

April 6, 2022

Dustin Hubbard
Director, Western Region
Pipeline and Hazardous Materials Safety Administration
12300 W. Dakota Ave., Suite 110
Lakewood, CO 80228

Re: CPF 5-2022-019-NOPV and CPF 5-2022-018-NOA

Dear Mr. Hubbard:

I am writing on behalf of Western Midstream Partners, LP (“WES”) in response to your March 7, 2022 Notice of Probable Violation and Proposed Compliance Order letter and Notice of Amendment letter, both referenced above, addressed to Craig Collins regarding the Pipeline Hazardous Materials Safety Administration’s (PHMSA) November 1-5, 2021 inspection related to Control Room Management conducted at WES’s Platteville, Colorado control room. These letters contained one Proposed Compliance Order, two Notice of Amendments, and two Warnings. This response will address the allegations (in bold text) in that order. Specifically, this response provides WES’s proposed amended internal procedures (in plain text) for the below alleged violations for PHMSA’s review and approval.

Proposed Compliance Order

- 1. § 195.446 - Control room management. (a) . . . (c) Provide adequate information. Each operator must provide its controllers with the information, tools, processes and procedures necessary for the controllers to carry out the roles and responsibilities the operator has defined by performing each of the following: (1) Implement API RP 1165 (incorporated by reference, see § 195.3) whenever a SCADA system is added, expanded or replaced, unless the operator demonstrates that certain provisions of API RP 1165 are not practical for the SCADA system used...**

WES has retained a third-party team to complete a gap analysis between API RP 1165 and ANSI/ISA-18.2-2016 (Management of Alarm Systems for the Process Industries). The gap analysis was completed the week of March 28, 2022, and we will work to close any gaps found within this calendar year.

Notice of Amendment

2. § 195.446 - Control room management.

- (a) General.** This section applies to each operator of a pipeline facility with a controller working in a control room who monitors and controls all or part of a pipeline facility through a SCADA system. Each operator must have and follow written control room management procedures that implement the requirements of this section. The procedures required by this section must be integrated, as appropriate, with the operator's written procedures required by § 195.402.

WES proposes to amend our procedures regarding safety related points as follows:

3.4 Safety Related Points

Safety-related points are defined as any inputs, outputs, or software generated data communicated via the SCADA system which can impact the safe and reliable operation of the pipeline system. Furthermore, as safety-related points can affect pipeline integrity, they often, but do not necessarily, have alarms associated with them. Thus, if a point in the SCADA HMI is associated with a rationalized alarm, or is specifically identified in the Alarm Management System as "safety-related", then it is a safety-related point. Points in the SCADA system are determined to be safety-related, or not, during the Engineering Design process, as defined in Equipment Criticality Categorization - Western Midstream Asset Integrity Management System document.

The determination as to whether a point is safety related or not, should be completed in advance of an asset being brought online. The process/relationship for Engineering Design, Pipeline Hazard Assessment, and Alarm Rationalization, as it pertains to safety related point determination, is as follows:

- (1) Engineering designs asset and establishes safety related points (safety critical equipment) using Document Equipment Criticality Categorization - Western Midstream Asset Integrity Management System.
- (2) Engineering reviews the asset design with the control room and operations (Facility Design Review Meetings).
- (3) During PHA review, the point/alarm is confirmed as safety related and all alarms are rationalized.
- (4) The list of safety related points will be maintained in the control room using CRM Suite. Based on the safety related point determination, the PointMgr tool used for Point to Point verifications will denote which points have been deemed as safety related (see Section 3.5 of the DOT Pipeline Control Room Management Plan).

By following this process, the following will be completed in each stage:

Engineering Design

- P&ID development
- PHA review and Cause and Effect development
 - Process Hazards Analysis (PHA)***
 - Alarm Rationalization (see Section 5.3)
 - MAOP/MOP Review
 - "What If" Risk Analysis
- Setpoints defined
- Define criticality categorization of equipment/alarms (i.e. determination of safety related points/alarms)
- MAOP/MOP Calculation
- Definition of Operating Specifications (e.g. flow, pressure, temperature)

PHMSA Control Room Management Frequently Asked Questions (FAQ) question C.01, as well as PHMSA Inspection Form question C2-1 may be referenced when determining which points/alarms are safety related.

Examples of types of points that should be assessed, and may be deemed as safety related points include but are not limited to:

- Station inlet and discharge pressures
- Pressure regulator inlet and outlet pressures
- Level, temperature, and vibration indication on compressors
- Computational Leak Monitoring (CLM) Data
- Soft Points (Not applicable in WES' system at this time)
- Control systems associated with safety systems
- Emergency shutdown (ESD) systems and devices
- Fire & gas detection
- Flare flame detection
- Pressure relief devices (PRD)
- Coded / regulated tanks, vessels, and pipelines
- Critical UPS systems
- Process equipment or piping containing hazardous materials or conditions
- Instruments for monitoring safety or environmentally critical targets (associated with safety critical alarms or actions) such as Safety High/Low:
 - Analyzers
 - Flow switches
 - Level transmitters
 - Pressure switches
 - Pressure transmitters
 - Shutdown valve actuators
 - Temperature transmitters

- Vibration switches
- Vibration transmitters

Safety-related points are to be reviewed, and where necessary corrected, in accordance with the regulatory requirements for monthly and annual alarm reviews (See CRMP Section 5.5 and 5.6). Furthermore, where safety-related alarms require maintenance, additional diligence will be made to ensure these points are corrected and brought back into service in such a way that ensures safe operations of the pipeline.

A list of each system's rationalized points that are flagged as safety-related can be found in the POEMS Document Library.

3. **Notice of Amendment**

§ 195.446 - Control room management.

(a)...

(e) Alarm management. Each operator using a SCADA system must have a written alarm management plan to provide for effective controller response to alarms. An operator's plan must include provisions to:

(1)...

(2) Identify at least once each calendar month points affecting safety that have been taken off scan in the SCADA host, 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;...

WES proposes to amend our procedure regarding monthly alarm reviews as follows:

Monthly SCADA Safety-Related Alarms Reviews

As part of a scheduled monthly meeting, WES personnel review all SCADA safety-related alarms to ensure accuracy and to identify and document points from the list of SCADA safety-related alarms that meet the following criteria:

- Taken off-scan in the SCADA host
- Has alarms inhibited
- Generated false alarms
- Has forced or manual values for periods of time exceeding that required for associated maintenance or operating activities

In order to support Monthly Alarm Reviews, IOC Operators will have, through the course of their normal duties, documented Operating Notices in the CRMgr Logbook whenever any of the above criteria has been met. By utilizing Operating Notices, the following is true:

- IOC Operators will see Operating Notices in their situational awareness banner in POEMS, and will therefore be made aware of which alarms that impact their Controlled Areas that have met the aforementioned criteria

- IOC Foreman will see open and active Operating Notices on their dashboard, and will therefore be able to monitor which events have not been resolved in the anticipated timeline
- Operating Notices can be resolved to indicate when an issue has been rectified and the alarm has been restored to its normal state

The IOC Foreman will utilize the Search Log Entry feature of the CRMgr tool to identify and review all applicable Operating Notices Pertaining to Alarm Reviews (Shift Handover Subcategory) from the month prior.

When necessary, results of a Monthly Alarm Review will be communicated to associated departments (i.e. the SCADA team, management, control room operations, field operations, health and safety, regulatory, etc.) to engage them in correcting the root cause of these activations.

As is reasonably possible, the Control Room Foreman or a designated SCADA Engineer, shall identify, correct, and return to service those points that have been flagged as problematic within two (2) calendar weeks after the completion of the monthly alarm review. Where the two-week deadline has not been met, the Control Room Foreman will follow up with the owner of the corrective action to ensure prompt return to service. If it is unreasonable for an alarm to be returned to active service, a CRM deviation is required along with the proper justification for leaving the alarm out of service.

CRM deviation forms can be digitally stored and easily retrieved as attachments to Compliance Log Entries in CRMgr.

As an additional best practice, to ensure the continuous improvement of their alarm program, WES control rooms also utilize Alarm Performance Reports and alarm KPIs as outlined in Section 4 of the Alarm Philosophy. By reviewing this information monthly, as well as trends in SCADA, stale and unreliable data, and bad actors are able to be identified and resolved.

MONTHLY ALARM REVIEW PROCEDURE		
Step	Task Description	Responsible Party
1	Initiate Monthly Compliance Support Program Meeting (to review previous month's alarm info).	IOC Foreman
2	Query POEMS CRMGr Search Log Entry to view all logs under the "Alarm Review" Shift Handover Category. (will display logs for all off-scan, inhibited, false, or forced or manual value alarms).	IOC Foreman
3	Review the list of alarms and complete the Compliance Support Program Monthly Alarm Review form (will be prompted to designate the alarm, the issue type, when the alarm was taken offscan/inhibited/forced/manual, when it was restored, and the duration of outage).	IOC Foreman
4	Ensure that all alarms have been properly restored to normal/anticipated function.	IOC Foreman
5	For alarms that have not been restored, contact the crew/team that serviced the alarm and verify current state.	IOC Foreman
6	Document committed plan for alarm restoration as a comment on the original log entry, and as part of the Compliance Support Program's Monthly Alarm Review table.	IOC Foreman
7	Continue to manage Operating Notices to ensure alarm issues are resolved within the expected timelines.	IOC Foreman

Warnings

4. § 195.446 - Control room management.

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

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

WES is committed to complying with the applicable CRM rules and will test all backup SCADA servers that are subject to 49 CFR § 195.446(c)(4).

5. § 195.446 - Control room management.

(a) . . .

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

(1) Records that demonstrate compliance with the requirements of this section;

WES is improving record retention capabilities and is moving forward with a software platform called POEMS which contains several compliance modules, and these serve to

adequately retain the required control room records. WES is committed to ensuring substantial compliance with this part going forward.

WES very much values the collaborative partnership it has PHMSA and is committed to working with PHMSA in addressing any and all compliance concerns you may have now or going forward. As such, should you have any questions or require additional information regarding WES's response, please feel free to contact me at (720) 929-6732 or benjamin.malotte@westernmidstream.com.

Sincerely,



Benjamin Malotte
DOT Advisor
Western Midstream

cc: Craig Collins, WES
Ronald Speer, WES
Jason Dunphy, PHMSA