

Inspection Output (IOR)

Generated on 2025.July.03 09:56

Report Filters

Assets All, and including items not linked to any asset.

Results All

Inspection Information

Inspection Name	9029 - NWN GD CRM Review 2025	Operator(s)	NORTHWEST NATURAL GAS CO (13840)	Plan Submitted	01/09/2025
Status	LOCKED	Lead	Scott Anderson	Plan Approval	01/14/2025 by Dennis Ritter
Start Year	2025	Team Members	Marina Rathbun	All Activity Start	06/02/2025
System Type	GD	Observer(s)	David Cullom, Anthony Dorrough, Derek Norwood, John Trier, Tom Green, Jason Hoxit	All Activity End	06/05/2025
Protocol Set ID	WA.GD.2024.02	Supervisor	Dennis Ritter	Inspection Submitted	06/05/2025
		Director	Scott Rukke	Inspection Approval	07/03/2025 by Scott Rukke

Inspection Summary

Inspection Scope and Summary

This inspection consisted of review of NW Natural's CRM records and procedures.

Facilities visited and Total AFOD

2 AFOD

Summary of Significant Findings

No findings

Primary Operator contacts and/or participants

Samantha Rookstool, NWN Code Compliance Specialist

Hanna Koonce, NWN Code Compliance Specialist

Andy Fortier, NWN Compliance Engineer

Paul Judge, NWN Control Room Supervisor

Matthew Darcy, NWN Sr. Gas Controller

Nicholas Colombo, NWN Gas Control Compliance Analyst

Operator executive contact and mailing address for any official correspondence

Joe Karney

VP, Engineering and Utility Operations

NW Natural

250 SW Taylor St.

Portland, OR 97204

Scope (Assets)

#	Short Name	Long Name	Asset Type	Asset IDs	Excluded Topics	Planned	Required	Inspected	Total	Required % Complete
1.	88965 (1,826)	Northwest Natural-HEADQUARTERS	unit	88965	Storage Fields Bottle/Pipe - Holders Vault Offshore GOM OCS Cast or Ductile Iron Copper Pipe Aluminum/Amphoteric	140	140	140	140	100.0%

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

Plans

#	Plan Assets	Focus Directives	Involved Groups/Subgroups	Qst Type(s)	Extent	Notes
1.	88965 (1,826)	--	MISCTOPICS.CRM	P, R, O, S	Detail	--

Plan Implementations

#	Activity Name	SMAR T Act#	Start Date	End Date	Focus Directives	Involved Groups/Subgroups	Assets	Qst Type(s)	Planned	Required	Total Inspected	Required % Complete
1	CRM Questions	--	06/02/2025	06/05/2025	--	all planned questions	all assets	all types	140	140	140	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

No.	Entity	Form Name	Status	Date Completed	Activity Name	Asset
1.	Attendance List	CRM Questions	COMPLETED	06/04/2025	CRM Questions	88965 (1,826)

Results (all values, 140 results)

MISCTOPICS.CRM: Control Room Management

- Question Result, ID, References [Sat, CR.CRMGEN.CRMCRITERIA.P, 192.631\(a\)\(2\)](#)

Question Text *Do procedures adequately address the process and criteria to determine which facilities are control rooms?*

Assets Covered [88965 \(1,826\)](#)

Result Notes [NWN CRM Manual Rev. 15.0, 3/21/25. Definition of "Control Room" lists the locations, page 8.](#)

- Question Result, ID, References [Sat, CR.CRMGEN.CRMMGMT.P, 192.631\(a\)\(2\)](#)

Question Text *Are CRM procedures formalized and controlled?*

Assets Covered [88965 \(1,826\)](#)

Result Notes [NWN CRM Manual Rev. 15.0, 3/21/25. "General" section, page 10.](#)

3. Question Result, ID, References [Sat, CR.CRMGEN.CRMIMPLEMENT.R, 192.631\(a\)\(2\)](#)
 Question Text *Were procedures approved, in place, and implemented on or before the regulatory deadline?*
 Assets Covered [88965 \(1,826\)](#)
 Result Notes [The original NWN CRM plan was created 8/1/2011. It was approved, in place, and implemented 9/16/2011.](#)

4. Question Result, ID, References [Sat, CR.CRMGEN.CRMPROCLOCATION.O, 192.631\(a\)\(2\)](#)
 Question Text *Are procedures readily available to controllers in the control room?*
 Assets Covered [88965 \(1,826\)](#)
 Result Notes [Procedures are available to controllers through their J5 software on the console along with hard copies at the controllers desk.](#)

5. Question Result, ID, References [Sat, CR.CRMRR.RESPONSIBLE.P, 192.631\(b\)](#)
 Question Text *Are there clear processes to describe each controller's physical domain of responsibility for pipelines and other facility assets?*
 Assets Covered [88965 \(1,826\)](#)
 Result Notes [NWN CRM Manual Rev. 15.0, 3/21/25. Definitions of "Controller" and "Controller On Duty"](#)

[NWN CRM Manual Rev. 15.0, 3/21/25. Roles and Responsibilities section, page 12](#)

6. Question Result, ID, References [Sat, CR.CRMRR.QUALCONTROL.P, 192.631\(b\)](#)
 Question Text *Are there provisions in place to assure that only qualified individuals may assume control at any console/desk?*
 Assets Covered [88965 \(1,826\)](#)
 Result Notes [NWN CRM Manual Rev. 15.0, 3/21/25. Roles and Responsibilities section, page 12](#)

7. Question Result, ID, References [Sat, CR.CRMRR.DOMAINCHANGE.P, 192.631\(b\)](#)
 Question Text *If the physical domain of responsibility periodically changes, has a clear process been established to describe the conditions for when such a change occurs?*
 Assets Covered [88965 \(1,826\)](#)
 Result Notes [NWN CRM Manual Rev. 15.0, 3/21/25. Roles and Responsibilities section, page 12](#)

[NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Shift Change section, page 32, Shift Change](#)

8. Question Result, ID, References [Sat, CR.CRMRR.RESPCHANGE.P, 192.631\(b\)](#)
 Question Text *Do processes address a controller's role during temporary impromptu (unplanned) changes in controller responsibilities?*
 Assets Covered [88965 \(1,826\)](#)
 Result Notes [NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Shift Change section, page 33, Temporary Handover](#)

9. Question Result, ID, References [Sat, CR.CRMRR.COMMANDVERIFY.P, 192.631\(b\)](#)
 Question Text *Do the defined roles and responsibilities require controllers to stay at the console to verify all SCADA commands that have been initiated are fulfilled, and that commands given via verbal communications are acknowledged before leaving the console for any reason?*
 Assets Covered [88965 \(1,826\)](#)
 Result Notes [NWN CRM Manual Rev. 15.0, 3/21/25. Physical Domain of Responsibility section, pages 16-17.](#)

10. Question Result, ID, References [Sat, CR.CRMRR.AUTHORITYABNORMAL.P, 192.631\(b\)\(2\)](#)
 Question Text *Have processes been established to define the controllers' authority and responsibilities when an abnormal operating condition is detected?*
 Assets Covered [88965 \(1,826\)](#)
 Result Notes [NWN CRM Manual Rev. 15.0, 3/21/25. Abnormal Operating Conditions \(AOC\) section, page 14](#)

11. Question Result, ID, References **Sat, CR.CRMRR.PRESSLIMITS.O, 192.631(b)(2) (192.619(a), 192.631(e)(1))**
 Question Text *Are controllers aware of the current MAOPs of all pipeline segments for which they are responsible, and have they been assigned the responsibility to maintain those pipelines at or below the MAOP?*
 Assets Covered **88965 (1,826)**
 Result Notes **MAOP is available to all controllers in the NWN IQGeo GIS software.**
12. Question Result, ID, References **Sat, CR.CRMRR.AUTHORITYEMERGENCY.P, 192.631(b)(3) (192.615(a)(8), NTSB P-11-9)**
 Question Text *Do processes define the controllers' authority and responsibility to make decisions, take actions, and communicate with others upon being notified of, or upon detection of, and during, an emergency or if a leak or rupture is suspected?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Emergency Operating Conditions section, page 16**
13. Question Result, ID, References **Sat, CR.CRMRR.EVACUATION.P, 192.631(b)(3)**
 Question Text *Do processes specifically address the controller's responsibilities in the event the control room must be evacuated?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Control Room Evacuation section, page 30-31**
14. Question Result, ID, References **Sat, CR.CRMRR.COMMSYSFAIL.P, 192.631(b)(3)**
 Question Text *Do processes specifically address the controller's responsibilities in the event of a SCADA system or data communications system failure impacting large sections of the controller's domain of responsibility?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Controller Responsibility During SCADA Outage section, page 17.**

CRM-C500, Manual Operations Procedures Checklist
15. Question Result, ID, References **Sat, CR.CRMRR.HANDOVER.P, 192.631(b)(4) (192.631(c)(5))**
 Question Text *Have processes been established for the hand-over of responsibility that specify the type of information to be communicated to the oncoming shift?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Shift Change section, page 32-33**
16. Question Result, ID, References **Sat, CR.CRMRR.HANDOVER.O, 192.631(b)(4) (192.631(c)(5))**
 Question Text *Do observations indicate adequate hand-over of responsibility to the oncoming shift?*
 Assets Covered **88965 (1,826)**
 Result Notes **Reviewed a screenshot of the shift handover control documentation. It lists a comment section for possible issues, controllers on-duty, a logbook noting anything the oncoming controller needs to know about, telemetry outages, and incoming controllers.**
17. Question Result, ID, References **Sat, CR.CRMRR.HANDOVERDOC.P, 192.631(b)(4) (192.631(c)(5))**
 Question Text *Do processes require that records document the hand-over of responsibility, document the time the actual hand-over of responsibility occurs, and the key information and topics that were communicated during the hand-over?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Shift Change section, page 32**
18. Question Result, ID, References **Sat, CR.CRMRR.HANDOVERDOC.R, 192.631(b)(4) (192.631(c)(5))**
 Question Text *Are there records that document the hand-over of responsibility, document the time the actual hand-over of responsibility occurs, and the key information and topics that were communicated during the hand-over?*
 Assets Covered **88965 (1,826)**
 Result Notes **Reviewed shift change handover documentation for 2022-2024.**

19. Question Result, ID, References **Sat, CR.CRMRR.HANDOVEROVERLAP.P, 192.631(b)(4)**
 Question Text *Do processes require the controllers to discuss recent and impending important activities ensuring adequate overlap?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Shift Change section, page 32.**
20. Question Result, ID, References **Sat, CR.CRMRR.HANDOVERALTERNATIVE.P, 192.631(b)(4)**
 Question Text *When a controller is unable to continue or assume responsibility for any reason, do the shift hand-over processes include alternative shift hand-over actions that specifically address this situation?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Shift Change section, page 33, Temporary Handover.**
21. Question Result, ID, References **NA, CR.CRMRR.UNATTENDCONSOLE.P, 192.631(b)(4)**
 Question Text *Has the operator established an adequate process for occasions when the console is left temporarily unattended for any reason?*
 Assets Covered **88965 (1,826)**
 Result Notes **The controller does not leave the console unattended. NWN CRM Manual Rev. 15.0, 3/21/25. Physical Domain of Responsibility section, page 16-17.**

NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Shift Change section, page 33, Temporary Handover.
22. Question Result, ID, References **Sat, CR.CRMRR.CONSOLECOVERAGE.P, 192.631(b)(4)**
 Question Text *Do processes maintain adequate console coverage during shift hand-over?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Shift Change section, page 32, Policy.**
23. Question Result, ID, References **Sat, CR.CRMRR.OTHERAUTHORITYDISALLOW.P, 192.631(b)(5)**
 Question Text *Do processes disallow others to have authority to direct or supersede the specific technical actions of a controller?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Physical Domain of Responsibility section, page 16-17.**
24. Question Result, ID, References **Sat, CR.CRMRR.OTHERAUTHORITYDISALLOW.R, 192.631(b)(5)**
 Question Text *Do records indicate that the policy disallowing others to have authority to direct or supersede the specific technical actions of a controller has been communicated to controllers and others?*
 Assets Covered **88965 (1,826)**
 Result Notes **This is reviewed and discussed periodically during Monthly Gas Control meetings. Reviewed Monthly Gas Control Meeting agenda for 9/2024 showing the discussion of 192.631(b)(5).**
25. Question Result, ID, References **Sat, CR.CRMRR.OTHERAUTHORITYDISALLOW.O, 192.631(b)(5)**
 Question Text *Are controllers aware of, and can reference, processes that disallow others to have authority to direct or supersede the specific technical actions of a controller?*
 Assets Covered **88965 (1,826)**
 Result Notes **Access to the J5 software directs controllers disallowing others to have authority to direct or supersede the specific technical actions of a controller. NWN FOM definition of "Gas Controller" also talks about their responsibility.**
26. Question Result, ID, References **NA, CR.CRMRR.OTHERAUTHORITYQUAL.P, 192.631(b)(5)**
 Question Text *Does the process result in identification of required qualification elements for those authorized to direct or supersede the technical actions of a controller that are sufficient for those individuals to understand the implications of the scope of potential actions?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Roles and Responsibilities section, page 12**

27. Question Result, ID, References **Sat, CR.CRMRR.OTHERAUTHORITYQUAL.R, 192.631(b)(5)**
 Question Text *Do records indicate that others given authority to direct or supersede the specific technical actions of a controller were qualified?*
 Assets Covered **88965 (1,826)**
 Result Notes **Control room supervisor, Paul Judge, is qualified. Reviewed Paul's OQ credentials, requalification's are due 6/30/2028 for DOQ-30101, DOQ-30101, and DOQ 30104. Requalification for DOQ-30103 is 2/13/2026.**
28. Question Result, ID, References **Sat, CR.CRMRR.OTHERAUTHORITYIMPLEMENT.P, 192.631(b)(5)**
 Question Text *Is the process defined with respect to the details of how those authorized to direct or supersede the technical actions of a controller are to implement their authority?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Roles and Responsibilities section, page 12**
29. Question Result, ID, References **NA, CR.CRMRR.OTHERAUTHORITYLIST.R, 192.631(b)(5)**
 Question Text *Is a list of individuals with authority to direct or supersede the technical actions of a controller readily available to controllers?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Roles and Responsibilities section, page 12.**

The primary controller has control.
30. Question Result, ID, References **NA, CR.CRMRR.OTHERAUTHORITYIMPLEMENT.R, 192.631(b)(5)**
 Question Text *Do records adequately document occurrences of when others authorized to direct or supersede the technical actions of a controller have done so?*
 Assets Covered **88965 (1,826)**
 Result Notes **No such event occurred, or condition existed, in the scope of inspection review. The primary controller has control.**
31. Question Result, ID, References **NA, CR.CRMRR.OTHERAUTHORITYIMPLEMENT.O, 192.631(b)(5)**
 Question Text *Do others authorized to direct or supersede the technical actions of a controller demonstrate an understanding of the process to implement this authority?*
 Assets Covered **88965 (1,826)**
 Result Notes **No such event occurred, or condition existed, in the scope of inspection review. The primary controller has control.**
32. Question Result, ID, References **Sat, CR.SCADA.SYSTEMMOC.P, 192.631(c)(1)**
 Question Text *Do processes clearly define the types of changes to the SCADA system(s) that constitute additions, expansions, or replacements under the meaning of the CRM rule?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Implementation of API RP 1165 section, page 18.**

NWN CRM Manual Rev. 15.0, 3/21/25. Change Management section, page 25.

High Performance HMI Philosophy Document and Style Guide, Rev. 2.0, section 2.4 and 2.5.
33. Question Result, ID, References **Sat, CR.SCADA.DISPLAYCONFIG.P, 192.631(c)(1)**
 Question Text *Are there written processes to implement the API RP 1165 display standards to the SCADA systems that have been added, expanded, or replaced since August 1, 2012?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Provide Adequate Information section, page 18, Implementation of API RP 1165.**

NWN CRM Manual Rev. 15.0, 3/21/25. Change Management section, page 25.

High Performance HMI Philosophy Document and Style Guide, Rev. 2.0, section 2.4 and 2.5.

34. Question Result, ID, References Sat, CR.SCADA.1165HUMANFACTORS.O, 192.631(c)(1)
Question Text *Has section 4 of API RP 1165 regarding human factors engineering been implemented?*
Assets Covered 88965 (1,826)
Result Notes Reviewed a screen shot of a SCADA HMI for a level 2, spider charts were shown on the overview screen. The High Performance HMI Philosophy Document and Style Guide, Rev. 2.0, section 5.0.
35. Question Result, ID, References Sat, CR.SCADA.DISPLAYOBJECTS.O, 192.631(c)(1)
Question Text *Has section 8 of API RP 1165 regarding display object characteristics been implemented?*
Assets Covered 88965 (1,826)
Result Notes Reviewed screen shot of the pipeline overview screen for Vancouver which is for the entire Clark County system. Symbols flash/animate if the is a critical alarm. Grayscale background.
36. Question Result, ID, References Sat, CR.SCADA.DISPLAYDYNAMICS.R, 192.631(c)(1)
Question Text *Has Section 9 of API RP 1165 regarding display object dynamics been implemented?*
Assets Covered 88965 (1,826)
Result Notes Reviewed screen shot of the pipeline overview screen for Vancouver which is for the entire Clark County system. Grayscale background. Symbols flash/animate if there is a critical alarm.

High Performance HMI Philosophy Document and Style Guide, Rev. 2.0, section 5.17.
37. Question Result, ID, References Sat, CR.SCADA.ADMINISTRATION.R, 192.631(c)(1)
Question Text *Have applicable paragraphs of section 11 of API RP 1165 administration been implemented?*
Assets Covered 88965 (1,826)
Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Change Management section, page 25.

High Performance HMI Philosophy Document and Style Guide, Rev. 2.0, section 1.2.

High Performance HMI Philosophy Document and Style Guide, Rev. 2.0, section 2.4 and 2.5.
38. Question Result, ID, References Sat, CR.SCADA.1165IMPRACTICAL.R, 192.631(c)(1)
Question Text *If any/all applicable paragraph(s) of API RP 1165 have not been implemented, has it been demonstrated and documented that the unimplemented provisions are impractical for the SCADA system used?*
Assets Covered 88965 (1,826)
Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Change Management section, page 25.

High Performance HMI Philosophy Document and Style Guide, Rev. 2.0, section 1.2.

High Performance HMI Philosophy Document and Style Guide, Rev. 2.0, section 2.4 and 2.5.
39. Question Result, ID, References Sat, CR.SCADA.SETPOINT.P, 192.631(c)(2)
Question Text *Does the process adequately define safety-related points?*
Assets Covered 88965 (1,826)
Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Definitions section, page 9 "Safety-related" and "Safety-Related Alarm".

NWN CRM Manual Rev. 15.0, 3/21/25. Change Management section, page 18, Point-to-Point Validation.

NWN Alarm Management Plan Rev. 7.0, 3/28/25. Identifying Safety-Related Alarms section, page 11.
40. Question Result, ID, References Sat, CR.SCADA.SETPOINT.R, 192.631(c)(2)
Question Text *Do records indicate safety-related points have been adequately implemented?*
Assets Covered 88965 (1,826)

Result Notes Reviewed spreadsheet identifying all the safety-related alarms for 2022-2025. Also reviewed Vancouver Level 2 screen shot showing inlet outlet pressures for SCADA points, level 4 shows the actual SCADA tag IDs.

41. Question Result, ID, References Sat, CR.SCADA.POINTVERIFY.P, 192.631(c)(2)

Question Text *Are there adequate processes to define and identify the circumstances which require a point-to-point verification?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Change Management section, page 18, Point-to-Point Validation.

FOM, Point-to-Point Verification.

42. Question Result, ID, References Sat, CR.SCADA.POINTVERIFY.R, 192.631(c)(2)

Question Text *Have required point-to-point verifications been performed?*

Assets Covered 88965 (1,826)

Result Notes Reviewed Asset Management Software documentation Transmitter/Transducer reports for 2021-2024. These are performed annually, reviewed OQ task OP801-03 - Validation & Calibration of Transducers.

43. Question Result, ID, References Sat, CR.SCADA.POINTVERIFYEXTENT.P, 192.631(c)(2)

Question Text *Are there adequate processes for the thoroughness of the point-to-point verification?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Change Management section, page 18, Point-to-Point Validation

FOM, Point-to-Point Verification.

44. Question Result, ID, References Sat, CR.SCADA.POINTVERIFYEXTENT.R, 192.631(c)(2)

Question Text *Do records demonstrate adequate thoroughness of the point-to-point verification?*

Assets Covered 88965 (1,826)

Result Notes Reviewed Asset Management Software documentation Transmitter/Transducer reports for 2021-2024. These are performed annually. Reviewed OQ task OP801-03 - Validation & Calibration of Transducers.

45. Question Result, ID, References Sat, CR.SCADA.POINTVERFIYINTVL.P, 192.631(c)(2)

Question Text *Is there an adequate process for defining when the point-to-point verification must be completed?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Change Management section, page 18, Point-to-Point Validation.

FOM, Point-to-Point Verification.

NWN Standard Practices Manual, SMP-741, Pressure Telemetry and Recording Pressure Gauges.

46. Question Result, ID, References Sat, CR.SCADA.POINTVERFIYINTVL.R, 192.631(c)(2)

Question Text *Do records indicate the point-to-point verification has been completed at the required intervals?*

Assets Covered 88965 (1,826)

Result Notes Reviewed Asset Management Software documentation Transmitter/Transducer reports for 2021-2024. These are performed annually. Reviewed OQ task OP801-03 - Validation & Calibration of Transducers.

47. Question Result, ID, References Sat, CR.SCADA.POINTVERIFY.O, 192.631(c)(2)

Question Text *Are point-to-point verifications performed adequately when required?*

Assets Covered 88965 (1,826)

Result Notes Reviewed Asset Management Software documentation Transmitter/Transducer reports for 2021-2024. These are performed annually. Reviewed OQ task OP801-03 - Validation & Calibration of Transducers.

48. Question Result, ID, References Sat, CR.SCADA.COMMPLAN.P, 192.631(c)(3)

Question Text *Has an internal communication plan been established and implemented that is adequate to manually operate the pipeline during a SCADA failure/outage?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Internal Communication for Manual Operations.

49. Question Result, ID, References Sat, CR.SCADA.COMMPLAN.R, 192.631(c)(3)

Question Text *Has the internal communication plan been tested and verified for manual operation of the pipeline safely at least once each calendar year but at intervals not exceeding 15 months?*

Assets Covered 88965 (1,826)

Result Notes Reviewed J5 software Crew Request form for 10/28/2021, 6/9/22, 7/18/23, 8/28/2024. Each SCADA Outage Drill has it's own procedure. Form shows field location and the time field staff contacted the control center with any other related notes. Pressures are also listed.

50. Question Result, ID, References NA, CR.SCADA.BACKUPSCADA.O, 192.631(c)

Question Text *Is there a backup SCADA system?*

Assets Covered 88965 (1,826)

Result Notes No such activity/condition was observed during the inspection. Backup SCADA system is located in Sherwood.

51. Question Result, ID, References Sat, CR.SCADA.BACKUPSCADADEV.P, 192.631(c)(4)

Question Text *Has the use of the backup SCADA system for development work been defined?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Backup SCADA section, page 19-20.

NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Activation of the Backup SCADA System, page 35.

52. Question Result, ID, References Sat, CR.SCADA.BACKUPSCADATEST.P, 192.631(c)(4)

Question Text *Is the backup SCADA system required to be tested at least once each calendar year at intervals not to exceed 15 months?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Backup SCADA section, page 19-20

NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Activation of the Backup SCADA System

53. Question Result, ID, References Sat, CR.SCADA.BACKUPSCADATEST.R, 192.631(c)(4)

Question Text *Is the backup SCADA system tested at least once each calendar year at intervals not to exceed 15 months?*

Assets Covered 88965 (1,826)

Result Notes These were performed 5/6/21, 7/21/22, 7/18/23, and 9/5/24. Reviewed J5 software SCADA PC Test Industrial Form (IF), for the backup system at Sherwood. If a certain line item in the form does not pass, it is resolved at the time of the test.

54. Question Result, ID, References Sat, CR.SCADA.BACKUPSCADAVERIFY.P, 192.631(c)(4)

Question Text *Is testing required to verify adequate processes are in place for decision-making and internal communications to successfully implement a transition from primary SCADA to backup SCADA, and back to primary SCADA?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Activation of the Backup SCADA System, page 35.

55. Question Result, ID, References Sat, CR.SCADA.BACKUPSCADAVERIFY.R, 192.631(c)(4)

Question Text *Does the testing verify that there are adequate processes in place for decision-making and internal communications to successfully implement a transition from primary SCADA to backup SCADA, and back to primary SCADA?*

Assets Covered 88965 (1,826)

Result Notes These were performed 5/6/21, 7/21/22, 7/18/23, and 9/5/24. Reviewed J5 software SCADA PC Test Industrial Form (IF), for the backup system at Sherwood. If a certain line item in the form does not pass, it is resolved at the time of the test.

NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Activation of the Backup SCADA System, page 35.

56. Question Result, ID, References Sat, CR.SCADA.BACKUPSCADADEQUACY.R, 192.631(c)(4)

Question Text *If the back-up SCADA system is not designed to handle all the functionality of the main SCADA system, does the testing determine whether there are adequate procedures in place to account for displaced and/or different available functions during back-up operations?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Activation of the Backup SCADA System, page 35.

57. Question Result, ID, References Sat, CR.SCADA.BACKUPSCADATRANSFER.P, 192.631(c)(4)

Question Text *Do processes adequately address and test the logistics of transferring control to a backup control room?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Activation of the Backup SCADA System, page 35.

58. Question Result, ID, References Sat, CR.SCADA.BACKUPSCADARETURN.P, 192.631(c)(4)

Question Text *Do procedures adequately address and test the logistics of returning operations back to the primary control room?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Control Room Evacuation, page 30.

NWN CRM Manual Rev. 15.0, 3/21/25. P&P: Activation of the Backup SCADA System, page 35.

59. Question Result, ID, References Sat, CR.SCADA.BACKUPSCADAFUNCTIONS.R, 192.631(c)(4)

Question Text *Is a representative sampling of critical functions in the back-up SCADA system being tested to ensure proper operation in the event the backup system is needed?*

Assets Covered 88965 (1,826)

Result Notes These were performed 5/6/21, 7/21/22, 7/18/23, and 9/5/24. Reviewed J5 software SCADA PC Test Industrial Form (IF), for the backup system at Sherwood. If a certain line item in the form does not pass, it is resolved at the time of the test.

60. Question Result, ID, References Sat, CR.CRMFM.FATIGUEMITIGATION.P, 192.631(d) (192.631(a))

Question Text *Does the fatigue mitigation process or procedures (plan) identify operator-specific fatigue risks?*

Assets Covered 88965 (1,826)

Result Notes NWN Fatigue Risk Management Plan, section 3.2, Factors Contributing to Potential Fatigue Risk.

61. Question Result, ID, References Sat, CR.CRMFM.FATIGUERISKS.P, 192.631(d) (192.631(a))

Question Text *Does the fatigue mitigation plan adequately address how the program reduces the risk associated with controller fatigue?*

Assets Covered 88965 (1,826)

Result Notes NWN Fatigue Risk Management Plan, section 4.5.5, Specific Fatigue Mitigation Countermeasures.

62. Question Result, ID, References Sat, CR.CRMFM.FATIGUEQUANTIFY.P, 192.631(d) (192.631(a), 192.631(g)(1))

Question Text *Do processes require that the potential contribution of controller fatigue to incidents and accidents be quantified during investigations?*

Assets Covered 88965 (1,826)

Result Notes NWN Fatigue Risk Management Plan, section 3.4, Fatigue Risk Data Collection, Analysis, and Modeling.

NWN Standard Practices Manual, SPW 617, Investigation of Accidents and Material Failures.

63. Question Result, ID, References Sat, CR.CRMFM.FATIGUEMANAGER.P, 192.631(d) (192.631(a))

Question Text *Is there a designated fatigue risk manager who is responsible and accountable for managing fatigue risk and fatigue countermeasures, and someone (perhaps the same person) that is authorized to review and approve HOS emergency deviations?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Fatigue Mitigation section, page 21.

64. Question Result, ID, References Sat, CR.CRMFM.SHIFTLENGTH.R, 192.631(d)(1) (192.631(a))

Question Text *Is the scheduled shift length less than or equal to 12 hours (not including shift hand-over) or is there a documented technical basis to show that shift lengths and schedule rotations are adequate to provide controllers off-duty time sufficient to achieve 8 hours of continuous sleep?*

Assets Covered 88965 (1,826)

Result Notes NWN Fatigue Risk Management Plan, section 4.2.1, Hours of Work and Rest Guidelines for Normal Operation.

Reviewed screen shots of controller schedules. Controllers get adequate hours off prior to switching to a night shift.

65. Question Result, ID, References Sat, CR.CRMFM.SHIFTLENGHTIME.R, 192.631(d)(1)

Question Text *Does the operator factor in all time the individual is working for the company when establishing shift lengths and schedule rotations and that periods of time off that accommodates commute time or is there a documented technical basis to show that shift lengths and schedule rotations are adequate to provide controllers off-duty time sufficient to achieve 8 hours of continuous sleep?*

Assets Covered 88965 (1,826)

Result Notes NWN Fatigue Risk Management Plan, section 4.2.1, Hours of Work and Rest Guidelines for Normal Operation.

Reviewed screen shots of controller schedules. Controllers get adequate hours off prior to switching to a night shift.

66. Question Result, ID, References Sat, CR.CRMFM.SCHEDULEDTIMEOFF.R, 192.631(d)(1)

Question Text *Are all scheduled periods of time off at least one hour longer than 8 hours plus commute time or is there a documented technical basis to show that shift lengths and schedule rotations are adequate to provide controllers off-duty time sufficient to achieve 8 hours of continuous sleep?*

Assets Covered 88965 (1,826)

Result Notes NWN Fatigue Risk Management Plan, section 4.2.1, Hours of Work and Rest Guidelines for Normal Operation.

Reviewed screen shots of controller schedules. Controllers get adequate hours off prior to switching to a night shift.

67. Question Result, ID, References NA, CR.CRMFM.ONCALLCONTROLLER.P, 192.631(d) (192.631(a))

Question Text *For controllers who are on call, do processes minimize interrupting the required 8 hours of continuous sleep or require a documented technical basis to show that shift lengths and schedule rotations are adequate to provide controllers off-duty time sufficient to achieve 8 hours of continuous sleep?*

Assets Covered 88965 (1,826)

Result Notes No on-call controllers.

NWN CRM Manual Rev. 15.0, 3/21/25. Shift Guidelines, page 22.

NWN Fatigue Risk Management Plan, section 4.2.2, Definition of Hours of Work.

68. Question Result, ID, References NA, CR.CRMFM.ONCALLCONTROLLER.R, 192.631(d)(1)

Question Text *Do records for controllers on call, provide records shift schedule, when calls were made for on call and how long the individual worked?*

Assets Covered 88965 (1,826)

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

69. Question Result, ID, References **Sat, CR.CRMFM.MAXHOS.P, 192.631(d)(4)**
 Question Text *Do processes limit the maximum HOS limit in any sliding 7-day period to no more than 65 hours or is there a documented technical basis to show a reduction of the risk associated with controller fatigue?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Shift Guidelines, page 22.**

NWN Fatigue Risk Management Plan, section 4.2.2, Definition of Hours of Work.
70. Question Result, ID, References **Sat, CR.CRMFM.DOCSCCHEDULE.P, 192.631(d)(4) (192.631(a))**
 Question Text *Is there a formal system to document all scheduled and unscheduled HOS worked, including overtime and time spent performing duties other than control room duties?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Shift Guidelines, page 22.**

NWN Fatigue Risk Management Plan, section 4.2.2, Definition of Hours of Work.
71. Question Result, ID, References **NA, CR.CRMFM.DAYSOFF.P, 192.631(d)(4) (192.631(a))**
 Question Text *For normal business hour type operations (i.e., five days per week), are no more than five days worked in succession before at least two days off?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Shift Guidelines, page 22.**

NWN Fatigue Risk Management Plan, section 4.2.2, Definition of Hours of Work.
72. Question Result, ID, References **NA, CR.CRMFM.WORKHOURS.R, 192.631(d)(4)**
 Question Text *For normal business hour type operations (i.e., five days per week), do records indicate shift start times no earlier than 6:00 a.m. and shift end times no later than 7:00 p.m.?*
 Assets Covered **88965 (1,826)**
 Result Notes **No such event occurred, or condition existed, in the scope of inspection review.**

NWN control centers operate 24/7 and do not operate.
73. Question Result, ID, References **Sat, CR.CRMFM.CONTROLLERNUMBERS.O, 192.631(d)**
 Question Text *Do operations include a sufficient number of qualified controllers?*
 Assets Covered **88965 (1,826)**
 Result Notes **There are 11 qualified controllers.**
74. Question Result, ID, References **Sat, CR.CRMFM.OFFDUTYHOURS.P, 192.631(d)(4)**
 Question Text *Do processes ensure that controllers are provided with at least thirty-five (35) continuous off-duty hours when limits are reached following the most recent 35-hour (minimum) off-duty rest period or is there a documented technical basis to show that the maximum limit on controller HOS is adequate to reduce the risk associated with controller fatigue?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Shift Guidelines, page 22.**

NWN Fatigue Risk Management Plan, section 4.2.2, Definition of Hours of Work.
75. Question Result, ID, References **Sat, CR.CRMFM.SHIFTHOLDOVER.P, 192.631(d)(4) (192.631(a))**
 Question Text *Does the daily HOS limit and shift holdover process conform to shift HOS and holdover guidelines or is there a documented technical basis to show that the maximum limit on controller HOS is adequate to reduce the risk associated with controller fatigue?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Shift Guidelines, page 22.**

NWN Fatigue Risk Management Plan, section 4.2.2, Definition of Hours of Work.

76. Question Result, ID, References Sat, CR.CRMFM.SPECIFICCOUNTERMEASURES.P, 192.631(d)(4) (192.631(a))
Question Text *Do processes require specific fatigue countermeasures during applicable time periods, or is there a documented technical basis to show that the maximum limit on controller HOS is adequate to reduce the risk associated with controller fatigue?*
Assets Covered 88965 (1,826)
Result Notes NWN Fatigue Risk Management Plan, section 4.3.1, Initial Classroom Training on Shiftwork and Fatigue Mitigation.

NWN Fatigue Risk Management Plan, section 4.5.4, Supervisor Monitoring.

NWN Fatigue Risk Management Plan, section 4.5.5, Specific Fatigue Mitigation Countermeasures.
77. Question Result, ID, References Sat, CR.CRMFM.HOSDEVIATIONS.P, 192.631(d)(4) (192.631(a))
Question Text *Is there a formal process for approving deviations from the maximum HOS limits?*
Assets Covered 88965 (1,826)
Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Definition of "Hours of Service (HOS)".

NWN CRM Manual Rev. 15.0, 3/21/25. Shift Lengths and Rotations, page 21.

NWN Fatigue Risk Management Plan, section 4.2.3, Deviations from the Hours of Work Guidelines.
78. Question Result, ID, References Sat, CR.CRMFM.FATIGUEEDUCATE.P, 192.631(d)(2) (192.631(d)(3), 192.631(a))
Question Text *Does the program require that fatigue education/training is required for all controllers and control room supervisors?*
Assets Covered 88965 (1,826)
Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Training section, page 28.

NWN Fatigue Risk Management Plan, section 4.3.2, Refresher and On-Going Training.
79. Question Result, ID, References Sat, CR.CRMFM.FATIGUEEDUCATE.R, 192.631(d)(2) (192.631(d)(3))
Question Text *Is fatigue education/training documented for all controllers and control room supervisors?*
Assets Covered 88965 (1,826)
Result Notes Reviewed fatigue training performed by 3rd party Circadian in July and August of 2021 for qualified controllers.

Also reviewed fatigue training that was performed internally in 2022-2024.
80. Question Result, ID, References Sat, CR.CRMFM.FATIGUEREVIEW.P, 192.631(d)(2) (192.631(d)(3), 192.605(a))
Question Text *Do processes require that the effectiveness of the fatigue education/training program be reviewed at least once each calendar year, not to exceed 15 months?*
Assets Covered 88965 (1,826)
Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. General section, page 10.

NWN Fatigue Risk Management Plan, section 4.3.3, Evaluation of Training.
81. Question Result, ID, References Sat, CR.CRMFM.FATIGUESTRATEGY.P, 192.631(d)(2) (192.631(a))
Question Text *Does fatigue education address fatigue mitigation strategies (countermeasures), how off-duty activities contribute to fatigue and recognizing the effects of fatigue?*
Assets Covered 88965 (1,826)
Result Notes NWN Fatigue Risk Management Plan, section 4.3.1, Initial Classroom Training on Shiftwork and Fatigue Mitigation.
82. Question Result, ID, References Sat, CR.CRMFM.FATIGUECONTENT.P, 192.631(d)(3)

Question Text *Is the content of fatigue training adequate for training controllers and supervisors to recognize the effects of fatigue?*

Assets Covered 88965 (1,826)

Result Notes NWN Fatigue Risk Management Plan, section 3.2.4.1, Awareness of Potential Impact of Fatigue Risk

NWN Fatigue Risk Management Plan, section 4.5.3, Peer Monitoring

NWN CRM Manual Rev. 15.0, 3/21/25. Fatigue Mitigation section, page 21

83. Question Result, ID, References Sat, CR.CRMFM.FATIGUECONTENT.R, 192.631(d)(3)

Question Text *Has controller and supervisor training to recognize the effects of fatigue been documented?*

Assets Covered 88965 (1,826)

Result Notes Reviewed Fatigue Management training modules that controllers utilize for the annual refreshers.

84. Question Result, ID, References Sat, CR.CRMAM.ALARM.P, 192.631(e)

Question Text *Is the alarm management plan a formal process that specifically identifies critical topical areas included in the program?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Alarm Management section, page 23.

85. Question Result, ID, References Sat, CR.CRMAM.ALARMMALFUNCTION.P, 192.631(e)(1)

Question Text *Is there a process to identify and correct inaccurate or malfunctioning alarms?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Alarm Management section, page 23.

NWN CRM Alarm Management Plan Rev. 7.0, 3/28/25.

86. Question Result, ID, References Sat, CR.CRMAM.ALARMREVIEW.P, 192.631(e)(1)

Question Text *Does the review of safety-related alarms account for different alarm designs and all alarm types/priorities?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Alarm Management Plan Rev. 7.0, 3/28/25. Alarm Configuration section, page 10.

NWN CRM Alarm Management Plan Rev. 7.0, 3/28/25. Identifying Safety-Related Alarms, Page 11.

87. Question Result, ID, References NA, CR.CRMAM.CONTROLLERPERFORMANCE.P, 192.631(h) (192.631(e)(1))

Question Text *Does the review of safety-related alarms account for console differences that could affect individual-specific controller qualification and performance?*

Assets Covered 88965 (1,826)

Result Notes All consoles are configured the same.

88. Question Result, ID, References Sat, CR.CRMAM.STALEDATA.P, 192.631(e)(1)

Question Text *Does the review of safety-related alarms include specific procedures and practices for managing stale or unreliable data?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Alarm Management Plan Rev. 7.0, 3/28/25. Equipment Outages section, Page 12.

NWN CRM Alarm Management Plan Rev. 7.0, 3/28/25. Policy & Procedure: Managing Inaccurate Alarms and Unreliable Data section.

89. Question Result, ID, References Sat, CR.CRMAM.MONTHLYANALYSIS.P, 192.631(e)(2)

Question Text *Do processes require the monthly identification, recording, review, and analysis of points that have been taken off scan, have had alarms inhibited, generated false alarms, or that have had forced or manual values for periods of time exceeding that required for associated maintenance or operating activities?*

Assets Covered 88965 (1,826)

Result Notes [NWN CRM Alarm Management Plan Rev. 7.0, 3/28/25. Alarm Performance KPIs section, page 13.](#)

90. Question Result, ID, References [Sat, CR.CRMAM.PROBLEMCORRECTION.P, 192.631\(e\)\(2\)](#)
Question Text *Does the alarm management plan include a process for promptly correcting identified problems and for returning these points to service?*
Assets Covered [88965 \(1,826\)](#)
Result Notes [NWN CRM Alarm Management Plan Rev. 7.0, 3/28/25. Policy & Procedure: Managing Inaccurate Alarms and Unreliable Data section.](#)
91. Question Result, ID, References [Sat, CR.CRMAM.ALARMVERIFY.R, 192.631\(e\)\(2\)](#)
Question Text *Do records verify that monthly reviews and analysis of alarm points have been performed?*
Assets Covered [88965 \(1,826\)](#)
Result Notes [Reviewed a sampling from the J5 software showing the monthly audits on alarm points. GC Alarm Audit Log for 2021-2024.](#)

[Also reviewed individual spreadsheets created for each monthly audit.](#)
92. Question Result, ID, References [Sat, CR.CRMAM.ALARMSETPOINTS.P, 192.631\(e\)\(3\)](#)
Question Text *Is there a formal process to determine the correct alarm setpoint values and alarm descriptions?*
Assets Covered [88965 \(1,826\)](#)
Result Notes [NWN CRM Alarm Management Plan Rev. 7.0, 3/28/25. Assessing Alarm System Performance.](#)
93. Question Result, ID, References [Sat, CR.CRMAM.SETTINGCONTROL.P, 192.631\(e\)\(3\)](#)
Question Text *Have procedures been established to clearly address how and to what degree controllers can change alarm limits or setpoints, or inhibit alarms, or take points off-scan?*
Assets Covered [88965 \(1,826\)](#)
Result Notes [NWN CRM Alarm Management Plan Rev. 7.0, 3/28/25. Policy & Procedure: Managing Inaccurate Alarms and Unreliable Data section.](#)
94. Question Result, ID, References [Sat, CR.CRMAM.ALARMVALUEVERIFY.R, 192.631\(e\)\(3\)](#)
Question Text *Do records demonstrate verification of correct safety-related alarm set-point values and alarm descriptors when associated field instruments are calibrated or changed and at least once each calendar year, but at intervals not to exceed 15 months?*
Assets Covered [88965 \(1,826\)](#)
Result Notes [Reviewed sampling of NWN tag change requests. Also reviewed annual GC Alarm Audit Log for 2021-2024.](#)
95. Question Result, ID, References [Sat, CR.CRMAM.PLANREVIEW.P, 192.631\(e\)\(4\)](#)
Question Text *Are there processes to review the alarm management plan at least once each calendar year, but at intervals not exceeding 15 months, in order to determine the effectiveness of the plan?*
Assets Covered [88965 \(1,826\)](#)
Result Notes [NWN CRM Manual Rev. 15.0, 3/21/25. General section, page 10](#)
96. Question Result, ID, References [Sat, CR.CRMAM.PLANREVIEW.R, 192.631\(e\)\(4\)](#)
Question Text *Do records indicate review of the alarm management plan at least once each calendar year, but at intervals not exceeding 15 months, in order to determine the effectiveness of the plan?*
Assets Covered [88965 \(1,826\)](#)
Result Notes [Reviewed annual internal CRM Audit checklists for 2021-2024.](#)
97. Question Result, ID, References [Sat, CR.CRMAM.WORKLOAD.P, 192.631\(e\)\(5\)](#)
Question Text *Does the CRM program have a means of identifying and measuring the work load (content and volume of general activity) being directed to an individual controller?*
Assets Covered [88965 \(1,826\)](#)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Controllers section, page 12.

NWN CRM Manual Rev. 15.0, 3/21/25. Activity Review, Page 24.

98. Question Result, ID, References Sat, CR.CRMAM.WORKLOADMONITORING.P, 192.631(e)(5)
Question Text *Is the process of monitoring and analyzing general activity comprehensive?*
Assets Covered 88965 (1,826)
Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Controllers section, page 12.

NWN CRM Manual Rev. 15.0, 3/21/25. Activity Review, Page 24.

99. Question Result, ID, References Sat, CR.CRMAM.CONTROLLERREACTION.P, 192.631(e)(5)
Question Text *Does the process have a means of determining that the controller has sufficient time to analyze and react to incoming alarms?*
Assets Covered 88965 (1,826)
Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Controllers section, page 12.

NWN CRM Manual Rev. 15.0, 3/21/25. Activity Review, Page 24.

100. Question Result, ID, References Sat, CR.CRMAM.PERFORMANCEANALYSIS.R, 192.631(e)(5)
Question Text *Has an analysis been performed to determine if controller(s) performance is currently adequate?*
Assets Covered 88965 (1,826)
Result Notes Reviewed 2021, Controller Workload Assessment performed by 3rd party, Pipeline Performance Group, LLC.

Reviewed internal assessments performed for 2022-2024.

101. Question Result, ID, References Sat, CR.CRMAM.DEFICIENCIES.P, 192.631(e)(6)
Question Text *Is there a process to address how deficiencies found in implementing 192.631(e)(1) through 192.631(e)(5) will be resolved?*
Assets Covered 88965 (1,826)
Result Notes NWN CRM Alarm Management Plan Rev. 7.0, 3/28/25. Alarm Management Policies & Procedures, pages 14-28.

102. Question Result, ID, References Sat, CR.CRMAM.DEFICIENCIES.R, 192.631(e)(6)
Question Text *Do records indicate deficiencies found in implementing 192.631(e)(1) through 192.631(e)(5) have been resolved?*
Assets Covered 88965 (1,826)
Result Notes Reviewed 2021, Controller Workload Assessment performed by 3rd party, Pipeline Performance Group, LLC.

Reviewed internal assessments performed for 2022-2024.

103. Question Result, ID, References Sat, CR.CRMCMGT.EQUIPMENTCHANGES.P, 192.631(f)(1)
Question Text *Is there a process to assure changes in field equipment that could affect control room operations are coordinated with the control room personnel?*
Assets Covered 88965 (1,826)
Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Point-to-Point Validation section, page 18.

NWN CRM Manual Rev. 15.0, 3/21/25. Change Management section, page 25.

104. Question Result, ID, References Sat, CR.CRMCMGT.CONTROLLERPARTICIPATE.P, 192.631(f)(1) (192.631(f)(3))
Question Text *Are control room representative(s) required to participate in meetings where changes that could directly or indirectly affect the hydraulic performance or configuration of the pipeline (including routine maintenance and repairs) are being considered, designed and implemented?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Change Management section, page 25.

105. Question Result, ID, References Sat, CR.CRMCMGT.CONTROLLERPARTICIPATE.R, 192.631(f)(1) (192.631(f)(3))

Question Text *Do records indicate that control room representative(s) participate in meetings where changes that could directly or indirectly affect the hydraulic performance or configuration of the pipeline (including routine maintenance and repairs) are being considered, designed and implemented?*

Assets Covered 88965 (1,826)

Result Notes Controllers need to review and sign off on changes prior to the work being performed to determine SCADA changes. Reviewed EP-21-047, pressure test @ NE 159th St & NE 172nd in Vancouver on a 6" STW performed 2/9/21. EP-22-057, activate new loop an lateral odorizer performed 2/16/2022. GOP-23-152, repair station outlet calve at Felida Gate Station on 8/8/23. GOP-24-019, tie in new 6" into existing 6" class B main to feed Union Ridge Town Center @ Pioneer St & N 56th Pl in Ridgefield performed in 2024.

106. Question Result, ID, References Sat, CR.CRMCMGT.EMERGENCYCONTACT.P, 192.631(f)(2)

Question Text *Is there a process requiring field personnel and SCADA support personnel to contact the control room when emergency conditions exist?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Communication with Field Personnel section, page 25.

107. Question Result, ID, References Sat, CR.CRMCMGT.FIELDCONTACT.P, 192.631(f)(2)

Question Text *Does the process require field personnel and SCADA support personnel to contact the control room when making field changes (for example, moving a valve) that affect control room operations?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Point-to-Point Validation section, page 18.

108. Question Result, ID, References Sat, CR.CRMCMGT.FIELDCHANGES.R, 192.631(f)(2)

Question Text *Do records indicate field personnel and SCADA support personnel contacted the control room when making field changes (for example, moving a valve) that affect control room operations?*

Assets Covered 88965 (1,826)

Result Notes All new field procedures require field staff to contact gas control prior to making any changes. Reviewed EP-21-047, pressure test @ NE 159th St & NE 172nd in Vancouver on a 6" STW performed 2/9/21. EP-22-057, activate new loop an lateral odorizer performed 2/16/2022. GOP-23-152, repair station outlet calve at Felida Gate Station on 8/8/23. GOP-24-019, tie in new 6" into existing 6" class B main to feed Union Ridge Town Center @ Pioneer St & N 56th Pl in Ridgefield performed in 2024.

109. Question Result, ID, References Sat, CR.CRMEXP.REPORTABLEINCIDENTREVIEW.P, 192.631(g)(1)

Question Text *Is there a formal, structured approach for reviewing and critiquing reportable events to identify lessons learned?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Definition of "Incident Review Council", page 8.

NWN CRM Manual Rev. 15.0, 3/21/25. Operating Experience section, page 27.

110. Question Result, ID, References Sat, CR.CRMEXP.REPORTABLEINCIDENTREVIEW.R, 192.631(g)(1)

Question Text *Do records indicate reviews of reportable events specifically analyzed all contributing factors to determine if control room actions contributed to the event, and corrected any deficiencies?*

Assets Covered 88965 (1,826)

Result Notes Reportable Incident Review Form is used for an event like this. There was one that occurred 11/16/2021 that was due to controller actions. Reviewed documentation stating that one of the root causes was due to controller fatigue. Also reviewed documentation showing the actions NWN took to correct any deficiencies.

111. Question Result, ID, References Sat, CR.CRMEXP.LESSONSLEARNED.P, 192.631(g)(2) (192.631(b)(5))

Question Text *Does the program require training on lessons learned from a broad range of events (reportable incidents/accidents, near misses, leaks, operational and maintenance errors, etc.), even though the control room may not have been at fault?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Operating Experience section, page 27.

112. Question Result, ID, References Sat, CR.CRMEXP.LESSONSLEARNED.R, 192.631(g)(2) (192.631(b)(5))

Question Text *Has operating experience review training been conducted on lessons learned from a broad range of events (reportable incidents/accidents, near misses, leaks, operational and maintenance errors, etc.)?*

Assets Covered 88965 (1,826)

Result Notes Reviewed Lessons Learned forms that are available to controllers via NWN SharePoint site. These forms show what the SCADA screen shows when/if certain events occur.

113. Question Result, ID, References Sat, CR.CRMTRAIN.CONTROLLERTRAIN.P, 192.631(h)

Question Text *Has a controller training program been established to provide training for each controller to carry out their roles and responsibilities?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Training section, page 28.

114. Question Result, ID, References Sat, CR.CRMTRAIN.CONTROLLERTRAIN.R, 192.631(h)

Question Text *Has a controller training program been implemented to provide training for each controller to carry out their roles and responsibilities?*

Assets Covered 88965 (1,826)

Result Notes Reviewed NWN New Hire Gas Controller Training Manual.

Reviewed Qualifications for Devin Kessler, Matthew Darcy, and James Bailey. All were adequate and up to date. Controllers requalify every three years.

115. Question Result, ID, References Sat, CR.CRMTRAIN.TRAININGREVIEW.P, 192.631(h)

Question Text *Have processes been established to review the controller training program content to identify potential improvements at least once each calendar year, but at intervals not to exceed 15 months?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Training section, page 28.

116. Question Result, ID, References Sat, CR.CRMTRAIN.TRAININGREVIEW.R, 192.631(h)

Question Text *Have processes been implemented to review the controller training program content to identify potential improvements at least once each calendar year, but at intervals not to exceed 15 months?*

Assets Covered 88965 (1,826)

Result Notes Reviewed annual NWN CRM Audit checklists for 2022-2024.

117. Question Result, ID, References Sat, CR.CRMTRAIN.TRAININGCONTENT.R, 192.631(h)

Question Text *Does training content address all required material, including training each controller to carry out the roles and responsibilities that were defined by the operator?*

Assets Covered 88965 (1,826)

Result Notes Roles and responsibilities are included in the NWN New Hire Gas Controller Training Manual, NWN New Hire Gas Controller Checklist. This is also included in the CRM procedures.

118. Question Result, ID, References Sat, CR.CRMTRAIN.AOCLIST.R, 192.631(h)(1)

Question Text *Has training been conducted on the abnormal operating conditions (AOCs) that are likely to occur simultaneously or in sequence identified by the operator?*

Assets Covered 88965 (1,826)

Result Notes Reviewed specific OQ Procedure OP-301-03, Directing a Response to Emergencies and AOCs.

119. Question Result, ID, References Sat, CR.CRMTRAIN.TRAININGABNORMAL.P, 192.631(h)(1)

Question Text *Does the training program provide controller training on recognizing and responding to abnormal operating conditions that are likely to occur simultaneously or in sequence?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Training Methods section, page 28.

120. Question Result, ID, References Sat, CR.CRMTRAIN.TRAINING.O, 192.631(h)(2)

Question Text *Does the training program use a simulator or tabletop exercises to train controllers how to recognize and respond to abnormal operating conditions?*

Assets Covered 88965 (1,826)

Result Notes Reviewed a list of table top scenarios that are included in the training manual.

121. Question Result, ID, References Sat, CR.CRMTRAIN.TRAINING.R, 192.631(h)(2)

Question Text *Do records indicate the training program used a simulator or tabletop exercises to train controllers how to recognize and respond to abnormal operating conditions?*

Assets Covered 88965 (1,826)

Result Notes Reviewed specific OQ Procedure OP-301-03, Directing a Response to Emergencies and AOCs. This is included in the new hire training manual as well.

122. Question Result, ID, References Sat, CR.CRMTRAIN.COMMUNICATIONTRAINING.P, 192.631(h)(3)

Question Text *Does the CRM program train controllers on their responsibilities for communication under the operator's emergency response procedures?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Emergency Operating Conditions section, page 16.

NWN CRM Manual Rev. 15.0, 3/21/25. Training section, page 28.

123. Question Result, ID, References Sat, CR.CRMTRAIN.SYSKNOWLEDGE.P, 192.631(h)(4)

Question Text *Does the training program provide controllers a working knowledge of the pipeline system, especially during the development of abnormal operating conditions?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Training Methods section, page 28.

124. Question Result, ID, References Sat, CR.CRMTRAIN.INFREQOPSLIST.R, 192.631(h)(5)

Question Text *Has a list of pipeline operating setups that are periodically (but infrequently) used been established?*

Assets Covered 88965 (1,826)

Result Notes Included in the training manual. Also located in the reference materials in the J5 software. Reviewed logbooks for specific procedures related to infrequent occurrences

125. Question Result, ID, References Sat, CR.CRMTRAIN.INFREQOPSREVIEW.P, 192.631(h)(5)

Question Text *Do processes specify that, for pipeline operating set-ups that are periodically (but infrequently) used, the controllers must be provided an opportunity to review relevant procedures in advance of their use?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Training Methods section, page 28.

126. Question Result, ID, References Sat, CR.CRMTRAIN.TEAMTRAINPERSONNEL.P, 192.631(h)(6)

Question Text *Do processes establish who, regardless of location, operationally collaborates with control room personnel?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Communication with Field Personnel section, page 25.

127. Question Result, ID, References Sat, CR.CRMTRAIN.TEAMTRAINFREQ.P, 192.631(h)(6)

Question Text *Do processes define the frequency of new and recurring team training?*

Assets Covered 88965 (1,826)

Result Notes NWN CRM Manual Rev. 15.0, 3/21/25. Training section, page 28.

128. Question Result, ID, References **Sat, CR.CRMTRAIN.TEAMTRAINCOMPLETE.P, 192.631(h)(6)**
 Question Text *Do processes address all operational modes and operational collaboration/control?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Training Methods section, page 28.**
129. Question Result, ID, References **Sat, CR.CRMTRAIN.TEAMTRAINEXPERIENCE.P, 192.631(h)(6)**
 Question Text *Do processes include incorporation of lessons learned from actual historical events and other oil-gas industry events?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Operating Experience section, page 27.**
130. Question Result, ID, References **Sat, CR.CRMTRAIN.TEAMTRAINEXERCISE.R, 192.631(h)(6)**
 Question Text *Do records indicate that training exercises were adequate and involved at least one qualified controller?*
 Assets Covered **88965 (1,826)**
 Result Notes **Reviewed team training documentation for 2021-2024, more than one qualified controller was present for all.**
131. Question Result, ID, References **NA, CR.CRMTRAIN.TEAMTRAINEXERCISE.O, 192.631(h)(6)**
 Question Text *Does implementation of a control room team exercise demonstrate performance in accordance with regulatory and process requirements?*
 Assets Covered **88965 (1,826)**
 Result Notes **No such activity/condition was observed during the inspection. Reviewed team training documentation for 2021-2024.**
132. Question Result, ID, References **Sat, CR.CRMTRAIN.TEAMTRAINIDENTINDIVIDUAL.R, 192.631(h)(6)**
 Question Text *Do records demonstrate that individuals identified as of January 23, 2018 received team training by January 23, 2019?*
 Assets Covered **88965 (1,826)**
 Result Notes **Reviewed Team Training documentation occurring 3/13/19. Multiple controllers were present.**
133. Question Result, ID, References **Sat, CR.CRMCOMP.SUBMITPROCEDURES.P, 192.631(i)**
 Question Text *Are there adequate processes to assure that the operator is responsive to requests from applicable agencies to submit their CRM procedures?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Compliance Validation section, page 29.**
134. Question Result, ID, References **Sat, CR.CRMCOMP.SUBMITPROCEDURES.R, 192.631(i)**
 Question Text *Has the operator been responsive to requests from applicable agencies to submit their CRM procedures?*
 Assets Covered **88965 (1,826)**
 Result Notes **WUTC has received CRM procedures annually since 2012.**
135. Question Result, ID, References **Sat, CR.CRMCOMP.CRMCOORDINATOR.P, 192.631(i)**
 Question Text *Is there an individual that is responsible and accountable for compliance with requests from PHMSA or other applicable agencies?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Compliance Validation section, page 29.**
136. Question Result, ID, References **Sat, CR.CRMCOMP.RECORDS.P, 192.631(j)(1)**
 Question Text *Are records management processes adequate to assure records are sufficient to demonstrate compliance with the CRM rule?*
 Assets Covered **88965 (1,826)**
 Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. General section, page 10.**

137. Question Result, ID, References **Sat, CR.CRMCOMP.RECORDS.R, 192.631(j)(1)**
Question Text *Are records sufficient to demonstrate compliance with the CRM rule?*
Assets Covered **88965 (1,826)**
Result Notes **Records demonstrate compliance with the CRM rule.**
138. Question Result, ID, References **Sat, CR.CRMCOMP.ELECTRONICRECORDS.R, 192.631(j)(1)**
Question Text *Are electronic records properly stored, safeguarded, and readily retrievable?*
Assets Covered **88965 (1,826)**
Result Notes **Records are available via NWN J5 software, SharePoint, and MS Teams.**
139. Question Result, ID, References **Sat, CR.CRMCOMP.DEVIATIONS.P, 192.631(j)(2)**
Question Text *Are there processes to demonstrate and provide a documented record that every deviation from any CRM rule requirement was necessary for safe operation?*
Assets Covered **88965 (1,826)**
Result Notes **NWN CRM Manual Rev. 15.0, 3/21/25. Compliance and Deviations section, page 29.**
140. Question Result, ID, References **Sat, CR.CRMCOMP.DEVIATIONS.R, 192.631(j)(2)**
Question Text *Were all deviations documented in a way that demonstrates they were necessary for safe operation?*
Assets Covered **88965 (1,826)**
Result Notes **Reviewed J5 logbook for 2021-2024 showing deviations there were 4. Three due to HOS and one due to alarm management software.**

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.