Inspection Results (IRR)

Generated on 2021.April.20 16:41

- CNG CRM 8149 (144)

Inspection Results Report (ALL Results) - Scp_PK CNG CRM 8149

Row	Assets	Result	Sub-Group	Qst #	Question ID	References	Question Text
1.	(and 1 other asset)	Concern	CR.CRMGEN	1.	CR.CRMGEN.CRMCRITERIA.P	192.631(a)(2)	Do procedures adequately address the process and criteria that determine which facilities are determined to be control rooms?
2.	(and 1 other asset)	Sat	CR.CRMGEN	2.	CR.CRMGEN.CRMMGMT.P	192.631(a)(2)	Are CRM procedures formalized and controlled?
3.	(and 1 other asset)	Concern	CR.CRMGEN	3.	CR.CRMGEN.CRMIMPLEMENT.R	192.631(a)(2)	Were procedures approved, in place, and implemented on or before the regulatory deadline?
4.	(and 1 other asset)	Sat	CR.CRMGEN	4.	CR.CRMGEN.CRMPROCLOCATION.O	192.631(a)(2)	Are procedures readily available to controllers in the control room?
5.	(and 1 other asset)	Sat	CR.CRMRR	1.	CR.CRMRR.RESPONSIBLE.P	192.631(b)	Are there clear processes to describe each controller's physical domain of responsibility for pipelines and other facility assets?
6.	(and 1 other asset)	Sat	CR.CRMRR	2.	CR.CRMRR.QUALCONTROL.P	192.631(b)	Are there provisions in place to assure that only qualified individuals may assume control at any console/desk?
7.	(and 1 other asset)	Sat	CR.CRMRR	3.	CR.CRMRR.DOMAINCHANGE.P	192.631(b)	If the physical domain of responsibility periodically changes, has a clear process been established to describe the conditions for when such a change occurs?
8.	(and 1 other asset)	Sat	CR.CRMRR	4.	CR.CRMRR.AUTHORITYABNORMAL.P	192.631(b)(2)	Have processes been established to define the controllers' authority and responsibilities when an abnormal operating condition is detected?
9.	(and 1 other asset)	Sat	CR.CRMRR	5.	CR.CRMRR.RESPCHANGE.P	192.631(b)	Do processes address a controller's role during temporary impromptu (unplanned) changes in controller responsibilities?
10.	(and 1 other asset)	Sat	CR.CRMRR	6.	CR.CRMRR.COMMANDVERIFY.P	192.631(b)	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

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							commands given via verbal communications are acknowledged before leaving the console for any reason?
11.	(and 1 other asset)	Sat	CR.CRMRR	7.	CR.CRMRR.PRESSLIMITS.O	192.631(b)(2) (192.619(a), 192.631(e)(1))	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?
12.	(and 1 other asset)	Sat	CR.CRMRR	8.	CR.CRMRR.AUTHORITYEMERGENCY.P	192.631(b)(3)	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?
13.	(and 1 other asset)	Concern	CR.CRMRR	9.	CR.CRMRR.EVACUATION.P	192.631(b)(3)	Do processes specifically address the controller's responsibilities in the event the control room must be evacuated?
14.	(and 1 other asset)	Sat	CR.CRMRR	10.	CR.CRMRR.COMMSYSFAIL.P	192.631(b)(3)	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?
15.	(and 1 other asset)	Sat	CR.CRMRR	11.	CR.CRMRR.HANDOVER.P	192.631(b)(4) (192.631(c)(5))	Have processes been established for the hand-over of responsibility that specify the type of information to be communicated to the oncoming shift?
16.	(and 1 other asset)	NC	CR.CRMRR	12.	CR.CRMRR.HANDOVER.O	192.631(b)(4) (192.631(c)(5))	Do observations indicate adequate hand-over of responsibility to the oncoming shift?
17.	(and 1 other asset)	Sat	CR.CRMRR	13.	CR.CRMRR.HANDOVERDOC.P	192.631(b)(4) (192.631(c)(5))	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?
18.	(and 1 other asset)	Sat	CR.CRMRR	14.	CR.CRMRR.HANDOVERDOC.R	192.631(b)(4) (192.631(c)(5))	Are there records that document the hand-over of responsibility,

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							document the time the actual hand-over of responsibility occurs, and the key information and topics that were communicated during the hand-over?
19.	(and 1 other asset)	Sat	CR.CRMRR	15.	CR.CRMRR.HANDOVEROVERLAP.P	192.631(b)(4)	Do processes require the controllers to discuss recent and impending important activities ensuring adequate overlap?
20.	(and 1 other asset)	Sat	CR.CRMRR	16.	CR.CRMRR.HANDOVERALTERNATIVE.P	192.631(b)(4)	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?
21.	(and 1 other asset)	Sat	CR.CRMRR	17.	CR.CRMRR.UNATTENDCONSOLE.P	192.631(b)(4)	Has the operator established an adequate process for occasions when the console is left temporarily unattended for any reason?
22.	(and 1 other asset)	Sat	CR.CRMRR	18.	CR.CRMRR.CONSOLECOVERAGE.P	192.631(b)(4)	Do processes maintain adequate console coverage during shift hand-over?
23.	(and 1 other asset)	Sat	CR.CRMRR	19.	CR.CRMRR.OTHERAUTHORITYDISALLOW.P	192.631(b)(5)	Do processes disallow others to have authority to direct or supersede the specific technical actions of a controller?
24.	(and 1 other asset)	Sat	CR.CRMRR	20.	CR.CRMRR.OTHERAUTHORITYDISALLOW.R	192.631(b)(5)	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?
25.	(and 1 other asset)	Sat	CR.CRMRR	21.	CR.CRMRR.OTHERAUTHORITYDISALLOW.O	192.631(b)(5)	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?
26.	(and 1 other asset)	Sat	CR.CRMRR	22.	CR.CRMRR.OTHERAUTHORITYQUAL.P	192.631(b)(5)	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

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							implications of the scope of potential actions?
27.	(and 1 other asset)	NA	CR.CRMRR	23.	CR.CRMRR.OTHERAUTHORITYQUAL.R	192.631(b)(5)	Do records indicate that others given authority to direct or supersede the specific technical actions of a controller were qualified?
28.	(and 1 other asset)	Sat	CR.CRMRR	24.	CR.CRMRR.OTHERAUTHORITYIMPLEMENT.P	192.631(b)(5)	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?
29.	(and 1 other asset)	NA	CR.CRMRR	25.	CR.CRMRR.OTHERAUTHORITYLIST.R	192.631(b)(5)	Is a list of individuals with authority to direct or supersede the technical actions of a controller readily available to controllers?
30.	(and 1 other asset)	NA	CR.CRMRR	26.	CR.CRMRR.OTHERAUTHORITYIMPLEMENT.R	192.631(b)(5)	Do records adequately document occurrences of when others authorized to direct or supersede the technical actions of a controller have done so?
31.	(and 1 other asset)	NA	CR.CRMRR	27.	CR.CRMRR.OTHERAUTHORITYIMPLEMENT.O	192.631(b)(5)	Do others authorized to direct or supersede the technical actions of a controller demonstrate an understanding of the process to implement this authority?
32.	(and 1 other asset)	Sat	CR.SCADA	1.	CR.SCADA.SYSTEMMOC.P	192.631(c)(1)	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?
33.	(and 1 other asset)	Sat	CR.SCADA	2.	CR.SCADA.DISPLAYCONFIG.P	192.631(c)(1)	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?
34.	(and 1 other asset)	Sat	CR.SCADA	3.	CR.SCADA.1165HUMANFACTORS.O	192.631(c)(1)	Has section 4 of API RP 1165 regarding human factors engineering been implemented?
35.	(and 1 other asset)	Sat	CR.SCADA	4.	CR.SCADA.DISPLAYOBJECTS.O	192.631(c)(1)	Has section 8 of API RP 1165 regarding display object characteristics been implemented?
36.	(and 1 other asset)	Sat	CR.SCADA	5.	CR.SCADA.DISPLAYDYNAMICS.R	192.631(c)(1)	Has section 9 of API RP 1165 regarding display object dynamics been implemented?

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37.	(and 1 other asset)	Sat	CR.SCADA	6.	CR.SCADA.ADMINISTRATION.R	192.631(c)(1)	Have applicable paragraphs of section 11 of API RP 1165 administration been implemented?
38.	(and 1 other asset)	Sat	CR.SCADA	7.	CR.SCADA.1165IMPRACTICAL.R	192.631(c)(1)	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?
39.	(and 1 other asset)	Sat	CR.SCADA	8.	CR.SCADA.SETPOINT.P	192.631(c)(2)	Does the process adequately define safety-related points?
40.	(and 1 other asset)	Sat	CR.SCADA	9.	CR.SCADA.SETPOINT.R	192.631(c)(2)	Do records indicate safety-related points have been adequately implemented?
41.	(and 1 other asset)	Sat	CR.SCADA	10.	CR.SCADA.POINTVERIFY.P	192.631(c)(2)	Are there adequate processes to define and identify the circumstances which require a point-to-point verification?
42.	(and 1 other asset)	Sat	CR.SCADA	11.	CR.SCADA.POINTVERIFY.R	192.631(c)(2)	Have required point-to-point verifications been performed?
43.	(and 1 other asset)	Sat	CR.SCADA	12.	CR.SCADA.POINTVERIFYEXTENT.P	192.631(c)(2)	Are there adequate processes for the thoroughness of the point-to-point verification?
44.	(and 1 other asset)	Sat	CR.SCADA	13.	CR.SCADA.POINTVERIFYEXTENT.R	192.631(c)(2)	Do records demonstrate adequate thoroughness of the point-to-point verification?
45.	(and 1 other asset)	Sat	CR.SCADA	14.	CR.SCADA.POINTVERFIYINTVL.P	192.631(c)(2)	Is there an adequate process for defining when the point-to-point verification must be completed?
46.	(and 1 other asset)	Sat	CR.SCADA	15.	CR.SCADA.POINTVERFIYINTVL.R	192.631(c)(2)	Do records indicate the point-to-point verification has been completed at the required intervals?
47.	(and 1 other asset)	Sat	CR.SCADA	16.	CR.SCADA.POINTVERIFY.O	192.631(c)(2)	Are point-to-point verifications performed adequately when required?
48.	(and 1 other asset)	Sat	CR.SCADA	17.	CR.SCADA.COMMPLAN.P	192.631(c)(3)	Has an internal communication plan been established and implemented that is adequate to manually operate the pipeline during a SCADA failure/outage?

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49.	(and 1 other asset)	Sat	CR.SCADA	18.	CR.SCADA.COMMPLAN.R	192.631(c)(3)	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?
50.	(and 1 other asset)	Sat	CR.SCADA	19.	CR.SCADA.BACKUPSCADA.O	192.631(c)	Is there a backup SCADA system?
51.	(and 1 other asset)	Sat	CR.SCADA	20.	CR.SCADA.BACKUPSCADADEV.P	192.631(c)(4)	Has the use of the backup SCADA system for development work been defined?
52.	(and 1 other asset)	Sat	CR.SCADA	21.	CR.SCADA.BACKUPSCADATEST.P	192.631(c)(4)	Is the backup SCADA system required to be tested at least once each calendar year at intervals not to exceed 15 months?
53.	(and 1 other asset)	Sat	CR.SCADA	22.	CR.SCADA.BACKUPSCADATEST.R	192.631(c)(4)	Is the backup SCADA system tested at least once each calendar year at intervals not to exceed 15 months?
54.	(and 1 other asset)	Sat	CR.SCADA	23.	CR.SCADA.BACKUPSCADAVERIFY.P	192.631(c)(4)	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?
55.	(and 1 other asset)	Sat	CR.SCADA	24.	CR.SCADA.BACKUPSCADAVERIFY.R	192.631(c)(4)	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?
56.	(and 1 other asset)	Sat	CR.SCADA	25.	CR.SCADA.BACKUPSCADAADEQUACY.R	192.631(c)(4)	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?
57.	(and 1 other asset)	Concern	CR.SCADA	26.	CR.SCADA.BACKUPSCADATRANSFER.P	192.631(c)(4)	Do processes adequately address and test the logistics of transferring control to a backup control room?

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58.	(and 1 other asset)	Concern	CR.SCADA	27.	CR.SCADA.BACKUPSCADARETURN.P	192.631(c)(4)	Do procedures adequately address and test the logistics of returning operations back to the primary control room?
59.	(and 1 other asset)	Sat	CR.SCADA	28.	CR.SCADA.BACKUPSCADAFUNCTIONS.R	192.631(c)(4)	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?
60.	(and 1 other asset)	Sat	CR.CRMFM	1.	CR.CRMFM.FATIGUEMITIGATION.P	192.631(d)	Does the fatigue mitigation process or procedures (plan) identify operator-specific fatigue risks?
61.	(and 1 other asset)	Sat	CR.CRMFM	2.	CR.CRMFM.FATIGUERISKS.P	192.631(d)	Does the fatigue mitigation plan adequately address how the program reduces the risk associated with controller fatigue?
62.	(and 1 other asset)	Sat	CR.CRMFM	3.	CR.CRMFM.FATIGUEQUANTIFY.P	192.631(d)	Do processes require that the potential contribution of controller fatigue to incidents and accidents be quantified during investigations?
63.	(and 1 other asset)	Concern	CR.CRMFM	4.	CR.CRMFM.FATIGUEMANAGER.P	192.631(d)	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?
64.	(and 1 other asset)	Sat	CR.CRMFM	5.	CR.CRMFM.SHIFTLENGTH.R	192.631(d)(1)	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?
65.	(and 1 other asset)	Sat	CR.CRMFM	6.	CR.CRMFM.SHIFTLENGTHTIME.R	192.631(d)(1)	Does the operator factor in all time the individual is working for the company when establishing shift lengths and schedule rotations or is there a documented technical basis to show that shift lengths and

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							schedule rotations are adequate to provide controllers off-duty time sufficient to achieve 8 hours of continuous sleep?
66.	(and 1 other asset)	Sat	CR.CRMFM	7.	CR.CRMFM.SCHEDULEDTIMEOFF.R	192.631(d)(1)	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?
67.	(and 1 other asset)	Sat	CR.CRMFM	8.	CR.CRMFM.ONCALLCONTROLLER.P	192.631(d)	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?
68.	(and 1 other asset)	Sat	CR.CRMFM	9.	CR.CRMFM.ONCALLCONTROLLER.R	192.631(d)(1)	For controllers who are on call, does the operator minimize interrupting the required 8 hours of continuous sleep 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?
69.	(and 1 other asset)	Sat	CR.CRMFM	10.	CR.CRMFM.MAXHOS.P	192.631(d)(4)	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?
70.	(and 1 other asset)	Sat	CR.CRMFM	11.	CR.CRMFM.MINTIMEOFF.P	192.631(d)(4)	After reaching the HOS limit in any sliding 7-day period, is the minimum time off at least 35 hours or is there a documented technical basis to show a reduction of the risk associated with controller fatigue?

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71.	(and 1 other asset)	Sat	CR.CRMFM	12.	CR.CRMFM.DOCSCHEDULE.P	192.631(d)(4)	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?
72.	(and 1 other asset)	NA	CR.CRMFM	13.	CR.CRMFM.DAYSOFF.P	192.631(d)(4)	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?
73.	(and 1 other asset)	NA	CR.CRMFM	14.	CR.CRMFM.WORKHOURS.R	192.631(d)(4)	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.?
74.	(and 1 other asset)	Sat	CR.CRMFM	15.	CR.CRMFM.FATIGUECOUNTERMEASURES.P	192.631(d)(4)	For shifts longer than 8 hours, have specific fatigue countermeasures been implemented for the ninth and beyond hours?
75.	(and 1 other asset)	Sat	CR.CRMFM	16.	CR.CRMFM.DAILYHOSLIMIT.P	192.631(d)(4)	Do processes limit the daily maximum HOS limit no more than 14 hours in any sliding 24-hour period?
76.	(and 1 other asset)	Sat	CR.CRMFM	17.	CR.CRMFM.CONTROLLERNUMBERS.O	192.631(d)	Do operations include a sufficient number of qualified controllers?
77.	(and 1 other asset)	Sat	CR.CRMFM	18.	CR.CRMFM.OFFDUTYHOURS.P	192.631(d)(4)	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?
78.	(and 1 other asset)	Sat	CR.CRMFM	19.	CR.CRMFM.SHIFTHOLDOVER.P	192.631(d)(4)	Does the shift holdover process conform to shift 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?

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79.	(and 1 other asset)	Sat	CR.CRMFM	20.	CR.CRMFM.SPECIFICCOUNTERMEASURES.P	192.631(d)(4)	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?
80.	(and 1 other asset)	Sat	CR.CRMFM	21.	CR.CRMFM.HOSDEVIATIONS.P	192.631(d)(4)	Is there a formal process for approving deviations from the maximum HOS limits?
81.	(and 1 other asset)	Sat	CR.CRMFM	22.	CR.CRMFM.FATIGUEEDUCATE.P	192.631(d)(2) (192.631(d)(3))	Does the program require that fatigue education/training is required for all controllers and control room supervisors?
82.	(and 1 other asset)	Sat	CR.CRMFM	23.	CR.CRMFM.FATIGUEEDUCATE.R	192.631(d)(2) (192.631(d)(3))	Is periodic fatigue education/training documented for all controllers and control room supervisors?
83.	(and 1 other asset)	Sat	CR.CRMFM	24.	CR.CRMFM.FATIGUEREVIEW.P	192.631(d)(2) (192.631(d)(3), 192.605(a))	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?
84.	(and 1 other asset)	Sat	CR.CRMFM	25.	CR.CRMFM.FATIGUESTRATEGY.P	192.631(d)(2)	Does fatigue education address fatigue mitigation strategies (countermeasures)?
85.	(and 1 other asset)	Sat	CR.CRMFM	26.	CR.CRMFM.OFFDUTY.P	192.631(d)(2)	Does fatigue education address how off-duty activities contribute to fatigue?
86.	(and 1 other asset)	Sat	CR.CRMFM	27.	CR.CRMFM.FATIGUECONTENT.P	192.631(d)(3)	Is the content of fatigue training adequate for training controllers and supervisors to recognize the effects of fatigue?
87.	(and 1 other asset)	Sat	CR.CRMFM	28.	CR.CRMFM.FATIGUECONTENT.R	192.631(d)(3)	Has controller and supervisor training to recognize the effects of fatigue been documented?
88.	(and 1 other asset)	Sat	CR.CRMAM	1.	CR.CRMAM.ALARM.P	192.631(e)	Is the alarm management plan a formal process that specifically identifies critical topical areas included in the program?
89.	(and 1 other asset)	Sat	CR.CRMAM	2.	CR.CRMAM.ALARMMALFUNCTION.P	192.631(e)(1)	Is there a process to identify and correct inaccurate or malfunctioning alarms?

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90.	(and 1 other asset)	Sat	CR.CRMAM	3.	CR.CRMAM.ALARMREVIEW.P	192.631(e)(1)	Does the review of safety-related alarms account for different alarm designs and all alarm types/priorities?
91.	(and 1 other asset)	NA	CR.CRMAM	4.	CR.CRMAM.CONTROLLERPERFORMANCE.P	192.631(h) (192.631(e)(1))	Does the review of safety-related alarms account for console differences that could affect individual-specific controller qualification and performance?
92.	(and 1 other asset)	Sat	CR.CRMAM	5.	CR.CRMAM.STALEDATA.P	192.631(e)(1)	Does the review of safety-related alarms include specific procedures and practices for managing stale or unreliable data?
93.	(and 1 other asset)	Sat	CR.CRMAM	6.	CR.CRMAM.MONTHLYANALYSIS.P	192.631(e)(2)	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?
94.	(and 1 other asset)	Sat	CR.CRMAM	7.	CR.CRMAM.PROBLEMCORRECTION.P	192.631(e)(2)	Does the alarm management plan include a process for promptly correcting identified problems and for returning these points to service?
95.	(and 1 other asset)	Sat	CR.CRMAM	8.	CR.CRMAM.ALARMVERIFY.R	192.631(e)(2)	Do records verify that monthly reviews and analysis of alarm points have been performed?
96.	(and 1 other asset)	Sat	CR.CRMAM	9.	CR.CRMAM.ALARMSETPOINTS.P	192.631(e)(3)	Is there a formal process to determine the correct alarm setpoint values and alarm descriptions?
97.	(and 1 other asset)	Sat	CR.CRMAM	10.	CR.CRMAM.SETTINGCONTROL.P	192.631(e)(3)	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?
98.	(and 1 other asset)	Sat	CR.CRMAM	11.	CR.CRMAM.ALARMVALUEVERIFY.R	192.631(e)(3)	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

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							calendar year, but at intervals not to exceed 15 months?
99.	(and 1 other asset)	Sat	CR.CRMAM	12.	CR.CRMAM.PLANREVIEW.P	192.631(e)(4)	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?
100.	(and 1 other asset)	Sat	CR.CRMAM	13.	CR.CRMAM.PLANREVIEW.R	192.631(e)(4)	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?
101.	(and 1 other asset)	Sat	CR.CRMAM	14.	CR.CRMAM.WORKLOAD.P	192.631(e)(5)	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?
102.	(and 1 other asset)	Sat	CR.CRMAM	15.	CR.CRMAM.WORKLOADMONITORING.P	192.631(e)(5)	Is the process of monitoring and analyzing general activity comprehensive?
103.	(and 1 other asset)	Sat	CR.CRMAM	16.	CR.CRMAM.CONTROLLERREACTION.P	192.631(e)(5)	Does the process have a means of determining that the controller has sufficient time to analyze and react to incoming alarms?
104.	(and 1 other asset)	Sat	CR.CRMAM	17.	CR.CRMAM.PERFORMANCEANALYSIS.R	192.631(e)(5)	Has an analysis been performed to determine if controller(s) performance is currently adequate?
105.	(and 1 other asset)	Sat	CR.CRMAM	18.	CR.CRMAM.DEFICIENCIES.P	192.631(e)(6)	Is there a process to address how deficiencies found in implementing 192.631(e)(1) through 192.631(e)(5) will be resolved?
106.	(and 1 other asset)	Sat	CR.CRMAM	19.	CR.CRMAM.DEFICIENCIES.R	192.631(e)(6)	Do records indicate deficiencies found in implementing 192.631(e)(1) through 192.631(e)(5) have been resolved?
107.	(and 1 other asset)	Sat	CR.CRMCMGT	1.	CR.CRMCMGT.EQUIPMENTCHANGES.P	192.631(f)(1)	Is there a process to assure changes in field equipment that could affect control room operations are coordinated with the control room personnel?
108.	(and 1 other asset)	Sat	CR.CRMCMGT	2.	CR.CRMCMGT.CONTROLLERPARTICIPATE.P	192.631(f)(1) (192.631(f)(3))	Are control room representative(s) required to participate in

Row	Assets	Result	Sub-Group	Qst #	Question ID	References	Question Text
							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?
109.	(and 1 other asset)	Sat	CR.CRMCMGT	3.	CR.CRMCMGT.CONTROLLERPARTICIPATE.R	192.631(f)(1) (192.631(f)(3))	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?
110.	(and 1 other asset)	Sat	CR.CRMCMGT	4.	CR.CRMCMGT.EMERGENCYCONTACT.P	192.631(f)(2)	Is there a process requiring field personnel and SCADA support personnel to contact the control room when emergency conditions exist?
111.	(and 1 other asset)	Sat	CR.CRMCMGT	5.	CR.CRMCMGT.FIELDCONTACT.P	192.631(f)(2)	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?
112.	(and 1 other asset)	Sat	CR.CRMCMGT	6.	CR.CRMCMGT.FIELDCHANGES.R	192.631(f)(2)	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?
113.	(and 1 other asset)	NA	CR.CRMEXP	1.	CR.CRMEXP.REPORTABLEINCIDENTREVIEW.P	192.631(g)(1)	Is there a formal, structured approach for reviewing and critiquing reportable events to identify lessons learned?
114.	(and 1 other asset)	Sat	CR.CRMEXP	2.	CR.CRMEXP.REPORTABLEINCIDENTREVIEW.R	192.631(g)(1)	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?

Row	Assets	Result	Sub-Group	Qst #	Question ID	References	Question Text
115.	(and 1 other asset)	Sat	CR.CRMEXP	3.	CR.CRMEXP.LESSONSLEARNED.P	192.631(g)(2) (192.631(b)(5))	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?
116.	(and 1 other asset)	Sat	CR.CRMEXP	4.	CR.CRMEXP.LESSONSLEARNED.R	192.631(g)(2) (192.631(b)(5))	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.)?
117.	(and 1 other asset)	Sat	CR.CRMTRAIN	1.	CR.CRMTRAIN.CONTROLLERTRAIN.P	192.631(h)	Has a controller training program been established to provide training for each controller to carry out their roles and responsibilities?
118.	(and 1 other asset)	Sat	CR.CRMTRAIN	2.	CR.CRMTRAIN.CONTROLLERTRAIN.R	192.631(h)	Has a controller training program been implemented to provide training for each controller to carry out their roles and responsibilities?
119.	(and 1 other asset)	Sat	CR.CRMTRAIN	3.	CR.CRMTRAIN.TRAININGREVIEW.P	192.631(h)	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?
120.	(and 1 other asset)	Sat	CR.CRMTRAIN	4.	CR.CRMTRAIN.TRAININGREVIEW.R	192.631(h)	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?
121.	(and 1 other asset)	Sat	CR.CRMTRAIN	5.	CR.CRMTRAIN.TRAININGCONTENT.R	192.631(h)	Does training content address all required material, including training each controller to carry out the roles and responsibilities that were defined by the operator?

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122.	(and 1 other asset)	Sat	CR.CRMTRAIN	6.	CR.CRMTRAIN.AOCLIST.R	192.631(h)(1)	Has a list of the abnormal operating conditions that are likely to occur simultaneously or in sequence been established?
123.	(and 1 other asset)	Sat	CR.CRMTRAIN	7.	CR.CRMTRAIN.TRAININGABNORMAL.P	192.631(h)(1)	Does the training program provide controller training on recognizing and responding to abnormal operating conditions that are likely to occur simultaneously or in sequence?
124.	(and 1 other asset)	Sat	CR.CRMTRAIN	8.	CR.CRMTRAIN.TRAINING.R	192.631(h)(2)	Do records indicate the training program used a simulator or tabletop exercises to train controllers how to recognize and respond to abnormal operating conditions?
125.	(and 1 other asset)	Sat	CR.CRMTRAIN	9.	CR.CRMTRAIN.TRAINING.O	192.631(h)(2)	Does the training program use a simulator or tabletop exercises to train controllers how to recognize and respond to abnormal operating conditions?
126.	(and 1 other asset)	Sat	CR.CRMTRAIN	10.	CR.CRMTRAIN.COMMUNICATIONTRAINING.P	192.631(h)(3)	Does the CRM program train controllers on their responsibilities for communication under the operator's emergency response procedures?
127.	(and 1 other asset)	Sat	CR.CRMTRAIN	11.	CR.CRMTRAIN.SYSKNOWLEDGE.P	192.631(h)(4)	Does the training program provide controllers a working knowledge of the pipeline system, especially during the development of abnormal operating conditions?
128.	(and 1 other asset)	Sat	CR.CRMTRAIN	12.	CR.CRMTRAIN.INFREQOPSLIST.R	192.631(h)(5)	Has a list of pipeline operating setups that are periodically (but infrequently) used been established?
129.	(and 1 other asset)	Sat	CR.CRMTRAIN	13.	CR.CRMTRAIN.INFREQOPSREVIEW.P	192.631(h)(5)	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?
130.	(and 1 other asset)	Concern	CR.CRMTRAIN	14.	CR.CRMTRAIN.TEAMTRAINPERSONNEL.P	192.631(h)(6)	Do processes establish who, regardless of location, operationally

Row	Assets	Result	Sub-Group	Qst #	Question ID	References	Question Text
							collaborates with control room personnel?
131.	(and 1 other asset)	Concern	CR.CRMTRAIN	15.	CR.CRMTRAIN.TEAMTRAINFREQ.P	192.631(h)(6)	Do processes define the frequency of new and recurring team training?
132.	(and 1 other asset)	Sat	CR.CRMTRAIN	16.	CR.CRMTRAIN.TEAMTRAINCOMPLETE.P	192.631(h)(6)	Do processes address all operational modes and operational collaboration/control?
133.	(and 1 other asset)	Sat	CR.CRMTRAIN	17.	CR.CRMTRAIN.TEAMTRAINEXPERIENCE.P	192.631(h)(6)	Do processes include incorporation of lessons learned from actual historical events and other oil-gas industry events?
134.	(and 1 other asset)	Sat	CR.CRMTRAIN	18.	CR.CRMTRAIN.TEAMTRAINEXERCISE.R	192.631(h)(6)	Do records indicate that training exercises were adequate and involved at least one qualified controller?
135.	(and 1 other asset)	Sat	CR.CRMTRAIN	19.	CR.CRMTRAIN.TEAMTRAINEXERCISE.O	192.631(h)(6)	Does implementation of a control room team exercise demonstrate performance in accordance with regulatory and process requirements?
136.	(and 1 other asset)	Sat	CR.CRMTRAIN	20.	CR.CRMTRAIN.TEAMTRAINIDENTINDIVIDUAL.R	192.631(h)(6)	Do records demonstrate that individuals identified as of January 23, 2018 received team training by January 23, 2019?
137.	(and 1 other asset)	Sat	CR.CRMCOMP	1.	CR.CRMCOMP.SUBMITPROCEDURES.P	192.631(i)	Are there adequate processes to assure that the operator is responsive to requests from applicable agencies to submit their CRM procedures?
138.	(and 1 other asset)	Sat	CR.CRMCOMP	2.	CR.CRMCOMP.SUBMITPROCEDURES.R	192.631(i)	Has the operator been responsive to requests from applicable agencies to submit their CRM procedures?
139.	(and 1 other asset)	Sat	CR.CRMCOMP	3.	CR.CRMCOMP.CRMCOORDINATOR.R	192.631(i)	Is there an individual that is responsible and accountable for compliance with requests from PHMSA or other applicable agencies?
140.	(and 1 other asset)	Sat	CR.CRMCOMP	4.	CR.CRMCOMP.RECORDS.P	192.631(j)(1)	Are records management processes adequate to assure records are sufficient to demonstrate compliance with the CRM rule?
141.	(and 1 other asset)	Sat	CR.CRMCOMP	5.	CR.CRMCOMP.RECORDS.R	192.631(j)(1)	Are records sufficient to demonstrate compliance with the CRM rule?
142.	(and 1 other asset)	Sat	CR.CRMCOMP	6.	CR.CRMCOMP.ELECTRONICRECORDS.R	192.631(j)(1)	Are electronic records properly stored, safeguarded, and readily retrievable?

Row	Assets	Result	Sub-Group	Qst #	Question ID	References	Question Text
143.	(and 1 other asset)	Sat	CR.CRMCOMP	7.	CR.CRMCOMP.DEVIATIONS.P	192.631(j)(2)	Are there processes to demonstrate and provide a documented record that every deviation from any CRM rule requirement was necessary for safe operation?
144.	(and 1 other asset)	Concern	CR.CRMCOMP	8.	CR.CRMCOMP.DEVIATIONS.R	192.631(j)(2)	Were all deviations documented in a way that demonstrates they were necessary for safe operation?

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.