WARNING LETTER

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

September 26, 2013

Mr. Vern Meier
Vice President Field Operations
TC Oil Pipeline Operations, Inc.
717 Texas Avenue
Houston, TX 77002

CPF 4-2013-5021W

Dear Mr. Meier:

On various dates in 2013, a representative of the Pipeline and Hazardous Materials Safety Administration (PHMSA) pursuant to Chapter 601 of 49 United States Code inspected your Keystone Gulf Coast Pipeline Construction project in Oklahoma and Texas.

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. §195.214 Welding procedures

(a) Welding must be performed by a qualified welder in accordance with welding procedures qualified under Section 5 of API 1104 or Section IX of the ASME Boiler and Pressure Vessel Code (ibr, see § 195.3). The quality of the test welds used to qualify the welding procedure shall be determined by destructive testing.

(b) Each welding procedure must be recorded in detail, including the results of the qualifying tests. This record must be retained and followed whenever the procedure is used.

TransCanada failed to perform welding on construction Spread 3 of the Gulf Coast Pipeline project in accordance with a procedure qualified according to Section 5 of API 1104. API 1104, paragraph 5.1, Procedure Qualification, states, "Before production welding is started, a detailed procedure specification shall be established and qualified to demonstrate that welds with suitable mechanical properties (such as strength, ductility, and hardness) and soundness can be made by the procedure. The quality of the welds shall be determined by destructive testing." Paragraph 5.2 states, "The details of each qualified procedure

shall be recorded. The record shall show complete results of the procedure qualification test." This record is generally referred to as the Procedure Qualification Record (PQR).

Welding on construction Spread 3 commenced on September 4, 2012, using "Welding Procedure Data Sheet KXL-SMAW-ML, revised February 10, 2011," with 100% of the welds being examined by Automatic Ultrasonic Testing (AUT). This procedure document, KXL-SMAW-ML, references another document, KPL-RMS-SMAW-ML-Rev2, titled RMS Welding/Price Gregory Welding Procedure/Data Sheet dated March 10, 2010, as the PQR.

From the start of welding, TransCanada experienced a high weld rejection rate. During the first week 26.8% of the welds required repairs, 32.0% the second week, 72.2% the third week, and 45.0% the fourth week. On September 25, 2012, TransCanada stopped the Spread 3 welding after 205 of the 425 welds, or 48.2% required repairs.

A comparison of the procedure being used to weld the pipe on Spread 3 (KXL-SMAW-ML, revised February 10, 2011) with the PQR revealed inconsistencies between at least two essential variables as defined by API 1104, the Joint Design and the Speed of Travel. The joint design on the document KXL-SMAW-ML being used to weld the pipe on construction Spread 3 specifies a Root Opening of 1/16" ± 3/32" between pipe joints at the girth weld and the welding Speed of Travel for the Cap Pass to be 8.6 – 16.2 inches per minute. The PQR for the procedure that was actually qualified by destructive testing (PQR# KPS-RMS-SMAW-ML-PQR Rev 2) shows the root opening to be 1/16" to 3/32" and the Speed of Travel for the Cap Pass to be 6.6 – 16.2 inches per minute.

API 1104, Paragraph 5.4.1, Essential Variables, General, states, "A welding procedure must be re-established as a new procedure specification and must be completely requalified when any of the essential variables listed in 5.4.2 are changed. The results of a root cause analysis performed by TransCanada to identify the cause of the high weld rejection rate on Spread 3 were documented in a paper titled "Girth Weld Repairs Due to Lack of Fusion in Root Pass," dated November 15, 2012. This analysis identifies the criticality of the essential variables of Joint Design and Speed of Travel by stating, "Weld fit up was increased to 3/32" which allowed the welders to decrease their travel speeds and welding amperages which is a key factor in reducing internal under cut and lack of fusion defects during the welding process. This modification improved the weld quality and reduced the overall weld defects."

The welding procedure being used by TransCanada on Spread 3 of the Keystone Gulf Coast Pipeline project (KXL-SMAW-ML) had changes to essential variables that caused it to be different than the Procedure Qualifying Record. Because the procedure used to weld Spread 3 pipe was not requalified, TransCanada was using an unqualified procedure to weld Part 195 regulated pipeline.

2. §195.222 Welders: Qualification of welders.

(b) Each welder must be qualified in accordance with section 6 of API 1104 (ibr, see §195.3 or section IX of the ASME Boiler and Pressure Vessel Code) except that a welder qualified under an earlier edition than listed in § 195.3 may weld but may not re-qualify under that earlier edition.

(c) No welder may weld with a welding process unless, within the preceding 6 calendar months,

the welder has—

(1) Engaged in welding with that process; and

(2) Had one welded tested and found acceptable under section 9 of API 1104 (ibr, see § 195.3).

TransCanada failed to use properly qualified welders on Spread 3 of the Keystone Gulf Coast Pipeline project. TransCanada performed welder qualifications using a welding procedure that had not been properly qualified and then allowed these welders to weld on a Part 195 regulated pipeline. Paragraph 6.1 of API 1104, incorporated by reference states "the purpose of the welder qualification test is to determine the ability of welders to make sound butt or fillet welds using previously qualified procedures." Procedure KXL-SMAW-ML, Revised February 10, 2011 had changes to the essential variables of Joint Design and Speed of Travel from the Procedure Qualification Record, KPL-RMS-SMAW-ML-PQR Rev 2 but had not been requalified. Consequently, the welder qualification was not performed using a previously qualified procedure as required by Section 6 of API 1104.

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. 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 correct the item(s) identified in this letter. Failure to do so will result in TransCanada being subject to additional enforcement action.

No reply to this letter is required. If you choose to reply, in your correspondence please refer to **CPF 4-2013-5021W**. 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).

Sincerely,

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