Inspection Output (IOR)

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Inspection Information

Inspection Name	8149 CNG CRM	Operator(s)	CASCADE NATURAL GAS CORP (2128)	Plan Submitted	11/14/2020
Status	PLANNED	Lead	Lex Vinsel	Plan Approval	11/17/2020 by Joe Subsits
Start Year	2020	Observer(s)	Scott Rukke, David Cullom, Dennis Ritter, Anthony Dorrough, Derek Norwood, Scott Anderson	All Activity Start	10/14/2020
System Type	GT	Supervisor	Joe Subsits	All Activity End	11/17/2020
Protocol Set ID	GT.2020.02	Director	Sean Mayo	Inspection Submitted	--
				Inspection Approval	--

Inspection Summary

Inspection Scope and Summary

Cascade Natural Gas' Control Room consists of the following as stated in their plan:

SCADA SYSTEM OVERVIEW

- *The Supervisory Control and Data Acquisition (SCADA) gas control system for CNGC CR is an Invensys Wonderware (WW) product that provides system monitoring and supervisory control for the MDU Utility Group distribution systems. The SCADA server is located in Boise, Idaho and the CNGC CR and CNGC GC that monitor the MDU Utility Group distribution systems are located at the GO office in Kennewick, WA with a backup CR in Walla Walla, WA. The field hardware that is installed and monitored are at locations deemed critical to providing reliable natural gas service to the MDU Utility Group's residential, commercial and industrial customers.*
- *Field Hardware*
  - *Compressor Station - These facilities serve as a booster station and is required to meet customer demand.*
    - *CNGC owns and operates one compressor station near Fredonia, WA. The CNGC CR can remotely start/stop the Fredonia Compressor Station.*
    - *IGC owns and operates one compressor station near Jerome, ID. The CNGC CR does not remotely operate this compressor.*
    - *MDU and GPNG do not have compressor stations.*
  - *RTUs - The RTUs provide information critical to operating a safe and reliable pipeline system. The data being monitored includes, but is not limited to gas pressures temperatures, flow rates and status of odorization equipment. Each of these components have operating ranges in which they must operate and the CNGC CR monitor these conditions on a 24/7 basis. The MDU Utility Group all utilize RTUs.*
  - *In addition to the real time RTUs, CNGC utilizes a data gathering system called Metretek whose primary purpose is to record usage by the industrial customers. The Metretek system may also be used to monitor pressures throughout the service territory and will send an alarm when pressures increase or decrease outside of the normal operating range. The alarms are routed to the SCADA system and the CNGC CR follows the appropriate procedures to deal with the alarm condition.*
- *Alarm Analogy – alarming of the gas pressures, temperatures and flow rates follow a two-tier alarming philosophy. Alarms are identified as being either critical (High/High or Low/Low), or an alert condition (High or Low). The alarms limits set as critical require immediate callout of company personnel to respond to and rectify the problem. Alarms that are in the alert range are monitored but do not require an immediate call out. The SCADA screens provided to the CNGC GC utilize color schemes consistent with API RP1165 (see references located in CNGC CR) which assist the CNGC GC in monitoring and identifying locations that are in alarm conditions.*

WORKSTATIONS

- *Work Stations – the CNGC GC utilize work stations with monitors that provide a visual overview of the distribution systems. The CNGC GC's duties include the monitoring of the gas system and appropriate call out of company personnel when alarm conditions or abnormal conditions are encountered*

CRM inspection in cooperation with Oregon and others.

Facilities visited and Total AFOD

Control Room is in Kennewick office. Inspection will be virtual due to Covad-19 issues.

Summary of Significant Findings
(DO NOT Discuss Enforcement options)

< No significant issues.

Primary Operator contacts and/or participants

- David Gutschmidt, Mgr, Compliance Ops Programs
- Andrew Bates, Compliance Audit Specialist
- Debbie Buck, Mgr, Compliance Ops Programs
- Kevin Connell, Director of Gas Supply/Control
- Mark Evans, Gas Control Supervisor
- Kelley Gorringe, Compliance Audit Specialist
- Gwen Jakel, Compliance Audit Specialist
- Colby Lundstrom, Compliance Audit Specialist
- Chris Robbins, Manager of Gas Supply/Control
- Mike Schoepp, Director of Operations Services

Operator executive contact and mailing address for any official correspondence

Mr. Pat Darras

VP, Engineering & Ops Services

Cascade Natural Gas Corporation

400 North 4th Street

Bismarck, North Dakota 58501

Scope (Assets)

#	Short Label	Long Label	Asset Type	Asset IDs	Excluded Topics	Planned	Required	Total Inspected	Required % Complete
1.	CNG CRM 8149	CNG CRM 8149 w Oregon	unit	--	Storage Fields Bottle/Pipe - Holders Offshore GOM OCS Cast or Ductile Iron Copper Pipe Aluminum/Amphoteric CDA AMAOP Abandoned	144	144	144	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.	CNG CRM 8149	Control Room Management	AR, CR, DC, EP, FS, IM, MO, PD, RPT, SRN, TD, TQ, UNGS, GENERIC	P, R, O, S	Detail

Plan Implementations

#	Activity Name	SMART Act#	Start Date End Date	Focus Directives	Involved Groups/Subgroups	Assets	Qst Type(s)	Planned	Required	Total Inspected	Required % Complete
1.	CNG CRM 8149	--	10/14/2020 11/17/2020	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 (Unsat,Concern values, 9 results)

CR.CRMGEN: CRM General

1. Question Result, ID, References: Concern, CR.CRMGEN.CRMCRITERIA.P, 192.631(a)(2)

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

Assets Covered: CNG CRM 8149

Result Issue Summary

References	192.631(a)(2)
Result	Concern
Assets Covered	8149 CRM CNGC (2020-24 Oregon)

Citation Number: 2020-24-01

Description for Area of Concern:

(a) General

(2) The procedures required by this section must be integrated, as appropriate, with operating and emergency procedures required by § § 192.605 and 192.615. An operator must develop the procedures no later than August 1, 2011, and must implement the procedures according to the following

schedule. The procedures required by paragraphs (b), (c)(5), (d)(2) and (d)(3), (f) and (g) of this section must be implemented no later than October 1, 2011. The procedures required by paragraphs (c)(1) through (4), (d)(1), (d)(4), and (e) must be implemented no later than August 1, 2012. The training procedures required by paragraph (h) must be implemented no later than August 1, 2012, except that any training required by another paragraph of this section must be implemented no later than the deadline for that paragraph.

Summary of Findings:

The Control Room Management (CRM) plan in place was developed and implemented on April 01, 2014 based on the Change/Review log located on page 18 of CRM CP#930. Staff requested clarity on this implementation date and were informed this was related to the establishment of Control Room systems taking place in 2014. Procedures implemented beyond the required schedule should be supported by factual timeline statements to support an implementation date outside of the schedule.

Recommendation:

Provide statements within procedures outlining implementation falling outside of the required schedule.

Result Notes CNG procedures were not implemented by the required schedule due to no control room in place until 2014.

2. Question Result, ID, References Concern, 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 CNG CRM 8149

Result Issue Summary

References	192.631(a)(2)
Result	Concern
Assets Covered	8149 CRM CNGC (2020-24 Oregon)

Citation Number: 2020-24-01

Description for Area of Concern:

(a) General

(2) The procedures required by this section must be integrated, as appropriate, with operating and emergency procedures required by § § 192.605 and 192.615. An operator must develop the procedures no later than August 1, 2011, and must implement the procedures according to the following schedule. The procedures required by paragraphs (b), (c)(5), (d)(2) and (d)(3), (f) and (g) of this section must be implemented no later than October 1, 2011. The procedures required by paragraphs (c)(1) through (4), (d)(1), (d)(4), and (e) must be implemented no later than August 1, 2012. The training procedures required by paragraph (h) must be implemented no later than August 1, 2012, except that any training required by another paragraph of this section must be implemented no later than the deadline for that paragraph.

Summary of Findings:

The Control Room Management (CRM) plan in place was developed and implemented on April 01, 2014 based on the Change/Review log located on page 18 of CRM CP#930. Staff requested clarity on this implementation date and were informed this was related to the establishment of Control Room systems

taking place in 2014. Procedures implemented beyond the required schedule should be supported by factual timeline statements to support an implementation date outside of the schedule.

Recommendation:

Provide statements within procedures outlining implementation falling outside of the required schedule.

Result Notes CNG procedures were not implemented by the required schedule due to no control room in place until 2014.

CR.CRMRR: CRM Roles and Responsibilities

3. Question Result, ID, References Concern, 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 CNG CRM 8149

Result Issue Summary

References	192.631(b)(3)
Result	Concern
Assets Covered	8149 CRM CNGC (2020-24 Oregon)

Citation Number: 2020-24-02

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Description for Area of Concern:

(b) Roles and responsibilities. Each operator must define the roles and responsibilities of a controller during normal, abnormal, and emergency operating conditions. To provide for a controller's prompt and appropriate response to operating conditions, an operator must define each of the following:

(3) A controller's role during an emergency, even if the controller is not the first to detect the emergency, including the controller's responsibility to take specific actions and to communicate with others;

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Summary of Findings:

Within the CRM Plan provided, CNGC outlines actions to be taken in the event of an evacuation. No outline or clear plan is in place to maintain coverage during transition to the backup control room in the event of an evacuation. Due to distance between the primary and backup control rooms, staff is concerned of the potential down/blind time associated with the transfer of system control.

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Recommendation:

Provide procedural updates to include a clear plan for system operation during this potential down/blind time in the event of an evacuation.

Result Notes CNGC does not clearly account for time associated with potential down/blind time in the event of an evacuation of the main control room.

CR.SCADA: Supervisory Control and Data Acquisition

4. Question Result, ID, References: Concern, 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: CNG CRM 8149

Result Issue Summary:

References	192.631(c)(4)
Result	Concern
Assets Covered	8149 CRM CNGC (2020-24 Oregon)

Citation Number: 2020-24-03

Description for Area of Concern:

(c) Provide adequate information. Each operator must provide its controllers with the information, tools, processes and procedures necessary for the controllers to carry out the roles and responsibilities the operator has defined by performing each of the following:

(4) Test any backup SCADA systems at least once each calendar year, but at intervals not to exceed 15 months; and

Summary of Findings:

CNG states the backup control room transfer will be done over the telephone when applicable, but no specific logistical plan appears to be readily available within the CP. Time duration to get qualified controllers to, and activate, the back-up control room should be identified and downtime/blind time accounted for. Due to distance between the primary and backup control rooms, staff is concerned of the potential down/blind time associated with the transfer of system control.

Recommendation:

Provide procedural updates to include a realistic time duration to get qualified controllers to, and activate, the back-up control room for system operation in the event the backup system must be activated.

Result Notes: CNGC does not specifically account for logistics associated with the transfer of system operations from the main to the backup control room.

5. Question Result, ID, References: Concern, 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: CNG CRM 8149

Result Issue Summary:

References	192.631(c)(4)
Result	Concern
Assets Covered	8149 CRM CNGC (2020-24 Oregon)

Citation Number: 2020-24-04

Description for Area of Concern:

(c) Provide adequate information. Each operator must provide its controllers with the information, tools, processes and procedures necessary for the controllers to carry out the roles and responsibilities the operator has defined by performing each of the following:

(4) Test any backup SCADA systems at least once each calendar year, but at intervals not to exceed 15 months; and

Summary of Findings:

Time duration to get qualified controllers to, and activate, the main control room when returning to normal operations should be identified and downtime/blind time accounted for. Due to distance between the primary and backup control rooms, staff is concerned of the potential down/blind time associated with the transfer of system control.

Recommendation:

Provide procedural updates to include a realistic time duration to get qualified controllers to, and activate, the main control room for return to normal system operation.

Result Notes CNGC does not specifically account for logistics associated with the return of system operations to the main control room from the backup control room.

CR.CRMFM: Fatigue Management

6. Question Result, ID, References Concern, CR.CRMFM.FATIGUEMANAGER.P, 192.631(d)

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 CNG CRM 8149

Result Issue Summary

References	192.631(d)
Result	Concern
Assets Covered	8149 CRM CNGC (2020-24 Oregon)

Citation Number: 2020-24-05

Description for Area of Concern:

(d) Fatigue mitigation. Each operator must implement the following methods to reduce the risk associated with controller fatigue that could inhibit a controller's ability to carry out the roles and responsibilities the operator has defined:

Summary of Findings:

CP 930 Section 5.2.3 addresses deviation and approvals mentioning the requirement of pre-approval of CNGC Gas Control Management. The bottom of page 2 and top of page 3 provide specific job descriptions associated with the management team. CRM Plans should clearly reference titles, or where to find them, when outlining processes. Staff also noted no specific reference to the management team being responsible for the fatigue plan as mentioned in the description for area of concern.

Recommendation:

Provide updated procedural language to include clear references as noted.

Result Notes CNGC does not clearly reference who is responsible and accountable for managing fatigue risk, fatigue countermeasures, and authorized to review and approve HOS emergency deviations.

CR.CRMTRAIN: Training

7. Question Result, ID, References Concern, 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 CNG CRM 8149

Result Issue Summary

References	192.631(h)(6)
Result	Concern
Assets Covered	8149 CRM CNGC (2020-24 Oregon)

Citation Number: 2020-24-06

Description for Area of Concern:

(h) *Training. Each operator must establish a controller training program and review the training program content to identify potential improvements at least once each calendar year, but at intervals not to exceed 15 months. An operator's program must provide for training each controller to carry out the roles and responsibilities defined by the operator. In addition, the training program must include the following elements:*

(6) Control room team training and exercises that include both controllers and other individuals, defined by the operator, who would reasonably be expected to operationally collaborate with controllers (control room personnel) during normal, abnormal or emergency situations. Operators must comply with the team training requirements under this paragraph by no later than January 23, 2018.

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Summary of Findings:

CNGC CP 930 Section 9.8 calls out "other individuals" for team training, but does not define position titles. Records supporting this training are associated with action in Section 4 during failure drills. Staff was able to review these documents indicating "other individuals" are participating in drills as a method of team training. Procedures associated with team training should clearly demonstrate that the operator has defined positions/personnel outside of the control room to participate in these activities and the methodology behind frequency of this training.

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Recommendation:

Provide updated policies, procedures, training and documentation supporting the positions/personnel defined as “other individuals” by CNG to be participating in team training along with methodology supporting the frequency of recurrence for full team training.

Result Notes CNGC does not clearly define personnel/positions that who would reasonably be expected to operationally collaborate with controllers during normal, abnormal or emergency situations.

8. Question Result, ID, References Concern, CR.CRMTRAIN.TEAMTRAINFREQ.P, 192.631(h)(6)

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

Assets Covered CNG CRM 8149

Result Issue Summary References 192.631(h)(6)

Result Concern

Assets Covered 8149 CRM CNGC (2020-24 Oregon)

Citation Number: 2020-24-06

Description for Area of Concern:

(h) *Training. Each operator must establish a controller training program and review the training program content to identify potential improvements at least once each calendar year, but at intervals not to exceed 15 months. An operator's program must provide for training each controller to carry out the roles and responsibilities defined by the operator. In addition, the training program must include the following elements:*

(6) Control room team training and exercises that include both controllers and other individuals, defined by the operator, who would reasonably be expected to operationally collaborate with controllers (control room personnel) during normal, abnormal or emergency situations. Operators must comply with the team training requirements under this paragraph by no later than January 23, 2018.

Summary of Findings:

CNG CP 930 Section 9.8 calls out “other individuals” for team training, but does not define position titles. Records supporting this training are associated with action in Section 4 during failure drills. Staff was able to review these documents indicating “other individuals” are participating in drills as a method of team training. Procedures associated with team training should clearly demonstrate that the operator has defined positions/personnel outside of the control room to participate in these activities and the methodology behind frequency of this training.

Recommendation:

Provide updated policies, procedures, training and documentation supporting the positions/personnel defined as “other individuals” by CNG to be participating in team training along with methodology supporting the frequency of recurrence for full team training.

Result Notes CNGC does not clearly provide methodology supporting the frequency of recurrence for full team training.

CR.CRMCOMP: Compliance Validation and Deviations

9. Question Result, ID, References Concern, 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 CNG CRM 8149

Result Issue Summary References 192.631(j)(2)

Result Concern

Assets Covered 8149 CRM CNGC (2020-24 Oregon)

Citation Number: 2020-24-07

Description for Area of Concern:

(j) Compliance and deviations. An operator must maintain for review during inspection:

(2)Documentation to demonstrate that any deviation from the procedures required by this section was necessary for the safe operation of a pipeline facility.

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Summary of Findings:

CNGC had no deviations, but were unable to demonstrate adequate documentation. An email supporting statements made by CNG personnel was provided as supporting documentation. Staff is concerned that CNGC records do not adequately support deviations that occurred for the safe operation of the pipeline facility or lack thereof.

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Recommendation:

Provide updated documentation practices associated with recording deviations.

Result Notes CNGC was unable to provide clear documentation supporting no deviations occurred or occurred as required for the safe operation of the pipeline facility.

Report Parameters: Results: Unsat,Concern

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