



STATE OF WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

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Sent Via Email

December 20, 2023

Joe Karney
Vice President of Engineering and Utility Operations
Northwest Natural
250 Southwest Taylor Street
Portland, OR 97204

RE: 2023 Natural Gas Standard Comprehensive Inspection – Northwest Natural Columbia Gorge – (Insp. No. 8611)

Dear Mr. Karney:

Thank you for your letter, dated December 4, 2023, addressing the findings of our 2023 inspection. This inspection included a records review and inspection of pipeline facilities. This letter addresses the Areas of Concern noted in our November 1, 2023 results of inspection letter.

Northwest Natural's Standard Work Practice (SPW 463 Section 3.1.2) was reviewed with the provided response and contained the following methods to consider IR drop:

- Placing the reference electrode as close as possible to the buried steel structure
- Measuring or calculating the voltage drop
- Reviewing the historical performance of the cathodic protection system
- Evaluating the physical and electrical characteristics of the pipe and its environment
- Determining whether or not there is physical evidence of corrosion

The methods available to consider IR drop during the field portion of an inspection for a particular location are the “instant off” to measure or calculate an approximation of voltage drop or conduct a depolarization of the structure to achieve the “100mV CSE shift” from a depolarized potential.

Appendix D of Part 192 does state that the -850mV CSE (on) criteria is to be conducted with the current applied, but the consideration of IR drop must also take place for a proper evaluation. Although just an approximation, operators typically have used the -850mV CSE “instant off” to

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demonstrate structure polarization to eliminate the need to use system history as a sound engineering practice to determine adequate cathodic protection. It is not feasible to evaluate the pH and the pipe bedding for each test site in the field so typically the next readily available method used is the "100mV CSE shift." This eliminates the reliance on historical exposed pipe condition reports and cathodic protection system history from other locations that contain materials with different metallurgical properties and varying soil characteristics.

Staff accepts Northwest Natural's response to bring these areas of concern into compliance. This inspection will be closed as of the date of this letter.

If you have any questions or if we may be of any assistance, please contact Dave Cullom at (360) 489-8684.

Sincerely,

Scott Rukke
Pipeline Safety Director

cc: Ryan Truair, Sr. Manager of Compliance, Northwest Natural
NWN Code Compliance Inbox, nwncodecompliance@nwnatural.com