Distribution Integrity Management Program (DIMP)

Inspection Form

For Operators of Gas Distribution Systems

For Requirements of 192.1005 – 192.1011

Version 9/23/2011

This inspection form is for the evaluation of a gas distribution integrity management program for all operators of gas distribution except operators of master meter or small liquefied petroleum gas (LPG) systems. The form contains questions related to specific regulatory requirements and questions which are strictly for informational purposes. The questions which are related to specific regulatory requirements are preceded by the rule section number which prescribes the applicable code citation for the question. The cell preceding informational questions states "information only".

S/Y stands for "Satisfactory" or "Yes", U/N stands for "Unsatisfactory" or "No", N/A stands for "Not Applicable", and N/C stands for "Not Checked". If an item is marked U/N, N/A, or N/C, an explanation must be included in the comments section.

Some inspection questions contain examples to further clarify the intent of the question. For example, question 5 asks, "Do the written procedures require the consideration of information gained from past design, operations, and maintenance (e.g. O&M activities, field surveys, One-Call system information, excavation damage, etc.)?" The list following "e.g." is not meant to be all inclusive or that all the items are required. Some of the items may not be applicable to an individual operator's system.

Some States require the operator to notify and send the State regulatory authority any changes to operator's plans and procedures. Operators in these states should also notify and send revisions of the DIMP plan to the State regulatory authority.

Operator Contact and System Information — Operator Information:

Name of Operator (legal entity):	Northwest Natural Gas Co.
PHMSA Operator ID(s) Included in this Inspection:	13840
Type of Operator:	☒ Investor Owned ☐ Municipal ☐ Private ☐ LPG ☐ Other (e.g. cooperative)
States(s) included in this inspection:	Washington and Oregon
Headquarters Address:	220 NW Second Avenue Portland, Oregon 97209
Company Contact:	Dakota Duncan, Pipeline Safety Compliance Specialist
Phone Number:	(503) 226-4211 ext: 4389
Email:	dakota.duncan@nwnatural.com
Date(s) of Inspection:	October 22-24, 2012
Date of Report:	November 2, 2012

Persons Interviewed:

Persons Interviewed *(List the DIMP Administrator as the first contact)*	**Title**	**Phone Number** **All numbers are: Phone (503) 226-4211**	Email = @nwnatural.com
Burt, Samantha T	Compliance Specialist 3	4366	s7b
Cathcart, Peter B	Engineer 1	4429	p1c
Duncan, Dakota M	Compliance Specialist 3	4389	dmd
Karney, Joseph S	Engineering Supervisor	4423	jsk
Kuehnel, Andrea F	Engineer 3	4376	afk
Lundgren, Ronald Scott	Engineer 3	4355	srl
Schroeder, Kristin E	Temporary Assignment	4383	k4s
Scott, Andrea L	Compliance	4534	a3s

	specialist 3		
Shampine, Kerry F	Engineering Manager	4340	kfs
Truair, Ryan R	Engineering Supervisor	4361	rrt
VanGordon, Ryan S	Engineer 2	4333	rsv
Wiles, Chris A	Distrbtn/Trans Specialist 2	4360	caw

State or Federal Representatives:

Inspector Name & Agency	Phone Number	Email
Scott Rukke, WA Utilities and Transportation Commission	360-664-1241	srukke@utc.wa.gov
Kevin Hennessy, Oregon PUC		Al.lau@state.or.us
Al Lau, Oregon PUC		kevin.hennessy@state.or.us
Inspector Comments (optional):		

192.1005 What must a gas distribution operator do to implement this subpart?

Question No.	Rule §192	Description	S/Y	U/N	N/A	N/C
1	.1005	Was the plan written and implemented per the requirement of 192.1005 by 08/02/2011? OR For a gas system put into service or acquired after 08/02/2011, was a plan written and implemented prior to beginning of operation?	☒	☐	☐	☐
Inspector's Comments		Good presentation. Good program details.				
2	Information Only	Were commercially available product(s)/templates used in the development of the operator's written integrity management plan?	☒	☐	☐	☐
		Fully ☐ Partially ☒ Not at all ☐				
		Commercial product(s)/templates name if used: ESRI				
Inspector's Comments		ESRI model builder was used. Section 7				
3	Information Only	Does the operator's plan assign responsibility, including titles and positions, of those accountable for developing and implementing required actions?	☒	☐	☐	☐
Inspector's Comments		Section 3.1				
4	.1007(a)(1)	Do the written procedures identify or reference the appropriate sources used to determine the following characteristics necessary to assess the threats and risks to the integrity of the pipeline: • Design (e.g. type of construction, inserted pipe, rehabilitated pipe method, materials, sizes, dates of installation, mains and services, etc.)? • Operating Conditions (e.g. pressure, gas quality, etc.)? • Operating Environmental Factors (e.g. corrosive soil conditions, frost heave, land subsidence, landslides, washouts, snow damage, external heat sources, business districts, wall-to-wall paving, population density, difficult to evacuate facilities, valve placement, etc.)?	☒ ☒ ☒	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐

Inspector's Comments	Section 5, **6.3.4 Natural Forces Discussed But Not Considered a Threat** **Frost line is not a threat within the NW Natural system.** **6.7.3 Mechanical Couplings** **1. Pipe may pull out from compression couplings due to pullout forces that could include cyclic fatigue from seasonal temperature changes (e.g. frost heave),** **Leaks resulting from the pullout of a mechanical fitting due to the repeated action of freezing are classified as leaks due to Natural Forces. SEE ABOVE** **The above procedures are contradictory and NWN agreed to clarify the language regarding frost heave which is not considered a threat.**

192.1007(a) Knowledge of the System

Question No.	Rule §192	Description	S/Y	U/N	N/A	N/C
5	.1007(a)(2)	Do the written procedures require the consideration of information gained from past design, operations, and maintenance (e.g. O&M activities, field surveys, One-Call system information, excavation damage, etc.)?	☒	☐	☐	☐
Inspector's Comments		5.0				
6	Information Only	Do the written procedures indicate if the information was obtained from electronic records, paper records, or subject matter expert knowledge (select all which apply)?				
		Electronic ☒ / Paper X / SME ☒				
Inspector's Comments		Throughout the plan, mentioned in section 5.				
7	.1007(a)(3)	Does the plan contain written procedures to identify additional information that is needed to fill gaps due to missing, inaccurate, or incomplete records?	☒	☐	☐	☐
Inspector's Comments		Figure 5.0. Appendix A-3, pg 66 – 79.				
8	.1007(a)(3)	Does the plan list the additional information needed to fill gaps due to missing, inaccurate, or incomplete records?	☒	☐	☐	☐
Inspector's Comments		Page 25. Section 5.2 states that there is no missing information and that no list is required. .				
9	.1007(a)(3)	Do the written procedures specify the means to collect the additional information needed to fill gaps due to missing, inaccurate, or incomplete records (e.g., O&M activities, field surveys, One-Call System, etc.)?	☒	☐	☐	☐
Inspector's Comments		Section 5.2				
10	.1007(a)(5)	Do the written procedures require the capture and retention of data on any new pipeline installed?	☒	☐	☐	☐
Inspector's Comments		5.4 pg 26 and appendix A-2 pg 75				
11	.1007(a)(5)	Does the data required for capture and retention include, at a minimum, the location where the new pipeline is installed and the material from which it is constructed?	☒	☐	☐	☐
Inspector's Comments		NWN will add language defining what material means per PHMSA guidelines. See page 75. Currently material is just PE or Steel. PHMSA guidance states it should include type of PE/Steel, manufacturer, coating etc.				
12	.1007(a)	Does the documentation provided by the operator demonstrate implementation of the element "Knowledge of the System"?	☒	☐	☐	☐
Inspector's Comments		Section 5				
13	.1007(a)	Has the operator demonstrated an understanding of its system?	☒	☐	☐	☐

Inspector's Comments	

192.1007(b) Identify Threats

Question No.	Rule §192	Description	S/Y	U/N	N/A	N/C
14	.1007(b)	In identifying threats, do the written procedures include consideration of the following categories of threats to each gas distribution pipeline? • Corrosion • Natural Forces • Excavation Damage • Other Outside Force Damage • Material or Welds • Equipment Failure • Incorrect Operation • Other Concerns	☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
Inspector's Comments		A cause classification procedure was not found in NWN's standards manual. WA State's WAC requires a procedure. NWN will make sure that there is a procedure or cross reference in their O&M manual referencing proper cause classification. Section 6				
15	.1007(b)	Did the operator consider the information that was reasonably available to identify existing and potential threats?	☒	☐	☐	☐
Inspector's Comments		Pg 27 section 6.0.				
16	Information Only	Does the plan subdivide the primary threats into subcategories to identify existing and potential threats?	☒	☐	☐	☐
Inspector's Comments		Section 6.2				
17	.1007(b)	In identifying threats did the information considered include any of the following? • Incident and leak history ☒ yes ☐ no • Corrosion control records ☒ yes ☐ no • Continuing surveillance records ☒ yes ☐ no • Patrolling records ☒ yes ☐ no • Maintenance history ☒ yes ☐ no • Excavation damage experience ☒ yes ☐ no • Other – Describe _____ ☒ yes ☐ no	☒	☐	☐	☐
Inspector's Comments		Section 6.1 There are other references to other throughout the program.				
18	Information Only	Does the plan categorize primary threats as either "system-wide" or "localized"?				
		All System-wide ☐ / All Localized ☐ / Some of Both ☒ / Not Identified ☐				
Inspector's Comments		Localized example Natural forces, system wide example bare steel.				
19	Information Only	Do the written procedures consider, in addition to the operator's own information, data from external sources (e.g. trade associations, government agencies, or other system operators, etc.) to assist in identifying potential threats?	☒	☐	☐	☐

Inspector's Comments		Section 6.13.				
20	.1007(b)	Does the documentation provided by the operator demonstrate implementation of the element "Identify Threats"?	☒	☐	☐	☐
Inspector's Comments		6.0				

192.1007(c) Evaluate and Rank Risk

Question No.	Rule §192	Description	S/Y	U/N	N/A	N/C
21	Information Only	Was the risk evaluation developed fully or in part using a commercially available tool?				
		Fully ☒ Partially ☐ Not at all ☐				
		Commercial tool name if used: ESRI -				
Inspector's Comments		Section 7.1.1				
22	.1007 (c)	Do the written procedures contain the method used to determine the relative importance of each threat and estimate and rank the risks posed? Briefly describe the method.	☒	☐	☐	☐
Inspector's Comments		Section 7.3 – total relative risk + likelihood times consequence.				

		For questions 23 – 25, do the written procedures to evaluate and rank risk consider:	Corrosion	Natural Forces	Excavation Damage	Other outside Force Damage	Material or Welds	Equipment Failure	Incorrect Operation	Other Concerns
23	.1007 (c)	Each applicable current and potential threat?	S	S	S	S	S	S	S	S
24		The likelihood of failure associated with each threat?	S	S	S	S	S	S	S	S
25		The potential consequence of such a failure?	S	S	S	S	S	S	S	S
		Mark each box above with one of the following: S for "Satisfactory", U for "Unsatisfactory", N/A for "Not Applicable" and N/C for "Not Checked". Appendix C-2								
Inspector's Comments		Appendix C and section 6								

26	.1007 (c)	If subdivision of system occurs, does the plan subdivide the system into regions with similar characteristics and for which similar actions are likely to be effective in reducing risk? Briefly describe the approach. Systems with common traits are grouped together.	☒	☐	☐	☐
Inspector's Comments		Section 7.1				
27	Information Only	Is the method used to evaluate and rank risks reasonable?	☒	☐	☐	☐

Inspector's Comments		Yes.				
28	.1007(c)	Are the results of the risk ranking supported by the risk evaluation model/method?	☒	☐	☐	☐
Inspector's Comments		7.4 validation section.				
29	.1007(c)	Did the operator validate the results generated by the risk evaluation model/method? Briefly describe.	☒	☐	☐	☐
Inspector's Comments		Section 7.4 The validation was appropriate but the written procedures were vague. NWN agreed to write the procedure out in more detail and they will add language on the validation process.				
30	.1007(c)	Does the documentation provided by the operator demonstrate implementation of the element "Evaluate and Rank Risk"?	☒	☐	☐	☐
Inspector's Comments		Section 7.4 See above.				

192.1007 (d) Identify and implement measures to address risks

Question No.	Rule §192	Description	S/Y	U/N	N/A	N/C
31	.1007 (d)	Does the plan include procedures to identify when measures, beyond minimum code requirements specified outside of Part 192 Subpart P, are required to reduce risk?	☒	☐	☐	☐
Inspector's Comments		Chaper 6 Figure 8.0 Table D-1 A/A actions				
32	.1007 (d)	When measures, beyond minimum code requirements specified outside of Part 192 Subpart P, are required to reduce risk, does the plan identify the measures selected, how they will be implemented, and the risks they are addressing?	☒	☐	☐	☐
Inspector's Comments		Table D-1 A/A actions				
33	.1007 (d)	Complete the table at the end of this form: *Threat Addressed, Measure to Reduce Risk, and Performance Measure*				
Inspector's Comments		Section 6. Table D-1				
34	.1007 (d)	Does the plan include an effective leak management program (unless all leaks are repaired when found) 1. Locate the leaks in the distribution system; ☒ 2. Evaluate the actual or potential hazards associated with these leaks; ☒ 3. Act appropriately to mitigate these hazards; ☒ 4. Keep records; and ☒ 5. Self-assess to determine if additional actions are necessary to keep people and property safe. ☒	☒	☐	☐	☐

Inspector's Comments		Section 8.2 Page 49 references the OQ program				
35	.1007(d)	Does the documentation provided by the operator demonstrate implementation of the measures, required by Part 192 Subpart P, to reduce risk?	☒	☐	☐	☐
Inspector's Comments		Section 8.1.1 to 8.8 and appendix B-1				

192.1007(e) Measure performance, monitor results, and evaluate effectiveness

Question No.	Rule §192	Description	S/Y	U/N	N/A	N/C

	.1007(e)	i) Number of hazardous leaks either eliminated or repaired, categorized by cause?	ii) Number of excavation damages?	iii) Number of excavation tickets received by gas department ?	iv) Total number of leaks either eliminated or repaired categorized by cause?	v) Number of hazardous leaks either eliminated or repaired, categorized by material?	vi) Any additional measures the operator determines are needed to evaluate the effectiveness of the IM program in controlling each identified threat?
36	Does the plan contain written procedures for how the operator established a baseline for each performance measure?	S	S	S	S	S	S
37	Does the plan establish a baseline for each performance measure? **Appendix E-1**	S	S	S	S	S	S
38	Does the operator have written procedures to collect the data for each performance measure? **Section 9** **SP #003 references the annual report procedure.**	S	S	S	S	S	S
39	Do the written procedures require the operator to monitor each performance measure? **Section 9.10**	S	S	S	S	S	S

Mark each box above with one of the following: S for "Satisfactory", U for "Unsatisfactory", N/A for "Not Applicable" and N/C for "Not Checked".

Inspector's Comments		
40	.1007 (e)	When measures are required to reduce risk, do the written procedures provide how their effectiveness will be measured? ☒ ☐ ☐ ☐
Inspector's Comments		**Section 9.10 and section 9.9 Appendix E-1 pg 109.**

41	Information Only	Can the performance measures identified by the operator in the plan be counted, monitored, and supported?	☒	☐	☐	☐
Inspector's Comments		Good				
42	.1007(e)	Does the documentation provided by the operator demonstrate implementation of the element "Measure Performance, Monitor Results, and Evaluate Effectiveness"?	☒	☐	☐	☐
Inspector's Comments		Good				

192.1007(f)Periodic Evaluation and Improvement

Question No.	Rule §192	Description	S/Y	U/N	N/A	N/C
43	.1007 (f)	Do the written procedures for periodic review include: a. Frequency of review based on the complexity of the system and changes in factors affecting the risk of failure, not to exceed 5 years? b. Verification of general information (e.g. contact information, form names, action schedules, etc.)? c. Incorporate new system information? d. Re-evaluation of threats and risk? e. Review the frequency of the measures to reduce risk? f. Review the effectiveness of the measures to reduce risk? g. Modify the measures to reduce risk and refine/improve as needed (i.e. add new, modify existing, or eliminate if no longer needed)? h. Review performance measures, their effectiveness, and if they are not appropriate, refine/improve them?	☒ ☒ ☒ ☒ ☒ ☒ ☒ ☒	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
Inspector's Comments		a. - 10.1 pg 57 b. – 10.1 c. – 10.1 d. -10.1 and section 9 e. – 10.1 and section 9 f. – 10.1 and section 9 g. 10.1 pg 58 h. 10.1 pg 59 and section 9				
44	Information Only	Does the plan contain a process for informing the appropriate operating personnel of an update to the plan?	☒	☐	☐	☐
Inspector's Comments		**Pg 59 10.0**				
45	Information Only	Does the plan contain a process for informing the appropriate regulatory agency of a significant update to the plan?	☒	☐	☐	☐
Inspector's Comments		**Pg 60 and section 11.1 pg 61.**				
46	.1007(f)	Does the documentation provided by the operator demonstrate implementation of the element "Periodic Evaluation and Improvement"?	☒	☐	☐	☐
Inspector Comments		Figure 10.0 demonstrates this requirement. Too early in the program to have much documentation.				

192.1007(g) Report results

Question No.	Rule §192	Description	S/Y	U/N	N/A	N/C
47	.1007(g)	Does the plan contain or reference procedures for reporting, on an annual basis, the four measures listed in 192.1007(e)(1)(i) through (e)(1)(iv) to PHMSA as part of the annual report required by § 191.11 and the State regulatory authority?	☒	☐	☐	☐
Inspector's Comments		Pg 61				
48	Information Only	When required by the State, does the plan identify the specific report form, date, and location where it is to be submitted?	☒	☐	☐	☐
Inspector's Comments		Yes				
49	.1007(g)	Has the operator submitted the required reports?	☒	☐	☐	☐
Inspector's Comments		Pg 121				

192.1009 What must an operator report when mechanical fittings fail?

Question No.	Rule §192	Description	S/Y	U/N	N/A	N/C
50	.1009	Does the operator have written procedures to collect the information necessary to comply with the reporting requirements of 192.1009?	☒	☐	☐	☐
Inspector's Comments		Section 11, pg 61.				

192.1011 What records must an operator keep?

Question No.	Rule §192	Description	S/Y	U/N	N/A	N/C
51	.1011	Does the operator have written procedures specifying which records demonstrating compliance with Subpart P will be maintained for at least 10 years?	☒	☐	☐	☐
Inspector's Comments		Section 12 pg 63				
52	.1011	Does the operator have written procedures specifying that copies of superseded integrity management plans will be maintained for at least 10 years?	☒	☐	☐	☐
Inspector's Comments		Yes				
53	.1011	Has the operator maintained the required records?	☒	☐	☐	☐

Inspector's Comments	Yes

Table 1: Threat Addressed, Measure to Reduce Risk, and Performance Measure

For the top five highest ranked risks from the operator's risk ranking list the following:

- Primary threat category (corrosion, natural forces, excavation damage, other outside force damage, material or weld, equipment failure, incorrect operation, and other concerns);
- Threat subcategory (GPTC threat subcategories are acceptable. Try to be specific. Example, failing bonnet bolts of gate valve, manufacturer name, model #);
- Measure to reduce the risk (list the one measure the operator feels is most important to reducing the risk);
- Associated performance measure.

	Primary Threat Category	Threat Subcategory, as appropriate	Measure to Reduce Risk	Performance Measure
1				
2				
3				
4				
5				

Other Inspector Comments	Chapter 6. Data is in D-1