year of known bare steel main replacement

VII. 2017 O&M Expenditures

In 2017 NW Natural expects to spend $4.7MM in O&M to address and comply with DIMP, TIMP, and Damage Prevention, and an additional $700K for public awareness.

Activities that reflect expenditures in this category include costs for supplies (office/field), reference materials, education (conferences/meetings/workshops), vendor and contract costs associated with transmission assessments, sewer crossbore investigations and remediation, public awareness program materials, advertisements & mailings, and natural forces investigation and remediation. It also includes 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.

In addition, O&M includes some non-capital internal labor in support of NW Natural's system integrity program (SIP). These costs include the Integrity Management staff (7 FTEs) Damage Prevention specialists (3.5 FTEs) involved in damage prevention/investigation and a Public Information Officer (1 FTE) for safety outreach, training and program administration. The Integrity Management group may also utilize other internal resources in support of SIP activities which includes GIS analysts, Customer Service, Construction, and other subject matter experts. Significant O&M projects include:

Sewer Crossbore Inspections ($2,309,000)

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 exist 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 their 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 trenchless polyethylene installations and inspects the sewers in the vicinity to identify crossbores.

Transmission inline reassessment and remediation ($998,600)

This work includes the prescribed seven year reassessment of transmission pipelines in HCA's and is comprised of both inline inspection and direct assessment of transmission assets. When an anomaly is discovered this work can include the *in situ* remediation of the pipe without removal from service.

Natural Forces ($272,000)

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 can be critical 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.

Damage Prevention ($525,000)

In compliance with DIMP regulations, and to the address the single largest threat to gas facilities, NW Natural maintains a Damage Prevention department. The department consist of a supervisor and 2.5 Damage Prevention Specialists whose responsibilities include damage prevention through 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 and enforcement actions related to excavation and third party damage.

NW Natural plans to enhance its damage prevention program with additional staff in 2018. The expected incremental budget for the additional staff is currently under review.

Public Awareness ($700,000)

This Safety Project is to meet requirements mandated in API RP 1162, adopted by reference by PHMSA into Part 192.616(a),(b), and (c). The purpose of this

project is to promote safety information, and educate our customers and the public about natural gas safety. The program includes customer correspondence, mailers, advertisements, and brochures to the affected public such as excavators, contractors, public officials, dwellings along pipeline right of way and in high consequence areas, and schools. Training is offered to the contractor network in an effort to reduce damages, and materials are provided to first responders and contractors within NWN's service territory.

In 2018, $300,000 in incremental budget for safety-related activities and additional staff will be allocated to support public safety awareness, outreach, education, emergency response and damage prevention.

MAOP validation ($250,000)

This work includes the O&M components of the agreement between the OPUC and NWN to address missing pressure test documentation. The O&M portion of this work involves the process, procedures, labor, and equipment that do not involve the installation of new assets.

Right of Way Encroachments ($175,000)

Part of routine pipeline patrols is to identify changes in site conditions. One such change is the installation of structures over pipelines and inside dedicated pipeline rights-of-way and easements. In some instances the remediation involves relocation of structures and non-gas facilities.

Historical O&M Expenditure - Safety Project Plan (System Integrity)

Year	Expenditure
2015	$4,034,218
2016	$4,889,618

O&M expenditure includes:

- Regulatory transmission assessments including the investigation and remediation of identified anomalies resulting from inline inspection and ECDA (External Corrosion Direct Assessment).
- Sewer crossbore inspection program.
- Investigation and remediation of natural forces including landslides, flooding, erosion, etc.
- Buildover remediation where structures encroach into pipeline right-of-way.
- Digital conversion of historical facility records to facilitate system knowledge.

- Remediation of difficult to operate valves.
- Work to reduce the number of operating pressures in the distribution system (MAOP normalization).

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

VIII. 2018 Significant Safety Initiatives

Central Coast In Line Inspection (ILI) (Estimate $2.5 MM)

This project involves transition of the Central Coast Feeder from direct assessment to ILI. The Central Coast Feeder will be NW Natural's longest and most complicated inline inspection to date. The pipeline originates in Salem and terminates in Toledo along the Oregon coast, traversing 93 miles along Hwy 18 and the coast range.

Santiam River Pipe Replacement (Estimate $950,000)

During an underwater patrol, an 8-inch line was identified as having shallow to no cover in the Santiam River. Planning, scoping, and permitting are being completed to prepare for replacement of the pipe in 2018.

Underground Storage Integrity (Estimate $300,000)

In compliance with PHMSA's adoption of RP 1171, NW Natural is developing a risk assessment methodology and may, as appropriate, implement prudent actions as needed to align with the recommended practices of RP 1171.

Public Awareness & Damage Prevention (Estimate $300,000)

In 2018, incremental budget for safety related activities and additional staff is being allocated to support public safety awareness, outreach, education, emergency response and damage prevention.

IX. Other Safety Projects/Programs Being Evaluated at this Time include:

Seismic Studies

NW Natural is planning for seismic studies on the transmission and distribution system. The studies will be used to identify, plan, and prioritize projects to address seismic resiliency.

PSMS

In 2018 NW Natural will begin implementation of a Pipeline Safety Management System in compliance with API RP 1173.

Tracking and Traceability

In compliance with PHMSA's Plastic Pipe Rule, NW Natural will begin to assess and implement actions to meet the proposed requirements of the rule.

Proactive Excess Flow Valve (EFV) Installation

NW Natural is evaluating expanding the installation of Excess Flow Valves (EFVs). On October 14, 2016, under Docket No. PHMSA-2011-009, PHMSA adopted code requiring the installation of EFVs or shut-off valves on all new or replaced branched service lines. While the code requires EFV installation for all new or replaced service lines, it does not require retrofitting EFVs on existing services. This evaluation is a high priority item to NW Natural, given the incident at NW 23rd & Glisan in October 2016. The existence of an EFV on the service line would have been a mitigating factor and likely would have limited the severity of gas release providing additional response time to secure the site. For this principal reason, NW Natural will evaluate establishing a risk-based, proactive EFV installation program on existing service lines. In 2018, NWN will begin evaluation of an EFV service line retrofit program.

X. Cost Benefit Analysis & Alternative Analysis

The performance of a cost benefit analysis and alternatives analysis is sometimes difficult in the context of regulated safety programs. Such an analysis has not been of major consideration in this report because the majority of the safety projects are mandated by CFR and regulatory requirements, 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 are performed on a regular basis as part of normal operations. The benefit of this regular analysis is to limit the number of studies needed to perform safety related work for which there are few practicable alternatives.

To expand a bit further on the above, the in-depth studies and analysis of the Transmission & Distribution Networks, and Storage Facilities, identify potential threats and risks, which threats and risks can then be mitigated or eliminated by the application of best engineering practices, operational knowledge and experience along with the experience of subject matter experts. Briefly stated, the in-depth study analysis is used to identify and implement measures and plans to address those threats and risks. They are then prioritized by projects or included in programs to most efficiently and effectively mitigate or eliminate the threat(s). The exceptions to this process are programs and mandates prescribed in federal code such as TIMP and DIMP. Their prioritization is based on the results of an analysis of NW Natural Systems and the studies described above combined with operational experience and engineering judgement. When the CFRs mandate safety projects and/or program completion within a prescribed timeline they are moved in the prioritization list according to the requirements of the mandate.

In addition to the above, safety projects may not always provide for alternatives. In the event a safety project requires an independent study or a vulnerability assessment study, an RFI/RFQ will be prepared and issued. As necessary NW Natural will interview and select the most qualified SMEs to participate and provide input for the studies. Once the required studies are completed, the recommendations will be fully vetted against system threats and presented in future SSPs, with appropriate alternative analysis presented for their implementation.

XI. Pending Legislation Update

PHMSA currently has several pending rules, which will have a direct impact on gas operators' programs. They are presented below for the Commission's review. Their impact on safety programs, once finalized, will be presented to the Commission in future SPPs. The following is a list of significant impending new rules:

- Docket No. PHMSA-2011-0023 – Safety of Gas Transmission and Gathering Pipelines

    - The Notice of Proposed Rulemaking is a comprehensive update to the Transmission Integrity requirements and is the largest revision of the code since its inception in 1970. Major changes includes increased requirements for HCAs and inline inspection, material verification, documentation retention requirements.

- Docket No. PHMSA-2014-0098 – Plastic Pipe Rule
    - The Notice of Proposed Rulemaking includes requiring Tracking and Traceability for all new plastic pipe installation.

- Docket No. PHMSA-2016-0016 – Underground Storage Facilities for Natural Gas
    - PHMSA incorporated API 1171 by reference in January 2017 with an interim final rule. The final rule is expected in January 2018, and may add additional requirements or modify existing requirements from the interim rule. This Notice of Proposed Rulemaking adds significant prescriptive requirements for underground storage operators including creating a risk model, assessing the integrity of existing wells, and remediating any anomalies discovered to ensure well integrity.