



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

November 7, 2011

Victor Gaglio
Sr. Vice President - Operations
Columbia Gulf Transmission Company
1700 McCorkle Avenue
Charleston, WV 25314

CPF 4-2011-1015M

Dear Mr. Gaglio:

During 2010, representatives of the Pipeline and Hazardous Materials Safety Administration (PHMSA) pursuant to Chapter 601 of 49 United States Code inspected Columbia Gulf Transmission Company's (CGT) procedures for Operations and Maintenance, Emergency, Integrity Management, Operator Qualification, and Control Room Management in Charleston, West Virginia and at various operations centers throughout the CGT system. CGT is a subsidiary of NiSource Gas Transmission and Storage (NGT&S) and operates under the NGT&S Operation & Maintenance Plan.

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

1. **§192.105 Design formula for steel pipe.**
 - (a) **The design pressure for steel pipe is determined in accordance with the following formula:**

$$P = (2 St/D) \times F \times E \times T$$

P = Design pressure in pounds per square inch (kPa) gage.

S = yield strength in pounds per square inch (kPa) determined in accordance with §192.107.

D = Nominal outside diameter of the pipe in inches (millimeters).

t = Nominal wall thickness of the pipe in inches (millimeters). If this is unknown, it is determined in accordance with §192.109. Additional wall thickness required for concurrent external loads in accordance with §192.103 may not be included in computing design pressure.

F = Design factor determined in accordance with §192.111.

E = Longitudinal joint factor determined in accordance with §192.113.

T = temperature derating factor determined in accordance with §192.115.

§192.107 Yield strength (S) for steel pipe.

- (a) For pipe that is manufactured in accordance with a specification listed in section I of Appendix B of this part, the yield strength to be used in the design formula in §192.105 is the SMYS stated in the listed specification, if that value is known.**

While reviewing Project 1277 - Clementsville CS Discharge Header (WO #95260), there was a concern that pipeline construction welding might use the 'design specifications' (design SMYS) of the pipe versus the 'actual specifications' (actual SMYS) of the pipe when choosing the Weld Procedure Specifications. CGT explained that during the design process the 30 inch, 0.750 inch WT, X-60 pipe was used to establish a design pressure. At the time of construction, circumstances such as cost and/or availability caused the substitution of pipe to 20 inch, 0.375 inch WT, X-65. NGT&S Procedure, FAPL-1 Pipeline Design Guideline dated February 14, 2000, is inadequate in that it does not address the necessary requirements for pipe substitution after the design phase is completed.

On May 21, 2010, CGT revised the NGT&S Procedure FAPL-1 to state "Pipe shall be designed to ensure compliance with 49 CFR 192 and 195, and once the pipe design is established and approved, no material substitutions may be made unless the design is revised and reissued. Examples of material substitutions that may not be made include but are not limited to: 1) a substitution of pipe of a higher grade than specified; 2) a substitution of pipe with a different wall thickness than specified; 3) a substitution of pipe with a different outside diameter than specified; and 4) a substitution of pipe with different longitudinal joint factor than that specified." CGT also issued an Engineering Bulletin dated May 21, 2010 to iterate the changes to FAPL-1.

2. §192.303 Compliance with specifications or standards.

Each transmission line or main must be constructed in accordance with comprehensive written specifications or standards that are consistent with this part.

§192.227 Qualification of welders.

- (a) Except as provided in paragraph (b) of this section, each welder must be qualified in accordance with section 6 of API 1104 (incorporated by reference,**

see §192.7) or section IX of the ASME Boiler and Pressure Vessel Code (incorporated by reference, see §192.7). However, a welder qualified under an earlier edition than listed in §192.7 if this part may weld buy may not requalify under that earlier edition.

The PHMSA inspection team noted that the Welder Qualification records did not list whether the welders are qualified to section 6 of API 1104 or section IX of the ASME Boiler and Pressure Vessel Code. The NGT&S Welding Manual, Part 6 Welder Qualification, section 1 Scope requires that a welder be qualified in accordance with section 6 of API 1104. The 'NGT&S and NiSource Distribution Welder Qualification Record' is inadequate.

On May 24, 2011, CGT revised the NGT&S and NiSource Distribution Welder Qualification Record to contain the following statement: "This welder was qualified to perform the listed welds per API 1104 Section 6 and the NiSource Welding manual Part 6 and Appendix A."

3. **§192.605 Procedural manual for operations, maintenance, and emergencies**
Each operator shall include the following in its operating and maintenance plan:
- (a) **General.** Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response. For transmission lines, the manual must also include procedures for handling abnormal operations. This manual must be reviewed and updated by the operator at intervals not exceeding 15 months, but at least one each calendar year. This manual must be prepared before operations of a pipeline system commence. Appropriate parts of the manual must be kept at locations where operations and maintenance activities are conducted.

§192.615 Emergency plans.

- (a) Each operator shall establish written procedures to minimize the hazard resulting from a gas pipeline emergency. At a minimum, the procedures must provide for the following:
 - (4) The availability of personnel, equipment, tools, and materials, as needed at the scene of an emergency.

During the field inspection at the Houma Compressor Station No. 14, the PHMSA inspection team reviewed the site-specific Emergency Response Manual. The review noted that the personnel listed as available for emergency response to the station did not contain Kirk Carlin, corrosion technician for the area. Kirk is responsible for all corrosion activities for the CGT southeastern area which includes the Houma compressor station. The list of available personnel was inadequate and should be modified to include Kirk Carlin - Corrosion Technician.

On December 3, 2010, CGT provided a copy of a red-lined version of the listing of available personnel that now included Kirk Carlin.

4. **§192.605 Procedural manual for operations, maintenance, and emergencies.**
 - (b) **Maintenance and normal operations.** The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.
 - (1) **Operating, maintain, and repairing the pipeline in accordance with each of the requirements of this subpart and subpart M of this part.**
- A. **§192.711 Transmission lines: General requirements for repair procedures.**
 - (a) **Temporary repairs.** Each operator must take immediate temporary measures to protect the public whenever:
 - (1) **A leak, imperfection, or damage that impairs its serviceability is found in a segment of steel transmission line operating at or above 40 percent of the SMYS; and**
 - (2) **It is not feasible to make a permanent repair at the time of discovery.**

The NGT&S O&M Plan, Procedure 220.02.01 Pipeline Repair and Replacement, section 3.2.1 Temporary Repairs, page 3, version 24 states "A temporary repair is a provisional means of restoring a pipeline to operating conditions, but is not intended to remain in place for the life of the facility." When asked, CGT personnel did not have a time span that a temporary repair could remain on an active pipeline system. The procedure is inadequate, it does not have a set time limit on the use of a temporary repair on pipelines operating above 40% SMYS.

On June 18, 2010, CGT revised the NGT&S Procedure to read as follows: section 3.2.1 Temporary Repairs for Pipelines Operating over 40% SMYS "A temporary repair...Beginning with temporary repairs installed in 2010, temporary repairs will be replaced with permanent repairs within 3 years not to exceed 39 months unless: the temporary repair is inspected, Engineering Services approval is obtained, and the temporary repair will be inspected every 3 years not to exceed 39 months, until a permanent repair method is employed..."

- B. **§192.727 Abandonment or deactivation of facilities.**
 - (g) **For each abandoned offshore pipeline facility or each abandoned onshore pipeline facility that crosses over, under or through a commercially navigable waterway, the last operator of the facility must file a report upon abandonment of that facility.**

During the review of the NGT&S O&M Plan, Procedure 220.01.01 Pipeline and Pipeline Facility Removal or Abandonment in Place, section 3.6.3 Reporting Abandoned Navigable Water Crossings, dated October 27, 2009, it was noted by the inspection team that the procedure did not address the abandonment of offshore pipelines that are located in navigable water ways (0-15 feet in depth) for reporting requirements. This procedure is inadequate.

CGT revised the NGT&S O&M Plan, 220.01.01 Pipeline and Pipeline Facility Removal or Abandonment in Place, section 3.6.3 Reporting Abandoned Navigable Water Crossings, pages 4 & 5 on April 16, 2010 to include the reporting requirements.

C. §192.743 Pressure limiting and regulating stations: Capacity of relief devices.

- (b) If review and calculations are used to determine if a device has sufficient capacity, the calculated capacity must be compared with the rated or experimentally determined relieving capacity of the device for the conditions under which it operates. After the initial calculations, subsequent calculations need not be made if the annual review documents that parameters have not changed to cause the rated or experimentally determined relieving capacity to be insufficient.**

As part of CGT's maintenance process on the capacity verification of relief devices, a relief device may be tested in the field or removed and tested in the shop; the work order requires that the technician note if any changes or modifications have been made to the relief device since the last maintenance. If so, the capacity verification is required once again. The devices are tested once each calendar year not to exceed 15 months. The team noted that if no changes or modifications have been made to the relief device since the last maintenance, the procedure does not require that the capacity verification be documented. The NGT&S O&M Plan, Procedure 210.010.00 Test – Relief Valve Set Point and Capacity, is inadequate.

CGT revised the NGT&S O&M Plan, Procedure 210.010.001 Test - Relief Valve Set Point and Capacity, pages 1-10 on December 1, 2010. The procedure now requires that the technician note that the capacity has been verified whether modifications to the relief device occurred or not.

5. §192.605 Procedural manual for operations, maintenance, and emergencies.

- (b) Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.**

- (2) Controlling corrosion in accordance with the operations and maintenance requirements of subpart I of this part.**

A. §192.463 External corrosion control: Cathodic protection.

- (a) Each cathodic protection system required by this subpart must provide a level of cathodic protection that complies with one or more of the applicable criteria contained in appendix D of this part. If none of these criteria is applicable, the cathodic protection system must provide a level of cathodic protection at least equal to that provided by compliance with one or more of these criteria.**

The NGT&S O&M Plan, Procedure 70.01.01 External Corrosion Control, section

3.2.8 Monitoring page 6, version 27 does not address high CP potentials and the possible detrimental effects that high reads may have on the pipe or pipe coating. This procedure is inadequate.

On June 4, 2010, CGT revised NGT&S O&M Plan, Procedure 70.01.01 External Corrosion Control, section 3.2.8 Monitoring, page 6, version 28 to state "A. Annual Potential Survey ... The detrimental effects of excessive pipeline polarization should be considered during cathodic protection monitoring to prevent damage to the pipe or protective coating."

B. §192.475 Internal corrosion control: General.

(b) Whenever any pipe is removed from a pipeline for any reason, the internal surface must be inspected for evidence of corrosion. If internal corrosion is found-

- (1) The adjacent pipe must be investigated to determine the extent of internal corrosion:**
- (2) Replacement must be made to the extent required by the applicable paragraphs of §§192.485, 192.487, or 192.489; and,**
- (3) Steps must be taken to minimize the internal corrosion.**

During the review of the NGT&S O&M Plan, Procedure 70.01.02 Internal Corrosion Control, section 3.1.3 Internal Pipe Inspections, page 2, version 20, the inspection team noted the procedure does not state that coupons from pipeline tapping operations will be inspected for evidence of internal corrosion. This procedure is inadequate.

On May 21, 2010, CGT revised the NGT&S O&M Plan, 70.01.02 Internal Corrosion Control, section 3.1.3 Internal Pipe Inspections, page 2, version 21 to state "The inspection requirements includes the inspection of coupons removed from the pipeline during pipeline tapping operations."

C. §192.467 External corrosion control: Electrical isolation.

(d) Inspection and electrical tests must be made to assure that electrical isolation is adequate.

During the inspection of Unit No. 12622 TN-2, the PHMSA inspection team observed an individual perform the covered task PLOQ.0060 'Test for Electrical Isolation (above ground)' using a Tinker-Rasor RF-IT Insulation Tester. CGT provided NGT&S Procedure 70.002.013 Insulation Test - Electrical Isolation for the observance of the covered task. This procedure is very generic and lacks specifics regarding the use of the Tinker-Rasor RF-IT. The procedure is inadequate.

CGT amended the NGT&S O&M, Procedure 70.002.013 Insulation Test - Electrical Isolation, pages 1 & 2, on November 19, 2010. The amended procedure references the manufacturer's manual for the Tinker & Rasor - Model RF-IT Pipeline Insulator Tester.

D. §192.467 External corrosion control: Electrical isolation.

- (f) Where a pipeline is located in close proximity to electrical transmission tower footings, ground cables or counterpoise, or in other areas where fault currents or unusual risk of lightning may be anticipated, it must be provided with protection against damage due to fault currents or lightning, and protective measures must also be taken at insulating devices.**

During review of the NGT&S O&M Plan, Procedure 70.01.01 External Corrosion Control, section 3.2.7 Stray Currents, CGT personnel directed the inspection team's review to a guidance document, OEP-49 Operating Pipelines Sharing the Right-of-Way with High Voltage Power Lines. This document is not referenced in the NGT&S O&M Plan, 70.01.01 External Corrosion Control, section 7.4 Other References and Related Specifications. This procedure is inadequate.

On June 4, 2010, CGT revised NGT&S O&M Plan, Procedure 70.01.01 External Corrosion Control, section 7.4 Other References and Related Specifications, page 21, version 28 to reference OEP - 49 "Operating Pipelines Sharing the Right-of-Way with High Voltage Power Lines."

E. §192.481 Atmospheric corrosion control: Monitoring.

- (a) Each operator must inspect each pipeline or portion of pipeline that is exposed to the atmosphere for evidence of atmospheric corrosion, ...**

While conducting the records reviewed in the Delhi, LA area, the PHMSA inspection team noted the NGT&S O&M Plan, Procedure 70.001.001 Inspection - Atmospheric Corrosion, effective date March 31, 2006, did not require a technician to document whether corrosion is found when completing the original work order. The procedure is inadequate.

CGT revised the NGT&S O&M Plan, Procedure 70.001.001 Inspection - Atmospheric Corrosion, pages 1-4, on August 12, 2010 to require that the technician document whether corrosion is found (Yes, No, or NA) before the original work order can be closed.

6. §192.605 Procedural manual for operations, maintenance, and emergencies.

- (b) Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.**
- (4) Gathering of data needed for reporting incidents under Part 191 or this chapter in a timely and effective manner.**

§192.612 Underwater inspection and reburial of pipeline in the Gulf of Mexico and its inlets.

- (a) Each operator shall prepare and follow a procedure to identify its pipelines in the Gulf of Mexico and its inlets in waters less than 15 feet (4.6 meters) deep as measured from mean low water that are at risk of being an exposed underwater**

pipeline or a hazard to navigation. The procedures must be in effect August 10, 2005.

The NGT&S O&M manual contains a plan and procedure for performing underwater inspections on offshore pipelines as required by 192.612. The plan calls for re-inspection as needed. When the offshore pipelines have experienced inclement weather or other natural forces, CGT may accelerate the inspection interval. The accelerated inspection intervals are based on the Bureau of Ocean Energy Management, Regulation and Enforcement's (BOEMRE) requirements. The procedure does not address the process used by CGT to develop accelerated inspection intervals and therefore is inadequate.

CGT revised the NGT&S O&M Plan, Procedure 220.03.04 Underwater Inspection and Reburial of Pipelines in the Gulf of Mexico and its Inlets, page 1, on April 15, 2010 to include the process used to develop accelerated re-inspection intervals.

7. §192.805 Qualification program.

Each operator shall have and follow a written qualification program. The program shall include provisions to:

(b) Ensure through evaluation that individuals performing covered tasks are qualified;

During the review of the NGT&S OQ Program, section B Evaluation of Qualifications, it was noted that the program did not address that observation of 'On-the Job-Training' (OJT) cannot be used as a sole evaluation method. Advisory Bulletin ADB-09-03 explains that OJT without interaction does not provide an adequate measure of the knowledge and skills of an individual. This program is inadequate.

On May 21, 2010, CGT amended section B Evaluation of Qualifications, page 8 of 26, in the NGT&S OQ Program to now state that 'On-the Job-Training' will not be used as a sole method of evaluation.

8. §192.805 Qualification program.

Each operator shall have and follow a written qualification program. The program shall include provisions to:

(g) Identify those covered tasks and the intervals at which evaluation of the individual's qualifications is needed;

While the team was reviewing the NGT&S OQ Program, it was noted that CGT has based the re-evaluation intervals on industry standard. The OQ Program, original date May 15, 2002, revised date December 28, 2009, does not contain the justification for the establishment of the re-evaluation intervals. The program is inadequate.

CGT revised the NGT&S OQ Program, Appendix II Covered Task List on December 20, 2010, to include the justification for the re-evaluation interval of each covered task.

9. §192.805 Qualification program.

Each operator shall have and follow a written qualification program. The program shall include provisions to:

- (i) After December 16, 2004, notify the Administrator or a state agency participating under 49 U.S.C. Chapter 601 if the operator significantly modifies the program after the Administrator or state agency has verified that it complies with this section.**

The NGT&S OQ Program covers Columbia Gulf Transmission (CGT), Columbia Gas Transmission (TCO), and Crossroads Pipeline. Although the CGT system does not have intrastate pipelines, the TCO system does. The NGT&S OQ Program, section F Communicate Changes does not direct the operator to send significant change notifications to state agents. The program is inadequate.

CGT amended the NGT&S OQ Program, section F Communicate Changes, pages 11-13, on May 21, 2010 to include the state agents for the TCO pipeline system.

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 45 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 Columbia Gulf Transmission Company 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 4-2011-1015M** and, for each document you submit, please provide a copy in electronic format whenever possible.

In regards to Items listed above, Columbia Gulf Transmission Company provided revised procedures via US Mail and/or email on various 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 blue ink, appearing to read "R. M. Seeley".

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

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