



STATE OF WASHINGTON  
UTILITIES AND TRANSPORTATION COMMISSION

621 Woodland Square Loop S.E. • Lacey, Washington 98503

P.O. Box 47250 • Olympia, Washington 98504-7250

(360) 664-1160 • TTY 1-800-833-6384 or 711

*Sent via email*

April 19, 2021

Jon G. Huddleston  
Vice President of Engineering and Utility Operations  
Northwest Natural  
250 Southwest Taylor Street  
Portland, Oregon 97204

**RE: 2021 Natural Gas Standard Comprehensive – Northwest Natural – Clark (Insp. No. 8280)**

Dear Mr. Huddleston:

Staff from the Washington Utilities and Transportation Commission (staff) conducted a standard inspection of Northwest Natural (NWN), Clark County from March 1, 2021 to March 23, 2021. This inspection included a records review and inspection of the pipeline facilities.

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

**Your response needed**

Please review the attached report and respond in writing by May 21, 2021. 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 \$222,504 for each violation for each day that the violation persists. The maximum civil penalty for a related series of violations is \$2,225,034; 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 Dave Cullom at (360) 489-8684. Please refer to the subject matter described above in any future correspondence pertaining to this inspection.

Sincerely,

Sean C. Mayo  
Pipeline Safety Director

Enclosure

**UTILITIES AND TRANSPORTATION COMMISSION**  
**2021 Natural Gas Pipeline Safety Inspection**  
**Northwest Natural – Clark County**

The following probable violation(s) and areas of concern of WAC 480-93 were noted as a result of the 2021 inspection of the Northwest Natural Clark County unit. The inspection included a random selection of records, operation and maintenance (O&M), emergency response, inventory, and field inspection of the pipeline facilities.

**PROBABLE VIOLATIONS**

1. **WAC 480-93-188 Gas Leak Surveys**

*(3) Each gas pipeline company must conduct gas leak surveys according to the following minimum frequencies:*

*(a) Business districts - At least once annually, but not to exceed fifteen months between surveys. All mains in the right of way adjoining a business district must be included in the survey;*

**Finding(s):**

Business district leak surveys are not being conducted in all areas that they are required to be performed.

2. **WAC 480-93-170 Tests and Reports for Gas Pipelines**

*(7) Each gas pipeline company must keep records of all pressure tests performed for the life of the pipeline and must document the following information:*

*(a) Gas pipeline company's name;*

*(b) Employee's name;*

*(c) Test medium used;*

*(d) Test pressure;*

*(e) Test duration;*

*(f) Line pipe size and length;*

*(g) Dates and times; and*

*(h) Test results.*

**Finding(s):**

Pressure test records were verified and indicated all necessary information as required by WAC 480-93-170(7) for larger construction project records reviewed during this inspection. However, pressure test records for service line installations reviewed did not contain a location on the form to store test medium used or if the test passed or failed in all cases. The items missing from the service line sample test records were:

- (c) Test medium used;
- (h) Test results.

### **AREAS OF CONCERN**

#### **1. WAC 480-93-110 Corrosion control**

*(5) Each gas pipeline company must conduct inspections or tests for electrical isolation between metallic pipeline casings and metallic pipelines at least once annually, but not to exceed fifteen months between inspections or tests. The test or inspection must also determine whether the pipeline has adequate levels of cathodic protection at the casing to pipeline interface. These requirements do not apply to unprotected copper inserted in ferrous pipe.*

*(b) Whenever electrical isolation tests or inspections indicate that a possible shorted condition exists between a casing and a pipeline, the gas pipeline company must conduct a follow-up test within ninety days to determine whether an actual short exists. The gas pipeline company's procedures manual must have a level or threshold that would indicate a potential shorted condition and must also detail the method of determining whether the casing is actually shorted to the pipeline.*

*(c) The gas pipeline company must clear the shorted condition where practical.*

*(d) Whenever a short exists between a line pipe and casing, the gas pipeline company must perform a leak survey within ninety days of discovery and at least twice annually thereafter, but not to exceed seven and one-half months between leak surveys until the shorted condition is eliminated.*

#### **Finding(s):**

During the field portion of the inspection, a casing did not meet the operator's minimum isolation criteria of 200mV from the carrier pipe to casing during a field cathodic protection test. The operator did create a work order to document this finding and perform follow up testing. Documentation of work completed to resolve this condition as well as follow up leak survey records are necessary to verify this finding has been remedied.

#### **2. WAC 480-93-124 Pipeline markers.**

*(1) Each gas pipeline company must place pipeline markers at the following locations:*

*(f) Over mains located in Class 1 and 2 locations;*

#### **Finding(s):**

Observations during the course of this inspection indicated that the operator's manual states that markers are not required for gas lines that fall within the Urban Growth Area (UGA) because they are considered Class 3 or 4 locations and do not require pipeline marking per 192.707(b)(2). The operator did provide a map containing the UGA and

with their pipeline system on it for review, but it did not contain class location information. This practice could result in mains located in Class 1 or 2 locations that also fall within the UGA not being properly marked, presenting a conflict with WAC 480-93-124.

Ryan Truair  
Senior Manager, Code Compliance

May 20, 2021

Mr. Sean Mayo  
Pipeline Safety Director  
Washington Utilities and Transportation Commission  
1300 South Evergreen Park Drive SW  
P. O. Box 47250  
Olympia, Washington 98504-7250

Re: NW Natural Response to Clark County Resource Center Inspection, Report No. 8280

Dear Mr. Mayo:

The Washington Utilities and Transportation Commission (WUTC) Staff conducted a Natural Gas Standard Comprehensive inspection for the Clark County Resource Center on March 1 - 23, 2021. This letter is the response to the findings of Inspection Report 8280, sent on April 19, 2021.

**1. Probable Violation:**

**WAC 480-93-188 Gas Leak Surveys**

*3) Each gas pipeline company must conduct gas leak surveys according to the following minimum frequencies:*

*(a) Business districts - At least once annually, but not to exceed fifteen months between surveys. All mains in the right of way adjoining a business district must be included in the survey;*

**Findings:**

*Business district leak surveys are not being conducted in all areas that they are required to be performed.*

**NW Natural Response:**

NW Natural (NWN) is striving to implement a repeatable and programmatic method to identify Business Districts and High Occupancy Structures (HOS). In 2020, NWN contracted with a third-party vendor to create and implement a methodology that could integrate into NWN's GIS to identify such sites. At the end of a 12-month pilot program, NWN concluded that the results fell short of expectations and a business decision was made to develop a methodology in-house.

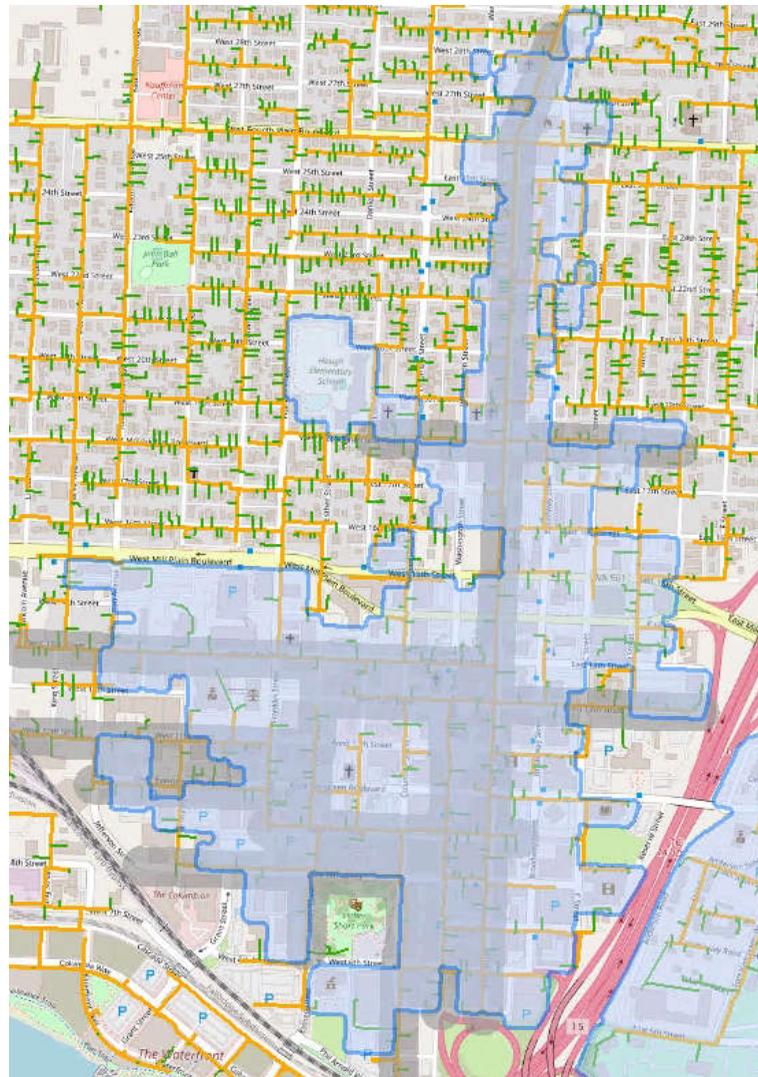
At this time, the in-house concept involves identifying High Occupancy Structures and Areas as individual/remote HOS sites (NWN Special Building) and HOS regions/clusters (or Business Districts) based primarily on the use of Land Use Code (LUC) data sources for the list of facility types shown at the end of the document. To date, NWN has been unable to find a "near perfect" data source, where ideally all parcels have an accurate LUC associated to it. The variability in categorization of parcels with a LUC seems broader and more general (and less specific) in the smaller towns and communities, and better defined in the metropolitan areas, although still lacking some consistency. Consequently, an option is to incorporate Points of Interest (POI) data to capture indication of an HOS site that is missed by LUC data due to too general of coding or miscoding of a parcel.

NWN took a phased approach, as follows. The core phase (Phase 1) focused on HOS sites that should be consistently and reliably identifiable from a data source perspective. This phase centered on critical facility types that may have mobility concerns, along with facility types that are essential in most any city and town. This included facility types such as correctional facilities, hospitals, schools, long-term care facilities, civic services (fire, police, courthouse, city hall), US postal offices and airports.

Future phases incorporated the remaining facility types on the list. As we progressed into future phases, more manual validation by the project team was necessary to establish the validity of being an HOS site or not. The certainty level was less in future review phases due to the information accuracy of the data sources. The last phase, yet to be validated, requires the most manual validation, taking into consideration additional complexities of business and facility types, such as multiple businesses within one structure, proximity of HOS sites to other businesses not on the list, etc. Multiple HOS sites that were nearby in proximity to one another, and often along major arterials, were combined into a Business District asset; the HOS sites that were more remote or isolated in location were designated as Special Buildings.

As an example, the Business District for the core downtown Vancouver area is shown in Figure 1. The grey narrow polygon, shown in the background, indicates the current Business District area as leak surveyed to date. The blue shaded polygon indicates the new Business District per the modeling, where mains and services have been programmatically merged together to define the asset.

The implementation of the new model will be rolled out in conjunction with the introduction of the IQGeo geospatial platform to NWN, which will be replacing MapFrame, and is scheduled to begin in August of this year.



**Figure 1 Business District for Downtown Vancouver**

**Proposed NWN Facility Type List (High Occupancy Structures)**

**Activity Center:** Community Center, Country Club

**Dormitory/Frat/Sorority/Res Hall**

**Care Facility/Nursing Facility:** Orphanage, Nursing Home, Convalescent Hospital

**Conference Center:** Convention Center, Auditorium

**Educational Institution:** School, Nursery School, High School, Private School, Vocational & Trade School, Sec Educational School, Public School, University

**Entertainment Facility:** Nightclub, Zoo, Amphitheatre, Amusement Arcade, Amusement Park, Bowling Alley, Billiard Hall, Club, Dance Hall, Race Track, Theater, Tourist attraction/exhibits

**Financial Institution**

**General Store (Large)/Retail Store:** Dept Store, Store Franchise, Store Bldg, Retail Trade, Supermarket, Food Stores

**Government Building (Large):** Public, State Property, County Property, Municipal Property, Police/Fire/Civil Defense, US Postal Service, Federal Property, Federal Bldg, Military Bldg, Airport

**Hospital/Large Medical Facility:** Hospital, Convalescent Hospital

**Hotel/Motel:** Hotel, Resort Hotel, Motel, Transient Lodging

**Jail/Prison/Correctional Facility:** Correctional Facility

**Library, Museum**

**Place of Worship:** Religious

**Recreational Facility, Lodge, Resort, Casino:** Resort Hotel, Casino, Health Club, Gymnasium, Stadium

**Restaurant (fine dining, casual dining, cafeteria):**  
Fast Food Franchise, Bar, Restaurant Bldg, Tavern

**Shopping Center, Department Store**

**At Company's Discretion**

**2. Probable Violation:****WAC 480-92-170 Tests and Reports for Gas Pipelines**

*(7) Each gas pipeline company must keep records of all pressure tests performed for the life of the pipeline and must document the following information:*

- (a) Gas pipeline company's name;*
- (b) Employee's name;*
- (c) Test medium used;*
- (d) Test pressure;*
- (e) Test duration;*
- (f) Line pipe size and length;*
- (g) Dates and times; and*
- (h) Test results*

**Findings:**

*Pressure test records were verified and indicated all necessary information as required by WAC 480-93-170(7) for larger construction project records reviewed during this inspection. However, pressure test records for service line installations reviewed did not contain a location on the form to store test medium used or if the test passed or failed in all cases. The items missing from the service line sample test records were:*

- (c) Test medium used;*
- (h) Test results*

**NW Natural Response:**

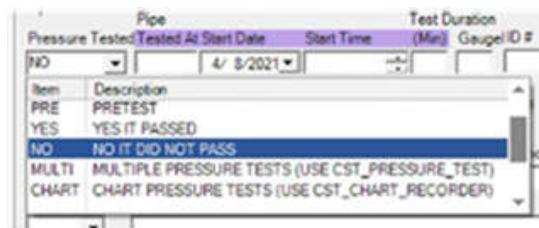
NWN is in the process of adding the test medium field to all pressure testing results. The completion date is scheduled for May 23, 2021. Below is an example of how the record will look with the new field added.

Installation Information								
Completion Date	Pipe Type	Pipe Size	Installed Ftg	Abandoned	Casing Ftg	Extra Equip	Grd Post	
04/29/2021	POLY	1	123	NO	0	NO	0	
Pipe As-Built Information								
Pressure Tested	Pipe Tested At	Pressure Test Date	Pressure Test Time	Test Duration	Gauge ID #	Test Medium		
YES	90	04/29/2021	08:52:58	30	1234	AIR		
Anode	EFV Manuf	Valve	Install Date	Short/Long	Meter Status	Station Ftg	Connect Loc	Connect Type
	LYALL	475	04/29/2021		NA	0	CURB	
Installation Type	Installation Method	Construction Methods	Houeline Status	Curb Valve Installed	In/Out/ Feet On			
CURB SERVICE	NORMAL	EXCAVATE			0			
Connection Material	New Pipe Coating	New Pipe Joint Coating						
POLY-POLY								
Riser Installed?	As Built Remarks							
NO								
Has a defect been discovered?	Did you repair a leak?	Performed Flare/Blowdown						
NO	NO	NO						

Pressure Tested result field that is captured on the records provided during the inspection displays the results only. There is a description that employees completing the test are able to see. Listed below are the results including the descriptions;

- PRE Prestested
- YES Yes it passed
- NO No it did not pass
- MULTI Multiple pressure tests (with direction pointing to an additional report)
- CHART Chart pressure tests (with directions to an additional report)

Below is a screen shot of the drop-down selections available to the employee completing the test record and the description that clarifies the test result.



### **1. Area of Concern:**

#### **WAC 480-93-110 Corrosion Control**

(5) Each gas pipeline company must conduct inspections or tests for electrical isolation between metallic pipeline casings and metallic pipelines at least once annually, but not to exceed fifteen months between inspections or tests. The test or inspection must also determine whether the pipeline has adequate levels of

*cathodic protection at the casing to pipeline interface. These requirements do not apply to unprotected copper inserted in ferrous pipe.*

*(b) Whenever electrical isolation tests or inspections indicate that a possible shorted condition exists between a casing and a pipeline, the gas pipeline company must conduct a follow-up test within ninety days to determine whether an actual short exists. The gas pipeline company's procedures manual must have a level or threshold that would indicate a potential shorted condition and must also detail the method of determining whether the casing is actually shorted to the pipeline.*

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*(d) Whenever a short exists between a line pipe and casing, the gas pipeline company must perform a leak survey within ninety days of discovery and at least twice annually thereafter, but not to exceed seven and one-half months between leak surveys until the shorted condition is eliminated.*

**Findings:**

*During the field portion of the inspection, a casing did not meet the operator's minimum isolation criteria of 200mV from the carrier pipe to casing during a field cathodic protection test. The operator did create a work order to document this finding and perform follow up testing. Documentation of work completed to resolve this condition as well as follow up leak survey records are necessary to verify this finding has been remedied.*

**NW Natural Response:**

NWN has abandoned this service and casing. Please find attached [NWN Casing 124305 8709 NE Highway 99 Vancouver](#) that includes documentation related to this abandonment.

**2. Area of Concern:**

**WAC 480-93-124 Pipeline Markers**

- (1) Each gas pipeline company must place pipeline markers at the following locations:
  - (f) Over mains located in Class 1 and 2 locations;**

**Findings:**

*Observations during the course of this inspection indicated that the operator's manual states that markers are not required for gas lines that fall within the Urban Growth Area (UGA) because they are considered Class 3*

*or 4 locations and do not require pipeline marking per 192.707(b)(2). The operator did provide a map containing the UGA and with their pipeline system on it for review, but it did not contain class location information. This practice could result in mains located in Class 1 or 2 locations that also fall within the UGA not being properly marked, presenting a conflict with WAC 480-93-124 .*

**NW Natural Response:**

NWN installs mains to serve customers and believes that instances where Class 1 and Class 2 locations exist within the UGA would be very minimal. A review of class locations will be completed and any enhancements identified during this review will determine if additional marking is needed.

This report finalizes NWN's response to the Clark County Inspection, Report No. 8280.

Sincerely,



Ryan Truair  
Senior Manager, Code Compliance  
s7b1253

Ryan Truair  
Senior Manager, Code Compliance

June 15, 2021

Mr. Sean Mayo  
Pipeline Safety Director  
Washington Utilities and Transportation Commission  
1300 South Evergreen Park Drive SW  
P. O. Box 47250  
Olympia, Washington 98504-7250

Re: NW Natural Update to Clark County Resource Center Inspection, Report No. 8280

Dear Mr. Mayo:

The Washington Utilities and Transportation Commission (WUTC) Staff conducted a Natural Gas Standard Comprehensive inspection for the Clark County Resource Center on March 1 - 23, 2021. This letter is to update the response to the findings of Inspection Report 8280-1, requested on May 25, 2021.

**1. Probable Violation:**

**WAC 480-93-188 Gas Leak Surveys**

*3) Each gas pipeline company must conduct gas leak surveys according to the following minimum frequencies:*

*(a) Business districts - At least once annually, but not to exceed fifteen months between surveys. All mains in the right of way adjoining a business district must be included in the survey;*

**Findings:**

*Business district leak surveys are not being conducted in all areas that they are required to be performed.*

**NW Natural Response:**

NW Natural (NWN) is striving to implement a repeatable and programmatic method to identify Business Districts and High Occupancy Structures (HOS). In 2020, NWN contracted with a third-party vendor to create and implement a methodology that could integrate into NWN's GIS to identify such sites. At the end of a 12-month pilot program, NWN concluded that the results fell short of expectations and a business decision was made to develop a methodology in-house.

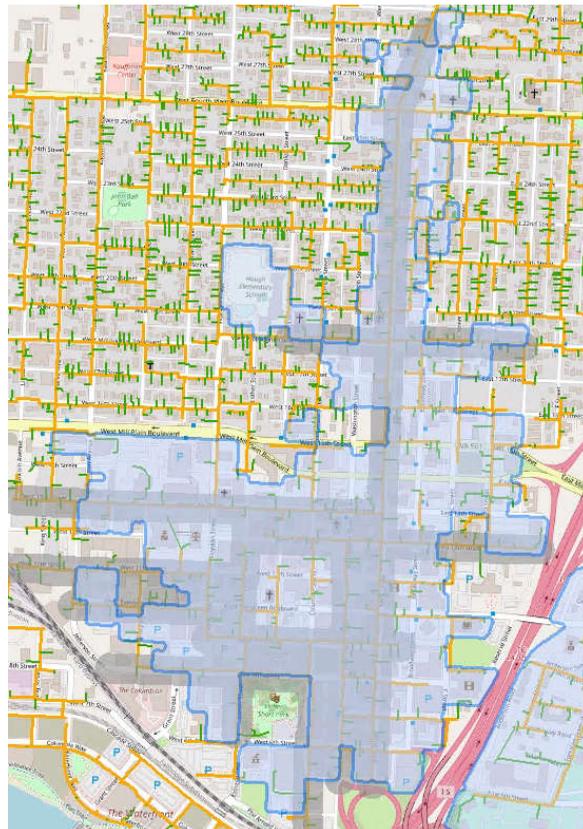
At this time, the in-house concept involves identifying High Occupancy Structures and Areas as individual/remote HOS sites (NWN Special Building) and HOS regions/clusters (or Business Districts) based primarily on the use of Land Use Code (LUC) data sources for the list of facility types shown at the end of the document. To date, NWN has been unable to find a "near perfect" data source, where ideally all parcels have an accurate LUC associated to it. The variability in categorization of parcels with a LUC seems broader and more general (and less specific) in the smaller towns and communities, and better defined in the metropolitan areas, although still lacking some consistency. Consequently, an option is to incorporate Points of Interest (POI) data to capture indication of an HOS site that is missed by LUC data due to too general of coding or miscoding of a parcel.

NWN took a phased approach, as follows. The core phase (Phase 1) focused on HOS sites that should be consistently and reliably identifiable from a data source perspective. This phase centered on critical facility types that may have mobility concerns, along with facility types that are essential in most any city and town. This included facility types such as correctional facilities, hospitals, schools, long-term care facilities, civic services (fire, police, courthouse, city hall), US postal offices and airports.

Future phases incorporated the remaining facility types on the list. As we progressed into future phases, more manual validation by the project team was necessary to establish the validity of being an HOS site or not. The certainty level was less in future review phases due to the information accuracy of the data sources. The last phase, yet to be validated, requires the most manual validation, taking into consideration additional complexities of business and facility types, such as multiple businesses within one structure, proximity of HOS sites to other businesses not on the list, etc. Multiple HOS sites that were nearby in proximity to one another, and often along major arterials, were combined into a Business District asset; the HOS sites that were more remote or isolated in location were designated as Special Buildings.

As an example, the Business District for the core downtown Vancouver area is shown in Figure 1. The grey narrow polygon, shown in the background, indicates the current Business District area as leak surveyed to date. The blue shaded polygon indicates the new Business District per the modeling, where mains and services have been programmatically merged together to define the asset.

The implementation of the new model will be rolled out in conjunction with the introduction of the IQGeo geospatial platform to NWN, which will be replacing MapFrame, and is scheduled to begin in August of this year.



**Figure 1 Business District for Downtown Vancouver**

**Proposed NWN Facility Type List (High Occupancy Structures)**

**Activity Center:** Community Center, Country Club

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**Financial Institution**

**General Store (Large)/Retail Store:** Dept Store, Store Franchise, Store Bldg, Retail Trade, Supermarket, Food Stores

**Government Building (Large):** Public, State Property, County Property, Municipal Property, Police/Fire/Civil Defense, US Postal Service, Federal Property, Federal Bldg, Military Bldg, Airport

**Hospital/Large Medical Facility:** Hospital, Convalescent Hospital

**Hotel/Motel:** Hotel, Resort Hotel, Motel, Transient Lodging

**Jail/Prison/Correctional Facility:** Correctional Facility

**Library, Museum**

**Place of Worship:** Religious

**Recreational Facility, Lodge, Resort, Casino:** Resort Hotel, Casino, Health Club, Gymnasium, Stadium

**Restaurant (fine dining, casual dining, cafeteria):**  
Fast Food Franchise, Bar, Restaurant Bldg, Tavern

**Shopping Center, Department Store**

**At Company's Discretion**

**NWN Update (June 15, 2021)**

NWN will continue leak surveying current Business District and Special Building assets through the end of 2021. New assets identified using the new model are currently being migrated over to the new mapping platform. These assets will not be leak surveyed until 2022. Final implementation with the IQGeo mapping system is expected to take place within Q1 of 2022.

This report finalizes NWN's update to the Clark County Inspection, Report No. 8280-1.

Sincerely,



Ryan Truair  
Senior Manager, Code Compliance  
s7b1266



STATE OF WASHINGTON  
UTILITIES AND TRANSPORTATION COMMISSION

621 Woodland Square Loop S.E. • Lacey, Washington 98503

P.O. Box 47250 • Olympia, Washington 98504-7250

(360) 664-1160 • TTY 1-800-833-6384 or 711

June 16, 2021

Jon G. Huddleston  
Vice President of Engineering and Utility Operations  
Northwest Natural  
250 Southwest Taylor Street  
Portland, Oregon 97204

**RE: 2021 Natural Gas Standard Comprehensive – Northwest Natural – Clark (Insp. No. 8280)**

Dear Mr Huddleston:

Thank you for your letter dated June 15, 2021, addressing the findings of our March 2021 standard inspection of Northwest Natural (NWN), Clark County.

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

Staff thanks Northwest Natural's personnel for their professionalism and cooperation during this inspection.

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

Sincerely,

Sean C. Mayo  
Pipeline Safety Director

cc: Ryan Truair, Sr. Manager of Compliance, Northwest Natural, NWN

# Inspection Output (IOR)

Generated on 2021.April.01 15:36

## Inspection Information

Inspection Name	8280 Northwest Natural Clark County Standard	Operator(s)	NORTHWEST NATURAL GAS CO (13840)	Plan Submitted	03/18/2021
Status	PLANNED	Lead	David Cullom	Plan Approval	03/18/2021 by Joe Subsites
Start Year	2021	Team Members	Scott Rukke, Dennis Ritter, Lex Vinsel, Anthony Dorrough, Derek Norwood, Scott Anderson, Darren Tinnerstet	All Activity Start	03/01/2021
System Type	GD	Observer(s)	Deborah Becker, Rell Koizumi	All Activity End	03/23/2021
Protocol Set ID	WA.GD.2020.02	Supervisor	Joe Subsites	Inspection Submitted	--
		Director	Sean Mayo	Inspection Approval	--

## Inspection Summary

### Inspection Scope and Summary

This inspection consisted of a records review for the time period of 2018-2021 and inspection of field facilities. It was conducted primarily in this application (IA), but some additional Washington State questions were completed in the UTC's inspection system.

### Facilities visited and Total AFODs

Please review the attached Field Notes form for a complete list of facilities visited, the inspection items covered, and the results. The facilities visited were bridges, emergency valves, casings (PSP reads), isolated steel (PSP reads), rectifiers (function and output check), regulators (set points and function check), and reliefs (set points and function check).

2 Records Review Days

4 MS-Teams Days

5 Field Days (on site)

### Summary of Significant Findings

The following probable violation(s) and areas of concern of WAC 480-93 were noted as a result of the 2021 inspection of the Northwest Natural Clark County unit. The inspection included a random selection of records, operation and maintenance (O&M), emergency response, inventory, and field inspection of the pipeline facilities.

### PROBABLE VIOLATIONS

#### 1. WAC 480-93-188 Gas Leak Surveys

(3) Each gas pipeline company must conduct gas leak surveys according to the following minimum frequencies:

(a) Business districts - At least once annually, but not to exceed fifteen months between surveys. All mains in the right of way adjoining a business district must be included in the survey;

### Finding(s):

Business district leak surveys are not being conducted in all areas that they are required to be performed. The enclosed graphic, "Attachment 1," illustrates the plats the operator is leak surveying annually. A sample of areas that have facilities

that may meet the requirements of a business district as defined in WAC 480-93-005(3) are indicated by green asterisks on the map.

2. **WAC 480-93-170 Tests and Reports for Gas Pipelines**

*(7) Each gas pipeline company must keep records of all pressure tests performed for the life of the pipeline and must document the following information:*

*(a) Gas pipeline company's name;*

*(b) Employee's name;*

*(c) Test medium used;*

*(d) Test pressure;*

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Pressure test records were verified and indicated all necessary information as required by WAC 480-93-170(7) for larger construction project records reviewed during this inspection. However, pressure test records for service line installations reviewed did not contain a location on the form to store test medium used or if the test passed or failed in all cases. The items missing were:

*(c) Test medium used;*

*(h) Test results.*

**AREAS OF CONCERN**

1. **WAC 480-93-110 Corrosion control**

*(5) Each gas pipeline company must conduct inspections or tests for electrical isolation between metallic pipeline casings and metallic pipelines at least once annually, but not to exceed fifteen months between inspections or tests. The test or inspection must also determine whether the pipeline has adequate levels of cathodic protection at the casing to pipeline interface. These requirements do not apply to unprotected copper inserted in ferrous pipe.*

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*(c) The gas pipeline company must clear the shorted condition where practical.*

*(d) Whenever a short exists between a line pipe and casing, the gas pipeline company must perform a leak survey within ninety days of discovery and at least twice annually thereafter, but not to exceed seven and one-half months between leak surveys until the shorted condition is eliminated.*

**Finding(s):**

During the field portion of the inspection, a casing did not meet the operator's minimum isolation criteria of 200mV from the carrier pipe to casing during a field cathodic protection test. The operator did create a work order to document this finding and perform follow up testing. Documentation of what was completed to resolve this condition and any follow up leak survey records is necessary.

1. **WAC 480-93-124 Pipeline markers.**

(1) Each gas pipeline company must place pipeline markers at the following locations:

(f) Over mains located in Class 1 and 2 locations;

**Finding(s):**

The operator's manual states that markers are not required for gas lines that fall within the Urban Growth Area (UGA) because they are considered Class 3 or 4 locations and do not require pipeline marking per 192.707(b)(2). This practice may result in pipelines that should be properly marked but are not if they fall within the UGA and are Class 1 or 2 locations. The operator did provide a map containing the UGA and with their pipeline system on it for review, but it did not contain class location information. No specific instances were found during the inspection where markers were required to be placed in a Class 1 or 2 location.

**Primary Operator contacts and/or participants**

Ryan Truair - Sr. Manager of Compliance

Samantha Rookstool - Code Compliance Specialist

Bob Anderson - Construction Supervisor

Greg Bronson - Cathodic Protection Manager

Jaimie Lemke - Code Compliance Specialist

Margaret Locke - Compliance Engineer

**Operator executive contact and mailing address for any official correspondence**

Jon G. Huddleston

Vice President of Engineering and Utility Operations

Northwest Natural

250 Southwest Taylor Street

Portland, Oregon 97204

**Scope (Assets)**

Short # Label	Long Label	Asset Type	Asset IDs	Excluded Topics	Planned	Required	Total Inspected	Required % Complete
1. 90888 (78)	Northwest Natural-CLARK	unit	90888	Storage Fields Bottle/Pipe - Holders Offshore GOM OCS Cast or Ductile Iron Copper Pipe	144	144	144	100.0%

Short # Label	Long Label	Asset Type	Asset IDs	Excluded Topics	Planned	Required	Inspected	Total	Required % Complete
				Aluminum/Amphoteric Abandoned					

1. Percent completion excludes unanswered questions planned as "always observe".

## Plans

Plan # Assets	Focus Directives	Involved Groups/Subgroups	Qst Type(s)	Extent Notes
1. 90888 (78)	Baseline Records (Form 2), Baseline Pipeline Field Inspection (Form 2)	PRO, PRR, FR, GDIM, MMLPGIM, MISCTOPICS, GENERIC	P, R, O, S	Detail
2. 90888 (78)	n/a	MISCTOPICS.PROT9	P, R, O, S	Detail

## Plan Implementations

# Activity Name	SMAR T Act#	Start Date End Date	Focus Directive s	Involved Groups/Subgroup s	Asset s	Qst Type(s)	Planned	Required	Total Inspected	Required % Complete
1 Field and Records	--	03/01/202 1 03/23/202 1	n/a	all planned questions	all assets	all types	144	144	144	100.0%

1. Since questions may be implemented in multiple activities, but answered only once, questions may be represented more than once in this table.
2. Percent completion excludes unanswered questions planned as "always observe".

## Forms

This inspection has no Form data entry.

## Results (all values, 144 results)

149 (instead of 144) results are listed due to re-presentation of questions in more than one sub-group.

### PRR.REPORT: Reporting

1. Question Result, ID, References **Sat, RPT.RR.IMMEDREPORT.R, 191.5(a) (191.7(a), 191.7(d))**  
 Question Text *Do records indicate immediate notifications of incidents were made in accordance with 191.5?*  
 Assets Covered **90888 (78)**  
 Result Notes **2020 (14) State, 2019 (17), and 2018 (17) per NWN.**
2. Question Result, ID, References **NA, RPT.RR.INCIDENTREPORT.R, 191.9(a)**  
 Question Text *Do records indicate reportable incidents were identified and reports were submitted to DOT on Form 7100.1 within the required time frame?*  
 Assets Covered **90888 (78)**  
 Result Notes **No Federal reportables in this inspection time period.**
3. Question Result, ID, References **NA, RPT.RR.INCIDENTREPORTSUPP.R, 191.9(b)**

Question Text *Do records indicate accurate supplemental incident reports were filed and within the required timeframe?*  
Assets Covered 90888 (78)  
Result Notes None in this inspection time period.

4. Question Result, ID, References Sat, RPT.RR.ANNUALREPORT.R, 191.11(a)

Question Text *Have complete and accurate Annual Reports been submitted?*  
Assets Covered 90888 (78)  
Result Notes The last three years were reviewed.

5. Question Result, ID, References Sat, RPT.RR.UTCANNUALREPORTS.R,

Question Text *Have complete and accurate annual reports been submitted to the commission?*  
Assets Covered 90888 (78)  
Result Notes Annual reports have been sent to the Commission and will be reviewed during the Annual Review inspection later this year.

6. Question Result, ID, References Sat, RPT.RR.MISDATAREPORTS.R,

Question Text *Has the operator submitted a copy of DOT Drug and Alcohol Testing MIS Data Collection Form to the commission when required?*  
Assets Covered 90888 (78)  
Result Notes The operator does submit the MIS report to the UTC when requested.

7. Question Result, ID, References Sat, GDIM.RR.MECHANICALFITTINGDATAIMPL.R, 192.1009 (191.12) (also presented in: GDIM.IMPL)

Question Text *Have accurate records been maintained documenting mechanical fitting failures that resulted in hazardous leaks?*  
Assets Covered 90888 (78)  
Result Notes None for reporting year 2019. 2018 and 2017 were submitted.

8. Question Result, ID, References NA, RPT.RR.SRCR.R, 191.23(a) (191.23(b), 191.25(a), 191.25(c))

Question Text *Do records indicate safety-related condition reports were filed as required?*  
Assets Covered 90888 (78)  
Result Notes No such event occurred, or condition existed, in the scope of inspection review.

9. Question Result, ID, References NA, RPT.RR.MAOPINCREASENOTIFY.R,

Question Text *Do records indicate submittal of a written plan of procedures to the commission at least forty-five days before uprating to a MAOP greater than 60 psig?*  
Assets Covered 90888 (78)  
Result Notes No such event occurred, or condition existed, in the scope of inspection review.

10. Question Result, ID, References Sat, RPT.RR.THIRTYDAYRPT.R,

Question Text *Has the operator submitted a written report within 30 days following each reportable incident?*  
Assets Covered 90888 (78)  
Result Notes NWN has submitted 30 day follow-up reports and there have been no issues of missing reports.

11. Question Result, ID, References Sat, MO.GO.CUSTNOTIFY.R, 192.16(d) (192.16(a), 192.16(b), 192.16(c))

Question Text *Do records indicate the customer notification process satisfies the requirements of 192.16?*  
Assets Covered 90888 (78)  
Result Notes There is a "house line" maintenance brochure that is sent out. NWN compliance staff checked if "paperless" e-pay folks get it as well. They indicated the customer is emailed a link.

12. Question Result, ID, References Sat, RPT.RR.DAILYCONSTRUCTIONRPT.R,

Question Text *Do records indicate daily construction and repair activities were emailed to the commission no later than 10 AM each day work is scheduled?*

Assets Covered 90888 (78)

Result Notes NWN uses automation to email daily reports each day at about 0930.

13. Question Result, ID, References Sat, RPT.RR.PIPELINEMAPPING.R,

Question Text *Has the operator provided accurate maps (or updates) of all pipelines operating over 250 psig to specifications developed by the commission sufficient to meet the needs of first responders?*

Assets Covered 90888 (78)

Result Notes NWN has been sending these as needed.

## PRR.CORROSION: Corrosion Control

14. Question Result, ID, References Sat, TQ.QU.CORROSION.R, 192.453 (192.807(a), 192.807(b))

Question Text *Do records indicate qualification of personnel implementing pipeline corrosion control methods?*

Assets Covered 90888 (78)

Result Notes OO cards were pulled for John Mours(2018-23)and David Maynard. (2018-21) These are field technicians.

The corrosion supervisor is a CP1. Greg Bronson. The cert was showed from 2019 and Dec 1, 2022 for the expiration.

15. Question Result, ID, References Sat, TD.CP.RECORDS.R, 192.491(a)

Question Text *Do records indicate the location of all items listed in 192.491(a)?*

Assets Covered 90888 (78)

Result Notes If an annual survey has an anode the location is noted. There are spots where anodes are installed. Locations of rectifiers, and deep wells are also maintained.

16. Question Result, ID, References Sat, TD.CP.MONITOR.CURRENTTEST.R, 192.491(c) (192.465(b))

Question Text *Do records document details of electrical checks of sources of rectifiers or other impressed current sources?*

Assets Covered 90888 (78)

Result Notes There was typographical "column shift" in the report during the inspection records review. The operator was able to explain the amperage data shift related to that error and it was resolved.

17. Question Result, ID, References Sat, TD.CP.EXPOSED.EXPOSEINSPECT.R, 192.491(c) (192.459)

Question Text *Do records adequately document that exposed buried piping was examined for corrosion?*

Assets Covered 90888 (78)

Result Notes Records reviewed from 1/1/2018 to 1/15/2021. Pipe Inspection report is used for external and internal. There were 432 pages with about 2 per page. We reviewed the 4th Plain Fairmont Rd As-built.

18. Question Result, ID, References Sat, TD.CP.MONITOR.TEST.R, 192.491(c) (192.465(a))

Question Text *Do records adequately document cathodic protection monitoring tests have occurred as required?*

Assets Covered 90888 (78)

Result Notes Records were provided and reviewed. No critical or non-critical bonds are in the system.

19. Question Result, ID, References NA, TD.CP.MONITOR.REVCURRENTTEST.R, 192.491(c) (192.465(c))

Question Text *Do records document details of electrical checks interference bonds, diodes, and reverse current switches?*

Assets Covered 90888 (78)

Result Notes No such event occurred, or condition existed, in the scope of inspection review.

20. Question Result, ID, References Sat, TD.CP.MONITOR.DEFICIENCY.R, 192.491(c) (192.465(d))

- Question Text *Do records adequately document actions taken to correct any identified deficiencies in corrosion control?*  
 Assets Covered 90888 (78)  
 Result Notes A couple low readings over the inspection time period, but they were promptly resolved.
21. Question Result, ID, References NA, TD.CP.UNPROTECT.R, 192.491(c) (192.465(e))  
 Question Text *Do records adequately document that exposed buried piping was examined for corrosion and deteriorated coating?*  
 Assets Covered 90888 (78)  
 Result Notes No such relevant facilities/equipment existed in the scope of inspection review.
22. Question Result, ID, References NA, FS.FG.CASINGTESTLEAD.R,  
 Question Text *Do records indicate that all casings without vents installed after September 5, 1992 had separate test lead wires installed?*  
 Assets Covered 90888 (78)  
 Result Notes No such relevant facilities/equipment existed in the scope of inspection review.
23. Question Result, ID, References Sat, FS.FG.CASINGSEALS.R,  
 Question Text *Do records indicate that mains and service lines installed in casing or conduit are sealed at the ends as required?*  
 Assets Covered 90888 (78)  
 Result Notes The QA team verified during installs. UTC staff also checks for sealing of inserted lines. There have been no variances in the inspection time periods.
24. Question Result, ID, References Sat, TD.CP.ELECSOLATE.R, 192.491(c) (192.467(a), 192.467(b), 192.467(c), 192.467(d), 192.467(e))  
 Question Text *Do records adequately document electrical isolation of each buried or submerged pipeline from other metallic structures unless they electrically interconnect and cathodically protect the pipeline and the other structures as a single unit?*  
 Assets Covered 90888 (78)  
 Result Notes Casings are checked for isolation. Flanges not specifically during annual checks unless needed.
25. Question Result, ID, References Sat, TD.CP.CASINGINSPECT.R,  
 Question Text *Do records indicate that annual casing inspections have been performed to ensure electrical isolation from the pipeline?*  
 Assets Covered 90888 (78)  
 Result Notes Three years of data reviewed.
26. Question Result, ID, References Sat, TD.CP.MONITOR.TESTSTATION.R, 192.469  
 Question Text *Do records identify the location of test stations and show a sufficient number of test stations?*  
 Assets Covered 90888 (78)  
 Result Notes They have numerous test stations that they use for annual sites. They have thousands of sites.
27. Question Result, ID, References Sat, TD.CP.MONITOR.TESTLEAD.R, 192.491(c) (192.471(a), 192.471(b), 192.471(c))  
 Question Text *Do records document that pipelines with cathodic protection have electrical test leads installed in accordance with requirements of Subpart I?*  
 Assets Covered 90888 (78)  
 Result Notes Test leads are stored in MapFrame. I reviewed some records of test lead installs.
28. Question Result, ID, References NA, TD.CP.MONITOR.INTFRCURRENT.R, 192.491(c) (192.473(a))  
 Question Text *Do records document an effective program is in place to minimize detrimental effects of interference currents and that detrimental effects of interference currents from CP systems on other underground metallic structures are minimized?*  
 Assets Covered 90888 (78)

Result Notes No such event occurred, or condition existed, in the scope of inspection review. The SP contains steps to take, but none in this unit.

29. Question Result, ID, References NA, TD.ICP.CORRGAS.R, 192.491(c) (192.475(a))

Question Text *Do the records demonstrate that the corrosive effect of the gas in the pipeline has been investigated and if determined to be corrosive, steps be taken to minimize internal corrosion?*

Assets Covered 90888 (78)

Result Notes No such event occurred, or condition existed, in the scope of inspection review.

30. Question Result, ID, References Sat, TD.ICP.EXAMINE.R, 192.491(c) (192.475(a), 192.475(b))

Question Text *Do records document examination of removed pipe for evidence of internal corrosion?*

Assets Covered 90888 (78)

Result Notes Records were reviewed for a cut-out.

31. Question Result, ID, References NA, TD.ICP.CORRGASACTION.R, 192.491(c) (192.477)

Question Text *Do records document the actions taken when corrosive gas is being transported by pipeline?*

Assets Covered 90888 (78)

Result Notes No such event occurred, or condition existed, in the scope of inspection review.

32. Question Result, ID, References Sat, TD.ATM.ATMCORRODEINSP.R, 192.491(c) (192.481(a), 192.481(b), 192.481(c))

Question Text *Do records document inspection of aboveground pipe for atmospheric corrosion?*

Assets Covered 90888 (78)

Result Notes Pressure limiting stations, bridge, service surveys. Done every 3 years.

14421 NE 22ND AVE , VANCOUVER WA 98686 Level 3 was determined to be a level 1.

3214 NE 108TH, VANCOUVER WA 98686 Level 3 corrosion was determined to be N/A due to the conduit being no gas carrying. CFS referral.

2323 W MILL PLAIN BLVD , VANCOUVER WA 98660 Mitigated corrosion on 7/18/2019.

12004 NE 95TH ST #840 , VANCOUVER WA 98682 11/28/2018 This was done by a CFS tech.

715 NE 5TH AVE , CAMAS WA 98607 5/2/2018 Found and remediated. This was an odor call.

17146 SE 23RD DR #28 , VANCOUVER WA 98683 Level 2 found 01/02/2018 - replaced reg set and set flow at 6.5" W/C on 6/26/2018

17200 SE 26TH DR #52 , VANCOUVER WA 98683 Corrosion Level 2 found 01/02/2018 painted 06/27/2018

17200 SE 26TH DR #33 , VANCOUVER WA 98683 Corrosion Level 2 found 01/02/2018 replaced reg set and set flow at 6.5" W/C on 08/28/2018

17200 SE 26TH DR UNIT 49 , VANCOUVER WA 98683 Corrosion Level 2 01/02/2018 painted reg body 06/27/2018

17200 SE 26TH DR UNIT 50 , VANCOUVER WA 98683 Corrosion Level 2 01/02/2018 painted reg body 06/27/2018

33. Question Result, ID, References Sat, TD.COAT.NEWPIPE.R, 192.491(c) (192.455(a), 192.461(a), 192.461(b), 192.483(a))

Question Text *Do records document that each buried or submerged pipeline installed after July 31, 1971 has been externally coated with a suitable coating material?*

Assets Covered 90888 (78)

Result Notes It is in the procedure. Records are maintained in inspection report for steel pipe when it is received. A record from 10/4/2020 was selected and reviewed.

34. Question Result, ID, References Sat, TD.ICP.REPAIR.R, 192.485(a) (192.485(b))

Question Text Do records document the repair or replacement of pipe that has been internally corroded to an extent that there is not sufficient remaining strength in the pipe wall?

Assets Covered 90888 (78)

Result Notes Exposed pipe condition report 4th Plain North of Fairmont showed that the entire leg was replaced with PE.

35. Question Result, ID, References NA, TD.ICP.EVALUATE.R, 192.491(c) (192.485(c))

Question Text Do records document adequate evaluation of internally corroded pipe?

Assets Covered 90888 (78)

Result Notes It is checked on the exposed pipe condition report if there is a cut-out. However, no such event occurred, or condition existed, in the scope of inspection review.

## PRR.PT: Pressure Test

36. Question Result, ID, References Sat, DC.PTLOWPRESS.PRESSTESTLOWSTRESS.R, 192.517(a) (192.507(a), 192.507(b), 192.507(c))

Question Text Do records indicate that pressure testing is conducted in accordance with 192.507?

Assets Covered 90888 (78)

Result Notes 1.

- a. Gas pipeline company's name, Northwest Natural
  - b. Employee's name, John Rose 12-21-20
  - c. Test medium used, Water
  - d. Test pressure, 600 Min 1100
  - e. Test duration, 8 hours
  - f. Line pipe size and length, 6" 0.28 WT 3950 Feet
  - g. Dates and time, and 12/21/20 0900-1700
  - h. Test results. "Pass" listed Pressure Test information
2. When multiple pressure test are performed on a single installation, the company must maintain a record of each test.
3. Pressure testing equipment must be tested for accuracy or calibrated in accordance with the manufacturer's recommendations. This includes equipment such as:
- a. Pressure charts,
  - b. Pressure gauges, and Crystal 007541 and 013346 Recorder ID 242-125210
  - c. Dead weights.

37. Question Result, ID, References Sat, DC.PTLOWPRESS.PRESSTEST100PSIG.R, 192.517(b) (192.509(a), 192.509(b))

Question Text Do records indicate that pressure testing is conducted in accordance with 192.509(a)?

Assets Covered 90888 (78)

Result Notes This information was reviewed in the previous question.

38. Question Result, ID, References Sat, DC.PT.SERVICELINE.R, 192.517(b) (192.511(a), 192.511(b), 192.511(c))

Question Text Do records indicate that pressure testing is conducted in accordance with 192.511?

Assets Covered 90888 (78)

Result Notes 1.

- a. Gas pipeline company's name, NWN
- b. Employee's name, Rusty Grable
- c. Test medium used, Nitrogen
- d. Test pressure, 816
- e. Test duration, 60
- f. Line pipe size and length 1" 8 feet
- g. Dates and time, and 1/15/2018 1100
- h. **Test results. No indication. This is being addressed in the following question as a probable violation.**

2. When multiple pressure test are performed on a single installation, the company must maintain a record of each test.
3. Pressure testing equipment must be tested for accuracy or calibrated in accordance with the manufacturer's recommendations. This includes equipment such as:
  - a. Pressure charts,
  - b. Pressure gauges, and #475091
  - c. Dead weights.

39. Question Result, ID, References **Unsat, DC.PT.PRESSTESTPLASTIC.R, 192.517(b) (192.513(a), 192.513(b), 192.513(c), 192.513(d))**

Question Text *Do records indicate that pressure testing is conducted in accordance with 192.513?*

Assets Covered **90888 (78)**

Result Issue Summary **The operator did not have records of the information required by WAC 480-93-170(7).**

Standard Issues **A1 (Significant impact/widespread occurrence) : 480-93-170(7) : Issue not covered in standard items. See Issue Summary text for details.**

**A1 (Significant impact/widespread occurrence) : 192.517(b) : No record/documentation.**

Result Notes **NWN's pressure test documentation for service installations has no place on the form to store the required information for test medium used or the test results.**

Pressure test records were verified and indicated all necessary information as required by WAC 480-93-170(7) for larger construction projects that I reviewed. However, pressure test records for service line installations did not contain a location on the form to store test medium used or if the test passed or failed in all cases.

The items missing are bolded below:

*WAC 480-93-170 Tests and reports for gas pipelines.*

*(7) Each gas pipeline company must keep records of all pressure tests performed for the life of the pipeline and must document the following information:*

*(a) Gas pipeline company's name;*

*(b) Employee's name;*

***(c) Test medium used;***

*(d) Test pressure;*

*(e) Test duration;*

*(f) Line pipe size and length;*

*(g) Dates and times; and*

***(h) Test results.***

Here is a sample of a test that was reviewed during the inspection.

- a. Gas pipeline company's name, NWN
- b. Employee's name, #029530
- c. **Test medium used,**
- d. Test pressure, 116 psig
- e. Test duration, 10 min
- f. Line pipe size and length, 63' 1"
- g. Dates and time, and 2/07/2020
- h. **Test results**

\*\*\*Pressure gauge #1028 was used\*\*\*

## PRR.UPRATE: Uprating

40. Question Result, ID, References **NA, MO.GOUPRATE.MAOPINCREASE.R, 192.553(a) (192.553(b), 192.553(c))**

Question Text *Do records indicate that increases in MAOP of pipeline were determined in accordance with 192.553?*

Assets Covered 90888 (78)

Result Notes No such event occurred, or condition existed, in the scope of inspection review.

41. Question Result, ID, References NA, MO.GOUPRATE.MAOPINCREASELIMIT.R, 192.553(b) (192.553(c), 192.553(d), 192.557(a))

Question Text Do records indicate that increases in MAOP are limited in accordance with 192.619 and 192.621?

Assets Covered 90888 (78)

Result Notes No such event occurred, or condition existed, in the scope of inspection review.

42. Question Result, ID, References NA, MO.GOUPRATE.MAOPINCREASEPREP.R, 192.553(b) (192.553(c), 192.553(a), 192.557(b), 192.557(c))

Question Text Do records indicate that increases in MAOP were preceded by the actions specified in 192.557?

Assets Covered 90888 (78)

Result Notes No such event occurred, or condition existed, in the scope of inspection review.

## PRR.OM: Operations And Maintenance

43. Question Result, ID, References Sat, MO.GO.OMANNUALREVIEW.R, 192.605(a)

Question Text Have annual reviews of the written procedures or processes in the manual been conducted as required?

Assets Covered 90888 (78)

Result Notes I reviewed the signatures for the 2019 SP.

44. Question Result, ID, References Sat, MO.GO.OMHISTORY.R, 192.605(a) (192.605(b)(3))

Question Text Are construction records, maps and operating history available to appropriate operating personnel?

Assets Covered 90888 (78)

Result Notes These are available in Map frame. I reviewed several records to verify that they were updated within six months of completion of construction activity.

112 S Main St 2/7/2020 2/18/2020

1610 NW 9TH AVE, CAMAS WA 98607 6/22/020 7/16/2020

4026 S HAY FIELD CIR, RIDGEFIELD WA 98642 6/17/2020 6/29/2020

45. Question Result, ID, References Sat, MO.GO.OMEFFECTREVIEW.R, 192.605(a) (192.605(b)(8))

Question Text Do records indicate periodic review of the work done by operator personnel to determine the effectiveness, and adequacy of the processes used in normal operations and maintenance and modifying the processes when deficiencies are found?

Assets Covered 90888 (78)

Result Notes Work is reviewed and documented on a QA report.

46. Question Result, ID, References Sat, MO.GO.ABNORMAL.ABNORMALREVIEW.R, 192.605(a) (192.605(c)(4))

Question Text Do records indicate periodic review of work done by operator personnel to determine the effectiveness of the abnormal operation processes and corrective action taken where deficiencies are found?

Assets Covered 90888 (78)

Result Notes A damage was QAed. 2018\_ER\_Damage Report.

47. Question Result, ID, References NC, PD.OC.PDPROGRAM.R, 192.614(c)

Question Text Does the damage prevention program meet minimum requirements specified in 192.614(c)?

Assets Covered 90888 (78)

Result Notes We will be performing a PA DP inspection later this year.

48. Question Result, ID, [NA, MO.GOCLASS.CLASSLOCATESTUDY.R, 192.605\(b\)\(1\) \(192.609\(a\), 192.609\(b\), 192.609\(c\), 192.609\(d\), 192.609\(e\), 192.609\(f\)\)](#)  
 Question Text *Do records indicate performance of the required study whenever the population along a pipeline increased or there was an indication that the pipe hoop stress was not commensurate with the present class location?*  
 Assets Covered [90888 \(78\)](#)  
 Result Notes [No such relevant facilities/equipment existed in the scope of inspection review.](#)
49. Question Result, ID, [Sat, EP.ERG.POSTEVTREVIEW.R, 192.605\(a\) \(192.615\(b\)\(1\), 192.615\(b\)\(3\)\)](#)  
 Question Text *Do records indicate review of employee activities to determine whether the procedures were effectively followed in each emergency?*  
 Assets Covered [90888 \(78\)](#)  
 Result Notes [There is a QA report. Although it is not specifically related to Clark County, they have a system wide report.](#)
50. Question Result, ID, [Sat, EP.ERG.TRAINING.R, 192.605\(a\) \(192.615\(b\)\(2\)\)](#)  
 Question Text *Has the operator trained the appropriate operating personnel on emergency procedures and verified that the training was effective in accordance with its procedures?*  
 Assets Covered [90888 \(78\)](#)  
 Result Notes [Clark County Emergency Response training records were reviewed. The operator had conducted refresher intervals at 3 years. They have changed it to every 4 years.](#)
51. Question Result, ID, [NC, EP.ERG.LIAISON.R, 192.605\(a\) \(192.615\(c\)\(1\), 192.615\(c\)\(2\), 192.615\(c\)\(3\), 192.615\(c\)\(4\), 192.616\(c\), ADB-05-03\)](#) (also presented in: [MISCTOPICS.PUBAWARE](#))  
 Question Text *Do records indicate liaisons established and maintained with appropriate fire, police and other public officials and utility owners in accordance with procedures?*  
 Assets Covered [90888 \(78\)](#)  
 Result Notes [This will be reviewed in the upcoming PA audit in April 2021.](#)
52. Question Result, ID, [NC, PD.PA.LANGUAGE.R, 192.616\(g\) \(API RP 1162 Section 2.3.1\)](#) (also presented in: [MISCTOPICS.PUBAWARE](#))  
 Question Text *Were materials and messages developed and delivered in other languages commonly understood by a significant number and concentration of non-English speaking populations in the operator's areas?*  
 Assets Covered [90888 \(78\)](#)  
 Result Notes [This will be reviewed in the upcoming PA audit in April 2021.](#)
53. Question Result, ID, [NC, PD.PA.EVALEFFECTIVENESS.R, 192.616\(c\) \(API RP 1162 Section 8.4\)](#) (also presented in: [MISCTOPICS.PUBAWARE](#))  
 Question Text *Have effectiveness evaluation(s) of the program been performed for all stakeholder groups in all notification areas along all systems covered by the program?*  
 Assets Covered [90888 \(78\)](#)  
 Result Notes [This will be reviewed in the upcoming PA audit in April 2021.](#)
54. Question Result, ID, [NA, PD.PA.MSTRMETER.R, 192.616\(j\) \(192.616\(h\), API RP 1162 Section 2.7 \(Step 12\), API RP 1162 Section 8.5\)](#) (also presented in: [MISCTOPICS.PUBAWARE](#))  
 Question Text *Do records indicate the public awareness program for a master meter or petroleum gas system operator has met the requirements of Part 192?*  
 Assets Covered [90888 \(78\)](#)  
 Result Notes [No such event occurred, or condition existed, in the scope of inspection review.](#)
55. Question Result, ID, [NA, EP.ERG.INCIDENTANALYSIS.R, 192.605\(a\) \(192.617\)](#)  
 Question Text *Do records indicate actions initiated to analyze accidents and failures, including the collection of appropriate samples for laboratory examination to determine the causes of the failure and minimize the possibility of recurrence, in accordance with its procedures?*  
 Assets Covered [90888 \(78\)](#)  
 Result Notes [No such event occurred, or condition existed, in the scope of inspection review.](#)
56. Question Result, ID, [Sat, MO.GOMAOP.MAOPDETERMINE.R, 192.619\(a\) \(192.619\(b\), 192.621\(a\), 192.621\(b\), 192.623\(a\), 192.623\(b\)\)](#)

- Question Text *Do records indicate determination of the MAOP of pipeline segments in accordance with 192.619 and limiting of the operating pressure as required?*
- Assets Covered 90888 (78)
- Result Notes MAOP determination records were reviewed for several jobs. NWN does not use the "high 5" method to determine MAOP.
57. Question Result, ID, References Sat, MO.GOODOR.ODORIZE.R, 192.709(c) (192.625(a), 192.625(b), 192.625(c), 192.625(d), 192.625(e), 192.625(f))
- Question Text *Do records indicate appropriate odorization of its combustible gases in accordance with its processes and conduct of the required testing to verify odorant levels met requirements?*
- Assets Covered 90888 (78)
- Result Notes I reviewed 2018-2021. All reads looked good.
58. Question Result, ID, References NA, MO.RW.TRANSPATROL.R, 192.709(c) (192.705(a), 192.705(b), 192.705(c))
- Question Text *Do records indicate that transmission line ROW surface conditions have been patrolled as required?*
- Assets Covered 90888 (78)
- Result Notes No such relevant facilities/equipment existed in the scope of inspection review.
59. Question Result, ID, References NA, MO.RW.TRANSLEAKAGE.R, 192.709(c) (192.706, 192.706(a), 192.706(b))
- Question Text *Do records indicate transmission leakage surveys conducted as required?*
- Assets Covered 90888 (78)
- Result Notes No such relevant facilities/equipment existed in the scope of inspection review.
60. Question Result, ID, References Sat, MO.RW.DISTPATROL.R, 192.603(b) (192.721(a), 192.721(b))
- Question Text *Do records indicate distribution patrolling was conducted as required?*
- Assets Covered 90888 (78)
- Result Notes No slides or bridge patrols where movement is an issue. No blasting or landslides. NWN completed the most recent leakage self-audit on 7/15/2020.
61. Question Result, ID, References Sat, MO.RW.LEAKFOLLOW.R,
- Question Text *Do records indicate that a follow-up inspection was performed not more than thirty days following a repair where residual gas remained in the ground?*
- Assets Covered 90888 (78)
- Result Notes I reviewed several records for residual gas over the inspection time period.
62. Question Result, ID, References NA, MO.RW.DOWNGRADELEAKREPAIR.R,
- Question Text *Do records indicate that leaks that have been downgraded are repaired within twenty-one months?*
- Assets Covered 90888 (78)
- Result Notes No such event occurred, or condition existed, in the scope of inspection review. None in Washington.
63. Question Result, ID, References Sat, MO.RW.LEAKREPAIRTIME.R,
- Question Text *Do records indicate that leaks were repaired and re-evaluated in the timeframes specified in WAC 480-93-18601?*
- Assets Covered 90888 (78)
- Result Notes C Leaks reviewed for annual rechecks. Some B leaks that were repaired were reviewed. Active B leaks right now are 3 or 4.
64. Question Result, ID, References Sat, MO.RW.LEAKRECORDS.R,
- Question Text *Have gas leak records been prepared and maintained as required?*
- Assets Covered 90888 (78)
- Result Notes I reviewed a "B" leak field report at 6304 North Pacific Hwy 99. 1/2021 NWN rechecked. It is still active.

65.  
Question  
Result, ID, References  
Unsat, MO.RW.DISTPATROLLEAKAGE.R, 192.603(b) (192.723(a), 192.723(b))

Question Text *Do records indicate distribution leakage surveys were conducted as required?*

Assets Covered 90888 (78)

Result Issue [Requirement](#)

Summary *WAC 480-93-188(3) Each gas pipeline company must conduct gas leak surveys according to the following minimum frequencies:*

*(a) Business districts - At least once annually, but not to exceed fifteen months between surveys. All mains in the right of way adjoining a business district must be included in the survey;*

Definition

*WAC 480-93-005(3) "Business district" means an area where the public regularly congregates or where the majority of the buildings on either side of the street are regularly utilized, for financial, commercial, industrial, religious, educational, health, or recreational purposes.*

This is the third time this issue is being addressed with this operator in Washington State. Business district leak surveys are not being conducted in all areas that they are required to be performed. The attached graphic shows the plats the operator is leak surveying annually and a sample of areas that have facilities that may meet the requirements of a business district as defined in WAC 480-93-005(3).

Standard Issues A1 (Significant impact/widespread occurrence) : WAC 480-93-188(3) : Issue not covered in standard items. See Issue Summary text for details.

A1 (Significant impact/widespread occurrence) : 192.723(b) : Records indicate requirement not completed at required intervals.

Result Notes [Requirement](#)

*WAC 480-93-188(3) Gas Leak Surveys*

*Each gas pipeline company must conduct gas leak surveys according to the following minimum frequencies:*

*(a) Business districts - At least once annually, but not to exceed fifteen months between surveys. All mains in the right of way adjoining a business district must be included in the survey;*

Definition

*WAC 480-93-005(3) "Business district" means an area where the public regularly congregates or where the majority of the buildings on either side of the street are regularly utilized, for financial, commercial, industrial, religious, educational, health, or recreational purposes.*

Business district leak surveys are not being conducted in all areas that they are required to be performed. The attached graphic shows the plats the operator is leak surveying annually and a sample of areas that have facilities that may meet the requirements of a business district as defined in WAC 480-93-005(3).

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For areas outside the business districts, records were reviewed are contained in the documents portion of the UTC Quick Base record. Please review the yellow highlighted records for plats reviewed. The operator mentioned there is a QA test that the operator uses for leak surveys where discs are left and need to be recovered by the contractor.

\*\*\*Notes for records review of leak surveys conducted outside the business districts.\*\*\*

Main Survey 1-007-040 (Name and Date Different) It was a data entry error. Service Survey followup for records not provided during the first record request. 1-004-034 (2 cycles reviewed) - 2/16/2017 and 3/13/2020. Additionally a Couldn't Gain Access (CGA) was reviewed for W/O #11626284 that was completed on 3/9/2017. A leak survey audit was last completed per the operator last summer. "NWN completed the most recent leakage self-audit on 7/15/2020." (3/19/2021 email SR-NWN)

66. Question Result, ID, References **NA, MO.RW.CASINGLEAKSURVEY.R,**  
Question Text *Do records indicate shorted casings were leak surveyed as required?*  
Assets Covered **90888 (78)**  
Result Notes **No such relevant facilities/equipment existed in the scope of inspection review.**
67. Question Result, ID, References **Sat, MO.RW.MARKERSURVEY.R,**  
Question Text *Do records indicate that pipeline marker surveys were completed in the timeframe specified by WAC 480-93-124?*  
Assets Covered **90888 (78)**  
Result Notes **I reviewed Washington Completed Pipeline Marker Inspections - **Crossings** Vancouver Resource Center 1/1/2011 thru 1/15/2021 and the Washington Completed Pipeline Marker Inspections - **Plats** Vancouver Resource Center 1/1/2011 thru 1/15/2021. The bridge markers are completed annually during the bridge inspections. The bridge inspections were also reviewed under a separate inspection item.**
68. Question Result, ID, References **Sat, MO.RW.MARKERREPLACE.R,**  
Question Text *Do records indicate that damaged or missing markers were replaced within forty-five days of discovery?*  
Assets Covered **90888 (78)**  
Result Notes **These are listed on the plat and crossings marker inventory. No examples of a reported damaged marker exceeding the 45 day time frame.**
69. Question Result, ID, References **Sat, AR.RMP.TESTREINSTATE.R, 192.603(b) (192.725(a), 192.725(b))**  
Question Text *From the review of records, did the operator properly test disconnected service lines?*  
Assets Covered **90888 (78)**  
Result Notes **The test standard is specified in the SPW.**
70. Question Result, ID, References **Sat, MO.GMOPP.PRESSREGTEST.R, 192.709(c) (192.739(a), 192.739(b))**  
Question Text *Do records indicate inspection and testing of pressure limiting, relief devices, and pressure regulating stations?*  
Assets Covered **90888 (78)**  
Result Notes **Williams performs OPP of NWN facilities. Records were reviewed for Camas, Washougal, Battle Ground, Ridgefield, and La Center gates for 2018-2020.**
71. Question Result, ID, References **Sat, MO.GMOPP.PRESSREGCAP.R, 192.709(c) (192.743(a), 192.743(b), 192.743(c))**  
Question Text *Do records indicate testing or review of the capacity of each pressure relief device at each pressure limiting station and pressure regulating station as required?*  
Assets Covered **90888 (78)**  
Result Notes **Checked 3 years of relief capacity.**
72. Question Result, ID, References **Sat, DC.METERREGSVC.REGTEST.R,**  
Question Text *Do records indicate that service regulators have been installed, operated, maintained, tested during initial turn-on and tested when customers experience pressure problems?*  
Assets Covered **90888 (78)**  
Result Notes **Pressure problem test investigations are done for WO code is a 6000. The reason code of "P" is a pressure problem.**  
  
**2019 records reviewed in Vancouver for service orders 12181949, 12247050, 12249909, 12899045,**  
  
**Atmospheric corrosion records have field reports of where they set flow 6.5" of WC.**

In 2018, 1135 G St in Washougal, a meter add completion record was provided. No records of a pressure problems were available. No gauge numbers on this form. The form does state the pressure was checked.

73. Question Result, ID, References **Sat, MO.GM.DISTVALVEINSPECT.R, 192.603(b) (192.747(a), 192.747(b))**  
Question Text *Do records indicate proper inspection of each distribution system valve that might be required in an emergency at intervals not exceeding 15 months, but at least once each calendar year, and prompt remedial action to correct any valve found inoperable?*  
Assets Covered **90888 (78)**  
Result Notes **I reviewed WUTC\_NWN\_Clark\_County\_Annual\_Valves\_2018-2021. No issues were noted.**
74. Question Result, ID, References **NA, FS.FG.VAULTINSPECT.R, 192.709(c) (192.749(a), 192.749(b), 192.749(c), 192.749(d))**  
Question Text *Do records document the adequacy of inspections of all vaults having an internal volume  $\geq 200$  cubic feet (5.66 cubic meters) that house pressure regulating/limiting equipment?*  
Assets Covered **90888 (78)**  
Result Notes **No such relevant facilities/equipment existed in the scope of inspection review.**
75. Question Result, ID, References **Sat, MO.GM.IGNITION.R, 192.709 (192.751(a), 192.751(b), 192.751(c))**  
Question Text *Do records indicate personnel followed processes for minimizing the danger of accidental ignition where the presence of gas constituted a hazard of fire or explosion?*  
Assets Covered **90888 (78)**  
Result Notes **QA Inspection Reports contain this information and a sample was reviewed.**
76. Question Result, ID, References **Sat, DC.DPC.FLANGE.R, 192.147(a) (192.147(b), 192.147(c))**  
Question Text *Do records indicate flanges and flange accessories meet the requirements of 192.147?*  
Assets Covered **90888 (78)**  
Result Notes **Flange specifications are in procedures and checked during station design. Several records reviewed containing the material specifications showed ANSI 16.5 flanges being used.**
77. Question Result, ID, References **Sat, DC.WELDPROCEDURE.WELD.R, 192.225(a) (192.225(b))**  
Question Text *Do records indicate weld procedures are being qualified in accordance with 192.225?*  
Assets Covered **90888 (78)**  
Result Notes **WPA-007**  
  
**B-00-103A**
78. Question Result, ID, References **Sat, DC.WELDPROCEDURE.ESSENTIAL.R,**  
Question Text *Do records indicate that essential variables were measured and documented when welders and procedures were qualified?*  
Assets Covered **90888 (78)**  
Result Notes **I reviewed the welder and procedure qualification records. They document essential variables.**
79. Question Result, ID, References **Sat, TQ.QUOMCONST.WELDER.R, 192.227(a) (192.227(b), 192.229(a), 192.229(b), 192.229(c), 192.229(d), 192.328(a), 192.328(b), 192.807(a), 192.807(b))**  
Question Text *Do records indicate adequate qualification of welders?*  
Assets Covered **90888 (78)**  
Result Notes **Arc Weld Test Report - Brain Ek Weld Test Report They have moved to a "Coaching Report "**
80. Question Result, ID, References **Sat, TQ.QUOMCONST.NDT.R, 192.243(b)(2) (192.807(a), 192.807(b), 192.328(a), 192.328(b))**  
Question Text *Do records indicate the qualification of nondestructive testing personnel?*  
Assets Covered **90888 (78)**  
Result Notes **OWL - (Acuren) Thomas May exp 1-31-2022 Dye-pen, RT Level II 12-31-2022**

(Visual acuity examination done yearly)

81. Question Result, ID, References **NA, DC.CO.PLASTICJOINTPROCEDURE.R, 192.273(b) (192.283(a), 192.283(b), 192.283(c), 192.283(d))**  
Question Text *Have plastic pipe joining procedures been qualified in accordance with 192.283?*  
Assets Covered **90888 (78)**  
Result Notes **Sp 250 - TR33 - They use manufacturers qualified procedures. No such event occurred, or condition existed, in the scope of inspection review.**
82. Question Result, ID, References **Sat, DC.CO.PLASTICJOINTQUAL.R, 192.285(d) (192.285(a), 192.285(b), 192.285(c), 192.807(a), 192.807(b))**  
Question Text *Do records indicate persons making joints in plastic pipelines are qualified in accordance with 192.285?*  
Assets Covered **90888 (78)**  
Result Notes **Rob Meske's OQ records and Randy Boespflug's records were reviewed. We also review them in the field.**
83. Question Result, ID, References **Sat, DC.CO.PLASTICJOINTINSR.R, 192.287 (192.807(a), 192.807(b))**  
Question Text *Do records indicate persons inspecting the making of plastic pipe joints have been qualified?*  
Assets Covered **90888 (78)**  
Result Notes **Mark Durand's qualifications were reviewed for plastic pipe inspection. AOC08 12/23/21**
84. Question Result, ID, References **Sat, DC.CO.PLASTICPIPESEP.R,**  
Question Text *Do records indicate minimum separation requirements are met for plastic pipelines?*  
Assets Covered **90888 (78)**  
Result Notes **No variances for this time period. The separation is stored as value under the standard construction completion form.**
85. Question Result, ID, References **Sat, MO.GM.EQUIPPLASTICJOINT.R, 192.603(b) (192.756)**  
Question Text *Do records indicate equipment used in joining plastic pipe was maintained in accordance with the manufacturer's recommended practices or with written procedures that have been proven by test and experience to produce acceptable joints?*  
Assets Covered **90888 (78)**  
Result Notes **Sam checked with tool room and provided several records demonstrating maintenance of equipment. The sample records reviewed for for a Trac (Hydraulic) machine**
86. Question Result, ID, References **NA, MO.GM.RECORDS.R, 192.605(b)(1) (192.243(f), 192.709(a), 192.709(b), 192.709(c))**  
Question Text *Do records indicate that records are maintained of each pipe/"other than pipe" repair, NDT required record, and (as required by subparts L or M) patrol, survey, inspection or test?*  
Assets Covered **90888 (78)**  
Result Notes **No such relevant facilities/equipment existed in the scope of inspection review.**
87. Question Result, ID, References **NA, MO.GM.MOVEANDLOWER.R,**  
Question Text *Do records indicate that a study was prepared before moving or lowering a steel gas pipeline as required?*  
Assets Covered **90888 (78)**  
Result Notes **No such event occurred, or condition existed, in the scope of inspection review.**
88. Question Result, ID, References **NA, MO.GM.MOVEANDLOWERSURVEY.R,**  
Question Text *Do records indicate that a leak survey was conducted not more than thirty days after moving and/or lowering a metallic pipeline?*  
Assets Covered **90888 (78)**  
Result Notes **No such event occurred, or condition existed, in the scope of inspection review.**
89. Question Result, ID, References **Concern, MO.RW.MARKERSMAPSDRAW.R,**

Question Text *Are records sufficient to indicate class location and other areas where pipeline markers are required?*

Assets Covered 90888 (78)

Result Issue Summary The operator's manual states that markers are not required for gas lines that fall within the Urban Growth Area (UGA) because they are considered to be Class 3 or 4 locations and do not require pipeline marking per 192.707(b)(2) where a damage prevention program is in effect under § 192.614. This practice may result in pipelines that should be properly marked but are not if they fall within the UGA and are Class 1 or 2 locations. The operator did provide a map containing the UGA and with their pipeline system on it for review, but it did not contain class location information. No specific instances were found during the inspection where markers were required to be placed in a Class 1 or 2 location that were not so this observation is listed as an area of concern.

Result Notes The operator's practice is inconsistent with pipeline safety regulations.

SPW 705

1. SCOPE This standard practice sets forth the policy for design, location, and maintenance of pipeline markers to identify company distribution mains and transmission lines. 2. POLICY The location of company transmission lines and distribution mains must be marked as defined in this standard practice, with pipeline markers placed and maintained as close as practical to each required location to reduce the possibility of damage or interference. **All buried Distribution pipelines within the Urban Growth Boundary are considered to be Class 3 or 4 locations and do not require pipeline marking per 192.707(b)(2).** The company will have maps, drawings, or other sufficient records indicating class locations and other areas where pipeline markers are required.

## FR.FIELDPIPE: Pipeline Inspection (Field)

90. Question Result, ID, References Sat, DC.MA.MARKING.O, 192.63(a) (192.63(b), 192.63(c), 192.63(d))

Question Text *Are pipe, valves, and fittings properly marked for identification?*

Assets Covered 90888 (78)

91. Question Result, ID, References Sat, DC.DPC.FLANGE.O, 192.141 (192.147(a), 192.147(b), 192.147(c))

Question Text *Do flanges and flange accessories meet the requirements of 192.147?*

Assets Covered 90888 (78)

92. Question Result, ID, References NA, DC.DPC.GDVALVEPLACEMENT.O, 192.141 (192.181(a), 192.181(b), 192.181(c))

Question Text *Are distribution line valves being installed as required of 192.181?*

Assets Covered 90888 (78)

Result Notes No such activity/condition was observed during the inspection.

93. Question Result, ID, References Sat, DC.CO.PLASTICPIPEPROC.O,

Question Text *Is plastic pipe handled, stored and installed in accordance with manufacturer's recommendations, including maximum ultraviolet exposure?*

Assets Covered 90888 (78)

Result Notes The plastic pipe is checked during DTC inspections.

94. Question Result, ID, References NA, DC.CO.PLASTICWEAKLINK.O,

Question Text *Is a weak link installed when pulling plastic pipe by mechanical means?*

Assets Covered 90888 (78)

Result Notes No such activity/condition was observed during the inspection.

95. Question Result, ID, References NA, DC.CO.PLASTICPIPESEP.O,

Question Text *Are plastic pipelines installed with the minimum separation from other utilities as required?*

Assets Covered 90888 (78)

Result Notes No such activity/condition was observed during the inspection.

96. Question Result, ID, References **NA, DC.CO.PLASTICBACKFILL.O,**  
 Question Text *Is plastic pipe buried in essentially rock-free material or material recommended by the pipe manufacturer?*  
 Assets Covered **90888 (78)**  
 Result Notes **No such activity/condition was observed during the inspection.**
97. Question Result, ID, References **NA, DC.CO.PLASTICSQUEEZING.O,**  
 Question Text *Verify that the operator has limits in place for squeezing plastic pipe.*  
 Assets Covered **90888 (78)**  
 Result Notes **No such activity/condition was observed during the inspection.**
98. Question Result, ID, References **NA, DC.METERREGSVC.CUSTOMETERREGLOC.O, 192.351 (192.353(a), 192.353(b), 192.353(c), 192.353(d))**  
 Question Text *Are meters and service regulators being located consistent with the requirements of 192.353?*  
 Assets Covered **90888 (78)**  
 Result Notes **No such activity/condition was observed during the inspection.**
99. Question Result, ID, References **NA, DC.METERREGSVC.CUSTOMETERREGPROT.O, 192.351 (192.355(a), 192.355(b), 192.355(c))**  
 Question Text *Are meters and service regulators being protected from damage consistent with the requirements of 192.355?*  
 Assets Covered **90888 (78)**  
 Result Notes **No such activity/condition was observed during the inspection.**
100. Question Result, ID, References **NA, DC.METERREGSVC.CUSTOMETERREGINSTALL.O, 192.351 (192.357(a), 192.357(b), 192.357(c), 192.357(d))**  
 Question Text *Are meters and service regulators being installed consistent with the requirements of 192.357?*  
 Assets Covered **90888 (78)**  
 Result Notes **No such activity/condition was observed during the inspection.**
101. Question Result, ID, References **NA, DC.METERREGSVC.CUSTOMETEROPPRESS.O, 192.351 (192.359(a), 192.359(b), 192.359(c))**  
 Question Text *Are customer meter operating pressures consistent with the requirements of 192.359?*  
 Assets Covered **90888 (78)**  
 Result Notes **No such activity/condition was observed during the inspection.**
102. Question Result, ID, References **NA, DC.METERREGSVC.SVCLINEINSTALL.O, 192.351 (192.361(a), 192.361(b), 192.361(c), 192.361(d), 192.361(e), 192.361(f), 192.361(g))**  
 Question Text *Are customer service lines being installed consistent with the requirements of 192.361?*  
 Assets Covered **90888 (78)**  
 Result Notes **No such activity/condition was observed during the inspection.**
103. Question Result, ID, References **NA, DC.METERREGSVC.SVCLINEVLVLOCATEREQT.O, 192.351 (192.363(a), 192.363(b), 192.363(c), 192.365(a), 192.365(b), 192.365(c))**  
 Question Text *Are customer service line valves being installed meeting the valve and locations requirements of 192.363 and 192.365?*  
 Assets Covered **90888 (78)**  
 Result Notes **No such activity/condition was observed during the inspection.**
104. Question Result, ID, References **NA, DC.METERREGSVC.SVCLINECONNECT.O, 192.351 (192.367(a), 192.367(b), 192.369(a), 192.369(b))**  
 Question Text *Are customer service lines being installed with connections meeting the requirements of 192.367 and 192.369?*  
 Assets Covered **90888 (78)**  
 Result Notes **No such activity/condition was observed during the inspection.**
105. Question Result, ID, References **NA, DC.METERREGSVC.SVCLINEMATERIAL.O, 192.351 (192.371, 192.373(a), 192.373(b), 192.373(c), 192.375(a), 192.375(b), 192.377)**  
 Question Text *Are customer service lines being installed constructed appropriately for the types of materials used?*

Assets Covered 90888 (78)

Result Notes No such activity/condition was observed during the inspection.

106. Question Result, ID, NA, DC.METERREGSVC.NEWSVCLINENOTUSED.O, 192.351 (192.379, 192.379(a), 192.379(b),  
References 192.379(c))

Question Text *Are new customer service lines not in use configured in accordance with the requirements of 192.379?*

Assets Covered 90888 (78)

Result Notes No such activity/condition was observed during the inspection.

107. Question Result, ID, NA, DC.METERREGSVC.EXCSFLOWVLVLOCATE.O, 192.351 (192.381(c), 192.381(d), 192.381(e))  
References

Question Text *Are service line excess flow valves located and identified in accordance with the requirements of 192.381?*

Assets Covered 90888 (78)

Result Notes No such activity/condition was observed during the inspection.

108. Question Result, ID, NA, DC.METERREGSVC.REGTEST.O,  
References

Question Text *Are service regulators operated, maintained, installed and tested during the initial turn-on in accordance with manufacturer's recommendations and WAC requirements?*

Assets Covered 90888 (78)

Result Notes No such activity/condition was observed during the inspection.

109. Question Result, ID, NA, DC.WELDPROCEDURE.ONSITE.O,  
References

Question Text *Are qualified written welding procedures located onsite where welding is being performed?*

Assets Covered 90888 (78)

Result Notes No such activity/condition was observed during the inspection.

110. Question Result, ID, NA, DC.WELDPROCEDURE.ESSENTIAL.O,  
References

Question Text *Does the operator document essential variables when qualifying welders and weld procedures?*

Assets Covered 90888 (78)

Result Notes No such activity/condition was observed during the inspection.

111. Question Result, ID, NA, TD.COAT.NEWPIPEINSTALL.O, 192.461(d)  
References

Question Text *Is external protective coating being protected from damage that could result from adverse ditch conditions or supporting blocks?*

Assets Covered 90888 (78)

Result Notes No such activity/condition was observed during the inspection.

112. Question Result, ID, Sat, TD.CPMONITOR.MONITORCRITERIA.O, 192.465(a) (192.463(b), 192.463(c), 192.463(a))  
References

Question Text *Are methods used for taking CP monitoring readings that allow for the application of appropriate CP monitoring criteria?*

Assets Covered 90888 (78)

Result Notes Instant-off CP readings were taken at several sites to account for IR drop during the field portion. Not all sites were able to be interrupted, but for those that were capable we did. NWN uses a 200mV Delta for the casing to carrier isolation criteria.

113. Question Result, ID, Sat, TD.CPMONITOR.CURRENTTEST.O, 192.465(b)  
References

Question Text *Are impressed current sources properly maintained and are they functioning properly?*

Assets Covered 90888 (78)

Result Notes All rectifiers were functioning properly during our field visits.

114. Question Result, ID, Sat, TD.CP.ELECISOLATE.O, 192.467(a) (192.467(b), 192.467(c), 192.467(d), 192.467(e))  
References

Question Text *Are measures performed to ensure electrical isolation of each buried or submerged pipeline from other metallic structures unless they electrically interconnect and cathodically protect the pipeline and the other structures as a single unit?*

Assets Covered 90888 (78)

Result Notes Isolation was checked at the Williams North Vancouver Gate Station. See attached field notes for details.

115. Question Result, ID, References Concern, TD.CP.CASINGINSPECT.O,

Question Text *Are casings electrically isolated from the pipeline?*

Assets Covered 90888 (78)

Result Issue Summary One casing did not pass the preliminary (PSP) isolation test as indicated in the field notes. NWN will need to respond with their acknowledgement of this finding and the scheduling of possibly clearing the short, leak surveys, abandonment, or other appropriate follow up measures.

Result Notes Casings were checked as part of the field portion. One casing did not pass the preliminary (PSP) isolation test and will be addressed in the inspection findings letter so the follow-up can be tracked. The location is: Hwy 99 from 86th St 250ft to the North The closest address is 8709 NE Hwy 99. Casing #124305

NWN Problem report ID 103666 NWN Work Order 3645868

-1360 mV CSE (on)Casing

-1440 mV CSE (on) Carrier

Delta reading is not enough to meet NWN's 200mV isolation standard. This will be noted as an item of concern in the inspection findings so the operator reports on when this issue has been resolved. The operator states it has been added to the special leak survey list and a work order to cut and cap the line has been created because it is an unutilized section of pipe.

116. Question Result, ID, References Sat, TD.CP.MONITOR.TESTSTATION.O, 192.469

Question Text *Do cathodically protected pipelines have a sufficient number of test stations?*

Assets Covered 90888 (78)

117. Question Result, ID, References Sat, TD.CP.MONITOR.TESTLEAD.O, 192.471(a)

Question Text *Do pipelines with cathodic protection have electrical test leads installed in accordance with requirements of Subpart I?*

Assets Covered 90888 (78)

118. Question Result, ID, References NA, TD.CP.MONITOR.INTFCURRENT.O, 192.473(a)

Question Text *Are areas of potential stray current identified, and if found, the detrimental effects of stray currents minimized?*

Assets Covered 90888 (78)

Result Notes No such event occurred, or condition existed, in the scope of inspection review.

119. Question Result, ID, References NA, TD.CP.ADJACENTMETAL.O, 192.473(b)

Question Text *Are impressed current type cathodic protection systems and galvanic anode systems installed so as to minimize any adverse effect on existing adjacent underground metallic structures?*

Assets Covered 90888 (78)

Result Notes No such activity/condition was observed during the inspection. Witnessing installation of CP systems was not covered during this inspection. Rectifiers and associated ground beds appeared to be some distance to other underground structures and this topic was discussed with the CP technicians and supervisor during the inspection.

120. Question Result, ID, References NA, TD.ICP.CORRGASPRVNT.O, 192.475(a)

Question Text *If the transportation of corrosive gas is not allowed, is the transportation of corrosive gas prevented?*

Assets Covered 90888 (78)

Result Notes No such event occurred, or condition existed, in the scope of inspection review.

121. Question Result, ID, References **NA, TD.ICP.CORRGASACTION.O, 192.477**  
 Question Text *Are adequate actions taken when corrosive gas is being transported by pipeline?*  
 Assets Covered **90888 (78)**  
 Result Notes **No such event occurred, or condition existed, in the scope of inspection review.**
122. Question Result, ID, References **Sat, TD.ATM.ATMCORRODEINSP.O, 192.481(b) (192.481(c), 192.479(a), 192.479(b), 192.479(c))**  
 Question Text *Is pipe that is exposed to atmospheric corrosion protected?*  
 Assets Covered **90888 (78)**
123. Question Result, ID, References **NA, AR.RCOM.REMEDIATIONOM.O, 192.487(a) (192.487(b))**  
 Question Text *Is anomaly remediation and documentation of remediation adequate for all segments?*  
 Assets Covered **90888 (78)**  
 Result Notes **No such activity/condition was observed during the inspection.**
124. Question Result, ID, References **Sat, MO.GOODOR.ODORIZE.O, 192.625(a) (192.625(c), 192.625(d), 192.625(e), 192.625(f))**  
 Question Text *Is sampling of combustible gases adequate using an instrument capable of determining the percentage of gas in air at which it becomes readily detectable?*  
 Assets Covered **90888 (78)**  
 Result Notes **Please review attached field notes for sampling readings from the field inspection.**
125. Question Result, ID, References **NA, MO.GO.PURGE.O, 192.629(a) (192.629(b))**  
 Question Text *Are lines being purged in accordance with 192.629?*  
 Assets Covered **90888 (78)**  
 Result Notes **No such activity/condition was observed during the inspection.**
126. Question Result, ID, References **Sat, MO.RW.ROWMARKER.O, 192.707(a) (192.707(b), 192.707(d), CGA Best Practices, v4.0, Practice 2-5, CGA Best Practices, v4.0, Practice 4-20)**  
 Question Text *Are line markers placed and maintained as required?*  
 Assets Covered **90888 (78)**  
 Result Notes **Markers observed during the field portion of this inspection, where sites were visited, were sufficient.**
127. Question Result, ID, References **Sat, MO.RW.ROWMARKERABOVE.O, 192.707(c) (CGA Best Practices, v4.0, Practice 2-5, CGA Best Practices, v4.0, Practice 4-20)**  
 Question Text *Are line markers placed and maintained as required for above ground pipelines?*  
 Assets Covered **90888 (78)**  
 Result Notes **A bridge marker was observed to be damaged during the field portion and it was immediately replaced by the operator before leaving the site.**
128. Question Result, ID, References **NA, MO.GMOPP.PRESSREGTEST.O, 192.739(a) (192.739(b))**  
 Question Text *Are field or bench tests or inspections of regulating stations, pressure limiting stations or relief devices adequate?*  
 Assets Covered **90888 (78)**  
 Result Notes **No such activity/condition was observed during the inspection.**
129. Question Result, ID, References **NA, MO.GMOPP.PRESSREGMETER.O, 192.741(a) (192.741(b), 192.741(c))**  
 Question Text *Are telemetering or recording gauges properly utilized as required for distribution systems?*  
 Assets Covered **90888 (78)**  
 Result Notes **No such activity/condition was observed during the inspection.**
130. Question Result, ID, References **Sat, MO.GMOPP.MULTIPRESSREG.O,**  
 Question Text *Are regulator stations installed in a manner to provide protection between regulator stages?*  
 Assets Covered **90888 (78)**

131. Question Result, ID, References **Sat, MO.GM.DISTVALVEINSPECT.O, 192.747(a) (192.747(b))**  
 Question Text *Is proper inspection being performed for each distribution system valve that might be required in an emergency, and prompt remedial action to correct any valves found inoperable?*  
 Assets Covered **90888 (78)**  
 Result Notes **Several valve operation and maintenance checks were conducted during this inspection.**
132. Question Result, ID, References **Sat, FS.FG.CASING.O,**  
 Question Text *Are all casings bare steel and do they have test leads installed on new casings without vents?*  
 Assets Covered **90888 (78)**
133. Question Result, ID, References **NA, FS.FG.CASESEAL.O,**  
 Question Text *Does the operator seal both ends of casings/conduits for mains and transmission lines and seal the end nearest the building for service lines?*  
 Assets Covered **90888 (78)**  
 Result Notes **The operator was not observed sealing ends of casings or conduits. No such activity/condition was observed during the inspection.**
134. Question Result, ID, References **NA, FS.FG.VAULTINSPECT.O, 192.749(a) (192.749(b), 192.749(c), 192.749(d))**  
 Question Text *Are inspections of selected vaults with internal volume  $\geq$  200 cubic feet (5.66 cubic meters) housing pressure regulating/limiting equipment adequate?*  
 Assets Covered **90888 (78)**  
 Result Notes **No such relevant facilities/equipment existed in the scope of inspection review. No vaults of this capacity in Washington State.**
135. Question Result, ID, References **NA, AR.RMP.IGNITION.O, 192.751(a) (192.751(b), 192.751(c))**  
 Question Text *Perform observations of selected locations to verify that adequate steps have been taken by the operator to minimize the potential for accidental ignition.*  
 Assets Covered **90888 (78)**  
 Result Notes **No such activity/condition was observed during the inspection.**
136. Question Result, ID, References **NA, MO.GM.EQUIPPLASTICJOINT.O, 192.756**  
 Question Text *Is proper maintenance being performed on equipment used in joining plastic pipe in accordance with the manufacturer's recommended practices or with written procedures that have been proven by test and experience to produce acceptable joints?*  
 Assets Covered **90888 (78)**  
 Result Notes **No such activity/condition was observed during the inspection.**
137. Question Result, ID, References **NA, MO.GM.ONSITEPROCS.O,**  
 Question Text *Are procedures applicable to the work being done located onsite where the work is being done?*  
 Assets Covered **90888 (78)**  
 Result Notes **No such activity/condition was observed during the inspection.**
138. Question Result, ID, References **Sat, AR.PTI.EQUIPCALIB.O,**  
 Question Text *Is pressure testing equipment calibrated according to calibration schedules and procedures?*  
 Assets Covered **90888 (78)**  
 Result Notes **Pressure testing equipment was verified before performing covered tasks during the field portion.**
139. Question Result, ID, References **NA, AR.PTI.PLASTICPRESSURETEST.O,**  
 Question Text *Is plastic pipe installed and backfilled prior to pressure testing?*  
 Assets Covered **90888 (78)**  
 Result Notes **No such activity/condition was observed during the inspection.**

## GDIM.IMPL: GDIM Implementation

140. Question Result, ID, References **Sat, GDIM.RR.MECHANICALFITTINGDATAIMPL.R, 192.1009 (191.12)** (also presented in: PRR.REPORT)  
Question Text *Have accurate records been maintained documenting mechanical fitting failures that resulted in hazardous leaks?*  
Assets Covered **90888 (78)**  
Result Notes **None for reporting year 2019. 2018 and 2017 were submitted.**

## MISCTOPICS.PROT9: OQ Field Inspection

141. Question Result, ID, References **NA, TQ.PROT9.CORRECTION.O, 192.801(a) (192.809(a))**  
Question Text *Have potential issues identified by the OQ plan inspection process been corrected at the operational level?*  
Assets Covered **90888 (78)**  
Result Notes **No such event occurred, or condition existed, in the scope of inspection review.**
142. Question Result, ID, References **Sat, TQ.PROT9.QUALIFICATIONSTATUS.O, 192.801(a) (192.809(a))**  
Question Text *Verify the individuals performing the observed covered tasks are currently qualified to perform the covered tasks.*  
Assets Covered **90888 (78)**  
Result Notes **Qualifications were reviewed for all field personnel prior to performing the task.**
143. Question Result, ID, References **Sat, TQ.PROT9.TASKPERFORMANCE.O, 192.801(a) (192.809(a))**  
Question Text *Verify the qualified individuals performed the observed covered tasks in accordance with the operator's procedures or operator approved contractor procedures.*  
Assets Covered **90888 (78)**  
Result Notes **The CTs reviewed in the field were consistent with operator procedures.**
144. Question Result, ID, References **Sat, TQ.PROT9.AOCRECOG.O, 192.801(a) (192.809(a))**  
Question Text *Verify the individuals performing covered tasks are cognizant of the AOCs that are applicable to the tasks observed.*  
Assets Covered **90888 (78)**  
Result Notes **The individuals performing the covered tasks were cognoscente of AOCs and were able to explain them well.**
145. Question Result, ID, References **Sat, TQ.PROT9.VERIFYQUAL.O, 192.801(a) (192.809(a))**  
Question Text *Observe in the field (job site, local office, etc.) that the foreman/supervisor/manager has verified the qualification of the individual performing the task, that the qualification records are current, and ensure the personal identification of all individuals performing covered tasks are checked, prior to task performance.*  
Assets Covered **90888 (78)**  
Result Notes **Qualifications were reviewed for all field personnel prior to performing field verification tasks.**

### Bridge Patrols

Keith Perkins Task DOQ-120001 exp 12/10/23

### Valves

Joe Reynosa DOQ-096143 and DOQ-83101 exp 8/27/23

Trent Thompson DOQ-0967660 and DOQ-83101 exp 9/11/23

### Odorant Testing

Shane Macias-Williams DOQ-70001 exp 6/25/22

### Cathodic Protection

Timothy Countryman DOQ-20102 exp 7/26/21 and DOQ-20001 exp 7/26/21 DOQ-20101 exp 7/26/21

### Pressure Control

Avery Wakefield DOQ-80401 exp 6/2/22 and DOQ-80001 exp 6/2/22

Michael Jamison DOQ-80401 exp 6/3/22 and DOQ-80001 exp 6/3/22

## MISCTOPICS.PUBAWARE: Public Awareness Program Effectiveness

146. Question Result, ID, [NC, EP.ERG.LIAISON.R, 192.605\(a\) \(192.615\(c\)\(1\), 192.615\(c\)\(2\), 192.615\(c\)\(3\), 192.615\(c\)\(4\),](#)  
References [192.616\(c\), ADB-05-03](#) (also presented in: PRR.OM)  
Question Text *Do records indicate liaisons established and maintained with appropriate fire, police and other public officials and utility owners in accordance with procedures?*  
Assets Covered [90888 \(78\)](#)  
Result Notes [This will be reviewed in the upcoming PA audit in April 2021.](#)
147. Question Result, ID, [NC, PD.PA.LANGUAGE.R, 192.616\(g\) \(API RP 1162 Section 2.3.1\)](#) (also presented in: PRR.OM)  
References  
Question Text *Were materials and messages developed and delivered in other languages commonly understood by a significant number and concentration of non-English speaking populations in the operator's areas?*  
Assets Covered [90888 \(78\)](#)  
Result Notes [This will be reviewed in the upcoming PA audit in April 2021.](#)
148. Question Result, ID, [NC, PD.PA.EVALEFFECTIVENESS.R, 192.616\(c\) \(API RP 1162 Section 8.4\)](#) (also presented in: PRR.OM)  
References  
Question Text *Have effectiveness evaluation(s) of the program been performed for all stakeholder groups in all notification areas along all systems covered by the program?*  
Assets Covered [90888 \(78\)](#)  
Result Notes [This will be reviewed in the upcoming PA audit in April 2021.](#)
149. Question Result, ID, [NA, PD.PA.MSTRMETER.R, 192.616\(j\) \(192.616\(h\), API RP 1162 Section 2.7 \(Step 12\), API RP 1162](#)  
References [Section 8.5\)](#) (also presented in: PRR.OM)  
Question Text *Do records indicate the public awareness program for a master meter or petroleum gas system operator has met the requirements of Part 192?*  
Assets Covered [90888 \(78\)](#)  
Result Notes [No such event occurred, or condition existed, in the scope of inspection review.](#)

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Report Parameters: Results: all

Except as required to be disclosed by law, any inspection documentation, including completed protocol forms, summary reports, executive summary reports, and enforcement documentation are for internal use only by federal or state pipeline safety regulators. Some inspection documentation may contain information which the operator considers to be confidential. In addition, supplemental inspection guidance and related documents in the file library are also for internal use only by federal or state pipeline safety regulators (with the exception of documents published in the federal register, such as advisory bulletins). Do not distribute or otherwise disclose such material outside of the state or federal pipeline regulatory organizations. Requests for such information from other government organizations (including, but not limited to, NTSB, GAO, IG, or Congressional Staff) should be referred to PHMSA Headquarters Management.

**FIELD DATA COLLECTION FORM FOR INTRASTATE INSPECTORS**

**NOTES-FIELD INSPECTION**

**Company:** Northwest Natural Gas

**Date(s):** March 4,5,10-12, 2021

**Unit:** Clark

**Insp. No.:** 8280

Line & Location	CP Volts		Rectifier		Pressures		Remarks
	P/S	Casing	Volts	Amps	Set	Actual	
Bridgeline NWN ID: 1-015-051-B-01-B-A 2 " Dia Distribution ACCESS RD OFF CAMAS MEADOWS DR Vancouver WA							Rollers, SAI, and line pipe coating was suitable
Bridgeline NWN ID: 4-011-024-B-01- B-A 3.5 " Dia Distribution NW 269TH & GEE CREEK (cased in 6 inch) Ridgefield WA							Rollers, SAI, and line pipe coating was suitable
Bridgel ine NWN ID: 1-021-060-B-01- B-A 4 " Dia Distribution 17 STREET & WASHOUGAL RIVER WASHOUGAL Washougal WA							Rollers, SAI, and line pipe coating was suitable
Valve NWN ID: 1-002-046-L-06-V-A 6" Fullport Ball Valve NE 172ND AVE. @ N VANCOUVER GATE Brush Prairie WA							The valve was located and operated.

**FIELD DATA COLLECTION FORM FOR INTRASTATE INSPECTORS**

Valve NWN ID: 1-005-048-L-02-V-A 4" Poly Valve W19 NE 192 AVE & 68S NE 119 ST Brush Prairie WA							The valve was located and operated.
Valve NWN ID: 1-021-055-L-07-V-A 6" Plug Valve N 13 OF NE 6 AV & EPL OF NE DALLAS ST Camas WA							The valve was located and operated.
Valve NWN ID: 1-011-030-L-02-V-A 6" Plug Valve 57N FWY ACCESS & 17E OF I-5 R/W, NE 45 & LVRCH PKY Vancouver WA							The valve was located and operated.
Odorant Test Site NWN ID: 10089 Plat: 4-011-023 1410 S Hillhurst Rd Ridgefield, WA							Test Equipment was a DTEX exp 3/28/2021 LEL is 4% gas/air for NWN system FD was .29 RD was .43
Odorant Test Site NWN ID: 10221 Plat: 1-023-065 4855 Evergreen Way Washougal, WA							FD was .25 RD was .34
Odorant Test Site NWN ID: 10386 Plat: 4-020-025 35306 NW Toenjes Rd Woodland, WA							FD was .24

**FIELD DATA COLLECTION FORM FOR INTRASTATE INSPECTORS**

							RD was .32
Odorant Test Site NWN ID: 10222 Plat: 1-007-027 2401 NW 94th Vancouver, WA							FD was .26 RD was .46
Casing NWN ID: 120079 Plat ID: 1-012-038 H 4TH PLAIN RD/NE THURSTON Vancouver WA	-1400 mV CSE (on)	-340 mV CSE (on)					
Casing NWN ID: 124305 Plat ID: 1-008-031 8709 NE Hwy 99 Vancouver WA	-1440 mV CSE (on)	-1360 mV CSE (on)					Delta reading is not enough to meet the 100mV or NWN's 200mV isolation standard. This will be noted as an item of concern in the inspection findings so the operator reports on when this issue has been resolved. The operator

**FIELD DATA COLLECTION FORM FOR INTRASTATE INSPECTORS**

							states it has been added to the special leak survey list and a work order to cut and cap the line has been created because it is an unutilized section of pipe.
Casing NWN ID: 122873 Plat ID: 1-010-029 R BNRR & OVERLOOK DR Vancouver WA	-1314mV (on)	-178mV (on)					Very steep hillside – hard to find location
Annual Test Site NWN ID: 100017 Plat: 1-002-046 N VANCOUVER GATE STATION Battle Ground WA	-1612 mV CSE (on) – not able to interrupt due to anodes						-845mV CSE Williams
Annual Test Site NWN ID: 100202 Plat: 1-012-027 4100 NW FRUIT VLY RD Vancouver WA	-1348 mV CSE (on)						Space #28 idle riser

**FIELD DATA COLLECTION FORM FOR INTRASTATE INSPECTORS**

	- 1008mV CSE (off)						
Annual Test Site NWN ID: 100258 Plat: 1-013-030 400 E 33 ST Vancouver WA	-1143 mV CSE (galvani c)						
Annual Test Site NWN ID: 100400 Plat: 1-015-032 1107 Z ST Vancouver WA	-1008 mV CSE (galvani c)						
<del>Rectifier</del> (Annual Test Site) NWN ID: 100503 Plat: 1-016-037 8101 NE 9 ST Vancouver WA	-1083 mV CSE (galvani c)						(Field Notes detail that this was an annual test site)
Rectifier NWN ID: 116842 Plat ID: 1-008-032 * NE 78 ST & 25 AV Vancouver WA	-1867 mV CSE (on)		33.1V DC	1.6A			Taps C3 F1
Rectifier NWN ID: 116933 Plat ID: 1-016-028 * W 8 ST & HILL AV Vancouver WA	- 1801mV CSE (on)		10 VDC	1.6A			Taps C1 FD
Rectifier NWN ID: 116793 Plat ID: 4-012-024 * NW 269 ST & REIMAN RD Ridgefield WA	- 1840mV CSE (on)		6.26 VDC	.62A			1 <sup>st</sup> stop of the day OQs and equipment checked for expiration dates. MM #6395048

**FIELD DATA COLLECTION FORM FOR INTRASTATE INSPECTORS**

							exp 2/17/22 ½ cells replaced annually  Pos polarity tagged on leads. (OK) Taps C2 F1
Isolated Test Site (Now bonded to IC system) NW LINCOLN & 57TH ST Vancouver WA	-982mV (CSE) (on)	-142mV (CSE) (on)					Now part of the IC system
Isolated Test Site 7110 NE 63RD ST Vancouver WA	- 1350mV CSE (galvani c)						
Isolated Test Site 1812 E. MCLOUGHLIN Vancouver WA	- 1340mV CSE (galvani c)						
Pressure Control 1-002-046-G-01 Address: N VANCOUVER GATE STN, Hockinson, WA					230 psig flowing outlet SP  LU SP 230 psig	230 psig flowing outlet AF  LU AF 232 psig	Run B Tested  MAOP 250 psig outlet  MAOP 640 inlet

**FIELD DATA COLLECTION FORM FOR INTRASTATE INSPECTORS**

					Relief SP 250 psig	Relief AF 250 psig	
Pressure Control 1-003-025-G-01 Address: 5207 NW McCann Rd. - Felida Gate Station, Vancouver, WA					Inlet AF 657 psig LU SP 200 psig on "A" run LU SP 200 psig on "B" run "A- Primar y" Relief SP 250 psig	Outlet AF 203 psig "A- Primar y" Relief AF 250 psig	MAOP 809 inlet  MAOP 250 psig outlet
Pressure Control 1-004-037-R-01 Address: NE 119TH ST & NE 72ND AVE, Vancouver, WA					LU SP 45 psig  Relief SP 50 psig	215 psig inlet AF 42 psig outlet AF  LU AF 45.6 psig	

**FIELD DATA COLLECTION FORM FOR INTRASTATE INSPECTORS**

						Relief AF 53 psig  Relief as left 50 psig	
Pressure Control 1-016-050-R-01 Address: 4857 NW LAKE RD, Camas, WA					Relief SP 50 psig  NOP 45 psig  LU SP 45 psig	Relief AF 50 psig  LU AF 46 psig	This was the first site of the day. As with the other QTs, OQ records and equipment were verified for expiration dates before performing the task.  Gauge SN- S1903270 01-01-01 exp 2-2-22 Relief SP 60 psig

**FIELD DATA COLLECTION FORM FOR INTRASTATE INSPECTORS**

							Gauge #S180222 005-01-01 (0-300#) exp 2-2-22 Gauge #3170 2- 2-22 Gauge #3167 2- 2-22  MAOP 50 psig outlet  Inlet NOP 200 psig Inlet MAOP 250 psig	
Pressure Control 4-004-041-R-01 Address: NW CORNER @ NE 122ND AVE & NE 189TH ST, Battle Ground, WA						Relief SP 60 psig	LU AF 49 psig  LU as left 45 psig  Relief AF 59 psig	MAOP 60 psig outlet  NOP 45 psig outlet  232 psig inlet

**FIELD DATA COLLECTION FORM FOR INTRASTATE INSPECTORS**