STATE OF WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION
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Sent Via Email and Electronic Return Receipt Mail

Mar. 15, 2018

Grant M. Yoshihara
Vice President of Utility Operations
NW Natural
220 NW Second Ave
Portland, OR 97209

Dear Mr. Yoshihara:

RE: 2018 Natural Gas Transmission Integrity Management Program Inspection
NW Natural – (Insp. No. 7568)

Staff from the Washington Utilities and Transportation Commission (staff) conducted a Transmission Integrity Management Program (TIMP) inspection of NW Natural from Feb. 12-14. This inspection included a procedures and records review.

Our inspection indicates one probable violation as noted in the enclosed report. We also noted two areas of concern, which unless corrected, could potentially lead to future violations of state and/or federal pipeline safety rules.

Your response needed
Please review the attached report and respond in writing by April 17. The response should include how and when you plan to bring the probable violations into full compliance.

What happens after you respond to this letter?
The attached report presents staff's decision on probable violations and does not constitute a finding of violation by the commission at this time.

After you respond in writing to this letter, there are several possible actions the commission, in its discretion, may take with respect to this matter. For example, the commission may:

- Issue an administrative penalty under RCW 81.04.405; or

- Issue a complaint under RCW 81.88.040, seeking monetary penalties, changes in the company's practices, or other relief authorized by law, and justified by the circumstances. Any pipeline company that violates any pipeline safety provision of any commission order, or any rule in this chapter including those rules adopted by reference, or chapter 81.88 RCW is subject to a civil penalty not to exceed two hundred thousand dollars for each violation for each day that the violation persists. The maximum civil penalty for a related series of violations is two million dollars; or
- Consider the matter resolved without further commission action.

We have not yet decided whether to pursue a penalty or complaint in this matter. Should the commission decide to assess a penalty or initiate a complaint, your company will have an opportunity to respond and formally present its position.

If you have any questions or if we may be of any assistance, please contact Dennis Ritter at (360) 664-1159. Please refer to the subject matter described above in any future correspondence pertaining to this inspection.

Sincerely,

Sean C. Mayo
Pipeline Safety Director

Enclosure

cc: JR Gonzalez, Senior Manager, Code Compliance, NWN

UTILITIES AND TRANSPORTATION COMMISSION
2018 Natural Gas Transmission Integrity Management Program Inspection (TIMP)
NW Natural (Insp. No. 7568)

The following probable violation and areas of concern of Title 49 CFR Part 192 were noted as a result of the 2018 inspection of the NW Natural's TIMP. The inspection included a selection of integrity management procedures and records, and select operation and maintenance (O&M) and emergency response records.

PROBABLE VIOLATIONS

1. **IA Question**:
Do records demonstrate that the operator has determined, based on risk, whether automatic shut-off valves or remote control valves should be added to protect high consequence areas? IM.PM.PMMASORCV.R

Code Reference:

49 CFR §192.947 What records must an operator keep?

An operator must maintain, for the useful life of the pipeline, records that demonstrate compliance with the requirements of this subpart. At minimum, an operator must maintain the following records for review during an inspection.

(d) Documents to support any decision, analysis and process developed and used to implement and evaluate each element of the baseline assessment plan and integrity management program. Documents include those developed and used in support of any identification, calculation, amendment, modification, justification, deviation and determination made, and any action taken to implement and evaluate any of the program elements;

49 CFR §192.935 What additional preventive and mitigative measures must an operator take?

(a) General requirements. An operator must take additional measures beyond those already required by Part 192 to prevent a pipeline failure and to mitigate the consequences of a pipeline failure in a high consequence area. An operator must base the additional measures on the threats the operator has identified to each pipeline segment. (See §192.917) An operator must conduct, in accordance with one of the risk assessment approaches in ASME/ANSI B31.8S (incorporated by reference, see §192.7), section 5, a risk analysis of its pipeline to identify additional measures to protect the high consequence area and enhance public safety. Such additional measures include, but are not limited to, installing Automatic Shut-off Valves or Remote Control Valves, installing computerized monitoring and leak detection systems, replacing pipe segments with pipe of heavier wall thickness, providing additional training to personnel on response procedures, conducting drills with local emergency responders and implementing additional inspection and maintenance programs.

(c) Automatic shut-off valves (ASV) or Remote control valves (RCV). If an operator determines, based on a risk analysis, that an ASV or RCV would be an efficient means of adding protection to a high consequence area in the event of a gas release, an operator must install the ASV or RCV. In making that determination, an operator must, at least,

consider the following factors—swiftness of leak detection and pipe shutdown capabilities, the type of gas being transported, operating pressure, the rate of potential release, pipeline profile, the potential for ignition, and location of nearest response personnel.

Finding(s):
Records showing that NWN took additional preventative and mitigative measures were reviewed during the inspection. NWN could not produce a record showing they had completed a risk based analysis to determine if and ASV or RCV would be an efficient means of adding protection to a high consequence area.

AREAS OF CONCERN

1. **IA Question:**
Does the process to evaluate IM program effectiveness include an adequate set of performance metrics to provide meaningful insight into IM program performance? IM.QA.IMPERFMETRIC.P

Code Reference:
§192.945 What methods must an operator use to measure program effectiveness?

(a) General. An operator must include in its integrity management program methods to measure whether the program is effective in assessing and evaluating the integrity of each covered pipeline segment and in protecting the high consequence areas. These measures must include the four overall performance measures specified in ASME/ANSI B31.8S (incorporated by reference, see §192.7 of this part), section 9.4, and the specific measures for each identified threat specified in ASME/ANSI B31.8S, Appendix A. An operator must submit the four overall performance measures as part of the annual report required by §191.17 of this subchapter.

*(b) External Corrosion Direct assessment. In addition to the general requirements for performance measures in paragraph (a) of this section, an operator using direct assessment to assess the external corrosion threat **must** define and monitor measures to determine the effectiveness of the ECDA process. These measures must meet the requirements of §192.925.*

Findings:
Section 9.0 Performance Measures, refers to Table 9-1 Performance Measures for performance measures used for prescriptive programs. NWN also uses ECDA to assess line P04 and subsequently uses additional measures as noted in NACE SP0502 Section 6.7. In reviewing the records showing the results of tracking these measures from 2004 to 2016, it became apparent that most of the measures aren't applicable or don't provide for a determinative measure of effectiveness. For example under ECDA Threat Identification the following measures are identified:

Number of defects for which root cause analysis indicated the ECDA was not suitable SME - No instances of this
Number of indication reclassifications (to increase excavations) required SME - Never reclassified up or down
Number of Immediate ECDA excavations per HCA mile Trans Assessment Overview Sheet*
Number of One Year ECDA excavations per HCA mile Trans Assessment Overview Sheet*

Number of Monitor ECDA excavations per HCA mile Trans Assessment Overview Sheet*
Number of Other ECDA excavations per HCA mile Trans Assessment Overview Sheet*
Number of coating damages revealed by ECDA excavations Trans Assessment Overview Sheet*
Number of anomalies where external corrosion is present, regardless of root cause Trans Assessment Overview Sheet*
Number of non-manufacturing related metal loss damages revealed by ECDA excavations Trans Assessment Overview Sheet*
Number of manufacturing defects revealed by ECDA excavations Trans Assessment Overview Sheet*
Number of dents revealed by ECDA excavations Trans Assessment Overview Sheet*
Number of leaks or ruptures caused by external corrosion

Most of the above measures are prescriptively required and do not apply to P04. NWN should determine other elements which would give a measure of effectiveness of their ECDA program.

2. **IA Questions**:
Do records adequately document cathodic protection monitoring tests have occurred as required? TD.CPMONITOR.TEST.R

Code Reference:

§192.491 Corrosion control records.

(a) Each operator shall maintain records or maps to show the location of cathodically protected piping, cathodic protection facilities, galvanic anodes, and neighboring structures bonded to the cathodic protection system. Records or maps showing a stated number of anodes, installed in a stated manner or spacing, need not show specific distances to each buried anode.

(b) Each record or map required by paragraph (a) of this section must be retained for as long as the pipeline remains in service.

(c) Each operator shall maintain a record of each test, survey, or inspection required by this subpart in sufficient detail to demonstrate the adequacy of corrosion control measures or that a corrosive condition does not exist. These records must be retained for at least 5 years, except that records related to §§192.465 (a) and (e) and 192.475(b) must be retained for as long as the pipeline remains in service.

Findings:

In reviewing records of required rectifier readings, it was apparent (and confirmed by NWN) that they do not take an instant off reading when they take the pipe to soil reads (PSP). NWN employs ECDA as the periodic evaluation methodology for line P-04. ECDA relies heavily on accurate pipe to soil reads in assessing the external corrosion threats on the line. As NWN does not employ an instant off when they take a pipe to soil read, they are assuming the IR drop is not significant enough to lower the reading below the -850 mV criteria (per NACE 0169 6.2.2.) Past history might suggest the readings are meeting criteria as they have found limited corrosion. However, NWN really does not know (as compared to an ILI run using magnetic flux leakage tool). Past digs on the line based on CIS, DCVG or current mapper criteria, have not consistently found a corrosion issue. Most of these digs have been "repaired" with a recoat. As such, there is uncertainty and associated risk. NWN should assign additional risk to the line based on this uncertainty.