



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

8701 South Gessner, Suite 1110
Houston, TX 77074

NOTICE OF AMENDMENT

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

April 30, 2012

Mr. Theopolis Holeman
Group Vice President
Spectra Energy Transmission, LLC
5400 Westheimer Court
Houston, TX 77056
P. O. Box 1642
Houston, TX 77251-1642

CPF 4-2012-1007M

Dear Mr. Holeman:

On November 7-11, 2011, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA) pursuant to Chapter 601 of 49 United States Code inspected Spectra Energy Transmission, LLC (SET) procedures for Control Room Management in Houston, TX.

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

1. §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.

A. §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:

(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; and

The SET Standard Operating Procedure Volume 13 Control Systems IT dated 9/26/2011 Procedure 13-4010 Disaster Recovery - Switching SCADA Systems, section 2.2 Unscheduled Disaster Recovery does not elaborate the roles and responsibilities of the controller during an emergency. The procedure fails to adequately describe actions that are taken during each step of the process. SET's Procedure 13-4010 Disaster Recovery - Switching SCADA Systems, section 2.2 Unscheduled Disaster Recovery must be amended to expand on specific actions that are taken during each step of the process as depicted on the flow chart WF-8 Disaster Recovery - Unscheduled.

On January 4, 2012, SET amended Procedure 13-4010 Disaster Recovery - Switching SCADA Systems, section 2.2 No/Short Notification Disaster Recovery. The revised procedure adequately addresses the specific actions to be taken during an unscheduled Disaster Recovery.

B. §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:

(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;

The SET Standard Operating Procedure Volume 13 Control Systems IT dated 9/26/2011 Procedure 13-2010 Point to Point Verification, section 1.0 Introduction states *'This procedure describes the steps required to perform Point to Point (P2P) verification of points in the SCADA system whenever field equipment is added or moved or when other changes are made that may impact pipeline safety.'* The procedure goes on in section 1.1 Scope to state *'All safety-related points in SET's U. S. pipeline infrastructure that are added or moved.'* SET must modify section

1.1 Scope to read as follows *'All safety-related points in SET's U. S. pipeline infrastructure that are added, moved or replaced.'*

The SET Standard Operating Procedure Volume 13 Control Systems IT dated 11/04/2011 Procedure 13-2010 Point to Point Verification; section 2.0 Conditions Requiring Point to Point Verification includes the following statement regarding specific field changes, *'2. Migrating RTU, PLC to a different make/model of RTU, PLC.'* SET should modify this statement to read as follows, *'2. Replacing RTU, PLC to a different make/model RTU, PLC.'* The procedure fails to identify changes to field equipment that are similar but not identical. SET must add the following statement to section 2.0 Conditions Requiring Point to Point Verification, *'3. Replacing safety-related sensors and other field instrumentation with a non-identical make/model.'*

SET uses a Test SCADA system setup to perform all Point-to Point Verification processes prior to going 'live' with the changes that have been made to the pipeline system. The SET Procedure 13-2010 Point to Point Verification, section 3.0 Point to Point Verification fails to include in the process the use of the Test SCADA system. SET must amend section 3.0 Point to Point Verification to include the use of the Test SCADA system to perform point to point verifications.

On January 5, 2012, SET amended Procedure 13-2010 Point to Point Verification, sections 1.1, 2.0 and 3.0. The revised procedure adequately addresses issues noted above.

C. §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:

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

The SET Standard Operating Procedure Volume 13 Control Systems IT dated 9/26/2011 Procedure 13-2020 Disaster Recovery Verification, section 2.0 Verification of Backup SCADA lacks specificity in that it fails to elaborate on the tests to be performed by the controllers during the verification process. The procedure states *'Once switched to backup, Gas Control to perform their testing operations while they continue to operate the pipeline and report any issues to support staff who are standing by to address issues as they are discovered.'* SET must amend the procedure to detail the tests that Gas Control will perform during the verification process as part of Disaster Recovery.

On January 5, 2012, SET amended Procedure 13-2020 Disaster Recovery Verification, section 2.0 Verification of Backup SCADA. The revised procedure adequately addresses issue noted above.

D. §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:

The SET Control Room Management Plan, section 500 Fatigue Management Plan (FMP), subsection 503 Fatigue Mitigation fails to list all measures that have been incorporated in the Control Room and currently in use by the gas controllers to eliminate or reduce the effects of fatigue. SET must amend the procedure to list all measures presently installed and actively in use in the Control Room that help to reduce or eliminate the effects of fatigue.

On January 5, 2012, SET amended the Control Room Management Plan, section 500 Fatigue Management Plan (FMP), subsection 503 Fatigue Mitigation. The revised procedure adequately addresses the noted issue.

E. §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:

(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;

The SET Alarm Management Plan, section 4 Reviews & Internal Auditing, subsection 4.3 Alarm Management Plan Review lacks specificity and fails to list the elements of the review and how the review will be documented. SET needs to amend the process to include the items that are to be reviewed during the process and explain how the review will be documented.

On January 5, 2012, SET amended the Alarm Management Plan, section 4 Reviews & Internal Auditing; subsection 4.3 Alarm Management Plan Review. The revised procedure adequately addresses the noted issue.

F. §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:

(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

The SET Control Room Management Plan, section 600 Alarm Management Plan, subsection 604 Activity Review (192.631(e)(5)) fails to identify how and what the operator is actually planning to implement in order to meet this requirement. SET must amend the process to include the elements of the review and how the review will be documented.

On January 5, 2012, SET revised the Control Room Management Plan, section 600 Alarm Management Plan, subsection 604 Activity Review (192.631(e)(5)). The revised procedure adequately addresses the noted issue.

G. §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:

(6) Address deficiencies identified through the implementation of paragraphs (e)(1) through (e)(5) of this section.

The SET Control Room Management Plan, section 600 Alarm Management Plan, subsection 605 Alarm Management Plan Deficiencies (192.631(e)(6)) fails explain how deficiencies that are discovered by implementing 192.631(e)(1-5) will be resolved. SET must amend the procedure to provide criteria and/or guidelines for prioritizing the resolution and correction of deficiencies.

On January 5, 2012, SET amended the Control Room Management Plan, section 600 Alarm Management Plan, subsection 605 Alarm Management Plan Deficiencies (192.631(e)(6)). The revised procedure addresses the noted issues.

H. §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.**

The SET Control Room Management Plan, section 700 Change Management, subsection 702 Change Management and Control Room Participation (§192.631(f)(3)) fails to ensure that a control room representative will participate in meetings, where changes that could directly or indirectly affect the hydraulic performance of the pipeline, are being considered, designed and implemented by engineering planning and the MOC process. SET must amend the procedure to ensure that Gas Control will participate in meetings, where changes that could directly or indirectly affect the hydraulic performance of the pipeline, are being considered, designed and implemented by engineering planning and the MOC process.

On January 5, 2012, SET amended the Control Room Management Plan, section 700 Change Management, subsection 702 Change Management and Control Room Participation (192.631(f)(3)). The revised procedure addresses the noted issue.

I. §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; and
 - (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.

The SET Control Room Management Plan, section 900 Training, subsection 901 Training Plan Review (192.631(h)) fails to meet the requirements of the code. The SET Control Room Management Plan, section 900 Training, subsection 901 Training Plan Review (192.631(h)) must be amended to include language that addresses the review of the training program content to identify potential improvements i.e., any deficiencies found from the annual review will be addressed and any improvements or no improvements will be documented.

The SET Control Room Management Plan, section 300 Roles and Responsibilities, subsection 302 Roles and Responsibilities During Abnormal Operations (192.631(b)(2)) fails to meet the requirements of the code. The SET Control Room Management Plan, section 300 Roles and Responsibilities, subsection 302 Roles and Responsibilities During Abnormal Operations must be amended to include language that ensures that the program provides controller training on recognizing and responding to abnormal operating conditions that are likely to occur simultaneously or in sequence.

On January 5, 2012, SET amended the Control Room Management Plan, section 900 Training, subsection 901 Training Plan Review (192.631(h)) and the Control Room Management Plan, section 300 Roles and Responsibilities, subsection 302 Roles and Responsibilities During Abnormal Operations (192.631(b)(2)). The revised procedures addressed the noted issue.

Response to this Notice

This Notice is provided pursuant to 49 U.S.C. § 60108(a) and 49 C.F.R. § 190.237. 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). 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, after opportunity for a hearing, 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. § 190.237). If you are not contesting this Notice, we propose that you submit your amended procedures to my office

within 30 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 Spectra Energy Transmission, LLC maintain documentation of the safety improvement costs associated with fulfilling this Notice of Amendment (preparation/revision of plans, procedures) and submit the total to R. M. Seeley, Director, Southwest Region, Pipeline and Hazardous Materials Safety Administration. In correspondence concerning this matter, please refer to **CPF 4-2012-1007M** and, for each document you submit, please provide a copy in electronic format whenever possible.

In regards to Items listed above, Spectra Energy Transmission, LLC provided revised procedures via US Mail and/or email on several dates throughout the inspection. These procedure submittals were reviewed and deemed adequate. No further action is required in response to this Notice and this case is now closed. Thank you for your cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read "R. M. Seeley". The signature is written in a cursive style with a large initial "R" and "S".

R. M. Seeley
Director, Southwest Region
Pipeline and Hazardous Materials Safety Administration