# Inspection Results (IRR)

## Unit McChord CRM (128)

| Row | Assets | Result | Sub-Group | Qst # | Question ID | References | Question Text |
|---|---|---|---|---|---|---|---|
| 1. | Unit McChord CRM | **Sat** | CR.CRMGEN | 1. | CR.CRMGEN.CRMCRITERIA.P | 195.446(a) | Does the process adequately address criteria by which the operator determines which of its facilities are control rooms? |
| 2. | Unit McChord CRM | **Sat** | CR.CRMGEN | 2. | CR.CRMGEN.CRMMGMT.P | 195.446(a) | Are CRM procedures formalized and controlled? |
| 3. | Unit McChord CRM | **Sat** | CR.CRMGEN | 3. | CR.CRMGEN.CRMIMPLEMENT.R | 195.446(a) | Were procedures approved, in place, and implemented on or before the regulatory deadline? |
| 4. | Unit McChord CRM | **Sat** | CR.CRMGEN | 4. | CR.CRMGEN.CRMPROCLOCATION.O | 195.446(a) | Are procedures readily available to controllers in the control room? |
| 5. | Unit McChord CRM | **Sat** | CR.CRMRR | 1. | CR.CRMRR.RESPONSIBLE.P | 195.446(b)(1) | Are there clear processes to describe each controller's physical domain of responsibility for pipelines and other facility assets? |

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| 6. | Unit McChord CRM | **Sat** | CR.CRMRR | 2. | CR.CRMRR.QUALCONTROL.P | 195.446(b)(1) | Are there provisions in place to assure that only qualified individuals may assume control at any console/desk? |
| 7. | Unit McChord CRM | **NA** | CR.CRMRR | 3. | CR.CRMRR.DOMAINCHANGE.P | 195.446(b)(1) | 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. | Unit McChord CRM | **Sat** | CR.CRMRR | 4. | CR.CRMRR.RESPCHANGE.P | 195.446(b)(1) | Do processes address a controller's role during temporary impromptu (unplanned) changes in controller responsibilities? |
| 9. | Unit McChord CRM | **Sat** | CR.CRMRR | 5. | CR.CRMRR.COMMANDVERIFY.P | 195.446(b)(1) | 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 |

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|---|---|---|---|---|---|---|---|
| | | | | | | | acknowledged before leaving the console for any reason? |
| 10. | Unit McChord CRM | **Sat** | CR.CRMRR | 6. | CR.CRMRR.AUTHORITYABNORMAL.P | 195.446(b)(2) | Have processes been established to define the controllers' authority and responsibilities when an abnormal operating condition is detected? |
| 11. | Unit McChord CRM | **Sat** | CR.CRMRR | 7. | CR.CRMRR.PRESSLIMITS.O | 195.446(b)(2) | Are controllers aware of the current MOPs of all pipeline segments for which they are responsible, and have they been assigned the responsibility to maintain those pipelines at or below the MOP? |
| 12. | Unit McChord CRM | **Sat** | CR.CRMRR | 8. | CR.CRMRR.AUTHORITYEMERGENCY.P | 195.446(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 |

| Row | Assets | Result | Sub-Group | Qst # | Question ID | References | Question Text |
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| | | | | | | | or if a leak or rupture is suspected? |
| 13. | Unit McChord CRM | **Sat** | CR.CRMRR | 9. | CR.CRMRR.EVACUATION.P | 195.446(b)(3) | Do processes specifically address the controller's responsibilities in the event the control room must be evacuated? |
| 14. | Unit McChord CRM | **Sat** | CR.CRMRR | 10. | CR.CRMRR.COMMSYSFAIL.P | 195.446(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. | Unit McChord CRM | **Sat** | CR.CRMRR | 11. | CR.CRMRR.HANDOVER.P | 195.446(b)(4) (195.446(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. | Unit McChord CRM | **Sat** | CR.CRMRR | 12. | CR.CRMRR.HANDOVERDOC.P | 195.446(b)(4) (195.446(c)(5)) | Do processes require that records document the hand-over of |

| Row | Assets | Result | Sub-Group | Qst # | Question ID | References | Question Text |
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| | | | | | | | responsibility, document the time the actual hand-over of responsibility occurs, and the key information and topics that were communicated during the hand-over? |
| 17. | Unit McChord CRM | **Sat** | CR.CRMRR | 13. | CR.CRMRR.HANDOVERDOC.R | 195.446(b)(4) (195.446(c)(5)) | 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? |
| 18. | Unit McChord CRM | **Sat** | CR.CRMRR | 14. | CR.CRMRR.HANDOVEROVERLAP.P | 195.446(b)(4) | Do processes require the controllers to discuss recent and impending important activities ensuring adequate overlap? |
| 19. | Unit McChord CRM | **Sat** | CR.CRMRR | 15. | CR.CRMRR.HANDOVERALTERNATIVE.P | 195.446(b)(4) | When a controller is unable to continue or assume responsibility for any reason, do the shift hand-over processes include |

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| | | | | | | | alternative shift hand-over actions that specifically address this situation? |
| 20. | Unit McChord CRM | **Sat** | CR.CRMRR | 16. | CR.CRMRR.UNATTENDCONSOLE.P | 195.446(b)(4) | Has the operator established an adequate process for occasions when the console is left temporarily unattended for any reason? |
| 21. | Unit McChord CRM | **Sat** | CR.CRMRR | 17. | CR.CRMRR.CONSOLECOVERAGE.P | 195.446(b)(4) | Do processes maintain adequate console coverage during shift hand-over? |
| 22. | Unit McChord CRM | **Sat** | CR.SCADA | 1. | CR.SCADA.SYSTEMMOC.P | 195.446(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? |
| 23. | Unit McChord CRM | **Sat** | CR.SCADA | 2. | CR.SCADA.DISPLAYCONFIG.P | 195.446(c)(1) | Are there written processes to implement the API RP 1165 display standards to the SCADA systems that have been added, |

| Row | Assets | Result | Sub-Group | Qst # | Question ID | References | Question Text |
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| | | | | | | | expanded, or replaced since August 1, 2012? |
| 24. | Unit McChord CRM | **Sat** | CR.SCADA | 3. | CR.SCADA.1165HUMANFACTORS.R | 195.446(c)(1) | Has section 4 of API RP 1165 regarding human factors engineering been implemented? |
| 25. | Unit McChord CRM | **NA** | CR.SCADA | 4. | CR.SCADA.DISPLAYHARDWARE.R | 195.446(c)(1) | Has section 5 of API RP 1165 regarding display hardware been implemented? |
| 26. | Unit McChord CRM | **NA** | CR.SCADA | 5. | CR.SCADA.DISPLAYLAYOUT.R | 195.446(c)(1) | Has section 6 of API RP 1165 regarding display layout and organization been implemented? |
| 27. | Unit McChord CRM | **NA** | CR.SCADA | 6. | CR.SCADA.DISPLAYNAVIGATION.R | 195.446(c)(1) | Has section 7 of API RP 1165 regarding display navigation been implemented? |
| 28. | Unit McChord CRM | **NA** | CR.SCADA | 7. | CR.SCADA.DISPLAYOBJECTS.O | 195.446(c)(1) | Has section 8 of API RP 1165 regarding display object characteristics been implemented? |
| 29. | Unit McChord CRM | **NA** | CR.SCADA | 8. | CR.SCADA.DISPLAYDYNAMICS.R | 195.446(c)(1) | Has section 9 of API RP 1165 regarding display object dynamics been implemented? |

| Row | Assets | Result | Sub-Group | Qst # | Question ID | References | Question Text |
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| 30. | Unit McChord CRM | **NA** | CR.SCADA | 9. | CR.SCADA.CONTROLSELECTION.R | 195.446(c)(1) | Has section 10 of API RP 1165 control selection and techniques been implemented? |
| 31. | Unit McChord CRM | **NA** | CR.SCADA | 10. | CR.SCADA.ADMINISTRATION.R | 195.446(c)(1) | Has section 11 of API RP 1165 administration been implemented? |
| 32. | Unit McChord CRM | **NA** | CR.SCADA | 11. | CR.SCADA.1165IMPRACTICAL.R | 195.446(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? |
| 33. | Unit McChord CRM | **Sat** | CR.SCADA | 12. | CR.SCADA.SETPOINT.P | 195.446(c)(2) (195.406(b)) | Does the process adequately define safety-related points? |
| 34. | Unit McChord CRM | **Sat** | CR.SCADA | 13. | CR.SCADA.SETPOINT.R | 195.446(c)(2) | Do records indicate safety-related points have been adequately implemented? |
| 35. | Unit McChord CRM | **Sat** | CR.SCADA | 14. | CR.SCADA.POINTVERIFY.P | 195.446(c)(2) | Are there adequate processes to define and identify the circumstances which require a point- |

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| | | | | | | | to-point verification? |
| 36. | Unit McChord CRM | **Sat** | CR.SCADA | 15. | CR.SCADA.POINTVERIFY.R | 195.446(c)(2) | Have required point-to-point verifications been performed? |
| 37. | Unit McChord CRM | **Sat** | CR.SCADA | 16. | CR.SCADA.POINTVERIFYEXTENT.P | 195.446(c)(2) | Are there adequate processes for the thoroughness of the point-to-point verification? |
| 38. | Unit McChord CRM | **Sat** | CR.SCADA | 17. | CR.SCADA.POINTVERIFYEXTENT.R | 195.446(c)(2) | Do records demonstrate adequate thoroughness of the point-to-point verification? |
| 39. | Unit McChord CRM | **Sat** | CR.SCADA | 18. | CR.SCADA.POINTVERFIYINTVL.P | 195.446(c)(2) | Is there an adequate process for defining when the point-to-point verification must be completed? |
| 40. | Unit McChord CRM | **Sat** | CR.SCADA | 19. | CR.SCADA.POINTVERFIYINTVL.R | 195.446(c)(2) | Do records indicate the point-to-point verification has been completed at the required intervals? |
| 41. | Unit McChord CRM | **Sat** | CR.SCADA | 20. | CR.SCADA.COMMPLAN.P | 195.446(c)(3) | Has an internal communication plan been established and implemented that is adequate to manually operate the pipeline during a SCADA |

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| | | | | | | | failure/outage? |
| 42. | Unit McChord CRM | **Sat** | CR.SCADA | 21. | CR.SCADA.COMMPLAN.R | 195.446(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? |
| 43. | Unit McChord CRM | **Sat** | CR.SCADA | 22. | CR.SCADA.BACKUPSCADA.O | 195.446(c)(4) | Is there a backup SCADA system? |
| 44. | Unit McChord CRM | **Sat** | CR.SCADA | 23. | CR.SCADA.BACKUPSCADADEV.P | 195.446(c)(4) | Has the use of the backup SCADA system for development work been defined? |
| 45. | Unit McChord CRM | **Sat** | CR.SCADA | 24. | CR.SCADA.BACKUPSCADATEST.R | 195.446(c)(4) | Is the backup SCADA system tested at least once each calendar year at intervals not to exceed 15 months? |
| 46. | Unit McChord CRM | **Sat** | CR.SCADA | 25. | CR.SCADA.BACKUPSCADAVERIFY.R | 195.446(c)(4) | Does the testing verify that there are adequate processes in place for decision-making and internal communications to successfully |

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| | | | | | | | implement a transition from primary SCADA to backup SCADA, and back to primary SCADA? |
| 47. | Unit McChord CRM | **Sat** | CR.SCADA | 26. | CR.SCADA.BACKUPSCADAADEQUACY.R | 195.446(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? |
| 48. | Unit McChord CRM | **Sat** | CR.SCADA | 27. | CR.SCADA.BACKUPSCADATRANSFER.P | 195.446(c)(4) | Do processes adequately address and test the logistics of transferring control to a backup control room? |
| 49. | Unit McChord CRM | **NA** | CR.SCADA | 28. | CR.SCADA.BACKUPSCADARETURN.P | 195.446(c)(4) | Do procedures adequately address and test the logistics of returning operations back to the primary control room? |

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| 50. | Unit McChord CRM | **NA** | CR.SCADA | 29. | CR.SCADA.BACKUPSCADAFUNCTIONS.R | 195.446(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? |
| 51. | Unit McChord CRM | **Sat** | CR.CRMFM | 1. | CR.CRMFM.FATIGUEMITIGATION.P | 195.446(d) | Does the fatigue mitigation process or procedures (plan) identify operator-specific fatigue risks? |
| 52. | Unit McChord CRM | **Sat** | CR.CRMFM | 2. | CR.CRMFM.FATIGUERISKS.P | 195.446(d) | Does the fatigue mitigation plan adequately address how the program reduces the risk associated with controller fatigue? |
| 53. | Unit McChord CRM | **Sat** | CR.CRMFM | 3. | CR.CRMFM.FATIGUEQUANTIFY.P | 195.446(d) | Do processes require that the potential contribution of controller fatigue to incidents and accidents be quantified during investigations? |
| 54. | Unit McChord CRM | **Sat** | CR.CRMFM | 4. | CR.CRMFM.FATIGUEMANAGER.P | 195.446(d) | Is there a designated fatigue risk manager who is responsible and accountable for |

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| | | | | | | | managing fatigue risk and fatigue countermeasures, and someone (perhaps the same person) that is authorized to review and approve HOS emergency deviations? |
| 55. | Unit McChord CRM | **Sat** | CR.CRMFM | 5. | CR.CRMFM.SHIFTLENGTH.R | 195.446(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? |
| 56. | Unit McChord CRM | **Sat** | CR.CRMFM | 6. | CR.CRMFM.SHIFTLENGTHTIME.R | 195.446(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 |

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| | | | | | | | 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? |
| 57. | Unit McChord CRM | **Sat** | CR.CRMFM | 7. | CR.CRMFM.SCHEDULEDTIMEOFF.R | 195.446(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? |
| 58. | Unit McChord CRM | **Sat** | CR.CRMFM | 8. | CR.CRMFM.ONCALLCONTROLLER.R | 195.446(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 |

| Row | Assets | Result | Sub-Group | Qst # | Question ID | References | Question Text |
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| | | | | | | | rotations are adequate to provide controllers off-duty time sufficient to achieve 8 hours of continuous sleep? |
| 59. | Unit McChord CRM | **Sat** | CR.CRMFM | 9. | CR.CRMFM.MAXHOS.P | 195.446(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 reduction of the risk associated with controller fatigue? |
| 60. | Unit McChord CRM | **Sat** | CR.CRMFM | 10. | CR.CRMFM.MINTIMEOFF.P | 195.446(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? |
| 61. | Unit McChord CRM | **Sat** | CR.CRMFM | 11. | CR.CRMFM.DOCSCHEDULE.P | 195.446(d)(4) | Is there a formal system to document all scheduled and unscheduled HOS worked, including overtime and time |

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| | | | | | | | spent performing duties other than control room duties? |
| 62. | Unit McChord CRM | **NA** | CR.CRMFM | 12. | CR.CRMFM.DAYSOFF.P | 195.446(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? |
| 63. | Unit McChord CRM | **NA** | CR.CRMFM | 13. | CR.CRMFM.WORKHOURS.R | 195.446(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.? |
| 64. | Unit McChord CRM | **Sat** | CR.CRMFM | 14. | CR.CRMFM.FATIGUECOUNTERMEASURES.P | 195.446(d)(4) | For shifts longer than 8 hours, have specific fatigue countermeasures been implemented for the ninth and beyond hours? |
| 65. | Unit McChord CRM | **Sat** | CR.CRMFM | 15. | CR.CRMFM.DAILYHOSLIMIT.P | 195.446(d)(4) | Do processes limit the daily maximum HOS limit to no more than 14 hours in any sliding 24-hour period? |

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| 66. | Unit McChord CRM | **Sat** | CR.CRMFM | 16. | CR.CRMFM.CONTROLLERNUMBERS.O | 195.446(d)(4) | Do operations include a sufficient number of qualified controllers? |
| 67. | Unit McChord CRM | **Sat** | CR.CRMFM | 17. | CR.CRMFM.OFFDUTYHOURS.P | 195.446(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? |
| 68. | Unit McChord CRM | **Sat** | CR.CRMFM | 18. | CR.CRMFM.SHIFTHOLDOVER.P | 195.446(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 |

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| | | | | | | | with controller fatigue? |
| 69. | Unit McChord CRM | Sat | CR.CRMFM | 19. | CR.CRMFM.SPECIFICCOUNTERMEASURES.P | 195.446(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? |
| 70. | Unit McChord CRM | Sat | CR.CRMFM | 20. | CR.CRMFM.HOSDEVIATIONS.P | 195.446(d)(4) | Is there a formal process for approving deviations from the maximum HOS limits? |
| 71. | Unit McChord CRM | Sat | CR.CRMFM | 21. | CR.CRMFM.FATIGUEEDUCATE.P | 195.446(d)(2) (195.446(d)(3)) | Does the program require that fatigue education/training is required for all controllers and control room supervisors? |
| 72. | Unit McChord CRM | Sat | CR.CRMFM | 22. | CR.CRMFM.FATIGUEEDUCATE.R | 195.446(d)(2) (195.446(d)(3)) | Is fatigue education/training documented for all controllers and control room supervisors? |
| 73. | Unit McChord CRM | Sat | CR.CRMFM | 23. | CR.CRMFM.FATIGUEREFRESHER.R | 195.446(d)(2) (195.446(d)(3)) | Is refresher fatigue education provided at |

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| | | | | | | | regular intervals? |
| 74. | Unit McChord CRM | **Sat** | CR.CRMFM | 24. | CR.CRMFM.FATIGUEREVIEW.P | 195.446(d)(2) (195.446(d)(3)) | 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? |
| 75. | Unit McChord CRM | **Sat** | CR.CRMFM | 25. | CR.CRMFM.FATIGUESTRATEGY.P | 195.446(d)(2) | Does fatigue education address fatigue mitigation strategies (countermeasures)? |
| 76. | Unit McChord CRM | **Sat** | CR.CRMFM | 26. | CR.CRMFM.OFFDUTY.P | 195.446(d)(2) | Does fatigue education address how off-duty activities contribute to fatigue? |
| 77. | Unit McChord CRM | **Sat** | CR.CRMFM | 27. | CR.CRMFM.FATIGUECONTENT.P | 195.446(d)(3) | Is the content of fatigue training adequate for training controllers and supervisors to recognize the effects of fatigue? |
| 78. | Unit McChord CRM | **Sat** | CR.CRMFM | 28. | CR.CRMFM.FATIGUECONTENT.R | 195.446(d)(3) | Has controller and supervisor training to recognize the effects of fatigue been documented? |
| 79. | Unit McChord CRM | **Sat** | CR.CRMAM | 1. | CR.CRMAM.ALARM.P | 195.446(e) | Is the alarm management plan a |

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| | | | | | | | formal process that specifically identifies critical topical areas included in the program? |
| 80. | Unit McChord CRM | **Sat** | CR.CRMAM | 2. | CR.CRMAM.ALARMMALFUNCTION.P | 195.446(e)(1) | Is there a process to identify and correct inaccurate or malfunctioning alarms? |
| 81. | Unit McChord CRM | **Sat** | CR.CRMAM | 3. | CR.CRMAM.ALARMREVIEW.P | 195.446(e)(1) | Does the review of safety-related alarms account for different alarm designs and all alarm types/priorities? |
| 82. | Unit McChord CRM | **NA** | CR.CRMAM | 4. | CR.CRMAM.CONTROLLERPERFORMANCE.P | 195.446(e)(1) | Does the review of safety-related alarms account for individual-specific controller qualification and performance? |
| 83. | Unit McChord CRM | **NA** | CR.CRMAM | 5. | CR.CRMAM.STALEDATA.P | 195.446(e)(1) | Does the review of safety-related alarms include specific procedures and practices for managing stale or unreliable data? |
| 84. | Unit McChord CRM | **Sat** | CR.CRMAM | 6. | CR.CRMAM.MONTHLYANALYSIS.P | 195.446(e)(2) | Do processes require the monthly identification, |

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| | | | | | | | 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? |
| 85. | Unit McChord CRM | Sat | CR.CRMAM | 7. | CR.CRMAM.PROBLEMCORRECTION.P | 195.446(e)(2) | Does the alarm management plan include a process for promptly correcting identified problems and for returning these points to service? |
| 86. | Unit McChord CRM | Sat | CR.CRMAM | 8. | CR.CRMAM.ALARMSETPOINTS.P | 195.446(e)(3) | Is there a formal process to determine the correct alarm setpoint values and alarm descriptions? |
| 87. | Unit McChord CRM | Sat | CR.CRMAM | 9. | CR.CRMAM.SETTINGCONTROL.P | 195.446(e)(3) | Have procedures been established to clearly address how and to what degree controllers can change alarm limits or |

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| | | | | | | | setpoints, or inhibit alarms, or take points off-scan? |
| 88. | Unit McChord CRM | **Sat** | CR.CRMAM | 10. | CR.CRMAM.VERIFICATION.P | 195.446(e)(3) | Do processes require that any calibration or change to field instruments require verification of alarm setpoints and alarm descriptions? |
| 89. | Unit McChord CRM | **Sat** | CR.CRMAM | 11. | CR.CRMAM.PLANREVIEW.P | 195.446(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? |
| 90. | Unit McChord CRM | **Sat** | CR.CRMAM | 12. | CR.CRMAM.PLANREVIEW.R | 195.446(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? |
| 91. | Unit McChord CRM | **Sat** | CR.CRMAM | 13. | CR.CRMAM.WORKLOAD.P | 195.446(e)(5) | Does the CRM program have a means of identifying |

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| | | | | | | | and measuring the work load (content and volume of general activity) being directed to an individual controller? |
| 92. | Unit McChord CRM | **Sat** | CR.CRMAM | 14. | CR.CRMAM.WORKLOADMONITORING.P | 195.446(e)(5) | Is the process of monitoring and analyzing general activity comprehensive? |
| 93. | Unit McChord CRM | **Sat** | CR.CRMAM | 15. | CR.CRMAM.CONTROLLERREACTION.P | 195.446(e)(5) | Does the process have a means of determining that the controller has sufficient time to analyze and react to incoming alarms? |
| 94. | Unit McChord CRM | **Sat** | CR.CRMAM | 16. | CR.CRMAM.PERFORMANCEANALYSIS.R | 195.446(e)(5) | Has an analysis been performed to determine if controller(s) performance is currently adequate? |
| 95. | Unit McChord CRM | **Sat** | CR.CRMAM | 17. | CR.CRMAM.DEFICIENCIES.P | 195.446(e)(6) | Is there a process to address how deficiencies found in implementing 195.446(e)(1) through 195.446(e)(5) will be resolved? |

| Row | Assets | Result | Sub-Group | Qst # | Question ID | References | Question Text |
|---|---|---|---|---|---|---|---|
| 96. | Unit McChord CRM | **Sat** | CR.CRMAM | 18. | CR.CRMAM.DEFICIENCIES.R | 195.446(e)(6) | Do records indicate deficiencies found in implementing 195.446(e)(1) through 195.446(e)(5) have been resolved? |
| 97. | Unit McChord CRM | **Sat** | CR.CRMCMGT | 1. | CR.CRMCMGT.CHANGEMEETINGS.P | 195.446(f)(1) | Is there a process to mandate a control room representative will participate in meetings where changes that could directly or indirectly affect control room operations (including routine maintenance and repairs) are being considered, designed and implemented? |
| 98. | Unit McChord CRM | **Sat** | CR.CRMCMGT | 2. | CR.CRMCMGT.CHANGETRAINING.R | 195.446(f)(1) | Before implementing changes, do records indicate controllers were provided with notification and training to assure their ability to safely incorporate the proposed change into operations? |
| 99. | Unit McChord CRM | **Sat** | CR.CRMCMGT | 3. | CR.CRMCMGT.EMERGENCYCONTACT.P | 195.446(f)(2) | Is there a process requiring field personnel and SCADA support |

| Row | Assets | Result | Sub-Group | Qst # | Question ID | References | Question Text |
|-----|--------|--------|-----------|-------|-------------|------------|---------------|
| | | | | | | | personnel to contact the control room when emergency conditions exist? |
| 100. | Unit McChord CRM | **Sat** | CR.CRMCMGT | 4. | CR.CRMCMGT.CHANGECOORDINATION.P | 195.446(f)(1) | Does the process assure changes in field equipment (for example, moving a valve) that could affect control room operations are coordinated with control room personnel? |
| 101. | Unit McChord CRM | **Sat** | CR.CRMCMGT | 5. | CR.CRMCMGT.CHANGECOORDINATION.R | 195.446(f)(1) | Do records indicate that changes in field equipment (for example, moving a valve) that could affect control room operations were coordinated with control room personnel? |
| 102. | Unit McChord CRM | **Sat** | CR.CRMCMGT | 6. | CR.CRMCMGT.FIELDCONTACT.P | 195.446(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 |

| Row | Assets | Result | Sub-Group | Qst # | Question ID | References | Question Text |
|-----|--------|--------|-----------|-------|-------------|------------|---------------|
| | | | | | | | control room operations? |
| 103. | Unit McChord CRM | **Sat** | CR.CRMCMGT | 7. | CR.CRMCMGT.FIELDCHANGES.R | 195.446(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? |
| 104. | Unit McChord CRM | **Sat** | CR.CRMEXP | 1. | CR.CRMEXP.ABNORMALREVIEW.P | 195.446(g)(1) | Is there a formal, structured approach for reviewing and critiquing reportable events to identify lessons learned? |
| 105. | Unit McChord CRM | **NA** | CR.CRMEXP | 2. | CR.CRMEXP.ABNORMALREVIEW.R | 195.446(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? |
| 106. | Unit McChord CRM | **Sat** | CR.CRMEXP | 3. | CR.CRMEXP.LESSONSLEARNED.P | 195.446(g)(2) | Does the program require training on lessons learned from a broad range of |

| Row | Assets | Result | Sub-Group | Qst # | Question ID | References | Question Text |
|-----|--------|--------|-----------|-------|-------------|------------|---------------|
| | | | | | | | events (reportable incidents/accidents, near misses, leaks, operational and maintenance errors, etc.), even though the control room may not have been at fault? |
| 107. | Unit McChord CRM | **Sat** | CR.CRMEXP | 4. | CR.CRMEXP.LESSONSLEARNED.R | 195.446(g)(2) | 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.)? |
| 108. | Unit McChord CRM | **Sat** | CR.CRMTRAIN | 1. | CR.CRMTRAIN.CONTROLLERTRAIN.P | 195.446(h) | Has a controller training program been established to provide training for each controller to carry out their roles and responsibilities? |
| 109. | Unit McChord CRM | **Sat** | CR.CRMTRAIN | 2. | CR.CRMTRAIN.CONTROLLERTRAIN.R | 195.446(h) | Has a controller training program been implemented to provide training for each controller to carry out their roles |

| Row | Assets | Result | Sub-Group | Qst # | Question ID | References | Question Text |
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| | | | | | | | and responsibilities? |
| 110. | Unit McChord CRM | **Sat** | CR.CRMTRAIN | 3. | CR.CRMTRAIN.TRAININGREVIEW.P | 195.446(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? |
| 111. | Unit McChord CRM | **Sat** | CR.CRMTRAIN | 4. | CR.CRMTRAIN.TRAININGREVIEW.R | 195.446(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? |
| 112. | Unit McChord CRM | **Sat** | CR.CRMTRAIN | 5. | CR.CRMTRAIN.TRAININGCONTENT.R | 195.446(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? |
| 113. | Unit McChord CRM | **Sat** | CR.CRMTRAIN | 6. | CR.CRMTRAIN.AOCLIST.R | 195.446(h)(1) | Has a list of the abnormal operating |

| Row | Assets | Result | Sub-Group | Qst # | Question ID | References | Question Text |
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| | | | | | | | conditions that are likely to occur simultaneously or in sequence been established? |
| 114. | Unit McChord CRM | **Sat** | CR.CRMTRAIN | 7. | CR.CRMTRAIN.TRAININGABNORMAL.P | 195.446(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? |
| 115. | Unit McChord CRM | **Sat** | CR.CRMTRAIN | 8. | CR.CRMTRAIN.TRAINING.R | 195.446(h)(2) | Does the training program use a simulator or tabletop exercises to train controllers how to recognize and respond to abnormal operating conditions? |
| 116. | Unit McChord CRM | **Sat** | CR.CRMTRAIN | 9. | CR.CRMTRAIN.TRAINING.O | 195.446(h)(2) | Does the training program use a simulator or tabletop exercises to train controllers how to recognize and respond to abnormal operating conditions? |
| 117. | Unit McChord CRM | **Sat** | CR.CRMTRAIN | 10. | CR.CRMTRAIN.COMMUNICATIONTRAINING.P | 195.446(h)(3) | Does the CRM program train |

| Row | Assets | Result | Sub-Group | Qst # | Question ID | References | Question Text |
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| | | | | | | | controllers on their responsibilities for communication under the operator's emergency response procedures? |
| 118. | Unit McChord CRM | **Sat** | CR.CRMTRAIN | 11. | CR.CRMTRAIN.SYSKNOWLEDGE.P | 195.446(h)(4) | Does the training program provide controllers a working knowledge of the pipeline system, especially during the development of abnormal operating conditions? |
| 119. | Unit McChord CRM | **Sat** | CR.CRMTRAIN | 12. | CR.CRMTRAIN.INFREQOPSLIST.R | 195.446(h)(5) | Has a list of pipeline operating setups that are periodically (but infrequently) used been established? |
| 120. | Unit McChord CRM | **Sat** | CR.CRMTRAIN | 13. | CR.CRMTRAIN.INFREQOPSREVIEW.P | 195.446(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? |
| 121. | Unit McChord CRM | **Sat** | CR.CRMCOMP | 1. | CR.CRMCOMP.SUBMITPROCEDURES.P | 195.446(i) | Are there adequate processes to assure that the operator is |

| Row | Assets | Result | Sub-Group | Qst # | Question ID | References | Question Text |
|---|---|---|---|---|---|---|---|
| | | | | | | | responsive to requests from applicable agencies to submit their CRM procedures? |
| 122. | Unit McChord CRM | **Sat** | CR.CRMCOMP | 2. | CR.CRMCOMP.SUBMITPROCEDURES.R | 195.446(i) | Has the operator been responsive to requests from applicable agencies to submit their CRM procedures? |
| 123. | Unit McChord CRM | **Sat** | CR.CRMCOMP | 3. | CR.CRMCOMP.CRMCOORDINATOR.R | 195.446(i) | Is there an individual that is responsible and accountable for compliance with requests from PHMSA or other applicable agencies? |
| 124. | Unit McChord CRM | **Sat** | CR.CRMCOMP | 4. | CR.CRMCOMP.RECORDS.P | 195.446(j)(1) | Records management processes adequate to assure records are sufficient to demonstrate compliance with the CRM rule? |
| 125. | Unit McChord CRM | **Sat** | CR.CRMCOMP | 5. | CR.CRMCOMP.RECORDS.R | 195.446(j)(1) | Are records sufficient to demonstrate compliance with the CRM rule? |
| 126. | Unit McChord CRM | **Sat** | CR.CRMCOMP | 6. | CR.CRMCOMP.ELECTRONICRECORDS.R | 195.446(j)(1) | Are electronic records properly stored, safeguarded, and |

| Row | Assets | Result | Sub-Group | Qst # | Question ID | References | Question Text |
|-----|--------|--------|-----------|-------|-------------|------------|---------------|
|     |        |        |           |       |             |            | readily retrievable? |
| 127. | Unit McChord CRM | **NA** | CR.CRMCOMP | 7. | CR.CRMCOMP.DEVIATIONS.P | 195.446(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? |
| 128. | Unit McChord CRM | **NA** | CR.CRMCOMP | 8. | CR.CRMCOMP.DEVIATIONS.R | 195.446(j)(2) | Were all deviations documented in a way that demonstrates they were necessary for safe operation? |

*Report Parameters: All non-empty Results*

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