



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

820 Bear Tavern Road, Suite 103  
West Trenton, NJ 08628  
**609.989.2171**

## NOTICE OF AMENDMENT

### OVERNIGHT EXPRESS DELIVERY

September 9, 2015

Mr. Steven Thompson  
Senior Vice President  
Eastern Shore Natural Gas Company  
909 Silver Lake Boulevard  
Dover, DE 19901

**CPF 1-2015-1022M**

Dear Mr. Thompson:

From November 17 through November 21, 2014, 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 the Eastern Shore Natural Gas Company (ESNG) Control Room Management (CRM) procedures in Dover, Delaware.

On the basis of the inspection, PHMSA has identified the apparent inadequacies found within ESNG's 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:**

ESNG's written control room management procedures are inadequate in that they fail to define that all portions of Section 4 of API RP1165 are implemented as prescribed in §192.631(c)(1).

“§192.631(c)(1) Control room management states:

(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;”

During the inspection, the PHMSA inspector reviewed the ESNG SCADA HMI Screen Updating & Layout procedure, dated 11/7/2014. The procedure fails to describe how ESNG addresses Human Factors Engineering Considerations in Display Design as prescribed in API RP1165 Section 4.

## 2. §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:**

ESNG's written control room management procedures are inadequate in that they fail to address conducting a point-to-point verification between SCADA displays and related field equipment in all instances when field equipment is added or moved, and when other changes that affect pipeline safety are made to field equipment or SCADA displays as prescribed in §192.631(c)(2).

“§192.631(c)(2) Control room management states:

(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;”

During the inspection, the PHMSA inspector reviewed the ESNG Gas Control Point-to-Point SCADA Verification procedure, dated 10/27/2014.

The procedure states in part that:

“The Point-to-Point verification should be completed prior to the new data and/or control points going “live” on any HMI used in Gas Control.

### New HMI screens or updates to existing HMI screens

All change to existing, or development of new, SCADA HMI Screens must comply with the guidelines in the “SCADA HMI Screen Updating & Layout Management” SOP.

New equipment installations, Changes to existing field installations & Database updates referencing “tags” for devices located in field equipment

When devices are added or changed in the field, the “Point-to-Point Verification” report will be completed, describing the points that need to be verified within the SCADA system. Points that need to be verified are those that relate to actual signals from the field devices; internally calculated points for display purposes do not require field verification.”

ESNG's Control Room Management Plan does not include a written point-to-point verification process to ensure equipment that is replaced with the same type of equipment is functioning properly.

## 3. §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:**

ESNG's written control room management procedures are inadequate in that they fail to define documentation requirements when they are performing point-to-point verifications between SCADA displays and related field equipment as prescribed in §192.631(c)(2).

“§192.631(c)(2) Control room management states:

(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;”

During the inspection, the PHMSA inspector reviewed the following:

1. ESNG Gas Control Point-to-Point SCADA Verification procedure, dated 10/27/2014. The procedure requires completion of Point to Point verification forms.
2. ESNG's Point to Point verification forms for the Garrison Energy Center - Dover, DE, dated 9/24/2014.
3. ESNG's Point to Point verification forms for the Daleville Compressor Station, dated 9/25/2014.

ESNG's procedures do not define the requirements for documenting actual field data and SCADA displayed information.

#### **4. §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:**

ESNG's written control room management procedures are inadequate in that they do not “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” as prescribed in §192.631(d)(4).

During the inspection, the PHMSA inspector reviewed the following ESNG procedures:

1. Control Room Management Plan dated 5/14/2014. The procedure states in part that:

“Fatigue Mitigation - 192.631(d)

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

The “Operator Fatigue Minimization” SOP has established shift lengths and schedule rotations for ESNG Gas Control that meets these provisions.

(4) Maximum hours-of-service.

The “Operator Fatigue Minimization” SOP has established maximum hours of service for ESNG Gas Control. Provisions have also been established that allow for emergency deviations to ensure the safe operation of the pipeline.”

2. Operator Fatigue Minimization Procedure dated 10/29/2014. The procedure states in part that:

“Hours of Service

Hours per shift

It is recommended by DOT that no more than twelve hours are worked in a twenty-four hour period, and that the operator has at least six to eight hours of sleep before the next shift.

Eastern Shore natural Gas Controllers work 12 hour shifts, and must not work as a controller for more than 12 consecutive hours. . . . .

Based on the normal schedule rotation, Gas Controllers are limited to a maximum of 60 hours of service in a sliding 7 day period and a minimum of 48 hours relief time following that period. Deviations to the normal schedule may be necessary in order to allow for PTO coverage, illness, or other emergencies. Under these circumstances, the following policy shall be observed:

A Gas Controller may work up to seven (7) consecutive days on the same shift. Shift rotations from day to night or from night to day should only occur after a minimum 35 hour rest period. Additional consecutive days worked must be authorized by the Gas Control Manager.”

ESNG’s procedure does not accurately capture the requirements of §192.631(d)(1), nor does it provide sufficient details for reasonable maximum normal limits on controller hours of service (HOS) such as:

1. Sixty-five (65) duty hours in any sliding 7-day period. For example, five 12-hour shifts.
2. Fourteen (14) duty hours in any 24-hour period, which includes shift hand over time.
3. At least thirty-five (35) continuous hours spent off-duty when any one or more of the following limits is reached:
  - a. Shift starts on seven successive days or nights;
  - b. 65 duty hours in any sliding 7-day period;
  - c. Five 12-hour shifts in any sliding 7-day period.
4. An occasional hold-over shift/s is allowed for a 12-hour shift, one 18 hour shift (19 hours with hand-over time), or two 14-hour shifts (15 hours with hand-over time) in any sliding 5-day period.
5. Operators must always provide the opportunity for individuals to get 8 hours of continuous sleep between all shifts, including if a double shift is worked (and shift change or hand-over time must be included as time included that does not allow opportunity for sleep).
6. Fatigue mitigation tactics should be implemented during shifts/times of increased fatigue risk, as shown by research and/or fatigue modeling, including:

- a. Any and all shift duty hours worked after the first 8 hours.
  - b. Any and all hours worked between 2:00 am and 6:00 am.
  - c. Any and all successive night shifts following three successive nights.
  - d. Any and all day or night shifts following four successive night shifts unless three nocturnal sleep cycles have been completed.
7. Operators who deviate from their parameters must be able to demonstrate why the variation does not elevate the risk of fatigue. Operators who deviate from their parameters must be able to demonstrate that adequate fatigue risk countermeasures have been deployed.

In addition, ESNG's procedure does not provide sufficient details related to the expectations for deviations from the maximum limit on controller hours of service such as:

1. Reason for deviation
2. Why is the deviation needed for the safe operation of a pipeline facility
3. Date and time work schedule will be impacted
4. Employee(s) affected by the deviation
5. Work schedule before and after the deviation
6. Any additional fatigue risks associated with the deviation
7. Countermeasures to be employed to offset any additional risks for fatigue
8. Date, time and by whom the deviation is being reviewed/approved

**5. §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:**

ESNG's written control room management procedures are inadequate in that they do not include a written process for their review of shift notes when monitoring the content and volume of general activity being directed to and required of each controller as prescribed in §192.631(e)(5).

During the inspection, the PHMSA inspector reviewed the ESNG Control Room Management Plan dated 5/14/2014. The procedure states in part:

*“(5) Monitor the content and volume of general activity (alarms).*

The content and volume of alarms received in Gas Control shall be reviewed by the Gas Control Manager and/or System Planning and Process Controls Manager at least once each calendar year, but at intervals not to exceed 15 months.”

ESNG utilizes alarm summary data and shift notes in monitoring the content and volume of general activity being directed to and required of each controller. ESNG's written control room management procedures do not provide details describing this process, nor does it specifically address shift notes.

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 **90** 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 ESNG maintain documentation of the safety improvement costs associated with fulfilling this Notice of Amendment (preparation/revision of plans, procedures) and submit the total to, as well as any correspondence relating to this Notice to: Byron Coy, PE, Director, PHMSA Eastern Region, 820 Bear Tavern Road, Suite 103, W. Trenton, NJ 08628. Please refer to **CPF 1-2015-1022M** on each document you submit, and please provide a (signed) copy in electronic format whenever possible. Smaller files may be emailed to [Byron.Coy@dot.gov](mailto:Byron.Coy@dot.gov). Larger files should be sent on a CD accompanied by the original (signed) paper copy to the Eastern Region Office.

Sincerely,

Byron Coy, PE  
Director, Eastern Region  
Pipeline and Hazardous Materials Safety Administration

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