U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

8701 S. Gessner, Suite 630
Houston, TX 77074

**NOTICE OF PROBABLE VIOLATION
PROPOSED CIVIL PENALTY
and
PROPOSED COMPLIANCE ORDER**

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

June 13, 2016

Mr. Gary Buchler
Vice President, Operations and Engineering
Tennessee Gas Pipeline Company
1001 Louisiana Street
Houston, TX 77002-5089

CPF 4-2016-1004

Dear Mr. Buchler:

Between February 26, 2015 and August 20, 2015, 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 your Tennessee Gas Pipeline system (TGPL/KM) records and facilities located in Texas and Louisiana.

As a result of the inspection, it appears that you have committed probable violations of the Pipeline Safety Regulations, Title 49, Code of Federal Regulations. The items inspected and the probable violation(s) are:

1. **§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, as follows:

If the pipeline is located:	**Then the frequency of inspection is:**
Onshore	**At least once every 3 calendar years, but with intervals not exceeding 39 months**

TGPL/KM did not inspect portions of pipeline exposed to the atmosphere for evidence of atmospheric corrosion at least once every 3 calendar years, but with intervals not exceeding 39 months.

During the inspection TGPL/KM was asked to present the documentation of their Atmospheric Inspections. In the specific instance related to pipelines 100-1, 100-2, 100-3 and 100-4 located over the Brazos River, TGP/KM provided PHMSA with two reports dated 1/25/2011 and 1/27/2011 both created by Acuren. No additional documentation was provided. From this information PHMSA concludes that these pipeline segment's atmospheric corrosion inspections exceeded the regulatory interval.

2. **§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.

TGPL/KM failed to follow their O&M 155: Management of Change, Revised 2013-09-01, Section 3.1 during the repair operations. §192.713(b) requires operating pressure must be at a safe level during repair operations.

KM's Procedure O&M 155: Management of Change, Revised 2013-09-01, Section 3.1: When Management of Change is Needed, states,

> "All employees may propose changes. This procedure must be followed for all changes that are beyond or outside normal condition limits or that modify the existing IMP to ensure that changes are adequately reviewed.
> Examples of changes that may need to be reviewed are:
>
> - Reduction of the MOP of a pipeline due to Pipeline Integrity Assessment results..."

TGPL/KM performed an In-Line inspection on their pipeline 407A-100 between 407A-103 to 407A-103A on 4/11/2012. One of the non-immediate anomalies was repaired on 8/22/2014 with a replacement sleeve. When the PHMSA inspector requested Management of Change request for the reduction of the MOP of a pipeline, TGPL/KM was unable to provide it. TGPL/KM also failed to provide documentation on the pipeline operating pressure for the day of the repair.

3. **§192.605 Procedural manual for operations, maintenance, and emergencies**

(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.

(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.

(6) Maintaining compressor stations, including provisions for isolating units or sections of pipe and for purging before returning to service.

TGPL/KM failed to follow their procedure and maintain the gas detection and alarm equipment at the Cleveland Compressor Station to function properly as required by §192.736(c).

Kinder Morgan Procedure O&M 550: Testing Gas and Fire Detection Systems, section 3.1.2 (Low-Level Detection in Compressor Buildings) states,

> "Set detectors at a low-level set point of no more than 25% LEL (1.25% methane by volume). Low-level gas detection shall activate and alarm and a callout. The fire and gas detection system shall remain energized…."

Kinder Morgan Procedure O&M 550: Testing Gas and Fire Detection Systems, section 3.1.3 (High-Level Detection in Compressor Buildings) states,

> "Set detectors at a high-level set point of 30 to 40% LEL (1.5% to 2% methane by volume). High-level gas detection shall trigger a compressor building blowdown and activate an alarm and a callout. The fire and gas detection system shall remain energized…."

On July 30, 2015, the PHMSA inspector witnessed the inspection test of gas detectors, 45-HAT-2 & 45-HAT-1 at the Cleveland Compressor Station # 25 building "C". During the test, the gas detectors were activated by applying a known concentration of gas in air to the respective sensor. At 20% LEL, the alarm was activated as per the O&M 550, Section 3.1.2. However, the TGPL/KM employee was unable to demonstrate to the PHMSA inspector that the test at high level gas detection of 30 to 40% LEL was operational. The test was repeated three times and it was observed that it was not operational.

4. **§ 192.613 continuing surveillance.**

(a) Each operator shall have a procedure for continuing surveillance of its facilities to determine and take appropriate action concerning changes in class location, failures, leakage history, corrosion, substantial changes in cathodic protection requirements, and other unusual operating and maintenance conditions.

(b) If a segment of pipeline is determined to be in unsatisfactory condition but no immediate hazard exists, the operator shall initiate a program to recondition or phase out the segment involved, or, if the segment cannot be reconditioned or phased out, reduce the maximum allowable operating pressure in accordance with § 192.619 (a) and (b).

TGPL/KM did not initiate a program to recondition or phase out the pipeline segment with other unusual operating and maintenance conditions found during the Brazos River Span Inspection on the TGPL/KM's pipelines.

KM O&M 218, Section 3.4: Pipeline in Unsatisfactory Condition states,

> "When a pipeline is determined to be in an unsatisfactory condition by inspection or record review, but no immediate hazard exists, action must be taken to recondition or phase out the segment, or reduce the maximum allowable operating pressure in conformance with Company procedures".

TGPL/KM provided the Pipeline Bridge Examination Reports dated January 25 and 27, 2011 which describe the crossing of natural gas pipelines 100-1, 100-2, 100-3 and 100-4 (cable supported and H shaped towers) located at 3 miles north east of Wallis, Texas. While reviewing these reports performed by the pipeline bridge inspection contractor, ACUREN, the PHMSA inspector noted that there are seven items to be corrected within the next year and additional four items to be corrected within the next two years. As of August 31, 2015, TGPL/KM failed to create work orders or take corrective actions to recondition the pipeline segments within the prescribed timeframe.

5. **§ 192.705 Transmission lines: Patrolling.**

(a) Each operator shall have a patrol program to observe surface conditions on and adjacent to the transmission line right-of-way for indications of leaks, construction activity, and other factors affecting safety and operation.

(b) The frequency of patrols is determined by the size of the line, the operating pressures, the class location, terrain, weather, and other relevant factors, but intervals between patrols may not be longer than prescribed in the following table:

	Maximum interval between patrols	
Class location of line	**At highway and railroad crossings**	**At all other places**
1, 2	**7 1/2 months; but at least twice each calendar year**	**15 months; but at least once each calendar year.**
3	**4 1/2 months; but at least four times each calendar year**	**7 1/2 months; but at least twice each calendar year.**
4	**4 1/2 months; but at least four times each calendar year**	**4 1/2 months; but at least four times each calendar year.**

During the review of the TGPL/KM patrolling Class I & II @ Railroad/Highway Crossing District 9 records, the PHMSA inspectors found that during the calendar year 2013, TGPL/KM exceeded the required patrolling interval on one occasion at the Highway 77 crossing. This crossing was patrolled for leaks on 12/19/2013 and it was not patrolled for leaks again until 9/17/2014.

6. **§ 192.739 Pressure limiting and regulating stations: Inspection and testing.**

(a) Each pressure limiting station, relief device (except rupture discs), and pressure regulating station and its equipment must be subjected at intervals not exceeding 15 months, but at least once each calendar year, to inspections and tests to determine that it is—

(1) In good mechanical condition;

(2) Adequate from the standpoint of capacity and reliability of operation for the service in which it is employed;

(3) Except as provided in paragraph (b) of this section, set to control or relieve at the correct pressure consistent with the pressure limits of § 192.201(a); and

(4) Properly installed and protected from dirt, liquids, or other conditions that might prevent proper operation.

TGPL/KM failed to inspect the relief device which is required to prevent an actual overpressure situation for Unit # 6 at the Robstown Station to determine that it met the requirement of § 192.739 (a) -(1), (2), (3) and (4) prior to placing it back in service in January 2014.

During the inspection, TGPL/KM provided records documenting the inspections. The records showed the inspections as having occurred in September 2012 and September 2014, but no inspections were documented in the calendar year of 2013 for the Unit # 6 relief valve. Further inquiry revealed that Unit # 6 relief valve was locked out/tagged out (LOTO) in October 2013 due to broken pistons. It was placed back in-service in January 2014. However, no documentation was provided indicating this relief valve was tested in January 2014.

7. **§192.805 Qualification program.**

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

(c) Allow individuals that are not qualified pursuant to this subpart to perform a covered task if directed and observed by an individual that is qualified;

TGPL/KM allowed individuals that are not qualified pursuant to this subpart to perform a covered task even though they were not directed and observed by a qualified individual. TGPL/KM did not follow the task specific span of control ratio for a qualified individual to direct and observe a non-qualified employee.

The Kinder Morgan OQ Program section 1 Scope, second paragraph states,

> "...KM's OQ Program is designed to ensure that all individuals working on KM's DOT-regulated pipeline facilities are OQ-qualified to perform specific covered tasks, to document that qualification and to reduce the probability and consequences of incidents and accidents..."

Also, KM OQ Program, section 4 Use of Non-OQ Qualified Workers states,

> "...The Span of Control (the number of Non-OQ qualified persons a single OQ qualified person can effectively observe to meet the intent of this Section) is listed in Appendix A: Table of Gas Covered Tasks and Appendix B: Hazardous Liquids List of Covered Tasks. The OQ qualified individual can reduce the task span of control depending upon work conditions and complexity of the task."

The PHMSA inspector reviewed Appendix A: Table of Gas Covered Tasks (revised 7/30/2015) and learned covered task 27.01.01: Gas Control has span of control of a one to one.

TGPL/KM has three Consoles at the primary control center located in Houston. While reviewing records associated with the Controllers' qualifications related to the three Consoles, the PHMSA inspector observed that of the three controllers, two were not qualified during multiple shifts. This situation existed beginning September 1, 2014 until March 2015. Having two non-qualified controllers on shift with only one qualified controller exceeds the stated span of control.

8. **§192.805 Qualification program.**

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

On the following two occasions, TGPL/KM failed to ensure through evaluation that an employee was qualified to perform covered tasks. Specifically task 018.01.01: Pressure Regulating, Limiting, & Relief Device – O&M and 002PIP: Perform Pressure Test.

A TGPL/KM employee conducted the annual relief valve inspection on September 16, 2014. The PHMSA inspector reviewed the qualification record for this individual, and it indicated that his qualification is not current for this covered task on that day. The individual was not qualified on covered task, 018.01.01 until January 30, 2015. At the time of the inspection, TGPL/KM failed to provide documentation indicating the employee was qualified prior to performing the covered task on September 16, 2014.

If covered task 018.01.01 is performed by a non-qualified individual, TGPL/KM's OQ Plan requires a span of control of one to one. According to the annual relief valve inspection report documentation for the calendar year 2014 provided by TGPL/KM, a qualified employee was not present to observe or direct this individual at the work site.

The PHMSA inspector reviewed the records for the pressure test conducted on October 14, 2011 on pipeline 100-3, segment 32-3D to 40-3S (AFE 154482). According to the document reviewed, the test was witnessed by William Deshotel. When the PHMSA inspector requested the qualification record for performance of covered task 002PIP, TGPL/KM provided a response via email which states, "William Deshotel was the field inspector on the project. Mike Lirette is the Chief Inspector and has the OQ Qualification 002PIP. You will see that Mike Lirette signed off on the submission of all the pressure test."

The PHMSA inspector did not find Mike Lirette's signature on the Test Specification, pressure chart and temperature chart. As a result, it appears that Mike Lirette was not at the job sire witnessing the pressure test and a qualified employee was not present to observe or direct William Deshotel at the work site.

9. **§192.937 What is a continual process of evaluation and assessment to maintain a pipeline's integrity?**

(b) Evaluation. An operator must conduct a periodic evaluation as frequently as needed to assure the integrity of each covered segment. The periodic evaluation must be based on a data integration and risk assessment of the entire pipeline as specified in § 192.917. For plastic transmission pipelines, the periodic evaluation is based on the threat analysis specified in § 192.917(d) For all other transmission pipelines, the evaluation must consider the past and present integrity assessment results, data integration and risk assessment information (§ 192.917), and decisions about remediation (§ 192.933) and additional preventive and mitigative actions (§ 192.935). An operator must use the results from this evaluation to identify the threats specific to each covered segment and the risk represented by these threats.

TGPL/KM did not conduct periodic evaluations as frequently as needed to assure the integrity of each covered segment based on present data integration and risk assessments. The periodic evaluations will help to identify and take additional preventative and mitigative (P&M) measures to

reduce or eliminate the consequences of a pipeline failure in a High Consequence Area (HCA) and enhance public safety.

Kinder Morgan's Integrity Management Program, Section 11: Preventive and Mitigative Measures (Revised 2013-04-22) states:

> ***"Risk Engineering*** will conduct a risk analysis to determine whether an automatic shutoff valve (ASV) or remote control valve (RCV) would be an efficient means of adding protection to a covered segment in the event of a gas release. The review includes, at a minimum: swiftness of leak detection speed and pipe shutdown capabilities, the type of gas transported, operating pressure, rate of potential release, pipeline profile, potential for ignition, and nearest response personnel location. ***Risk Engineering***, with the assistance of ***System Design***, evaluates the installation feasibility."

The same section also states, "P&MM evaluations are completed for covered sections in response to the following events:

- New information providing substantial changes to identified threats or relative risk ranking"

In 2007, El Paso Pipeline Group (EPPG) utilized their risk analysis to identify additional P&M measures which included study and conclusions related to automatic shut-off valves (ASV) or remote control valves (RCV). The conclusion of this study was that the application of ASVs or RCVs will not significantly reduce the damage impact of a pipeline rupture or provide an efficient means of additional safety. El Paso Corporation, the parent company of TGPL was acquired by Kinder Morgan in May, 2012. El Paso Natural Gas (EPNG) is now owned by Kinder Morgan.

Since 2007, there have been several changes to High Consequence Area (HCA) for example, HCA boundaries and addition of new HCA. At the time of the inspection, TGPL/KM failed to provide documentation that indicates TGPL/KM reanalyzed and/or reevaluated the need for RCV and ASV locations to determine if they would mitigate or enhance public safety in current HCA segment.

Proposed Civil Penalty

Under 49 United States Code, § 60122, you are subject to a civil penalty not to exceed $200,000 per violation per day the violation persists up to a maximum of $2,000,000 for a related series of violations. For violations occurring prior to January 4, 2012, the maximum penalty may not exceed $100,000 per violation per day, with a maximum penalty not to exceed $1,000,000 for a related series of violations. The Compliance Officer has reviewed the circumstances and supporting documentation involved in the above probable violation(s) and has recommended that you be preliminarily assessed a civil penalty of $ 120,500 as follows:

Item number	PENALTY
1	$ 37,000
7	$ 83,500

Warning Items

With respect to items 2, 5, 6 and 8 and we have reviewed the circumstances and supporting documents involved in this case and have decided not to conduct additional enforcement action or penalty assessment proceedings at this time. We advise you to promptly correct these item(s). Failure to do so may result in additional enforcement action.

Proposed Compliance Order

With respect to items 1, 3, 4, and 9 pursuant to 49 United States Code § 60118, the Pipeline and Hazardous Materials Safety Administration proposes to issue a Compliance Order to Tennessee Gas Pipeline Co (TGPL/KM). Please refer to the *Proposed Compliance Order*, which is enclosed and made a part of this Notice.

Response to this Notice

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. All material you submit in response to this enforcement action may be 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.

In your correspondence on this matter, please refer to **CPF 4-2016-1004** and for each document you submit, please provide a copy in electronic format whenever possible.

Sincerely,

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

Enclosures: *Proposed Compliance Order*
Response Options for Pipeline Operators in Compliance Proceedings

PROPOSED COMPLIANCE ORDER

Pursuant to 49 United States Code § 60118, the Pipeline and Hazardous Materials Safety Administration (PHMSA) proposes to issue to Tennessee Gas Pipeline Company (TGPL/KM) a Compliance Order incorporating the following remedial requirements to ensure the compliance of TGPL/KM with the pipeline safety regulations:

1. In regard to Item Number 1 of the Notice pertaining to TGPL/KM failure to inspect for evidence of atmospheric corrosion of cable-supported overhead pipelines , TGPL/KM must conduct atmospheric inspection required by §192.481 (a). If atmospheric corrosion is found during an inspection, TGPL/KM must provide protection against the corrosion required by §192.479.

2. In regard to Item Number 3 of the Notice pertaining to TGPL/KM failing to follow procedure and maintain the gas detection and alarm equipment at Cleveland Compressor Station, TGPL/KM must follow the procedure O&M 550 and properly inspect the gas detection and alarm system to function properly as required by §192.736(c).

3. In regard to Item Number 4 of the Notice pertaining to TGPL/KM for failing to initiate a program to recondition or phase out the segment with other unusual operating and maintenance condition found during Brazos River Span inspection, TGPL/KM must take corrective action to repair the items found during the contractor inspection report and recondition the segment.

4. In regard to Item Number 9 of the Notice pertaining to TGPL/KM for failure to perform an adequate risk analysis to identify and take additional preventative and mitigative (P&M) measures to mitigate the consequences of a pipeline failure in a High Consequence Area (HCA) identified post 2007, TGPL/KM must perform study based on current HCA list to enhance public safety.

5. TGPL/KM must complete item 1 and 2 within 30 days; item 3 within 90 days; item 4 within 120 days of receipt of the Final Order.

6. It is requested (not mandated) that TGPL/KM maintain documentation of the safety improvement costs associated with fulfilling this Compliance Order and submit the total to R. M. Seeley, Director, Southwest Region, Pipeline and Hazardous Materials Safety Administration. It is requested that these costs be reported in two categories: 1) total cost associated with preparation/revision of plans, procedures, studies and analyses, and 2) total cost associated with replacements, additions and other changes to pipeline infrastructure.