**Operator and General Audit Information**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Company:** | **Name:** | | | |
|  | | | |
| **Mailing and Official Address (If different):** | | | |
|  | | | |
| **Doing Business as or Affiliation:** | | | |
|  | | | |
| **PHMSA Operator Identification (OPID) No.** | |  | | |
| **LA DNR Pipeline Number (PL Number)** | |  | | |
| **Unit ID Number/ Unit Name inspected** | |  | | |
| **Operator’s Local Address:** |  | | **Lead Inspector:** |  |
| **Attending Inspectors:** |  |
| **Dates of Inspection:** |  |

**Company Representatives Participating**

|  |  |
| --- | --- |
| **Key Persons** | **Name / Title / Mailing Address / Phone / Email** |
| **Primary Operator or Representative Interviewed** |  |
| **Others Interviewed, Providing Information or Present during the Inspection** |  |
|  |
|  |

**A0: INSTRUCTIONS**

**Please complete item A0, using the following instructions.**

1. Does the operator have a SCADA system applied to regulated pipeline facilities? (YES/NO): As defined in 192.3 and 195.2, Supervisory Control and Data Acquisition (SCADA) system means a computer-based system or systems used by a controller in a control room that collects and displays information about a pipeline facility and may have the ability to send commands back to the pipeline facility. See FAQs A.04 through A.21.
2. Does the operator have controllers (individuals using computer-type displays and keyboard/mouse, etc.) using a SCADA system with assigned operational authority and responsibility to monitor and control regulated pipeline facilities? Note: Controllers performing these functions must be qualified under the applicable OQ regulations. See section H, Training, below. Status of qualification does not affect rule applicability. If controllers use a SCADA system for monitoring, but use verbal or manual means to call-out personnel to perform control actions, they are considered to be controllers that use a SCADA system to monitor and control the pipeline. Persons at local facilities that meet the definition of controller are also covered under the CRM rule. See FAQs A.04 through A.21, and A.23.
3. [Gas only] Does either or both of the exceptions listed in 192.631(a)(1) apply?: Exceptions must apply to the entire control room. If any console/desk operates pipeline segments for which the exceptions do not apply, then the entire control room must meet all provisions of the CRM rule, even if certain consoles/desks control pipeline segments that meet the exception description. Per 74 FR 63318 “It should be noted, however, that this limited exclusion applies only if the operations from a gas operator’s control room are limited to such smaller operations. The full requirements of the rule apply to operators of such pipelines if the operator also operates other pipelines outside of this limited exclusion from the same control room. For example, there may be large gas transmission operators who also operate small distribution pipelines or large LDCs that also have or operate transmission without SCADA-enabled compressors. In such cases, all the provisions of this rule apply to all of the operator’s pipeline operations in a common control room.” See FAQs A.11, A.18, A.19, A.22, and A.24.
4. Does the CRM rule apply to this operator?: Based on items 1 through 3, indicate if the CRM rule applies to this control room. If the exceptions apply, then only sections A, D, I and J of the CRM rule apply to the control room.
5. Name/Location of this Primary Control Room: List the name and location (by zip code) of the control room being inspected. For security concerns, do not record the specific address of the control room in this form. Some control rooms are operated by third party contractors, one of the partners of a partnership or joint ownership arrangement, or other business relationship. Indicate the name of the company that operates the control room and the relationship with the pipeline owner(s).
6. System(s) controlled (by OpID): Please provide the following information for each OpID and pipeline system controlled from this control room.
   1. List the OpID. List only one OpID per line. Use continuation page(s) if necessary.
   2. List the pipeline system name and short description associated with the OpID.
   3. Please check the type(s) of systems applicable to each OpID/System. Check all that apply.
   4. For gathering and transmission systems, provide the total mileage for each type of system. For distribution systems, provide the total number of services for each type of system. The sum of the mileage or services breakdown should equal the total mileage or services reported on the annual report. Also, for storage facilities regulated under Parts 192 and 195, indicate the total number (count) of such facilities. For Part 192 storage facilities, count each gas storage field and distribution propane tank. For Part 195 storage facilities, count each regulated atmospheric tank, pressurized tank and storage cavern.
   5. Some OpIDs/Systems might not be controlled in their entirety from this control room. For example, some delivery laterals may be operated from another control room, or manually as needed. Under item 6e, “Total for this control room”, report the services or mileage or facilities (whichever applies) that are controlled from this control room being inspected.
   6. If the system(s) or segment(s) belonging to each OpID are partially controlled by another control room (not a backup for this control room), please indicate this and identify the other control room (do not count backup control rooms).
7. Other control rooms (YES/NO): Indicate if the CRM program that applies to the control room being inspected is applicable to other control rooms.
8. Other control rooms (LIST): Provide a list of any other facilities the operator has that might qualify as a control room as defined in the CRM rule. Please list all candidate facilities, even if you are unsure if the facility is a control room. If there are none, enter “No”.
9. Hours in operation per day (NUM): Indicate how many hours per day this control room is operated.
10. Days in operation per week (NUM): Indicate how many days per week this control room is operated.
11. Total no. of Consoles at Primary Control Room (NUM): Indicate the total number of consoles at the control room being inspected. Please count any spare consoles or consoles that are not used as a primary control seat (such as a training simulator console).
12. Scheduled shift length (NUM): Indicate the scheduled shift length in hours (without hand-over or overlap); usually 8, 10 or 12 hours.
13. Total number of shift crews (i.e., “teams”) (NUM): Indicate the total number of crews that are employed; usually 4 or 5 for a 24/7 operation. A crew might be only one person for a single-desk operation. The number of crews does not include back-up controllers, such as qualified supervisors, who are not in the daily shift rotation. (While these individuals can still be used in the ultimate employment ratio/staffing level calculation, they are considered more as a last resort option and/or if everyone else in the normal rotation is too fatigued or otherwise unavailable to fill a slot).
14. Shift Rotation: One full cycle of the shiftwork plan in terms of day/morning (D); night/mid (N); swing/afternoon/evening (S); days off (O); and days on relief/on call (R) shifts: For example, for a 12-hour, 4-crew “DuPont” plan, it might be:  DDDONNN OOODDDD OOOOOOO NNNNOOO  
    For a 12-hour, 5-crew “DuPont” plan, it might be:  DDDONNN OOO RRRRROO DDDD OOOOOOO NNNNOOO  
    For the 8-hour, 4-crew “Continental” plan, it would be:  DDSSNNN OODDSSS NNOO DDD SSNNOOO  
    If all crews are not on the same schedule, enter a second or third shiftwork plan on lines 14b/c. If all crews are on the same schedule, leave lines 14b and 14c blank.
15. F/T Qualified Controllers, incl. remotes (NUM): Please indicate the total number of full time OQ qualified controllers employed.
16. P/T Qualified Controllers, incl. remotes (NUM): Please indicate the total number of part time OQ qualified controllers employed. (Do not include supervisors.)
17. Supervisors, fully qualified as Controllers, incl. remotes (NUM): Please identify the number of supervisors/managers that are fully OQ qualified controllers and whose training is current.
18. Supervisors, qualified only for Emergency/AOC, incl. remotes (NUM): Some operators have supervisors that are partially qualified for some limited control activities, such as emergency shutdown or other basic tasks, and whose training is current. Please identify the number of supervisors/managers that are partially qualified controllers.
19. Administrative Supervisors, incl. remotes (NUM): Please identify the number of supervisors that are not qualified as a controller.
20. Input Points: Total & Safety-related (NUM)/(NUM): Please identify the total number of SCADA monitoring and control inputs. Include software calculated points (these are sometimes referred to as “synthetic points” or “soft points”).
21. Output Control Points: Total & Safety-related (NUM)/(NUM): Please identify the total number of SCADA control outputs. Of the total, indicate how many are considered to be safety-related points.
22. Separate Development SCADA system (YES/NO): Indicate if the control room has a development SCADA system not used for pipeline control. (Re: ADB-03-09 at 68 FR 74289)
23. Redundancy for Primary SCADA server: Please indicate if the control room has a local redundant SCADA server. This is not a backup control room facility, which is addressed in item 24. If so, indicate if the redundant server is located locally with the primary server or in a remote location. If the remote location is also the backup control room, so designate.
24. Off-site Backup Control Room: Please list the offsite backup control room/s, if any. Indicate the level of functionality (compared to the primary control room). Some operators contract with third party providers for backup capabilities, sharing backup facilities. Please indicate if the backup is a shared facility or is dedicated solely to the primary control room being inspected.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| A0:  **See previous page for instructions. Use additional pages as necessary for more OpIDs.** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Does the operator have a SCADA system applied to regulated pipeline facilities? (YES/NO) | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | |
| 2. Does the operator have controllers assigned to monitor and control regulated pipeline facilities? (YES/NO) | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | |
| 3. [Gas only] Does either or both of the exceptions listed in 192.631(a)(1) apply? | | | | | | | | |  | Distr. < 250,000 services | | | | | | | | |  | Transmission lines without SCADA-enabled compression, or no Transmission lines | | | | | | | |  | N/A |
| 4. Does the CRM rule apply to this operator? | | | | |  | | Full Program | | | | | | | | |  | Fatigue & Deviations (Sections A, D, I, and J) | | | | | | | | | | |  | No |
| 5. Name/Location of this Primary Control Room | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | |
| City, State, Zip |  | | | | | | | | | | | | | Self/ Joint-Venture /Contractor/other (specify) | | | | | | | | |  | | | | | | |
| 6. Pipeline System(s) controlled from this control room (by OpID and System Name) – Use continuation page if needed. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6a. OpID | | 6b. Pipeline System Name and Description | | | | | | | | | 6c. Type of system (check all that apply to this OpID) | | | | | | | | | | # of:  Services or Mileage or Facilities | | | | | | 6f. Is there another control room(s) for this OpID? (Do not count local redundant or backup control rooms.) | | |
| 6d. Total for entire OpID | | | | 6e. Total for this control room | |
| List only one OpID per block | |  | | | | | | | | |  | Local Gas Distr. ------------ No. of Services: | | | | | | | | |  | | | |  | |  | | |
|  | Gas Transmission ------------------ Mileage: | | | | | | | | |  | | | |  | |
|  | Gas Gathering ---------------------- Mileage: | | | | | | | | |  | | | |  | |
|  | Haz. Liquid Trans. ------------------ Mileage: | | | | | | | | |  | | | |  | |
|  | Haz. Liquid Gather. ---------------- Mileage: | | | | | | | | |  | | | |  | |
|  | Propane Distr. ------------- Count of Tanks: | | | | | | | | |  | | | |  | |
|  | 192 Storage Facilities-Count of Facilities: | | | | | | | | |  | | | |  | |
|  | 195 Storage Facilities-Count of Facilities: | | | | | | | | |  | | | |  | |
| 6a. OpID | | 6b. Pipeline System Name and Description | | | | | | | | | 6c. Type of system (check all that apply to this OpID) | | | | | | | | | | # of:  Services or Mileage or Facilities | | | | | | 6f. Is there another control room(s) for this OpID? (Do not count local redundant or backup control rooms.) | | |
| 6d. Total for entire OpID | | | | 6e. Total for this control room | |
| List only one OpID per block | |  | | | | | | | | |  | Local Gas Distr. ------------ No. of Services: | | | | | | | | |  | | | |  | |  | | |
|  | Gas Transmission ------------------ Mileage: | | | | | | | | |  | | | |  | |
|  | Gas Gathering ---------------------- Mileage: | | | | | | | | |  | | | |  | |
|  | Haz. Liquid Trans. ------------------ Mileage: | | | | | | | | |  | | | |  | |
|  | Haz. Liquid Gather. ---------------- Mileage: | | | | | | | | |  | | | |  | |
|  | Propane Distr. ------------- Count of Tanks: | | | | | | | | |  | | | |  | |
|  | 192 Storage Facilities-Count of Facilities: | | | | | | | | |  | | | |  | |
|  | 195 Storage Facilities-Count of Facilities: | | | | | | | | |  | | | |  | |
| 7. Does operator’s CRM program apply to more than this control room & associated backup? (YES/NO) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8. Does the operator have other facilities that might constitute control rooms under the meaning of the CRM rule? | | | | | | | | | | | | | | | No ( just short term and long term back-up) | | | | | | | | | | | | | | |
| 9. Hours in operation per day (NUM) | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | |
| 10. Days in operation per week (NUM) | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | |
| 11. Total no. of Consoles at Primary Control Room (NUM) | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | |
| 12. Scheduled shift length (w/o hand-over or overlap) in hours (NUM) | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | |
| 13. Total Number of shift crews (i.e., “teams”) (NUM) | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | |
| 14. Shift Rotation, i.e., shift plan(s) – (DNSOR notation)  [If two or more shift plans are used in this control room, list each one.] | | | | | | | | | | | | | | | 14a. | | |  | | | | | | | | | | | |
| 14b. | | |  | | | | | | | | | | | |
| 14c. | | |  | | | | | | | | | | | |
| 15. F/T Qualified Controllers, incl. remotes (NUM) | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | |
| 16. P/T Qualified Controllers, incl. remotes (NUM) | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | |
| 17. Supervisors, fully qualified as Controllers, incl. remotes (NUM) | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | |
| 18. Supervisors, qualified only for Emergency/AOC, incl. remotes (NUM) | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | |
| 19. Administrative Supervisors, incl. remotes (NUM) | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | |
| 20. Input Points: Total & Safety-related (NUM) / (NUM) | | | | | | | | | | | | | | | Total: | | | | | | | | | S-R: | | | | | |
| 21. Output Control Points: Total & Safety-related (NUM) / (NUM) | | | | | | | | | | | | | | | Total: | | | | | | | | | S-R: | | | | | |
| 22. Separate Development SCADA system (YES/NO) | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | |
| **23. Redundancy for Primary**  **SCADA server**  **(Check all that apply)** | | |  | **Total Capability** | | | | | | | | | | |  | | | **Physically located with primary SCADA server** | | | | | | | | | | | |
|  | **Partial Capability** | | | | | | | | | | |  | | | **Located remote from primary SCADA server** | | | | | | | | | | | |
|  | **None** | | | | | | | | | | |  | | | **Remote Location is the Backup Control Room** | | | | | | | | | | | |
|  | | | **Redundant SCADA server also serves as Backup Control Room SCADA server** | | | | | | | | | | | |
| **24. Off-site Backup Control**  **Room (Check all that**  **apply)** | | |  | **Total Capability** | **Number of Consoles** | | | | | | | | Zip Code | | | | | **Self / Joint-Venture /**  **Contractor / Other**  Self | | | | **Used by other OpIDs, not shown above**  **[list other OpIDs]** | | | | | | | |
|  | **Partial Capability** |  | | | **Same as Primary** | | | | |  | | | | |
|  | **None** |  | | | **Fewer than Primary** | | | | |

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**CRM, SCADA, and Leak Detection - General**

**1. Control Room Management Criteria**Do procedures adequately address the process and criteria that determine which facilities are determined to be control rooms? (Procedures)

**195.446(a)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**2. Control Room Management**Are CRM procedures formalized and controlled? (Procedures)

**195.446(a)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**3. Control Room Management**Are procedures approved, in place, and implemented? (Records)

**195.446(a)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**4. Control Room Management**Are procedures readily available to controllers in the control room? (Observation)

**195.446(a)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**CRM, SCADA, and Leak Detection - Roles and Responsibilities**

**1. Roles and Responsibilities**Are there clear processes to describe each controller's physical domain of responsibility for pipelines and other facility assets? (Procedures)

**195.446(b)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**2. Roles and Responsibilities**Are there provisions in place to assure that only qualified individuals may assume control at any console/desk? (Procedures)

**195.446(b)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**3. Roles and Responsibilities**If the physical domain of responsibility periodically changes, has a clear process been established to describe the conditions for when such a change occurs? (Procedures)

**195.446(b)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**4. Roles and Responsibilities**Do processes address a controller's role during temporary impromptu (unplanned) changes in controller responsibilities? (Procedures)

**195.446(b)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**5. Roles and Responsibilities**Do the defined roles and responsibilities require controllers to stay at the console to verify all SCADA commands that have been initiated are fulfilled, and that commands given via verbal communications are acknowledged before leaving the console for any reason? (Procedures)

**195.446(b)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**6. Controller Authority**Have processes been established to define the controllers' authority and responsibilities when an abnormal operating condition is detected? (Procedures)

**195.446(b)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**7. Overpressure Limits**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? (Observation)

**195.446(b)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**8. Controller Authority (Emergency Operations)**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? (Procedures)

**195.446(b)(3)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**9. Control Center Evacuation**Do processes specifically address the controller's responsibilities in the event the control room must be evacuated? (Procedures)

**195.446(b)(3)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**10. Communication Failure**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? (Procedures)

**195.446(b)(3)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**11. Shift Change Process**Have processes been established for the hand-over of responsibility that specify the type of information to be communicated to the oncoming shift? (Procedures)

**195.446(b)(4), 195.446(c)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**12. Shift Change Process**Do observations indicate adequate hand-over of responsibility to the oncoming shift? (Observation)

**195.446(b)(4), 195.446(c)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**13. Shift Change Process - Documentation**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? (Procedures)

**195.446(b)(4), 195.446(c)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**14. Shift Change Process - Documentation**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? (Records)

**195.446(b)(4), 195.446(c)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**15. Shift Change Process - Overlap**Do processes require the controllers to discuss recent and impending important activities ensuring adequate overlap? (Procedures)

**195.446(b)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**16. Shift Change Process - Handover Alternative**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? (Procedures)

**195.446(b)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**17. Shift Change Process - Unattended Consoles**Has the operator established an adequate process for occasions when the console is left temporarily unattended for any reason? (Procedures)

**195.446(b)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**18. Shift Change Process - Console Coverage**Do processes maintain adequate console coverage during shift hand-over? (Procedures)

**195.446(b)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**19. Authority to Supersede Controller Action Disallowed - Controllers**Do processes disallow others to have authority to direct or supersede the specific technical actions of a controller? (Procedures)

**195.446(b)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**20. Authority to Supersede Controller Action Disallowed - Controllers**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? (Records)

**195.446(b)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**21. Authority to Supersede Controller Action Disallowed - Controllers**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? (Observation)

**195.446(b)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**22. Others with Authority Qualification - Controllers**Does the process result in identification of required qualification elements for those authorized to direct or supersede the technical actions of a controller that are sufficient for those individuals to understand the implications of the scope of potential actions? (Procedures)

**195.446(b)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**23. Others with Authority Qualification - Controllers**Do records indicate that others given authority to direct or supersede the specific technical actions of a controller were qualified? (Records)

**195.446(b)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**24. Others with Authority Implementation - Controllers**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? (Procedures)

**195.446(b)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**25. Others with Authority List - Controllers**Is a list of individuals with authority to direct or supersede the technical actions of a controller readily available to controllers? (Records)

**195.446(b)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**26. Others with Authority Implementation - Controllers**Do records adequately document occurrences of when others authorized to direct or supersede the technical actions of a controller have done so? (Records)

**195.446(b)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**27. Others with Authority Implementation - Controllers**Do others authorized to direct or supersede the technical actions of a controller demonstrate an understanding of the process to implement this authority? (Observation)

**195.446(b)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**CRM, SCADA, and Leak Detection - Supervisory Control and Data Acquisition**

**1. Adequate Information (API 1165 Compliance)**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? (Procedures)

**195.446(c)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**2. SCADA Displays**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? (Procedures)

**195.446(c)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**3. SCADA API RP 1165 Human Factors**Has section 4 of API RP 1165 regarding human factors engineering been implemented? (Observation)

**195.446(c)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**4. SCADA Display Hardware**Has section 5 of API RP 1165 regarding display hardware been implemented? (Records)

**195.446(c)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**5. SCADA Display Layout**Has section 6 of API RP 1165 regarding display layout and organization been implemented? (Records)

**195.446(c)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**6. SCADA Display Navigation**Has section 7 of API RP 1165 regarding display navigation been implemented? (Records)

**195.446(c)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**7. SCADA Display Objects**Has section 8 of API RP 1165 regarding display object characteristics been implemented? (Observation)

**195.446(c)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**8. SCADA Display Dynamics**Has section 9 of API RP 1165 regarding display object dynamics been implemented? (Records)

**195.446(c)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**9. SCADA Control Selection**Has section 10 of API RP 1165 control selection and techniques been implemented? (Records)

**195.446(c)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**10. SCADA Administration**Has section 11 of API RP 1165 administration been implemented? (Records)

**195.446(c)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**11. SCADA Impracticality**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? (Records)

**195.446(c)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**12. Setpoints**Does the process adequately define safety-related points? (Procedures)

**195.446(c)(2), 195.406(b)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**13. Setpoints**Do records indicate safety-related points have been adequately implemented? (Records)

**195.446(c)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**14. Point-to-Point Verification**Are there adequate processes to define and identify the circumstances which require a point-to-point verification? (Procedures)

**195.446(c)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**15. Point-to-Point Verification**Have required point-to-point verifications been performed?

**195.446(c)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**16. Point-to-Point Verification Extent**Are there adequate processes for the thoroughness of the point-to-point verification? (Procedures)

**195.446(c)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**17. Point-to-Point Verification Extent**Do records demonstrate adequate thoroughness of the point-to-point verification? (Records)

**195.446(c)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**18. Point-to-Point Verification Extent**Is there an adequate process for defining when the point-to-point verification must be completed? (Procedures)

**195.446(c)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**19. Point-to-Point Verification Extent**Do records indicate the point-to-point verification has been completed at the required intervals? (Records)

**195.446(c)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**20. Point-to-Point Verification**Are point-to-point verifications performed adequately when required? (Observation)

**195.446(c)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**21. Internal Communication Plan**Has an internal communication plan been established and implemented that is adequate to manually operate the pipeline during a SCADA failure/outage? (Procedures)

**195.446(c)(3)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**22. Internal Communication Plan**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? (Records)

**195.446(c)(3)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**23. Backup SCADA System**Is there a backup SCADA system? (Observation)

**195.446(c)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**24. Backup SCADA Development**Has the use of the backup SCADA system for development work been defined? (Procedures)

**195.446(c)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**25. Backup SCADA Testing**Is the backup SCADA system tested at least once each calendar year at intervals not to exceed 15 months? (Procedures)

**195.446(c)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**26. Backup SCADA Testing**Is the backup SCADA system tested at least once each calendar year at intervals not to exceed 15 months? (Records)

**195.446(c)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**27. Backup SCADA Verification**Are there 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? (Procedures)

**195.446(c)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**28. Backup SCADA Verification**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? (Records)

**195.446(c)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**29. Backup SCADA Adequacy**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? (Records)

**195.446(c)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**30. Backup SCADA Transfer**Do processes adequately address and test the logistics of transferring control to a backup control room? (Procedures)

**195.446(c)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**31. Backup SCADA Return to Primary**Do procedures adequately address and test the logistics of returning operations back to the primary control room? (Procedures)

**195.446(c)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**32. Backup SCADA Testing**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? (Records)

**195.446(c)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**33. SCADA Overpressure Testing**Does the process adequately test applicable SCADA controlled overpressure protection devices on pressurized breakout tanks? (Procedures)

**195.428(b)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**34. SCADA Overpressure Testing**Do records indicate adequate inspection and testing of SCADA overpressure protection devices on pressurized breakout tanks? (Records)

**195.404(a)(vii) 195.404(c)(3) 195.428(b)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**35. SCADA Overfill Protection Devices**Is an adequate process/procedure in place for testing applicable SCADA controlled overfill protection devices? (Procedures)

**195.428(d) 195.446(b) 195.446(c)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**36. SCADA Overfill Protection Devices**Do records indicate adequate inspection and testing of SCADA overfill protection systems? (Records)

**195.428(d) 195.446(b) 195.446(c)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**CRM, SCADA, and Leak Detection - Fatigue Management**

**1. Fatigue Mitigation**Does the fatigue mitigation process or procedures (plan) identify operator-specific fatigue risks? (Procedures)

**195.446(d)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**2. Fatigue Risk Reduction**Does the fatigue mitigation plan adequately address how the program reduces the risk associated with controller fatigue? (Procedures)

**195.446(d)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**3. Fatigue Quantification**Do processes require that the potential contribution of controller fatigue to incidents and accidents be quantified during investigations? (Procedures)

**195.446(d)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**4. Fatigue Mitigation Manager**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? (Procedures)

**195.446(d)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**5. Scheduled Shift Length**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? (Records)

**195.446(d)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**6. Establishing Shift Length**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 schedule rotations are adequate to provide controllers off-duty time sufficient to achieve 8 hours of continuous sleep? (Records)

**195.446(d)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**7. Scheduled Time Off Between Shifts**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? (Records)

**195.446(d)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**8. On Call Controllers**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? (Procedures)

**195.446(d)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**9. On Call Controllers**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? (Records)

**195.446(d)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**10. Maximum Hours of Service**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? (Procedures)

**195.446(d)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**11. Minimum Time Off After HOS Limit Reached**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? (Procedures)

**195.446(d)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**12. Documented Time Schedule**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? (Procedures)

**195.446(d)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**13. Time Off Following Successive Days Worked**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? (Procedures)

**195.446(d)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**14. Day Only Work Hours**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.? (Records)

**195.446(d)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**15. Fatigue Countermeasures**For shifts longer than 8 hours, have specific fatigue countermeasures been implemented for the ninth and beyond hours? (Procedures)

**195.446(d)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**16. Daily HOS Limit**Do processes limit the daily maximum HOS limit to no more than 14 hours in any sliding 24-hour period? (Procedures)

**195.446(d)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**17. Number of Qualified Controllers**Do operations include a sufficient number of qualified controllers? (Observation)

**195.446(d)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**18. Off Duty Hours When Limits Reached**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? (Procedures)

**195.446(d)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**19. Shift Holdover**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? (Procedures)

**195.446(d)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**20. Specific Fatigue Countermeasures During Times of Heightened Risk**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? (Procedures)

**195.446(d)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**21. Deviations from HOS Limits**Is there a formal process for approving deviations from the maximum HOS limits? (Procedures)

**195.446(d)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**22. Fatigue Education**Does the program require that fatigue education/training is required for all controllers and control room supervisors? (Procedures)

**195.446(d)(2), 195.446(d)(3)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**23. Fatigue Education**Is periodic fatigue education/training documented for all controllers and control room supervisors? (Records)

**195.446(d)(2), 195.446(d)(3)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**24. Review of Fatigue Education/Training Program Effectiveness**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? (Procedures)

**195.446(d)(2), 195.446(d)(3), 195.402(a)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**25. Fatigue Mitigation Strategies**Does fatigue education address fatigue mitigation strategies (countermeasures)? (Procedures)

**195.446(d)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**26. Off-Duty Activity Impact on Fatigue**Does fatigue education address how off-duty activities contribute to fatigue? (Procedures)

**195.446(d)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**27. Fatigue Training Content**Is the content of fatigue training adequate for training controllers and supervisors to recognize the effects of fatigue? (Procedures)

**195.446(d)(3)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**28. Fatigue Training Content**Has controller and supervisor training to recognize the effects of fatigue been documented? (Records)

**195.446(d)(3)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**CRM, SCADA, and Leak Detection - Alarm Management**

**1. Alarm Procedures**Is the alarm management plan a formal process that specifically identifies critical topical areas included in the program? (Procedures)

**195.446(e)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**2. Alarm Malfunction**Is there a process to identify and correct inaccurate or malfunctioning alarms? (Procedures)

**195.446(e)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**3. Alarm Systems**Does the review of safety-related alarms account for different alarm designs and all alarm types/priorities? (Procedures)

**195.446(e)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**4. Controller SCADA Performance**Does the review of safety-related alarms account for console differences that could affect individual-specific controller qualification and performance? (Procedures)

**195.446(h), 195.446(e)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**5. Managing Stale or Unreliable Data**Does the review of safety-related alarms include specific procedures and practices for managing stale or unreliable data? (Procedures)

**195.446(e)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**6. Monthly Analysis of SCADA Data**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? (Procedures)

**195.446(e)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
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**7. Correction of SCADA Problems**Does the alarm management plan include a process for promptly correcting identified problems and for returning these points to service? (Procedures)

**195.446(e)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**8. Alarm Point Verification**Do records verify that monthly reviews and analysis of alarm points have been performed? (Records)

**195.446(e)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**9. Alarm Setpoint Process**Is there a formal process to determine the correct alarm setpoint values and alarm descriptions? (Procedures)

**195.446(e)(3)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**10. Controls on SCADA Settings**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? (Procedures)

**195.446(e)(3)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**11. Verification of SCADA Settings**Do processes require that any calibration or change to field instruments require verification of alarm setpoints and alarm descriptions? (Procedures)

**195.446(e)(3)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**12. Alarm Value Verification**Do records demonstrate verification of correct safety-related alarm set-point values and alarm descriptors when associated field instruments are calibrated or changed and at least once each calendar year, but at intervals not to exceed 15 months? (Records)

**195.446(e)(3)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**13. Alarm Management Plan Review**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? (Procedures)

**195.446(e)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**14. Alarm Management Plan Review**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? (Records)

**195.446(e)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**15. Measuring Work Load**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? (Procedures)

**195.446(e)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
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**16. Monitoring Work Load**Is the process of monitoring and analyzing general activity comprehensive? (Procedures)

**195.446(e)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
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**17. Controller Reaction to Incoming Alarms**Does the process have a means of determining that the controller has sufficient time to analyze and react to incoming alarms? (Procedures)

**195.446(e)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
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**18. Analysis of Controller Performance**Has an analysis been performed to determine if controller(s) performance is currently adequate? (Records)

**195.446(e)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**19. Alarm Deficiency Resolution**Is there a process to address how deficiencies found in implementing 195.446(e)(1) through 195.446(e)(5) will be resolved? (Procedures)

**195.446(e)(6)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**20. Alarm Management Deficiencies**Do records indicate deficiencies found in implementing 195.446(e)(1) through 195.446(e)(5) have been resolved? (Records)

**195.446(e)(6)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**CRM, SCADA, and Leak Detection - Change Management**

**1. Meetings on CRM Changes**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? (Procedures)

**195.446(f)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**2. Training on CRM Changes**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? (Records)

**195.446(f)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**3. Emergency Contact with Control Room**Is there a process requiring field personnel and SCADA support personnel to contact the control room when emergency conditions exist? (Procedures)

**195.446(f)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**4. Change Coordination**Does the process assure changes in field equipment (for example, relocating a valve or replacing a valve) that could affect control room operations are coordinated with control room personnel? (Procedures)

**195.446(f)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**5. Change Coordination**Do records indicate that changes in field equipment (for example, relocating a valve or replacing a valve) that could affect control room operations were coordinated with control room personnel? (Records)

**195.446(f)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**6. Coordination of Field Changes**Does the process require field personnel and SCADA support personnel to contact the control room when making field changes (for example, Operating a valve, O&M inspections/calibrations, RTU/PLC modifications) that affect control room operations? (Procedures)

**195.446(f)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**7. Coordination of Field Changes**Do records indicate field personnel and SCADA support personnel contacted the control room when making field changes (for example, operating a valve, O&M inspections/calibrations, RTU/PLC midifications) that affect control room operations? (Records)

**195.446(f)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**CRM, SCADA, and Leak Detection – Operating Experience**

**1. Reportable Accident (Review)**Is there a formal, structured approach for reviewing and critiquing reportable events to identify lessons learned? (Procedures)

**195.446(g)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**2. Reportable Accident (Review)**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? (Records)

**195.446(g)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**3. Lessons Learned**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? (Procedures)

**195.446(g)(2), 195.446(b)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**4. Lessons Learned**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.)? (Records)

**195.446(g)(2), 195.446(b)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**CRM, SCADA, and Leak Detection - Training**

**1. Controller Training Program**Has a controller training program been established to provide training for each controller to carry out their roles and responsibilities? (Procedures)

**195.446(h)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**2. Controller Training Program**Has a controller training program been implemented to provide training for each controller to carry out their roles and responsibilities? (Records)

**195.446(h)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**3. Training Program Review**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? (Procedures)

**195.446(h)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**4. Training Program Review**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? (Records)

**195.446(h)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**5. Content of Training Program**Does training content address all required material, including training each controller to carry out the roles and responsibilities that were defined by the operator? (Records)

**195.446(h)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**6. List of AOCs for Training**Has a list of the abnormal operating conditions that are likely to occur simultaneously or in sequence been established? (Records)

**195.446(h)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**7. Controller Training and Qualification**Does the training program provide controller training on recognizing and responding to abnormal operating conditions that are likely to occur simultaneously or in sequence? (Procedures)

**195.446(h)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**8. Controller Training and Qualification**Does the training program use a simulator or tabletop exercises to train controllers how to recognize and respond to abnormal operating conditions? (Records)

**195.446(h)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**9. Controller Training and Qualification**Does the training program use a simulator or tabletop exercises to train controllers how to recognize and respond to abnormal operating conditions? (Observation)

**195.446(h)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
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**10. Communication Training**Does the CRM program train controllers on their responsibilities for communication under the operator's emergency response procedures? (Procedures)

**195.446(h)(3)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**11. Working Knowledge of Pipeline System**Does the training program provide controllers a working knowledge of the pipeline system, especially during the development of abnormal operating conditions? (Procedures)

**195.446(h)(4)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**12. List of Infrequently Used Pipeline Setups**Has a list of pipeline operating setups that are periodically (but infrequently) used been established? (Records)

**195.446(h)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**13. Review of Procedures Prior to Use**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? (Procedures)

**195.446(h)(5)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**14. Control Room Team Training - Personnel**Do processes establish who, regardless of location, operationally collaborates with control room personnel? (Procedures)

**195.446(h)(6)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**15. Control Room Team Training - Frequency**Do processes define the frequency of new and recurring team training? (Procedures)

**195.446(h)(6)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**16. Control Room Team Training - Completeness**Do processes address all operational modes and operational collaboration/control? (Procedures)

**195.446(h)(6)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**17. Control Room Team Training - Operational Experience**Do processes include incorporation of lessons learned from actual historical events and other oil-gas industry events? (Procedures)

**195.446(h)(6)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**18. Control Room Team Training - Exercises**Do records indicate that training exercises were adequate and involved at least one qualified controller? (Records)

**195.446(h)(6)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**19. Control Room Team Training - Exercises**Does implementation of a control room team exercise demonstrate performance in accordance with regulatory and process requirements? (Observation)

**195.446(h)(6)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**20. Control Room Team Training - Identified Individuals**Do records demonstrate that individuals identified as of January 23, 2018 received team training by January 23, 2019? (Records)

**195.446(h)(6)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**CRM, SCADA, and Leak Detection - Compliance Validation and Deviations**

**1. Submittal of Procedures**Are there adequate processes to assure that the operator is responsive to requests from applicable agencies to submit their CRM procedures? (Procedures)

**195.446(i)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**2. Record of Procedure Submittals**Has the operator been responsive to requests from applicable agencies to submit their CRM procedures? (Records)

**195.446(i)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**3. CRM Coordinator**Is there an individual that is responsible and accountable for compliance with requests from PHMSA or other applicable agencies? (Records)

**195.446(i)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**4. CRM Records Management**Are records management processes adequate to assure records are sufficient to demonstrate compliance with the CRM rule? (Procedures)

**195.446(j)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**5. CRM Records**Are records sufficient to demonstrate compliance with the CRM rule? (Records)

**195.446(j)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**6. Electronic Records**Are electronic records properly stored, safeguarded, and readily retrievable? (Records)

**195.446(j)(1)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**7. CRM Deviations**Are there processes to demonstrate and provide a documented record that every deviation from any CRM rule requirement was necessary for safe operation? (Procedures)

**195.446(j)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**8. Deviation Records**Were all deviations documented in a way that demonstrates they were necessary for safe operation? (Records)

**195.446(j)(2)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
|  |  |  |  |
| **Notes** | | | |
|  | | | |

**CRM, SCADA, and Leak Detection – Leak Detection (Non-CPM)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **1. Leak Detection System Evaluation of Capability**  Does the process adequately address the evaluation of the operators leak detection system and require modification as necessary? (Procedures)  **195.444(a) (195.444(b);195.452(i)(3))** | | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | No Issue | Potential Issue | Not Applicable | Not Checked | |  |  |  |  | | **Notes** | | | | |  | | | | |

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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **2. Leak Detection System Effectiveness**  Do the processes adequately describe that the operator has an effective system for detecting leaks? (Procedures) **195.402(a) (195.134(a);195.134(b);195.444(a);195.444(b))** | | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | No Issue | Potential Issue | Not Applicable | Not Checked | |  |  |  |  | | **Notes** | | | | |  | | | | |

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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | 3. **Requirements for LD System Evaluation of Capability**  Do records show that the operator evaluated the capability of its leak detection system to protect the public, property, and the environment and modified as necessary? (Records)  **195.444(a) (195.444(b);195.134(a);195.134(b))** | | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | No Issue | Potential Issue | Not Applicable | Not Checked | |  |  |  |  | | **Notes** | | | | |  | | | | |

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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **4. Leak Detection Method**  Do records demonstrate the operator’s leak detection system is performing within the system design requirements? (Records)  **195.404(c) (195.134(b);195.444(b))** | | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | No Issue | Potential Issue | Not Applicable | Not Checked | |  |  |  |  | | **Notes** | | | | |  | | | | |

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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **5. Pipeline Controller Training**  Do the processes define and require that pipeline controllers are trained to recognize leaks based on the system implemented? (Procedures)  **195.505(h)** | | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | No Issue | Potential Issue | Not Applicable | Not Checked | |  |  |  |  | | **Notes** | | | | |  | | | | |

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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **6. Pipeline Controller Training**  Do records show that pipeline controllers are trained to recognize leaks using the chosen leak detection method/system? (Records)  **195.507(a) (195.507(b))** | | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | No Issue | Potential Issue | Not Applicable | Not Checked | |  |  |  |  | | **Notes** | | | | |  | | | | |

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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **7. Pipeline Controller Training**  Are the Pipeline Controllers trained to recognize leaks? (Observation)  **195.505** | | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | No Issue | Potential Issue | Not Applicable | Not Checked | |  |  |  |  | | **Notes** | | | | |  | | | | |

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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **8. Alarm Display**  Do the processes define and describe the alarms appropriate for the leak detection system implemented? (Procedures)  **195.444(b)** | | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | No Issue | Potential Issue | Not Applicable | Not Checked | |  |  |  |  | | **Notes** | | | | |  | | | | |

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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **9. Alarm Display**  Are the Leak Detection alarms adequate? (Observation)  **195.444(b)** | | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | No Issue | Potential Issue | Not Applicable | Not Checked | |  |  |  |  | | **Notes** | | | | |  | | | | |

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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **10. System Testing**  Do the processes define and describe the testing of the Leak Detection System? (Procedures)  **195.444(b) (195.134(b))** | | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | No Issue | Potential Issue | Not Applicable | Not Checked | |  |  |  |  | | **Notes** | | | | |  | | | | |

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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **11. System Testing**  Have leak detection system testing records and results been retained/available and indicate adequate results? (Records)  **195.134(b) (195.444(b))** | | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | No Issue | Potential Issue | Not Applicable | Not Checked | |  |  |  |  | | **Notes** | | | | |  | | | | |

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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **12. Parameter and System Changes**  Are parameter and/or system changes required to be reflected in the leak detection system? (Procedures)  **195.444(b) (195.134(b))** | | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | No Issue | Potential Issue | Not Applicable | Not Checked | |  |  |  |  | | **Notes** | | | | |  | | | | |

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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **13. Integration of Leak Detection Presentation with SCADA**  Are the leak detection system data, communication, and controller interfaces appropriately integrated with the SCADA displays? (Procedures)  **195.134(b) (195.444(b))** | | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | No Issue | Potential Issue | Not Applicable | Not Checked | |  |  |  |  | | **Notes** | | | | |  | | | | |

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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **14. Field Instrumentation Accuracy and Calibration**  Is the accuracy and calibration of field instrumentation used in the leak detection system appropriately assured? (Procedures)  **195.134(b) (195.444(b))** | | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | No Issue | Potential Issue | Not Applicable | Not Checked | |  |  |  |  | | **Notes** | | | | |  | | | | |

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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **15. Field Instrumentation Accuracy and Calibration**  Do records indicate the calibration of field instrumentation used in the leak detection system was performed? (Records)  **195.444(b) (195.446(j))** | | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | No Issue | Potential Issue | Not Applicable | Not Checked | |  |  |  |  | | **Notes** | | | | |  | | | | |

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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **16. LDS Threat Protection/Security**  Is the Leak Detection System adequately protected from security threats? (Procedures)  **195.402(a)** | | | | | | | | |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | | No Issue | Potential Issue | Not Applicable | Not Checked | |  |  |  |  | | **Notes** | | | | |  | | | | |

**CRM, SCADA, and Leak Detection – Leak Detection (CPM)**

**1. Leak Detection Measures**

Do records demonstrate the operator has identified, considered, or implemented CPM leak detection measures to mitigate the consequences of a pipeline failure? (Records)

**195.446(g) (195.452(i)(3))**

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| No Issue | Potential Issue | Not Applicable | Not Checked |
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| **Notes** | | | |
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**2. Output of CPM System**What is the output of the CPM System? (Procedures)

**195.402(a), 195.446(b)**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
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| **Notes** | | | |
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**3. Automatic Closed-Loop Control Response to Alarm**Is automatic closed-loop control response to alarm conditions used? (Procedures)

**195.402(a), 195.446(c), 195.446(e)**

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| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
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| **Notes** | | | |
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**4. Requirements for CPM Systems**If Computational Pipeline Monitoring (CPM) is used, does it comply with guidance in API 1130 requirements in operating, maintaining, testing, record-keeping, and dispatcher training? (Procedures)

**195.402(a), 195.444, 195.446(b), 195.446(c)**

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| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
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| **Notes** | | | |
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**5. Pipeline Controller Training**Are the Pipeline Controllers trained in the recognition of CPM alarms? (Procedures)

**195.444, API-1130, 195.505(h)**

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| No Issue | Potential Issue | Not Applicable | Not Checked |
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| **Notes** | | | |
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**6. Pipeline Controller Training**Do records show that pipeline controllers are trained to recognize Leaks using the chosen leak detection method/system? (Records)

**195.444, API-1130, 195.505(h); API-1130**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
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| **Notes** | | | |
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**7. Pipeline Controller Training**

Are the Pipeline Controllers trained in the recognition of CPM alarms? (Observation)

**195.444(b) (195.444(c); API-1130; 195.505(h))**

|  |  |  |  |
| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
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| **Notes** | | | |
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**8. Alarm Display**Are alarms in compliance with Section 5.4.3 of API 1130? (Procedures)

**195.444, API-1130**

|  |  |  |  |
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| No Issue | Potential Issue | Not Applicable | Not Checked |
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| **Notes** | | | |
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**9. Alarm Credibility**Do alarms conform to API-1130? (Procedures)

**195.444, API-1130, 195.134, 195.446(e)**

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| --- | --- | --- | --- |
| No Issue | Potential Issue | Not Applicable | Not Checked |
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| **Notes** | | | |
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**10. System Testing**Does testing of the CPM System conform to API-1130? (Procedures)

**195.444, API-1130, 195.134**

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| No Issue | Potential Issue | Not Applicable | Not Checked |
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| **Notes** | | | |
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**11. Initial System Testing**Does initial testing of the CPM system conform to API-1130? (Procedures)

**195.134, API-1130**

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| No Issue | Potential Issue | Not Applicable | Not Checked |
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| **Notes** | | | |
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**12. Initial System Testing**Have initial system testing records and results been retained/available and indicate adequate results? (Records)

**195.134, API-1130**

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| No Issue | Potential Issue | Not Applicable | Not Checked |
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| **Notes** | | | |
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**13. Parameter and System Changes**Are parameter and/or system changes required to be reflected in the leak detection system? (Procedures)

**195.444, API-1130, 195.134**

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| No Issue | Potential Issue | Not Applicable | Not Checked |
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| **Notes** | | | |
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**14. Integration of Leak Detection Presentation with SCADA**Are the CPM System data, communication, and controller interface appropriately integrated with the SCADA displays? (Procedures)

**195.134(b) (195.134(c); 195.446(c); 195.444(b); 195.444(c); API-1130)**

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| No Issue | Potential Issue | Not Applicable | Not Checked |
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| **Notes** | | | |
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**15. Field Instrumentation Accuracy and Calibration**Is the accuracy and calibration of field instrumentation used in the leak detection system appropriately assured? (Procedures)

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| **195.444(b) (195.134(b); 195.134(c); 195.444(c); API-1130)** |

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| No Issue | Potential Issue | Not Applicable | Not Checked |
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| **Notes** | | | |
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**16. Field Instrumentation Accuracy and Calibration**

Do records indicate the calibration of field instrumentation used in the leak detection system was performed? (Records)

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| --- |
| **195.444(b) (API-1130; 195.444(c); 195.446(j))** |

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| No Issue | Potential Issue | Not Applicable | Not Checked |
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| **Notes** | | | |
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**17. CPM Threat Protection/Security**

Is the CPM system adequately protected from the security threats? (Procedures)

**195.402(a)**

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| No Issue | Potential Issue | Not Applicable | Not Checked |
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| **Notes** | | | |
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