



NW Natural

NW Natural's Gas Transmission PL Integrity Verification & PHMSA's IVP

**Presented at the PHMSA / NAPSR
Pipeline Integrity Verification Process Meeting
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DISCLAIMER

The pipeline operations of local distribution operators are very diverse. The actions taken for integrity verification depends on the specific characteristics of each pipeline system. The actions taken or planned at NW Natural may vary with different operators.

Agenda

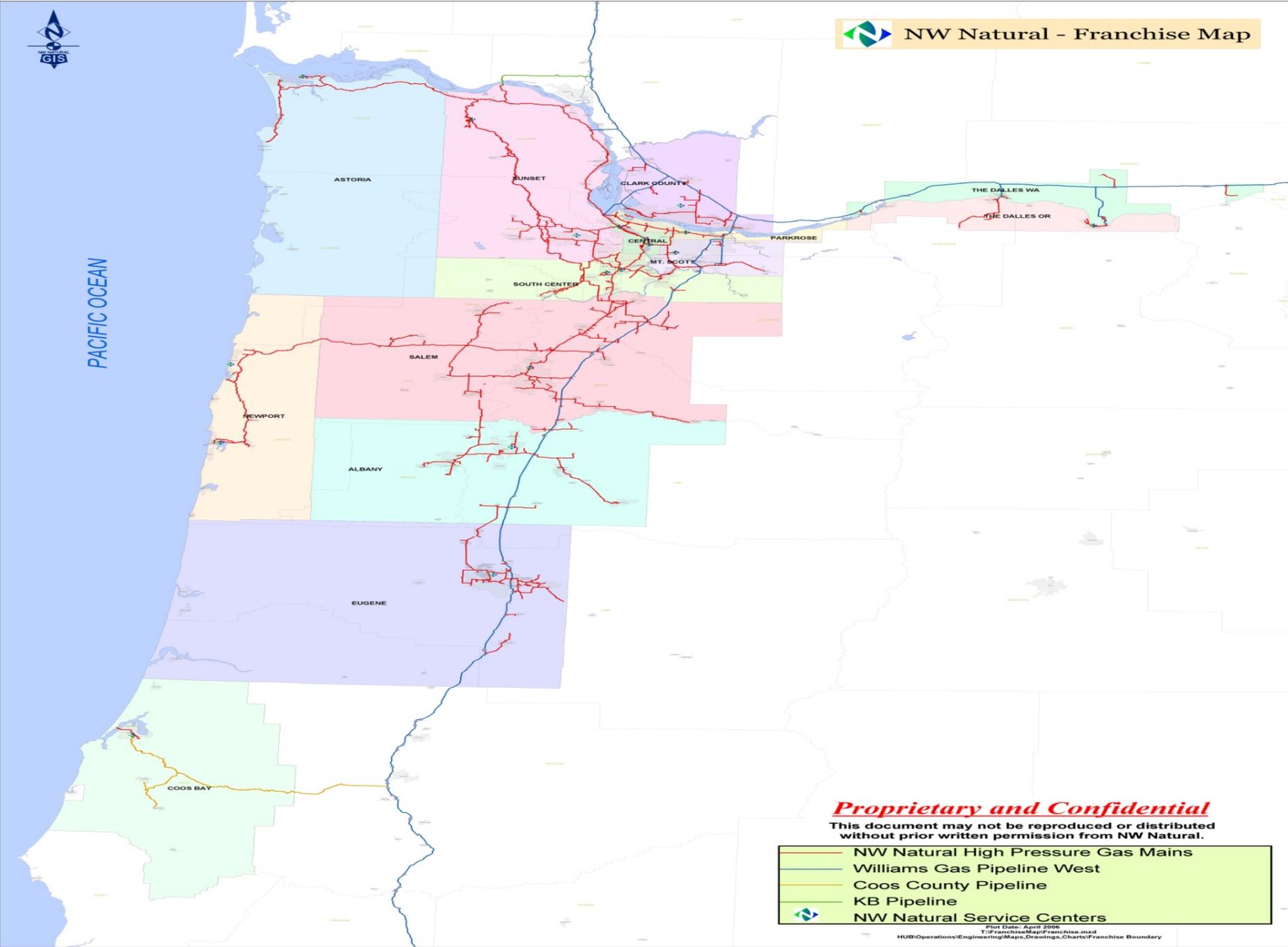
- NW Natural Company Background
- NW Natural's Enhanced Pipeline Safety Programs
- Congressional Mandate for Testing of Untested Lines
- NW Natural's Transmission PL MAOP Record & Integrity Verification
- Issues With Draft IVP Process
- Industry's Commitments For Path Forward
- AGA Study on Testing of In-service Lines
- Summary

NW Natural Company Background

- Company founded in 1859
- Operate in Oregon and SW Washington
- Serve approximately 681,000 residential, commercial and industrial customers
- Designed, constructed, own and operate 634 miles of transmission main, 13,300 miles of distribution main and 670,000 services



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-  NW Natural High Pressure Gas Mains
-  Williams Gas Pipeline West
-  Coos County Pipeline
-  KB Pipeline
-  NW Natural Service Centers

NW Natural Commitment to PL Safety

- NW Natural is committed to the safe, reliable and cost-effective delivery of natural gas in a manner that recognizes impacts to utility ratepayers
- Since the early 1980s, company has worked closely w/ Oregon Safety Staff to aggressively implement enhanced PL safety programs that have significantly improved the safety of gas infrastructure

NW Natural's Enhanced PL Safety Programs

- Distribution Integrity Management Program-1983
- Cast Iron Replacement Program- 1983 to 2000
- Bare Steel Replacement Program- 2001 to 2021
- Natural Forces (Geo-Hazard) Program- 2001
- Transmission Integrity Management Program- 2002
- System Integrity Program (SIP- Bare Steel Replacement, TIMP & DIMP)- 2009
- Formal DIMP Program- 2009

NW Natural Transmission and Distribution Piping Characteristics

As a direct benefit of NW Natural's Enhanced Pipeline Safety Programs, nearly 100% of NW Natural's underground infrastructure is constructed of modern materials (coated, cathodically protected steel and state-of-art polyethylene plastic)



NW Natural Transmission PL Overview

Transmission Pipelines- Oregon & Washington

- 634 miles
- Sizes- 4"-24"
- Installed 1956 - 2013
- Arc welded construction
- Coated/ cathodically protected steel
- 100% NDT on welds (vs. sampling)
- **100% of transmission lines subjected to post-construction pressure testing**

Pressure Testing

- Subpart J and 192.619 require post-construction pressure testing at (1.1-1.5 x MAOP) to establish MAOP (strength test or leak test)
- *“Pressure testing has long been an industry-accepted method for validating the integrity of pipelines” ASME B31.8S-2004*
- Proven method for providing high level of confidence in MAOP & pipeline integrity

Pipeline Safety, Regulatory Certainty and Job Creation Act of 2011 (1/3/12)

Sec. 23(d) Testing Regulations- Not later than 18 mos. after enactment, the Secretary shall issue regulations for conducting tests to confirm the material strength of previously untested gas transmission lines in HCAs and operating at a pressure $> 30\%$ SMYS. The Secretary shall consider safety testing methodologies, including pressure testing, and other alternative methods, including ILI, determined to be of equal or greater effectiveness.

NW Natural's Transmission Pipeline Record Verification

- NWN initiated aggressive and diligent MAOP record search for all transmission lines. Focused on pressure test records to establish highest confidence in pipeline safety
- All of NWN transmission lines designed, constructed and pressure tested in accordance with ASA B31.1.8 (1956), ASME B31.8 and 49 CFR, Part 192 (1970)
- 100% of transmission lines received post-construction pressure tests w/essentially complete records. Nearly all tested at > 1.25 MAOP, typically at > 1.5 MAOP
- High level of confidence in MAOP & integrity of system

Issues With Proposed IVP Process

- Creates scenario where 100% valid MAOPs, based on PHMSA regulations and ASME B31.8, are invalidated
- Incomplete records for any of steps 2-5 moves pipe into “problem pipe process” that requires cutting coupons from pipe and fittings (or complete removal) and re-establishing the MAOP
- Introduces MCA- Expands Transmission IMP
- High stress lines defined as $\geq 20\%$ SMYS, inconsistent with PHMSA regulations
- Process mixes separate issues and diverts resources away from high value work (e.g. CI replacement)

Industry's Commitments

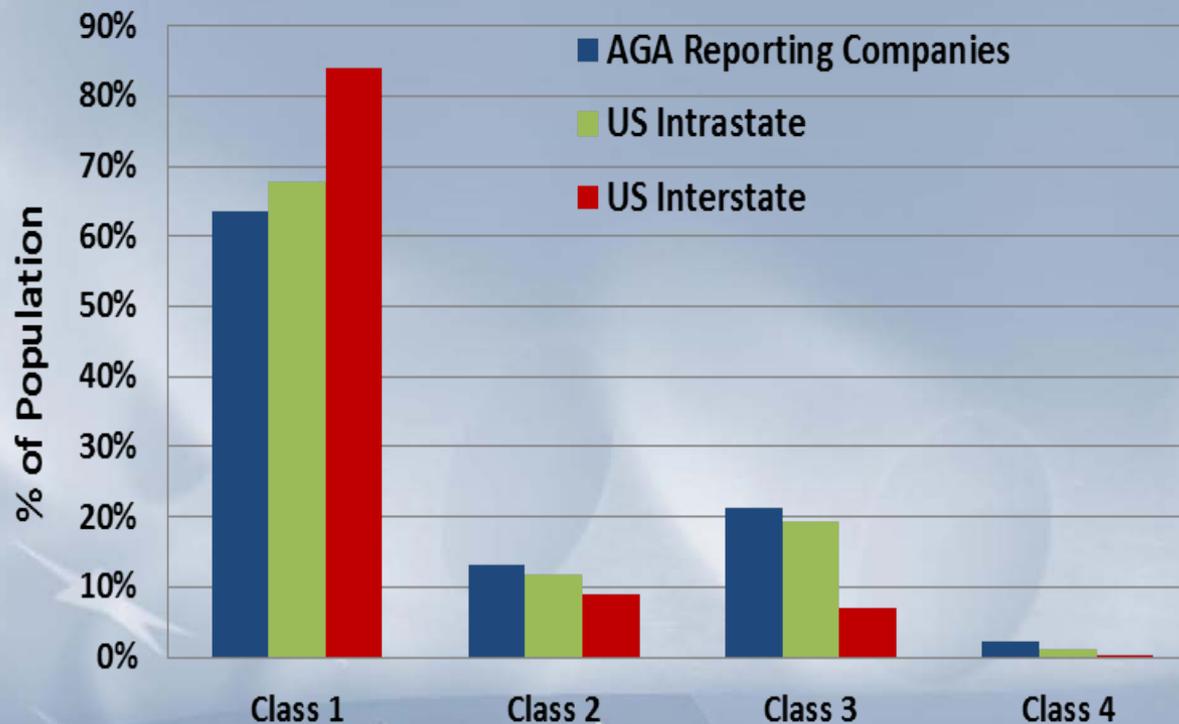
- Operators proactively implementing or pursuing plans to pressure test, in-line inspect, or replace pipelines that have not been pressure tested. Believe priority should be given to pipelines in class 3 and 4 locations and HCAs operating at $> 30\%$ SMYS because it's the right thing to do
- Need to separate processes for MAOP validation and expansion of transmission integrity management (TIMP) to reduce complexity
- AGA is committed to working with all stakeholders to move forward with MAOP verification and expansion of TIMP

AGA STUDY: Evaluation of MAOP Testing for In-Service Transmission Pipelines

- Pressure tests and replacements are proven methods to establish MAOP and pipe integrity
- The AGA study presents the costs to pressure test or replace in-service transmission lines
- AGA members are committed to spend over \$11 billion to implement the Congressional mandate retesting of untested transmission pipelines in HCAs (\$25 billion for all intrastate transmission pipe)

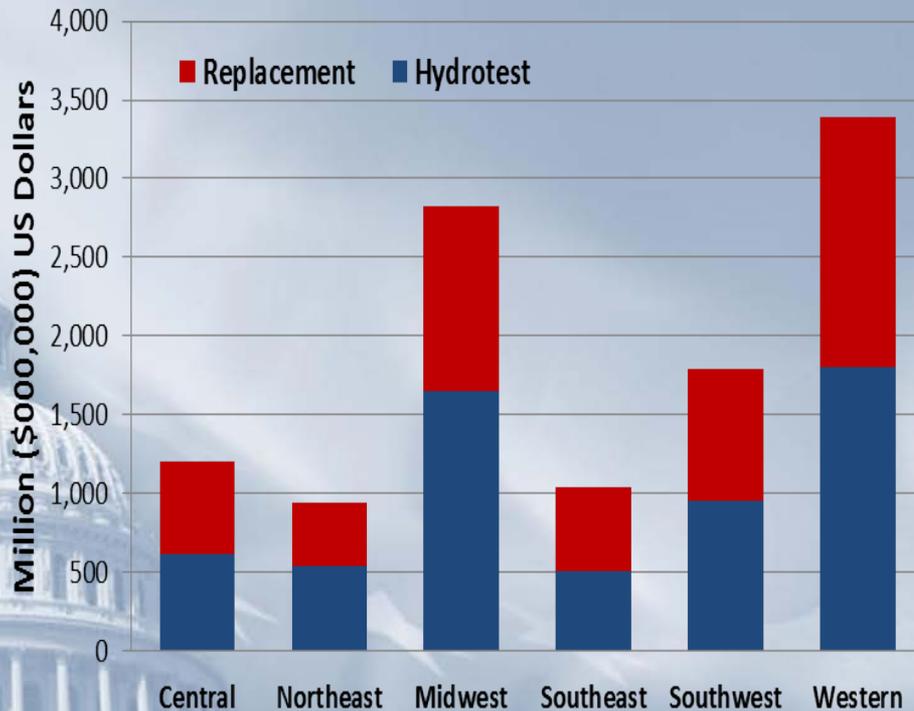
AGA STUDY: Evaluation of MAOP Testing for In-Service Transmission Pipelines

Figure 11: AGA, Intrastate, Interstate Comparison – Class Location



AGA STUDY: Evaluation of MAOP Testing for In-Service Transmission Pipelines

AGA Companies; Class 3, 4, HCA; untested or PT<1.1*MAOP; 42% Replacement



Region	Hydrotest 58% of Pipe (\$000,000)	Replacement 42% of Pipe (\$000,000)	Total Cost (\$000,000)
Central	615	595	1,210
Northeast	543	401	945
Midwest	1,649	1,182	2,831
Southern	515	525	1,040
Southwest	957	837	1,794
Western	1,807	1,581	3,388
Total	6,086	5,121	11,207

Projected Miles of MAOP Confirmation: 3,058

56 Reporting AGA Member Companies – 52,444 Miles

Summary

- NWN and the industry are committed to pipeline safety and are voluntarily implementing a number of initiatives to improve pipeline safety beyond regulation because it's the right thing to do
- Industry is committed to testing of untested transmission lines in class 3 & 4 locations and class 1 & 2 HCAs operating at $> 30\%$ SMYS using pressure testing or ILI
- Believe we need to separate the MAOP verification process from expansion of TIMP. Industry is committed to both
- Processes involving intrastate transmission pipelines must involve state regulators and Commissioners

Thank You!

Questions ?

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