Columbia Gas Transmission
A NiSource Company

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Byron Coy, PE
Director, Eastern Region
Pipeline and Hazardous Materials Safety Administration
820 Bear Tavern Road, Suite 103
West Trenton, NJ 08628

RE: CPF 1-2013-1011M

Dear Mr. Coy:

This letter is provided on behalf of Columbia Pipeline Group (CPG) in response to the Notice of Amendment (NOA) CPF 1-2013-1011M, dated July 18, 2013, and received on July 22, 2013. The NOA was issued following an inspection conducted by representatives of your office on November 14 through November 18 of 2011. As the result of the inspection PHMSA identified possible inadequacies in the CPG plan or procedures.

Details for addressing the individual items noted in the NOA are outlined below. The language from the NOA is in bold, followed by a brief description of the actions CPG has taken or is taking to address each respective item.

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: . . . .

NiSource's written control room management procedures, Commercial Operations, Gas Control & Monitoring Center, Control Room Management Plan, dated August 1, 2011 and revised September 30, 2011, were inadequate because the plan was under development but not adequate at the time of inspection. The Management of Change (MOC) portion of the operator's Control Room Management Plan did not include a change log to track changes as prescribed in §192.631(a)(2).

CPG Response

CPG has and continues to maintain all previous versions of each of its O&M manual plans and procedures including the Control Room Management Plan so that changes to the document can be tracked. In addition, on December 6, 2011, a change log was added to the CPG Control Room Management Plan (included as Section 14 in the plan) so that changes to the plan versions can be more easily tracked. A copy of the latest version of the CPG Commercial Operations Gas Control & Monitoring Center Control Room Management Plan incorporating the change log is included in Attachment A.

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: . . . .

NiSource's written control room management procedures, Commercial Operations, Gas Control & Monitoring Center, Control Room Management Plan, dated August 1, 2011 and revised September 30, 2011, were inadequate because the operator had not adequately established procedures to define and identify the circumstances which require that a point-to-point verification be performed. Section 4.2 of the operator's Control Room Management Plan refers to O&M Plan 220.09.01 for SCADA point-to-point verification – to be published no later than 8/1/2012. The essence of the process (framework) needs to be established as of 10/1/2011 as prescribed in §192.631(a)(2).

CPG Response

In November of 2011, at the time of the inspection, the CPG Control Room Management Plan provided an overview of the point-to-point process that would be implemented. However, specifics of the point-to-point verification process were to be set out in O&M Plan 220.09.01 which, at the time of the inspection, was in the process of being developed. Point-to-point verification implementation was not required under §192.631(a)(2) until August 1, 2012. CPG completed development and published Plan 220.09.01 "SCADA Point-to-Point Verification (PPV)" on January 11, 2012. The plan was fully implemented on August 1, 2012. A copy of Plan 220.09.01 "SCADA Point-to-Point Verification (PPV)" is included in Attachment B.

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: . . . .

NiSource's written control room management procedures, Commercial Operations, Gas Control & Monitoring Center, Control Room Management Plan, dated August 1, 2011 and revised September 30, 2011, were inadequate because the operator had not established an adequate procedure for the thoroughness of the point-to-point verification. The operator advised that this procedure would be published on later than 8/1/2012. The essence of the process (framework) needs to be established as of 10/1/2011 as prescribed in §192.631(a)(2).

CPG Response

As noted in item #2, above, at the time of the inspection the CPG Control Room Management Plan provided an overview of the point-to-point process that would be implemented. However, specifics of the point-to-point verification process were to be set out in O&M Plan 220.09.01 which, at the time of the inspection, was in the process of being developed. Point-to-point verification implementation was not required under §192.631(a)(2) until August 1, 2012. CPG completed development and published Plan 220.09.01 "SCADA Point-to-Point Verification (PPV)" on January 11, 2012. The plan was fully implemented on August 1, 2012. The plan sets out the steps for performance of a thorough point-to-point verification (see copy of CPG Plan 220.09.01 SCADA Point-to-Point Verification (PPV), Attachment B).

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: . . . .

NiSource's written control room management procedures, Commercial Operations, Gas Control & Monitoring Center, Control Room Management Plan, dated August 1, 2011 and revised September 30, 2011, were inadequate because the operator had not developed an adequate procedure for defining when the point-to-point verification must be completed and does not declare expediency of completion as prescribed in §

192.631(c)(2). The operator advised that this procedure would be published no later than 8/1/2012. The essence of the process (framework) needs to be established as of 10/1/2011 as prescribed in §192.631(a)(2).

CPG Response

As noted above, at the time of the inspection the CPG Control Room Management Plan provided an overview of the point-to-point process that would be implemented. However, specifics of the point-to-point verification process were to be set out in O&M Plan 220.09.01 which, at the time of the inspection, was in the process of being developed. Point-to-point verification implementation was not required under §192.631(a)(2) until August 1, 2012. CPG completed development and published Plan 220.09.01 "SCADA Point-to-Point Verification (PPV)" on January 11, 2012. The plan was fully implemented on August 1, 2012. Sections 2, 3.1 and 4 of the Plan 220.09.01 set out when point-to-point verification is needed as well as the timeliness of point-to-point verification. Section 4.2 of the revised CPG Control Room Management Plan also addresses these subjects (see Attachments A & B).

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: . . . .

NiSource's written control room management procedures, Commercial Operations, Gas Control & Monitoring Center, Control Room Management Plan, dated August 1, 2011 and revised September 30, 2011, were inadequate because the operator did not factor in Commute time into fatigue management consideration. Shift lengths must provide controllers off-duty hours sufficient to achieve eight hours of continuous sleep as prescribed in §192.631(d)(1).

CPG Response

The CPG Control Room Management Plan allows a scheduled shift length of 12 hours with a maximum shift length of 14 hours. The maximum normal commute time for CPG controllers is one hour, leaving the opportunity for eight hours of continuous sleep. CPG has included provisions in Section 2.4, Fatigue Management, of the CPG Control Room Management Plan to factor in commute time into the fatigue management considerations to provide controllers off-duty hours sufficient to achieve eight hours of continuous sleep (see copy of CPG Control Room Management Plan, Attachment A).

6. **§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: . . . .

   NiSource's written control room management procedures, Commercial Operations, Gas Control & Monitoring Center, Control Room Management Plan, dated August 1, 2011 and revised September 30, 2011, were inadequate because the operator did not factor in Commute time for on-call activation into the on-duty hours calculation. Operators must provide controllers off-duty hours sufficient to achieve eight hours of continuous sleep as prescribed in §192.631(d)(1).

CPG Response

Section 2.4, Fatigue Management, of the CPG Control Room Management Plan has been updated to factor in Commute time for on-call activation into the on-duty hours calculation (see copy of CPG Control Room Management Plan, Attachment A). Specifically, the following statement was added to Section 2.4 of the plan:

"Any unplanned work hours (i.e. call-outs for controller illness, bereavements, etc.) will be documented on the shift schedule, including commute time, and counted towards the maximum hours of service (HOS) limitation"

7. **§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: . . . .

   NiSource's written control room management procedures, Commercial Operations, Gas Control & Monitoring Center, Control Room Management Plan, dated August 1, 2011 and revised September 30, 2011, were inadequate because the procedure, Section 10.7 Annual Training Requirements, specifies Control Room Training "will be reviewed once per calendar year" as opposed to once per calendar year, not to exceed 15 months as prescribed in §192.631(h).

CPG Response

Section 10.7, Annual Training Requirements, of the CPG Control Room Management Plan was updated on December 6, 2011 to require review of the content, type, effectiveness and frequency of Control Room training "once per calendar year, not to exceed 15 months" (see copy of CPG Control Room Management Plan, Attachment A).

8. §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: . . . .

NiSource's written control room management procedures, Commercial Operations, Gas Control & Monitoring Center, Control Room Management Plan, dated August 1, 2011 and revised September 30, 2011, were inadequate because Section 1.9 Deviation from CRM Plan, the operator's procedure for approving deviations from the maximum HOS limits need to incorporate a space in the Deviation Form (Section 2.4) to record the reason why an exception to the Plan was required as prescribed in §192.631(j)(2).

CPG Response

In December of 2011, CPG revised it Hours of Service Deviation Form to incorporate a space in the deviation form to record the reason why an exception to the Plan was required. A copy of the revised Hours of Service Deviation Form is included in Attachment C.

9. §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: . . . .

NiSource's written control room management procedures, Commercial Operations, Gas Control & Monitoring Center, Control Room Management Plan, dated August 1, 2011 and revised September 30, 2011, were inadequate because Section 5.5 Annual SCADA Point Review, Figure 5.3 Example Annual SCADA Set Point Verification Review form stipulates "Annual SCADA Set Point Verification Review" as opposed to at least

once each calendar year, but at intervals not to exceed 15 months as prescribed in §192.631(e)(3).

CPG Response

Section 5.5, SCADA Point Review, of the CPG Control Room Management Plan indicates that "A review of the SCADA alarms will be conducted at a minimum of once each calendar year, not to exceed 15 months." Figure 5.3 containing the Example Annual SCADA Set Point Verification Review Form has been removed from the plan since the time of the inspection. An Alarm Reduction Activity Tracking Form is now used to track the review of SCADA alarms. A note has been included on the Alarm Reduction Activity Tracking Form indicating "Annual SCADA Point Review is completed once per calendar year, not to exceed 15 months." A copy of the Alarm Tracking Form is included in Attachment D.

10. §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: . . . .

NiSource's written control room management procedures, Commercial Operations, Gas Control & Monitoring Center, Control Room Management Plan, dated August 1, 2011 and revised September 30, 2011, were inadequate because the program does not have a means of determining that the controller has sufficient time to analyze and react to incoming alarms. Much of this activity is being performed but not formalized in the plan, thresholds should be quantified as prescribed in §192.631(e)(5).

CPG Response

As required by §192.631(e)(5), CPG formalized a process for monitoring the content and volume of general activities being directed to and required of each controller prior to August 1, 2012. CPG has completed workload analysis studies, which included direct observation of controllers and SCADA data collection activities, for its control sectors during the 2012 cooling season and during the 2013 heating season. In addition, CPG is in the process of completing NASA TLX Studies (which quantifies workload from the gas controllers' perspective) for its operating sectors covering the 2013 cooling season. These studies will also include a SCADA data and phone communication analysis. The NASA TLX studies will be completed by the middle of October 2013. Based upon analysis of the data collected from the studies completed, CPG proposes to establish activity thresholds that would trigger further actions by November 1, 2013. The established thresholds and options for further actions will be quantified and documented in the CPG Control Room Management Plan. A copy of the revised plan including the established thresholds will be

provided to your office by November 15, 2013, after publication of the revised Control Room Management Plan.

11. §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: . . . .

NiSource's written control room management procedures, Commercial Operations, Gas Control & Monitoring Center, Control Room Management Plan, dated August 1, 2011 and revised September 30, 2011, were inadequate because Section 5.10 Addressing Alarm Management Deficiencies lacks sufficient detail with respect to a timeliness qualifier as prescribed in §192.631(e)(6).

CPG Response

Section 5.10, Addressing Alarm Management Plan Deficiencies, of the CPG Control Room Management Plan was updated on March 21, 2012 to address identified deficiencies in a prompt manner. On October 22, 2012, CPG added detail regarding prioritizing identified deficiencies. In a case where multiple deficiencies may be identified, the procedure allows for the categorization and prioritization of identified deficiencies to ensure that the most safety-critical items and those of the highest safety priority are addressed first. Deficiencies found will be addressed within 90 days (see copy of CPG Control Room Management Plan, Attachment A).

12. §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: . . . .

NiSource's written control room management procedures, Commercial Operations, Gas Control & Monitoring Center, Control Room Management Plan, dated August 1, 2011 and revised September 30, 2011, were inadequate because Section 10.3 Specific CRM Training Requirements does not include a subset list of AOCs required to make training more specific and meaningful as prescribed in § 192.631(h).

CPG Response

Section 6.1, Abnormal Operations, of the CPG Control Room Management Plan contains a listing of Abnormal Operations along with Gas Control and the Monitoring Center's roles and responsibilities to react to each type of abnormal operation. In addition, as described in Section 6.2, Abnormal Operation Condition Matrix, of the CPG Control Room Management Plan, an Abnormal Operating Condition Matrix has been developed (and is included as Appendix I of the Control Room Management Plan) that lists foreseeable operating scenarios that are more likely to cause simultaneous AOCs or multiple AOCs in sequence. As now reflected in both Sections 6.2 and Table 10.1 "Specific CRM Training Requirements" of Section 10.3 of the CPG Control Room Management Plan, specific AOC Matrix Training will be provided to Gas Control once per calendar year, not to exceed 15 months. These changes were made to the CPG Control Room Management Plan on March 21, 2012 and the first training covering the AOC matrix was provided to CPG Gas Controllers beginning in July of 2012.

Should you have any questions regarding the actions taken or proposed to address items identified in the Notice of Amendment, please do not hesitate to contact me.

Sincerely,

Perry M. Hoffman
Manager - System Integrity
Columbia Gas Transmission