Utilities and Transportation Commission
Pipeline Safety
Operator Annual Review Checklist

A completed **Annual Review form and Cover Letter/Field Report** must be submitted to the Chief Engineer within **30 days** from completion of the inspection.

Inspection Report	
Inspection ID/Docket	7817
Inspector Name & Submit Date	David Cullom 11/15/2019
Chief Eng Name & Review/Date	Joe Subsits 11/19/2019

Operator Information			
Name of Operator:	Northwest Natural	**OP ID #:**	13840
Records Location:	Portland, Oregon		
Inspection Date:	3/13/2019 and 11/6/2019		

Review Summary:

This annual review contains information derived from operator interviews, annual reports, DIMP/TIMP updates, Pipeline Replacement Plans, and specialized program reviews.

HQ Address:	**System/Unit Name & Address:**
220 Northwest 2nd Avenue Portland, Oregon 97209	Headquarters 220 Northwest 2nd Avenue Portland, Oregon 97209
Co. Official: Jon G. Huddleston Phone No.: (503) 721-2522 Fax No.: (503) 220-2584 Emergency Phone No:(503) 226-4211 x4613	Phone No.: Fax No.: Emergency Phone No.:

Persons Interviewed	**Title**	**Phone**
Jaimie Lemke	Code Compliance Specialist	(503) 226-4211 x4316
Margaret Locke	Compliance Engineer	(503) 226-4211 x4306
Samantha Rookstool	Code Compliance Specialist	(503) 226-4211 x4366
Ryan Truair	Interim Sr. Manager of Compliance	(503) 226-4211 x4361

Utilities and Transportation Commission
Pipeline Safety
Operator Annual Review Checklist

System Operations	
Number of reportable safety related conditions last year: 0 per Part F and G of the Annual Report.	**Number of deferred leaks in system:** 1
Number of <u>non-reportable</u> safety related conditions last year 0 per Part F and G of the Annual Report	**Number of excavation damage hits last year:** 97 total 7 "Other"
Miles of transmission pipeline within company (total miles and miles in Class 3 & 4 locations): 8" Transmission is 3.5 per 2018 AR and is in a Class 3 location. This includes .1 mile that is under 20% SMYS	**Miles of main within company (total miles and miles in Class 3 & 4 locations):** 1899.8 miles of main (2018) not spilt out by Class locations 1841.6 miles of main (2017) not spilt out by Class locations
Operating Pressure(s) in psig:	**System MAOP(s) in psig:**
8" Transmission 330 psig (2017) DN	8" Transmission 400 psig (2017) DN
Did not visit this site (2017) DN	Felida Gate 809 psig (2017) DN
Did not visit this site (2015) DR	N Vancouver Gate (Williams provides pressure regulation) Inlet 960 outlet 255
610 Inlet/218 outlet (2015) DR	5207 NW McCann Inlet 809 outlet 250 (2015) DR
607 Inlet/510 outlet; 607 Inlet /490 outlet; 510 inlet /227 outlet (2015) DR	W. Vancouver Gate Inlet 809 outlet 250 (2015) DR
Did not visit this site (2015) DR	Camas Gate Inlet 400 outlet 60 (2015) DR
Did not visit this site (2015) DR	Washougal Gate Inlet 250 outlet 40 (2015) DR
Did not visit this site (2015) DR	NE Union Rd @179th St Inlet 960 outlet 250 (2015) DR
Did not visit this site (2015) DR	Battleground Gate Inlet 250 outlet 60 (2015) DR
Did not visit this site (2015) DR	Ridgefield Gate Inlet 809 outlet 250 (2015) DR
Did not visit this site (2015) DR	NW Pacific Hwy & 995 E. Wellman Rd Inlet 960 outlet 60 (2015) DR
North Bonneville 97 (2014) DC	North Bonneville 150 (2014) DC
Carson 142 (2014) DC	Carson 150 (2014) DC3
White Salmon (White Salmon and Bingen run together.)148 (2014) DC	White Salmon (White Salmon and Bingen run together.) 160 (2014) DC
Klickitat 80 (2014) DC	Klickitat 500 (2014) DC
Dallesport 160 (2014) DC	Dallesport 250 (2014) DC
John Day On Nitrogen – idle (2014) DC	John Day On Nitrogen – idle (2014) DC
Does the operator have any transmission pipelines?	Yes
Compressor stations? Use Attachment 1.	No

Pipe Specifications:			
Year Installed (Range)	Distribution 1950-present Transmission 1950- 1959 8"	**Pipe Diameters (Range)**	Distribution ½"-12" Transmission 8"
Material Type	PE and Steel	**Line Pipe Specification Used**	API5L and ASTM D2513

Utilities and Transportation Commission
Pipeline Safety
Operator Annual Review Checklist

Mileage	8" Transmission is 3.5 miles per the 2018 AR 3.4 miles reported in 2017. Part (PT and ILI info) has 3.6 miles listed. There is a difference of .1 mile in the 2018 report.	**SMYS %**	8" Transmission is Greater than or equal to 20% SMYS but less than 30% SMYS.

	REVIEW QUESTIONS	S/Yes	U/No	N/A
1.	Was the Annual Report reviewed for accuracy and trends? If any trends discovered, please describe: **Items noted were:** **Annual Report Excavation Damage Cause:** **Locating practices not Sufficient: There were 15 reported by NWN on the 2017 Annual Report. It went down to 2 in 2018. This appears to be a favorable trend, but many factors can influence this outcome.**	X		
2.	For transmission operators, has the operator submitted information to the NPMS database, along with changes made after the original submission? **Additionally, to meet the UTC requirements under RCW 81.88.080 The operator has this procedure in their manual:** **"In January of each year, provide accurate maps of pipelines that are operating over two hundred fifty pounds per square inch gauge to the WUTC. The WUTC needs to receive notification even if changes to the required pipeline facilities do not occur."** **Checking with Commission GIS staff earlier in 2019, NWN has provided sufficient updates to our GIS as required for this cycle.**	X		
3.	Were there federally reportable incidents during the previous year? 0	X		

Utilities and Transportation Commission
Pipeline Safety
Operator Annual Review Checklist

4.	Were Incident reports reviewed for accuracy and trends? If any trends discovered please describe: **NWN has 15 2019 incident notifications. No Federal reportable incidents for the operator in 2019.** **1e - unscheduled interruption of 25 or more 2a - blowing gas > 2 hours 2b - high pressure, transmission** **1e - unscheduled interruption of 25 or more** **1c - evacuation of building or HCA structure or area** **1c - evacuation of building or HCA structure or area** **1c - evacuation of building or HCA structure or area** **2a - blowing gas > 2 hours** **2a - blowing gas > 2 hours** **1c - evacuation of building or HCA structure or area** **1c - evacuation of building or HCA structure or area** **2a - blowing gas > 2 hours** **2a - blowing gas > 2 hours** **1c - evacuation of building or HCA structure or area 2a - blowing gas > 2 hours** **1c - evacuation of building or HCA structure or area** **1c - evacuation of building or HCA structure or area** **1c - evacuation of building or HCA structure or area** **The incidents are primarily caused by 3rd party damages. There were no apparent trends associated with, for example, operator error, corrosion, or material failure.**	X		
5.	Were there reportable or unreportable safety related conditions during the previous year? If yes please describe. **Please refer to Column 1 Row 2 in the header. This is a repeated question.**			X
6.	Were there any abnormal operating conditions (as described in 49 CFR 192.605 (c) or 49 CFR 195.402(d))? If yes please describe. **None per clarifying discussion on 11/6/2019**			X
7	Were there changes to the O&M Manual during the previous year? **The Field Operations Manual changes are very detailed with page and procedure numbers.** **Release March 23, 2018 changes are found in the following subject matter areas:** **Responding to Venting Reliefs** **Installing District Regulators and Reliefs** **Activating District Regulators and Reliefs** **Maintaining District Regulators and Reliefs** **Maintaining Worker Monitor and Monitor Worker Regulators** **Installing Primary Service Regulators** **Activating Primary Service Regulators** **Maintaining Primary Service Regulators** **Deactivating Meters** **Glossary** **Setting Pressure** **Hard Copy Forms** **The Field Operations Manual is now available online at fom.nwnatural.com**	X		

<table>
<tr><td>8</td><td>Are the changes acceptable? Yes</td><td>X</td><td></td><td></td></tr>
<tr><td>9</td><td>Is the O&M Manual up to date? Yes, and changes are communicated through Management of Change (MOC) for TIMP, DIMP, and O&M plan and procedure changes.

“NW Natural uses existing company change processes to manage change in the organization (i.e., PRISM, Standard Practice, Project Systems [SAP Project controls]…). Change for the purpose of MOC is generally defined as a deviation from applicable and current Standard Practices, Engineering or Material Specifications, standard operating procedures, or equivalent.” TIMP Rev 19 3/29/2019

Additionally, for internal communication, “NW Natural communicates changes to each covered pipeline segment and to the integrity management plan to affected parties by memos, “HUB” intranet updates, meetings, refresher training or by other means.” TIMP Rev 19 3/29/2019</td><td>X</td><td></td><td></td></tr>
<tr><td>10</td><td>Were emergency plans changed during the previous year?

Below is the plan revision log from NWN’s EP. It was reviewed but there were no major changes.
<table>
<tr><th>Date</th><th>Section/Pages</th><th>Rev</th><th>Primary Change</th><th>Approved</th></tr>
<tr><td>August 2017</td><td>Full Plan</td><td>2016-00</td><td>Comprehensive update of plan, including reorganization of</td><td>T. Felix</td></tr>
<tr><td>August 2018</td><td>Full Plan</td><td>2018-01</td><td>Comprehensive review of Base Plan, Annexes and Tabs.</td><td>T. Felix</td></tr>
</table></td><td></td><td></td><td>X</td></tr>
<tr><td>11</td><td>Were the changes satisfactory? NWN performed a plan review - there were no major changes.</td><td></td><td></td><td>X</td></tr>
<tr><td>12</td><td>Were there changes to the Integrity management program (TIMP and DIMP for LDC’s)?

TIMP Change Log – This is contained in Appendix M – outside of the submitted TIMP plan.

<u>TIMP Changes</u>
<table>
<tr><th>Date</th><th>Section</th><th>Rev</th><th>Primary Change</th><th>Approved</th></tr>
<tr><td>4-2-2019</td><td>All Sections</td><td>Rev 19</td><td>Changed plan review dates and footers to reflect 2019 annual review. To include page numbering.</td><td>CAW</td></tr>
<tr><td></td><td>Cover</td><td></td><td>Changed cover date to reflect new year</td><td>CAW</td></tr>
<tr><td></td><td>Introduction</td><td></td><td>Changed TIMP Organization Chart to reflect personnel changes</td><td>CAW</td></tr>
<tr><td></td><td>Introduction</td><td></td><td>Updated references to latest ASME and NACE standards.</td><td>SRL</td></tr>
</table></td><td>X</td><td></td><td></td></tr>
</table>

	Section 3.1		Added "Seismic or Landslide Activity" and "Buildovers" to table 3-1	SRL
	Section 4.2.4		Noted that NW Natural does not group pipelines from different states into different regions.	SRL
	Section 4.3		Noted that 3 indirect inspections are done for new pipelines.	SRL
	Section 4.4.1		Added Table 4-3b – Severity Classification Matrix from NACE	SRL

DIMP Changes

The threat ranks in the 2017 and 2018 plans changed. The 2018 and 2019 plans have the same threat ranks.

2017

- **Corrosion (5)**
- **Natural Forces (7)**
- **Excavation Damage (1)**
- **Other Outside Force (8)**
- **Material, Weld or Joint Failure (2)**
- **Equipment Failure (3)**
- **Incorrect Operation (6)**
- **Other concerns that could threaten the integrity of the gas distribution pipeline. (4)**

2018

- **Corrosion (4)**
- **Natural Forces (6)**
- **Excavation Damage (1)**
- **Other Outside Force (8)**
- **Material, Weld or Joint Failure (2)**
- **Equipment Failure (7)**
- **Incorrect Operation (5)**
- **Other concerns that could threaten the integrity of the gas distribution pipeline. (3)**

2018 Rev 9 DIMP changes are detailed below. The 2019 Rev 10 DIMP plan did not contain a change log.

Date	Section	Rev	Primary Change	Approved
4/4/2018	Page 1 (cover)	9	Changed Date	CAW
4/4/2018	Page 12 Table	9	Formatted and updated ORG.	CAW
4/4/2018	Page 27	9	Re-ordered Risk	CAW
4/4/2018	Page 101	9	Entered System MAOP DIMP 57-60	CAW

	4/4/2018	Charts in back	9	added 2017 data	CAW		
	4/4/2018	Bottom of pages	9	updated REV and Date	CAW		

13 Is the integrity management program up to date? What are the results of the operators program review (effectiveness evaluation) (DIMP every 5 years)? X

NWN documents the effectiveness review in Appendix E of the DIMP with charts and or data and performs this each year. Damages per 1000 locates is down from 3.7% in 2017 to 3.3% in 2018. Hazardous leaks repaired by material is only down by 1 from 2017 to 2018 for polyethylene pipe.

14 Are the changes acceptable? **Yes, NWN reordered some risk ranking and data from the 2019 Annual Report received in 2020 will continue to analyze more information with the model as trends develop.** X

15 Is appropriate assessment/ repair work conducted during the past year? (monitor progress of IMP activities) **Dennis Ritter performed a TIMP inspection in 2018. NWN uses ECDA as its assessment method for the two HCAs as identified in the table below.** X

HCA	Location	Reason	Mileage	HCA Verified
1	Lacamas Heights Elem. Sch.	Identified sites and School	0.9	YES -Validated 2016-09-27
2	Lacamas Lake Area	Identified Sites	0.6	YES - Validated 2016-09-27

There were no reportable repairs since the last assessment date.

HCA	Tool(s), or assessment method(s)	Assessment review results	Prior Assessment date	Assessment date	Next Assessment date
1	ECDA	No Reportable Repairs	6/11/2011	9/10/2016	2023
2	ECDA	No Reportable Repairs	6/11/2011	9/10/2016	2023

16 What assessment work is planned for the upcoming year? **No work is occurring on the Camas P-04 line for 2019** X

17 Has appropriate DIMP remediation work occurred during the past year? (monitor progress of DIMP activities) **NWN's DIMP program and NWN's Pipeline Replacement Plan (PRP) are closely related. The PRP and DIMP both indicate that the need for system replacement due to cast iron line pipe, bare steel line pipe, Aldyl-A/Aldyl-HD, corrosion, etc. does not presently exist. Celcon caps are being replaced as they are found but NWN considers the caps a lower threat. As such, DIMP pipeline system remediation work based on material type is not occurring.** X

18 What DIMP remediation work is anticipated for upcoming year? **There is not significant DIMP remediation work occurring.** X

AS NWN's PRP states:

"The single largest threat to NW Natural's facilities is third party damage. NW Natural maintains a robust damage prevention program in the State of Washington to communicate, cooperate, and coordinate with government agencies, municipalities,

	utilities, contractors, customers, the general public, and other stakeholders to reduce the number to third party damages." **NWN is also working to increase the effectiveness of its Geographic Information System (GIS) which is key to analyzing multiple variables for continued analysis.**			
19	Were there changes to the Operator Qualification program? If yes, please describe. **Please reference the 2019 OQ program inspection I performed in April 2019 for more detail.**	X		
20	Is the Operator Qualification program up to date? **Yes, Please reference the 2019 OQ program inspection I performed in April 2019 for more detail.**	X		
21	Are plan updates satisfactory? **Please reference the 2019 OQ program inspection I performed in April 2019 for more detail.**	X		
22	Are personnel performing covered tasks (including contractors) properly qualified and requalified at intervals determined in the operators plan? **Yes - Please reference the 2019 OQ program inspection I performed in April 2019 for more detail.**	X		
23	Were there changes to the public awareness program? **Yes - There were section headings added in the 2019 plan. Bill messages and bill envelope messages were removed from the 2019 plan.**	X		
24	Is the public awareness program up to date? **The PA program revision we currently have on file was submitted 4-15-2019. Mentioned in NWN's PA program plan is the cross reference to SP 619:** **"NW Natural has a written company policy, Standard Practice 619, "Customer and Public Education, "that emphasizes the importance of public awareness. This policy is available to employees through the Company Intranet. This policy is reviewed at least once every calendar year for compliance with49 CFR Part 192."**	X		
24	Are changes to the public awareness program satisfactory? **I did not note any major changes to NWNs plan. The matrix on pg.40 of the plan demonstrates for each month what stakeholders were contacted and by what messaging method.**	X		
26	Is the following information on the operator's web page? (Not a regulatory question) • Pipeline purpose and reliability https://www.nwnatural.com/Business/BenefitsOfGas • Damage Prevention • https://www.nwnatural.com/Business/Safety • Pipe location information https://www.nwnatural.com/business/safety/pipelinelocationinformation • How to get additional information https://www.nwnatural.com/business/safety/pipelinelocationinformation • National Pipeline Mapping system https://www.nwnatural.com/business/safety/pipelinelocationinformation • On call requirements (On call requirements are under earthquake preparedness) https://www.nwnatural.com/Business/Safety/EarthquakePreparedness • Potential Hazards https://www.nwnatural.com/Business/Safety/SafetyTips	X		

	• Prevention measures https://www.nwnatural.com/Residential/Safety/EarthquakePreparedness • Leak/ damage recognition https://www.nwnatural.com/Residential/Safety/GasLeaks/SmellRottenEggs • ROW encroachment https://www.nwnatural.com/business/safety/pipelinerightofway • Pipeline location information https://www.nwnatural.com/business/safety/pipelinelocationinformation • Integrity management programs https://www.nwnatural.com/Business/Safety/PipelineIntegrityManagementProgram • Emergency preparedness (Earthquake preparedness) https://www.nwnatural.com/Business/Safety/EarthquakePreparedness			
27	Were there changes to the Control Room Management Program? **NWN's annual review was performed by Jeremy Coleman on 12/07/2018 (Manager, Gas Control) The version received by the UTC on 4/15/19 is Revision 6.0, 12/20/2017. There were no changes .**	X		
28	Is the control room management program up to date? **The last CRM inspection performed by the UTC was by Lex Vinsel in 04/27/2016. NWN's annual review was performed by Jeremy Coleman on 12/07/2018 (Manager, Gas Control)**	X		
29	Are the control room management program changes satisfactory? **No changes noted since the 2016 UTC inspection.**			X
30	Are inspection units broken down appropriately? Do you recommend any changes to inspection units in terms of size? **No changes in inspection unit size recommended.**	X		
31	Were there any flow reversals, product changes, or conversions to service since the last review? **Flow reversals or conversion to service have not occurred on NWN's Camas Transmission line**			X
32	If yes, is the operator taking appropriate actions in accordance with ADB-2014-04? **This advisory bulletin is from two recent pipeline failures occurred on hazardous liquid pipelines where the flow had been reversed. (From the Federal Register) The Tesoro High Plains Pipeline rupture was discovered on September 29, 2013, after leaking an estimated 20,000 barrels of crude oil in a North Dakota field. The location of pressure and flow monitoring equipment had not been changed to account for the reversed flow. The Pegasus Pipeline failed on March 29, 2013, releasing about 5,000 barrels of crude oil into a neighborhood in Faulkner County, Arkansas.** *****Flow reversals or conversion to service have not occurred on NWN's Camas Transmission line*****			X

PHMSA ADVISORY BULLETINS: LINK