



U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

12300 W. Dakota Ave., Suite 110
Lakewood, CO 80228

**NOTICE OF PROBABLE VIOLATION
and
PROPOSED COMPLIANCE ORDER**

VIA ELECTRONIC MAIL TO: MR. LUKE LITTEKEN

April 15, 2024

Mr. Luke Litteken
Senior Vice President
Xcel Energy
1123 W. 3rd Ave.
Denver, CO 80223-1351

CPF 5-2024-015-NOPV

Dear Mr. Litteken:

From October 2 through 12, 2023, a representative of the Pipeline and Hazardous Materials Safety Administration (PHMSA), pursuant to Chapter 601 of 49 United States Code (U.S.C.), inspected your Control Rooms in Denver, Colorado and St. Paul, Minnesota.

As a result of the inspection, it is alleged Xcel Energy (Xcel) committed probable violations of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations (CFR). The items inspected and the probable violations are:

1. § 192.631 Control Room Management.

(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) A controller's authority and responsibility to make decisions and take actions during normal operations;**
- (2) A controller's role when an abnormal operating condition is detected, even if the controller is not the first to detect the condition, including the controller's responsibility to take specific actions and to communicate with others;**
- (3) A controller's role during an emergency, even if the controller is not the first to detect the emergency, including the controller's responsibility to take specific actions and to communicate with others...**

Xcel failed to clearly define roles and domain of responsibility for each Controller. Xcel Control Rooms have more than one Controller on shift. During inspection, a review of the Operator's procedures in Appendix B of their CRM Plan revealed they failed to include specific roles, domain of responsibility, and authority for each Controller while working together on a console with multiple Controllers on duty.

Therefore, Xcel failed to comply with §192.631(b) by improperly defining the roles and responsibilities of a Controller during normal, abnormal, and emergency operating conditions.

2. § 192.631 Control Room Management.

(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) A controller's authority and responsibility to make decisions and take actions during normal operations;**
- (2) A controller's role when an abnormal operating condition is detected, even if the controller is not the first to detect the condition, including the controller's responsibility to take specific actions and to communicate with others;**
- (3) A controller's role during an emergency, even if the controller is not the first to detect the emergency, including the controller's responsibility to take specific actions and to communicate with others;**
- (4) A method of recording controller shift-changes and any hand-over of responsibility between controllers; and**
- (5) The roles, responsibilities and qualifications of others with the authority to direct or supersede the specific technical actions of a controller.**

Xcel failed to properly define trainer/trainee roles, responsibilities, and qualifications. During inspection, a review of the Operator's procedures in Appendix B of the CRM Plan revealed they failed to define that trainees must work under the direction of a qualified Controller until the trainee is qualified.

Therefore, Xcel failed to comply with §192.631(b) by improperly defining the roles, responsibilities, and qualifications of others with the authority to direct the specific technical actions of a Controller.

3. § 192.631 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:

(1) Implement sections 1, 4, 8, 9, 11.1, and 11.3 of API RP 1165 (incorporated by reference, see § 192.7) whenever a SCADA system is added, expanded or replaced, unless the operator demonstrates that certain provisions of sections 1, 4, 8, 9, 11.1, and 11.3 of API RP 1165 are not practical for the SCADA system used...

Xcel failed to provide adequate Controller information. During inspection, a review of Operator CRM Plan Appendix C procedures revealed a lack of consistency in their naming conventions utilized for SCADA alarm tag descriptions. API 1165 Sections 4.4 & 8.5 require consistency in display design and labeling. Operator further failed in providing deviation documentation as listed in their CRM Plan Appendix C(1) procedure, regarding elements of API 1165 that are impractical.

Therefore, Xcel failed to comply with §192.631(c)(1) by failing to provide Controllers adequate information.

4. § 192.631 Control Room Management.

(d) *Fatigue mitigation.* Each operator must implement the following methods to reduce the risk associated with controller fatigue that could inhibit a controller's ability to carry out the roles and responsibilities the operator has defined:

(1) Establish shift lengths and schedule rotations that provide controllers off-duty time sufficient to achieve eight hours of continuous sleep;

(2) Educate controllers and supervisors in fatigue mitigation strategies and how off-duty activities contribute to fatigue;

(3) Train controllers and supervisors to recognize the effects of fatigue; and

(4) Establish a maximum limit on controller hours-of-service, which may provide for an emergency deviation from the maximum limit if necessary for the safe operation of a pipeline facility.

Xcel failed to properly mitigate fatigue by insufficiently staffing their Control Center. The Xcel Public Service Company of Colorado (PSCO) Control Center has three desks: East & West desks manned 24/7, plus a third desk manned on day shift for support. During the inspection, a review of the Controller work schedule showed insufficient staffing for their Control Room operations. This failure to properly staff the Control Center regularly causes existing staff to cover excessive shifts outside of their normal work schedule, adversely affecting the controller fatigue risk.

Therefore, Xcel failed to comply with §192.631(d) by improperly staffing their Control Center.

5. § 192.631 Control Room Management.

(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...

Xcel failed to properly evaluate safety related SCADA alarms during their monthly alarm analysis. During inspection, a review of Operator procedures in Appendix E(2) and E(3) of the CRM Plan showed insufficient identification of points affecting safety that have been taken off scan, have had alarms inhibited, generated false alarms, or that have had forced or manual values.

Therefore, Xcel failed to comply with §192.631(e)(2) by failing to properly identify Safety Related points which have been taken off scan, have had their alarms inhibited, have generated false alarms, or have had forced or manual values on a monthly basis.

6. § 192.631 Control Room Management.

(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) ...

(4) Review the alarm management plan required by this paragraph at least once each calendar year, but at intervals not exceeding 15 months, to determine the effectiveness of the plan;

Xcel failed to properly evaluate effectiveness of the Alarm Management Plan. During inspection, a review of Xcel's CRM Plan Appendix E(4) demonstrated it lacked a procedure on how to conduct and document an analysis regarding Alarm Management Plan effectiveness.

Therefore, Xcel failed to comply with §192.631(e)(4) by failing to properly determine the effectiveness of the Alarm Management Plan.

7. § 192.631 Control Room Management.

(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) ...

(5) Monitor the content and volume of general activity being directed to and required of each controller at least once each calendar year, but at intervals not to

exceed 15 months, that will assure controllers have sufficient time to analyze and react to incoming alarms; and
(6) Address deficiencies identified through the implementation of paragraphs (e)(1) through (e)(5) of this section.

Operator failed to properly monitor the content and volume of general activity being directed to and required of each Controller at least once each calendar year. During inspection, a review of Xcel records showed Operator failed to provide documentation demonstrating it had performed proper annual Controller workload analyses for the calendar years of 2020, 2021, and 2022.

Therefore, Xcel failed to comply with §192.631(e)(5) by failing to perform a proper workload analysis at least once each calendar year, but at intervals not to exceed 15 months.

8. § 192.631 Control Room Management.

(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) Review SCADA safety-related alarm operations using a process that ensures alarms are accurate and support safe pipeline operations;**
- (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;**
- (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;**
- (4) Review the alarm management plan required by this paragraph at least once each calendar year, but at intervals not exceeding 15 months, to determine the effectiveness of the plan;**
- (5) Monitor the content and volume of general activity being directed to and required of each controller at least once each calendar year, but at intervals not to exceed 15 months, that will assure controllers have sufficient time to analyze and react to incoming alarms; and**
- (6) Address deficiencies identified through the implementation of paragraphs (e)(1) through (e)(5) of this section.**

Operator failed to address deficiencies identified through the implementation of paragraphs 192.631(e)(1) through (e)(5). Review of Xcel records show Operator failed to follow the “Alarm Management Plan Deficiency” form in their Xcel CRM Plan E(6) procedure for the calendar years of 2020, 2021, or 2022.

Therefore, Xcel failed to comply with §192.631(e)(6) by failing to properly address Alarm Management Plan deficiencies.

9. § 192.631 Control Room Management.

(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) Establish communications between control room representatives, operator's management, and associated field personnel when planning and implementing physical changes to pipeline equipment or configuration;**
- (2) Require its field personnel to contact the control room when emergency conditions exist and when making field changes that affect control room operations; and**
- (3) Seek control room or control room management participation in planning prior to implementation of significant pipeline hydraulic or configuration changes.**

Xcel failed to establish adequate communications between the Control Room and project planning/implementation personnel. During inspection, Controller interviews noted Xcel failed to properly involve and coordinate with Gas Control personnel in the project planning process, which inhibits adequate time for Gas Control setup.

Therefore, Xcel failed to comply with §192.631(f) by failing to establish adequate communications between Control Room representatives, Xcel's management, and associated field personnel when planning and implementing physical changes to pipeline equipment or configuration.

10. § 192.631 Control Room Management.

(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) Responding to abnormal operating conditions likely to occur simultaneously or in sequence;**
- (2) Use of a computerized simulator or non-computerized (tabletop) method for training controllers to recognize abnormal operating conditions;**
- (3) Training controllers on their responsibilities for communication under the operator's emergency response procedures;**
- (4) Training that will provide a controller a working knowledge of the pipeline system, especially during the development of abnormal operating conditions;**
- (5) For pipeline operating setups that are periodically, but infrequently used, providing an opportunity for controllers to review relevant procedures in advance of their application; and**
- (6) Control room team training and exercises that include both controllers and other individuals, defined by the operator, who would reasonably be expected to operationally collaborate with controllers (control room personnel) during normal,**

abnormal or emergency situations. Operators must comply with the team training requirements under this paragraph by no later than January 23, 2018.

Xcel failed to implement a proper Controller training program. During inspection, a review of the Operator CRM Plan Appendix H training procedure demonstrated a failure of Xcel to implement a structured training program for new Controllers specific to the Xcel pipelines they control.

Therefore, Xcel failed to comply with §192.631(h) by failing to establish a proper training program.

11. § 192.631 Control Room Management.

(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) ...

(6) Control room team training and exercises that include both controllers and other individuals, defined by the operator, who would reasonably be expected to operationally collaborate with controllers (control room personnel) during normal, abnormal or emergency situations. Operators must comply with the team training requirements under this paragraph by no later than January 23, 2018.

Xcel failed to provide Control Room team training to individuals who would reasonably be expected to operationally collaborate with Controllers. During the inspection, a review of Xcel's team training procedures in their CRM Plan Appendix H(6) failed to identify key individuals and/or groups who should participate, and failed to adequately list the required training frequency.

Operator further failed to provide records to demonstrate compliance with the team training requirements by the January 23, 2018 deadline.

Therefore, Xcel failed to comply with §192.631(h)(6) by failing to provide adequate Control Room team training to individuals who would reasonably be expected to operationally collaborate with Controllers during normal, abnormal or emergency situations.

12. § 192.631 Control Room Management.

(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) A controller's authority and responsibility to make decisions and take actions during normal operations;**
- (2) A controller's role when an abnormal operating condition is detected, even if the controller is not the first to detect the condition, including the controller's responsibility to take specific actions and to communicate with others;**

Xcel failed to properly define Controller roles and responsibilities during normal, abnormal, and emergency operating conditions. During inspection, a review of the operator's procedures in Appendix B of the CRM Plan revealed they failed to properly define the Controller's authority and responsibility to make decisions and take actions, including defining what actions would require Supervisor approval.

Therefore, Xcel failed to comply with §192.631(b) by improperly defining the Controller roles and responsibilities of a Controller during normal, abnormal, and emergency operating conditions in its CRM program.

13. § 192.631 Control Room Management.

(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) A controller's authority and responsibility to make decisions and take actions during normal operations;**
- (2) A controller's role when an abnormal operating condition is detected, even if the controller is not the first to detect the condition, including the controller's responsibility to take specific actions and to communicate with others;**
- (3) A controller's role during an emergency, even if the controller is not the first to detect the emergency, including the controller's responsibility to take specific actions and to communicate with others;**
- (4) A method of recording controller shift-changes and any hand-over of responsibility between controllers; and**
- (5) The roles, responsibilities and qualifications of others with the authority to direct or supersede the specific technical actions of a controller.**

Xcel failed to properly define the Controller's responsibility to communicate with others. During inspection, a review of the Operator's procedures in CRM Plan Appendix B demonstrated a failure to define how long a Controller may be away from the desk before a shift change should be performed.

Therefore, Xcel failed to comply with §192.631(b) by improperly defining the Controller's responsibility to communicate with others, including the hand-over of responsibility between Controllers.

14. § 192.631 Control Room Management.

(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;

Xcel failed to establish an adequate method of recording Controller shift-changes and hand-over of responsibility between Controllers. During inspection, a review of the Operator's procedures in Appendix C of the CRM Plan revealed they failed to establish a thorough shift change handover method.

Therefore, Xcel failed to comply with §192.631(b)(4) by failing to establish an adequate method of recording controller shift-changes and hand-over of responsibility between controllers.

Proposed Civil Penalty

Under 49 U.S.C. § 60122 and 49 CFR § 190.223, you are subject to a civil penalty not to exceed \$266,015 per violation per day the violation persists, up to a maximum of \$2,660,135 for a related series of violations. For violation occurring on or after January 6, 2023 and before December 28, 2023, the maximum penalty may not exceed \$257,664 per violation per day the violation persists, up to a maximum of \$2,576,627 for a related series of violations. For violation occurring on or after March 21, 2022 and before January 6, 2023, the maximum penalty may not exceed \$239,142 per violation per day the violation persists, up to a maximum of \$2,391,412 for a related series of violations. For violation occurring on or after May 3, 2021 and before March 21, 2022, the maximum penalty may not exceed \$225,134 per violation per day the violation persists, up to a maximum of \$2,251,334 for a related series of violations. For violation occurring on or after January 11, 2021 and before May 3, 2021, the maximum penalty may not exceed \$222,504 per violation per day the violation persists, up to a maximum of \$2,225,034 for a related series of violations. For violation occurring on or after July 31, 2019 and before January 11, 2021, the maximum penalty may not exceed \$218,647 per violation per day the violation persists, up to a maximum of \$2,186,465 for a related series of violations. For violation occurring on or after November 27, 2018 and before July 31, 2019, the maximum penalty may not exceed \$213,268 per violation per day, with a maximum penalty not to exceed \$2,132,679.

We have reviewed the circumstances and supporting documents involved in this case, and have decided not to propose a civil penalty assessment at this time.

Proposed Compliance Order

With respect to Items 1 through 11, pursuant to 49 U.S.C. § 60118, the Pipeline and Hazardous Materials Safety Administration proposes to issue a Compliance Order to Xcel Energy. Please refer to the *Proposed Compliance Order*, which is enclosed and made a part of this Notice.

Warning Items

With respect to Items 12 through 14, we have reviewed the circumstances and supporting documents involved in this case and have decided not to conduct additional enforcement action or penalty assessment proceedings at this time. We advise you to promptly correct these Items. Failure to do so may result in additional enforcement action.

Response to this Notice

Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Enforcement Proceedings*. Please refer to this document and note the response options. All material you submit in response to this enforcement action may be made publicly available. If you believe that any portion of your responsive material qualifies for confidential treatment under 5 U.S.C. §552(b), along with the complete original document you must provide a second copy of the document with the portions you believe qualify for confidential treatment redacted and an explanation of why you believe the redacted information qualifies for confidential treatment under 5 U.S.C. § 552(b).

Following your receipt of this Notice, you have 30 days to respond as described in the enclosed *Response Options*. If you do not respond within 30 days of receipt of this Notice, this constitutes a waiver of your right to contest the allegations in this Notice and authorizes the Associate Administrator for Pipeline Safety to find facts as alleged in this Notice without further notice to you and to issue a Final Order. If you are responding to this Notice, we propose that you submit your correspondence to my office within 30 days from receipt of this Notice. The Region Director may extend the period for responding upon a written request timely submitted demonstrating good cause for an extension.

In your correspondence on this matter, please refer to **CPF 5-2024-015-NOPV** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,

Dustin Hubbard
Director, Western Region, Office of Pipeline Safety
Pipeline and Hazardous Materials Safety Administration

Enclosures: *Proposed Compliance Order*
Response Options for Pipeline Operators in Enforcement Proceedings

cc: PHP-60 Compliance Registry
PHP-500 M. Buss, M. Flaherty (#23-264582)
Jeff Cremin, P.E. (Xcel Energy Manager, Pipeline Compliance and Standards (PC&S))
Todd Nodes (Xcel Energy Manager, Gas Control)

PROPOSED COMPLIANCE ORDER

Pursuant to 49 United States Code § 60118, the Pipeline and Hazardous Materials Safety Administration (PHMSA) proposes to issue to Xcel a Compliance Order incorporating the following remedial requirements to ensure the compliance of Xcel with the pipeline safety regulations:

- A. In regard to Item 1 of the Notice pertaining to Control Room procedures not clearly stating roles and domain of responsibility for each Controller, Xcel must amend their written procedures to include specific roles, domain of responsibility, and authority for each Controller while working together on a console within **90** days of receipt of the Final Order.
- B. In regard to Item 2 of the Notice pertaining to improperly defining the roles, responsibilities, and qualifications of others with the authority to direct the specific technical actions of a Controller, Xcel must modify their written procedures to include verbiage that trainees must work through/with the direction of a qualified Controller until they are also qualified as a Controller within **90** days of receipt of the Final Order.
- C. In regard to Item 3 of the Notice pertaining to failing to provide Controllers adequate information, Xcel must comply with Sections 1, 4, 8, 9, 11.1, and 11.3 of API RP 1165 and implement consistency in their naming convention utilized for SCADA alarm tag descriptions and modify their process to involve Gas Control in the SCADA tag planning, creation, setup, and approval process within **180** days of receipt of the Final Order.
- D. In regard to Item 4 of the Notice pertaining to Control Room staffing, Xcel must staff their Control Center with a sufficient number of Controllers (utilizing the PHMSA Staffing White Paper and CRM FAQ D.11) within **365** days of receipt of the Final Order.
- E. In regard to Item 5 of the Notice pertaining to Safety Related alarm review, Xcel must properly identify Safety Related points which have been taken off scan, have had alarms inhibited, have generated false alarms, or have had forced or manual values on a monthly basis within **90** days of receipt of the Final Order.
- F. In regard to Item 6 of the Notice pertaining to Alarm Management Plan effectiveness analysis, Xcel must modify their analysis and documentation process regarding Alarm Management Plan effectiveness within **90** days of receipt of the Final Order.
- G. In regard to Item 7 of the Notice pertaining to content and volume of general activity being directed to, and required of, each Controller, Xcel must modify their procedures and perform an adequate workload analysis within **180** days of receipt of the Final Order.

- H. In regard to Item 8 of the Notice pertaining to Alarm Management Plan deficiency, Xcel must maintain an itemized list of alarm management deficiencies and their date of discovery, the corrective action to be taken, and the completion date (or schedule) for corrective actions within **90** days of receipt of the Final Order.
- I. In regard to Item 9 of the Notice pertaining to communications and/or timeframes between Control Room representatives, Xcel must establish adequate communications and/or timeframes between Control Room representatives, Xcel's management, and associated field personnel when planning and implementing physical changes to pipeline equipment or configuration, and seek Control Room participation in planning prior to implementation of significant pipeline hydraulic or configuration changes within **90** days of receipt of the Final Order.
- J. In regard to Item 10 of the Notice pertaining to the Controller training program, Xcel must implement a structured training program for new Controllers and modify their current training program to include specific information regarding Xcel's pipeline system within **180** days of receipt of the Final Order.
- K. In regard to Item 11 of the Notice pertaining to Control Room team training procedure, Xcel must modify their team training process including identifying key individuals/groups who will participate, and the required training frequency. Furthermore, Xcel must modify their team training records/documentation process to ensure adequate documentation within **90** days of receipt of the Final Order.
- L. It is requested (not mandated) Xcel maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to Dustin Hubbard, Director, Western Region, Pipeline and Hazardous Materials Safety Administration. It is requested that these costs be reported in two categories: 1) total cost associated with preparation/revision of plans, procedures, studies and analyses, and 2) total cost associated with replacements, additions and other changes to pipeline infrastructure.