



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

901 Locust Street, Suite 480
Kansas City, MO 64106

NOTICE OF AMENDMENT

VIA ELECTRONIC MAIL TO: bill.moler@tallgrassenergylp.com and jennifer.eckels@tallgrassenergylp.com

October 26, 2020

Mr. William Moler
President and Chief Executive Officer
Tallgrass Energy Partners, LP
2400 W. 115th Street, Suite 350
Leawood, KS 66221-2609

CPF 3-2020-1009M

Dear Mr. Moler:

On May 7 – 11, 2018 and December 4 – 6, 2018, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), pursuant to Chapter 601 of 49 United States Code inspected Tallgrass Energy Partners, LP's (Tallgrass) Control Room Management procedures and records in Lakewood, Colorado.

On the basis of the inspection, PHMSA has identified the apparent inadequacies found within Tallgrass's plans or procedures, as described below:

1. **§192.605 Procedural manual for operation, maintenance and emergencies.**
 - (a) . . .
 - (b) *Maintenance and Normal operations.* The manual required by paragraph (a) to this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.
 - (1) . . .

(12) Implementing the applicable control room management procedures require by §192.631.

§192.631 *Control room management.*

(a) *General.*

(1) 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, except that for each control room where an operator's activities are limited to either or both of:

(i) Distribution with less than 250,000 services, or

(ii) Transmission without a compressor station, the operator must have and follow written procedures that implement only paragraphs (d) (regarding fatigue), (i) (regarding compliance validation), and (j) regarding compliance and deviations) of this section.

(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.

Tallgrass' Operation and Maintenance (O&M) manual did not provide a procedure that sets forth criteria to assess facilities that monitor and control all or part of a pipeline facility in order to determine if said facilities are control rooms and whether personnel at those facilities should be qualified controllers as defined in 49 CFR §192.3.

Tallgrass procedure O&M 1100_GL Section 3 states the following: *"The following pipeline systems are controlled by the OCC [Operational Control Center] located in Lakewood, Colorado: TIGT, TCP, REX PXP. Tallgrass maintains an on-site control room back up location in building 360 in Lakewood Colorado and an off-site control room and/or SCADA system backup location in Fort Collins, Colorado."* While this procedure identifies the location of the designated control rooms, it does not provide steps or a process for why these locations are control rooms and other facilities operating centers are not.

Tallgrass operates three natural gas pipelines (TIGT, REX, TCP) from a control room in Lakewood, CO. Tallgrass also operates a storage field, 41 compressor stations and 2 gas plants. The storage field and some of the compressor stations can be remotely controlled from the Lakewood Control Room, but all can be remotely monitored. The gas plants cannot be controlled from the Lakewood Control Room, but output flow and pressures are monitored. Each storage field and gas plant has an operation control center or

equipment to monitor and control the assets within the fence line through a SCADA system. The compressor stations have programmable logic controllers (PLC) and human-machine interfaces (HMI) to monitor and control equipment within the station. These control centers may be staffed 24/7 with operators who have the ability to change the flow into the pipeline.

A result of not having a procedure that sets forth criteria to assess all facilities to determine whether they were control rooms, Tallgrass had some compressor station operators who were switching the station to local mode during the day and operating without control room direction, and then at night, switching back from local control to remote control for gas control to operate. This practice effectively allowed compressor station control centers to operate as a control room and a qualified station operator to function as an unqualified controller. Additionally, the gas plants operate on a varying volume of gathering gas in and treated gas out, which is another example of how lack of procedure and criteria for control room determination relates to the gas plants connected to the Tallgrass system. Due to the lack of criteria, the Tallgrass Lakewood Control Room reacts to the plant flows into its pipeline rather than directing the amount of flow they will receive from the plant, defining the gas plant control center as a control room and the plant operators as controllers.

Tallgrass needs to develop and implement a procedure to support criteria for determination of a control room.

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 controllers' prompt and appropriate response to operating conditions, an operator must define each of the following:

Tallgrass' O&M did not adequately define the roles and responsibilities of a controller to describe the controller's domain of responsibility as well as other field individuals operating Tallgrass facilities.

Specifically, Procedure O&M 1100_GL, Section 4, provides the listing of roles and responsibilities for controllers, supervisors, managers, SCADA information technology, as well as field personnel. However, while it was identified, during the inspection discussion, that controllers respond to 811 emergency dig calls and notifications from the pilot performing aerial patrols, neither of these items were listed under the controller's roles and responsibilities.

Additionally, Section 4 of Procedure O&M 1100_GL does not indicate that only one controller can control a console at a time. Lead Controllers are qualified controllers and have full access and control from their HMI desktop when logged in. A definitive statement in Tallgrass' O&M procedure would prohibit this Lead Controller from taking any control or alarm response action, outside of the direction of the controller who is

controlling the console at that time. Additionally, such a statement would provide clarity to field employees and prohibit them from taking control actions outside the direction of the controller at the console. For example, Tallgrass compressor station employees, at some stations, were putting the station in local control and managing set points for compressors outside the direction of the controllers.

3. **§192.631 Control room management.**

(c) *Provide adequate information.* Each operator must provide its controllers with the information, tools, processed 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 replaces, 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; . . .

Tallgrass has inadequately implemented the specific sections of API RP 1165 identified in 192.631(c)(1) by not defining what types of changes constitutes additions, expansions or replacements to the SCADA system.

Procedure O&M 1100_GL, Section 5 states “*SCADA IT will comply with the design and display standards outlined in API RP 1165 Sections 1, 4, 8, 9, 11.1 and 11.3 when adding expanding or replacing displays.*” However, it is not a display change, but a system change that requires implementation of API RP 1165 as required by §192.631(c)(1). Furthermore, Section 5 of Procedure O&M 1100_GL states, “*Please refer to the Gas HMI Philosophy document for additional information on Tallgrass’ approach to HMI development as part of the implementation and maintenance of a SCADA system for the pipeline.*” A review of the Gas HMI Philosophy provided no additional guidance on the types of changes that constitute additions, expansions or replacements to the SCADA system.

Tallgrass’ Gas HMI Philosophy procedure lacks direction regarding the design of displays to provide a consistent presentation of the information to the controllers. Specifically, Tallgrass’ procedure inadequately implemented Sections 4 and 8.3 of API 1165. Section 8.3 refers to “standard symbol libraries” that “should be used in the development of all displays, across all systems”. This “standard symbol library” or SCADA screen design manual would define font, line color, symbols, alarm presentation, line thickness, hierarchy of screens, etc. While Tallgrass’ Gas HMI Philosophy provides some guidance, it is inadequate in providing details to define such attributes as symbols, font style and size, etc. During the inspection, PHMSA inspectors were told that SCADA display designers copy what was done on a similar screen. An example of how this affects the information presented to controllers relates to Trailblazer MLV1.2.4. The functionality of this valve was changed from manual operation to remote control, however the symbol was not changed on the display screen from a manual to remote control valve. This single valve was displayed different for remote operation than those on TIGT or REX. Another example is Tallgrass has no units displayed for temperature, pressure or flow. Without a style guide or design manual someone could display this

information in a different order causing potential confusion for the controller.

4. **§192.631 Control room management.**

(c) Provide adequate information. Each operator must provide its controllers with the information, tools, processed 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 other changes the affect pipeline safety are made to field equipment of SCADA displays.

Tallgrass's O&M did not include adequate written procedures for conducting point-to-point verifications between SCADA displays and related field equipment in accordance with §192.631(c)(2).

Procedure O&M 1100_GL, Section 6.1 directs the point-to-point test for digital and analogue points to be conducted from the remote SCADA/PLC system to the OCC SCADA monitoring system. This test is accomplished by applied values for analogue points and toggling of digital points. Specifically, Tallgrass' O&M does not have a written procedure that describes the process used when adding a new station to SCADA. The O&M provided detailed process related to PLC/RTU design, testing the PLC/RTU to the SCADA screen in the back up Control Center, and at some point, installing the PLC/RTU in the field. Additionally, testing back to the Control Center was performed from the RTU to the Control Room. However, despite records showing that the point-to-point tests were completed, it could not be determined that the field end device was the actual device where field data was collected and if the data was applied or real time. It was also difficult to identify the time frame between what seems to be various point-to-point test stages. The intent of a point-to-point is to take the test from the field end device (actual pressure, temperature, valve open/closed, compressor on/off) to the control room screen. Therefore, Tallgrass's O&M procedure does not meet the requirement §192.631(c)(2).

5. **§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: . . .

Tallgrass did not establish adequate written procedures for reviewing its training program content to identify potential improvements at least once each calendar year, but at intervals not to exceed 15 months.

Procedure O&M 1100-GL, Section 10.6, *Review of Fatigue Mitigation Training and Mitigation Strategies*, and Section 13.8, *Annual Training Program Review* simply

restates the language of 49 CFR §192.631(h), without setting forth a procedure or process. Specifically, the procedure does not detail what needs to be reviewed, how it is to be reviewed, and how findings of the review, recommendations for improvement, follow up actions are documented and retention.

Response to this Notice

This Notice is provided pursuant to 49 U.S.C. § 60108(a) and 49 C.F.R. § 190.206. Enclosed as part of this Notice is a document entitled *Response Options for Pipeline Operators in Compliance Proceedings*. Please refer to this document and note the response options. Be advised that all material you submit in response to this enforcement action is subject to being 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 the receipt of this Notice, you have 30 days to submit written comments, revised procedures, or a request for a hearing under §190.211. 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 an Order Directing Amendment. If your plans or procedures are found inadequate as alleged in this Notice, you may be ordered to amend your plans or procedures to correct the inadequacies (49 C.F.R. § 190.206). If you are not contesting this Notice, we propose that you submit your amended procedures to my office within 120 days of receipt of this Notice. This period may be extended by written request for good cause. Once the inadequacies identified herein have been addressed in your amended procedures, this enforcement action will be closed.

It is requested (not mandated) that Tallgrass maintain documentation of the safety improvement costs associated with fulfilling this Notice of Amendment (preparation/revision of plans, procedures) and submit the total to Allan Beshore, Director, Central Region, Pipeline and Hazardous Materials Safety Administration. In correspondence concerning this matter, please refer to **CPF 3-2020-1009M** and, for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,

Gregory A. Ochs
Director, Central Region, OPS
Pipeline and Hazardous Materials Safety Administration

Enclosure: *Response Options for Pipeline Operators in Enforcement Proceedings*

Cc: Jennifer Eckels, Manager of Compliance, Tallgrass Interstate Gas Transmission, 370 Van Gordon, Street, Lakewood, CO 80228 jennifer.eckels@tallgrassenergyllp.com