



SOUTHWEST GAS CORPORATION

July 5, 2022

Via Email

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

RE: CPF 5-2022-014-WL

Dear Mr. Hubbard:

Southwest Gas Transmission Company (SWG or Company) is in receipt of your June 2, 2022, Warning Letter regarding an inspection of SWG's Las Vegas Control Room in Las Vegas, Nevada, performed by a representative of the Pipeline and Hazardous Materials Safety Administration (PHMSA). The inspection was conducted from May 10 through May 14, 2021, pursuant to Chapter 601 of 49 United States Code (U.S.C.).

Your letter alleges eight probable violations of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations (CFR).

Southwest submits the following responses for your consideration, regarding this matter. Please do not hesitate to reach out with any questions you may have.

Sincerely,

A handwritten signature in black ink, appearing to read "Jerome T. Schmitz".

Jerome T. Schmitz, P.E.
Vice President, Engineering Staff

/sms

Attachments

cc: Julie Williams
Catherine Mazzeo
Randy Gabe
Brad Harris

Mark Litwin
Amy Timperley
Kevin Lang



AUDIT AND INSPECTION SUMMARY

Control Room Management Audit and Inspection located in the Southwest Gas Headquarters.

This joint-audit and inspection, which covered Southwest Gas Corporation’s (“SWG’s”) Gas Control and Control Room Management was performed by Diana Fehling (Lead), Joseph Yoon (PHMSA), Daniel Adesina (PUCN), and Mike Bell (ACC).

AUDIT AND INSPECTION

- PHMSA reviewed the SWG Gas Control Department Policy/Procedure and SCADA Policy/Procedure and other applicable procedures and documentation; and
- Performed a site inspection of the SWG Control Room.

In reviewing the above items, inspectors utilized the PHMSA Control Room Inspection form.

FINDINGS

During this audit and inspection, PHMSA identified (8) Warnings. Those Warning items and related responses are as follows:

Warnings:

1. **§192.631 Control room management.**
 - (a) *General.*
 - (1) ...
 - (2) **The procedures required by this section must be integrated, as appropriate, with operating and emergency procedures required by §§192.605 and 192.615. An operator must develop the procedures no later than August 1, 2011 and must implement the procedures according to the following schedule. The procedures required by paragraphs (b), (c)(5), (d)(2) and (d)(3), (f) and (g) of this section must be implemented no later than October 1, 2011. The procedures required by paragraphs (c)(1) through (4), (d)(1), (d)(4), and (e) must be implemented no later than August 1, 2012. The training procedures required by paragraph (h) must be implemented no later than August 1, 2012, except that any training required by another paragraph of this section must be implemented no later than the deadline for that paragraph.**

SWG failed to integrate and implement Team Training procedures into its operating and emergency procedures required by §§192.605 and 192.615. Pursuant to §192.631(h)(6), operators must implement team training requirements no later than January 23, 2018. According to SWG’s *Gas Control Policy* (issued date: December 31, 2018; effective date: January 31, 2019), in the “Manual Section Revision Review and Approval Record,” Team Training was not added to the control room training program until October/November 2018.



Southwest Gas Response:

For clarification purposes, the requirement for Team Training was published and available for use in the Southwest Gas Operations Manual, Gas Control Department Policy, 9.1.2, on December 31, 2017, before the regulatory deadline, as seen by the Issue Date. See Exhibit 1. Additionally, the Team Training itself was performed and completed by Southwest Gas on January 22, 2018, prior to the original deadline (later extended by one year). See Exhibit 2.

2. §192.631 Control room management.

(a) ...

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

(1) ...

(4) A method of recording controller shift-changes and any hand-over of responsibility between controllers;

SWG failed to provide for a controller's prompt and appropriate response to operating conditions by defining a method of recording controller shift-changes and any hand-over responsibility between controllers.

Specifically, SWG failed to properly document shift change records associated with shift changes that occurred on:

1. June 10, 2018; December 25, 2019; October 5, 2020 – Records failed to document incoming and outgoing controller names consistently. Some records had primary controllers listed only while others had secondary controllers listed.
2. October 15, 2020 – Day Shift: Outgoing controller did not sign shift change. No acknowledgement by incoming controller that all items were covered during the handover.
3. October 15, 2020 – Night Shift: Outgoing controller did not sign shift change. No acknowledgement by incoming controller that all items were covered during the handover.
4. October 16, 2020 - Day Shift: Outgoing controller did not sign shift change. No acknowledgement by incoming controller that all items were covered during the handover.
5. October 16, 2020 – Night Shift: Outgoing controller did not sign shift change. No acknowledgement by incoming controller that all items were covered during the handover.



6. October 17, 2020 - Day Shift: Outgoing controller did not sign shift change.
No acknowledgement by incoming controller that all items were covered during the handover.
7. October 18, 2020 - Day Shift: Outgoing controller did not sign shift change.
No acknowledgement by incoming controller that all items were covered during the handover.
8. November 8, 2020 – Day Shift: No acknowledgement by incoming controller that all items were covered during the handover.
9. April 21, 2021 – Night Shift: No acknowledgement by incoming controller that all items were covered during the handover.

Southwest Gas Response:

Southwest Gas agrees with the need for controllers to adequately acknowledge and document shift change records. As such, Southwest Gas has enhanced the shift change application to ensure shift change cannot be completed without the incoming Controller acknowledging that all necessary information has been properly exchanged.

3. §192.631 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) ...

(2) **Conduct a point-to-point verification between SCADA displays and related field equipment when field equipment is added or moved and when other changes that affect pipeline safety are made to field equipment or SCADA displays;**

SWG failed to provide its controllers with the information, tools, processes, and procedures necessary to carry out controllers' roles and responsibilities by failing to conduct a point-to-point verification between SCADA displays and related field equipment when field equipment is added or moved and when other changes that affect pipeline safety are made.

SWG's records failed to demonstrate the extent of verification, including physical location of device, data value or status, any alarm settings, and to assure that any test signals are injected at the actual device in the field. For example, records dated December 6, 2018, and June 18, 2019, failed to include or demonstrate set point values or alarm levels, and failed to document the location of the device. Furthermore, the records were insufficient to demonstrate that the SCADA displays were checked and



the range of the analog device and the range of the display for a given point are similar, making sure that values other than the point checked are correct.

Southwest Gas Response:

Southwest Gas acknowledges that the point-to-point verification process in place from December 6, 2018, to June 18, 2019, did not include some of the information noted; however, an enhancement to the point-to-point verification process was implemented after June 18, 2019, which did include all the information noted, as demonstrated during the inspection.

4. **§192.631 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;**

SWG failed to 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.

Specifically, SWG's monthly alarm review records failed to indicate if corrective actions were taken associated with points affecting safety. For example, SWG's records failed to document what corrective actions occurred, when they were conducted, or whether those safety points were returned to service. The records only stated, "I either had no findings associated with the review of attached spreadsheets or took the appropriate action to resolve any issues."

Southwest Gas Response:

Southwest Gas acknowledges the need to include the documentation of corrective actions taken, associated with points affecting safety. Southwest Gas will review associated policies and procedures and make necessary updates as needed.

5. **§192.631 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) ...



(3) Verify the correct safety-related alarm set-point values and alarm descriptions at least once each calendar year, but at intervals not to exceed 15 months;

SWG failed to verify the correct safety-related alarm set-point values and alarm descriptions at least once each calendar year, but at intervals not to exceed 15 months.

SWG failed to produce a list or database of safety-related alarm set-point values and alarm descriptions during the inspection. It's unclear how the operator can conduct a verification without an actual list or database of these items.

Southwest Gas Response:

For clarification purposes, a list of safety-related alarm values and descriptions were available during the inspection. Attached are samples of each list that were available during the inspection to demonstrate the annual review was performed for 2018, 2019, and 2020. See **Exhibit 3, 4, and 5**, respectively. Only samples are included due to the size of the files, however, the full files are available if necessary. (Confidential Information)

The following is an explanation of how the file is generated and the annual review conducted: a list of all points flagged with safety-related alarms (an attribute in SCADA) is extracted directly out of the SCADA (a database) on an annual basis. The data includes the RTU ID with associated description (i.e., Location), the Point Description (i.e., Pressure, Flowrate, etc.), the System Name (the pressure system where the point is located) with associated MAOP/MOP values, and the Alarm Setpoint values. The list is then compared to the GIS Database to validate the System Names and associated MAOP/MOP values are accurate, with any discrepancies flagged. Logic is also added to the list to compare the Alarm Setpoint values to the MAOP/MOP values to flag any abnormalities. This final list is then sorted for each operating division and sent to be reviewed, correct any flagged items, and make any adjustments needed. All updates to the file are highlighted. The final step is to send the file to Gas Control to review the highlighted adjustments, ask questions if necessary, and make the applicable updates in the SCADA system. The Gas Problem & Change (GP&C) ticketing application is used to route the file between departments, document the performance of each step during the review, and storage for the final copy of the file.

6. §192.631 Control room management.

(a) ...

(f) *Change management.* Each operator must assure that changes that could affect control room operations are coordinated with the control room personnel by performing each of the following:

(1) ...

(1) Require its field personnel to contact the control room when emergency conditions exist and when making field changes that affect control room operations;



SWG failed to assure that changes that could affect control room operations are coordinated with control room personnel by requiring its field personnel to contact the control room when emergency conditions exist and when making field changes that affect control room operations.

SWG's records for pressure stations and meter set assembly and valve inspections failed to confirm that the control room was contacted prior to and after completing the inspections. Records reviewed included:

1. September 15, 2020, Horizon Ridge East Pls Run 1 Temp inspection.
2. May 13, 2020, Tcat1 Stat Insp - Wigwam Pls/Gibson Run 2.

Southwest Gas Response:

Southwest Gas acknowledges that the two records reviewed as part of the inspection did not include information demonstrating the control room was notified prior to and after completing the work; however, the attached document includes the notes from the control room log which demonstrate the control room was appropriately notified. See Exhibit 6.

Note: The Wigwam PLS inspection was actually performed on May 12, 2020, as shown in the controller log, but the work was not recorded by the field crews until the following day, resulting in the date discrepancy with the inspection report.

7. **§192.631 Control room management.**
 - (a) ...
 - (h) **Training. Each operator must establish a controller training program and review the training program content to identify potential improvements at least once each calendar year, but at intervals not to exceed 15 months. An operator's program must provide for training each controller to carry out the roles and responsibilities defined by the operator. In addition, the training program must include the following elements:**
 - (1) ...
 - (2) **Use of a computerized simulator or non-computerized (tabletop) method for training controllers to recognize abnormal operating conditions;**

SWG failed to establish a controller training program that included the use of a computerized simulator or tabletop method for training controllers to recognize abnormal operating conditions pursuant to § 192.631(h)(2).

While reviewing training records for the newest controller, the records failed to indicate or demonstrate the controller had an adequate understanding of recognizing abnormal operating conditions. The records only indicated that the controller took the training. No grading or pass/fail criterion was established to demonstrate proficiency in the training module.



Southwest Gas Response:

Southwest Gas acknowledges the need for adequate procedures that detail proficiency requirements for all training modules, including those set forth in §192.631(h)(2) for training controllers to recognize abnormal operations conditions. Southwest Gas will review the existing training program to ensure the necessary requirements are met.

8. §192.631 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;

SWG failed to provide for review during the inspection training records showing adequate competency of training modules identified in the training program (*Gas Control Department Policy*, Issue Date: December 31, 2018, Section 9 – Training), and the Gas Controller Catalog - Gas Control Technician Training Program, which has no date when it was established, issued, or implemented.

Southwest Gas Response:

Southwest Gas acknowledges the need to ensure training records demonstrate adequate compliance with this section. Therefore, Southwest Gas will ensure proper document controls are in place for this compliance requirement.