



U.S. Department  
of Transportation

Pipeline and Hazardous Materials  
Safety Administration

**JUN 27 2011**

1200 New Jersey Ave., SE  
Washington, DC 20590

Mr. David Chittick  
Director, Pipeline Engineering  
TransCanada Pipelines Limited  
450 - 1st Street, S.W.  
Calgary, Alberta, Canada T2P 5H1

**Docket No. RSPA-2003-15733**

Dear Mr. Chittick:

On June 1, 2010, you wrote to the Pipeline and Hazardous Materials Safety Administration (PHMSA) requesting a modification of the conditions and the addition of a pipe segment to be included in special permit PHMSA-RSPA-2003-15733 that was issued on March 4, 2004. This original special permit waived compliance from PHMSA's pipeline safety regulation in 49 CFR § 192.611 for two (2) segments of the PNGTS Pipeline Company (PNGTS) operated by TransCanada Pipelines Limited (TCPL) located in Coos County, New Hampshire. The regulation requires confirmation or revision of the maximum allowable operating pressure (MAOP) of a pipeline segment where the class location has changed.

PHMSA is denying your June 1, 2010, special permit application based on operator compliance issues relating to not performing weekly aerial patrols and quarterly ground patrols as required by the original special permit conditions. For additional information concerning PHMSA's review of your application and the basis for our decision, please see the enclosed Special Permit Analysis and Findings document. This and all other pertinent documents are available for review in Docket No. PHMSA-RSPA-2003-15733 located on the internet at [www.Regulations.gov](http://www.Regulations.gov).

Pursuant to 49 CFR 190.341(i), reconsideration of this decision may be sought by petition to the Associate Administrator. Petitions must be received by PHMSA within 20 calendar days of the notice of the denial and must contain a brief statement of the issue(s) and an explanation of why the petitioner believes the decision is not in the public interest. The Associate Administrator may grant or deny, in whole or in part, any petition for reconsideration without further proceedings.

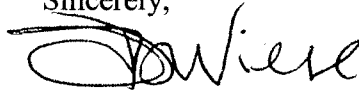
For the special permit application segments identified in the Special Permit Analysis and Findings document, TCPL must complete all pipe replacements, hydrostatic tests, or pressure reductions required to meet the MAOP requirements of §192.611 by December 1, 2011. For the existing special permit segments referenced in special permit PHMSA-RSPA-2003-15733, TCPL must comply with all conditions of the special permit.

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My staff would be pleased to discuss this matter or any other regulatory matter with you. John Gale, Director of Standards and Rulemaking Division (202-366-0434), may be contacted on regulatory matters and Jeff Gilliam, Director of Engineering and Research Division (202-366-0568), may be contacted on technical matters specific to this special permit.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Wiese". The signature is written in a cursive style with a large initial "J" and "W".

Jeffrey D. Wiese  
Associate Administrator for Pipeline Safety

Enclosure: Special Permit Analysis & Findings

U.S. DEPARTMENT OF TRANSPORTATION  
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION (PHMSA)

**Special Permit Analysis and Findings**

**Special Permit Information:**

**Docket Number:** PHMSA–RSPA-2003-15733

**Pipeline Operator:** TransCanada Pipelines Limited, operator of PNGTS Pipeline Company

**Date Requested:** June 9, 2010 – modification request

**Code Section(s):** 49 CFR 192.611

**Purpose:**

The Pipeline and Hazardous Materials Safety Administration (PHMSA) provides this information to describe the facts of the subject special permit application submitted by TransCanada Pipelines Limited (TCPL), operator of the PNGTS Pipeline Company (PNGTS), to discuss any relevant public comments received with respect to the application, to present the engineering/safety analysis of the special permit application, and to make findings regarding whether the requested special permit should be granted and if so under what conditions.

On June 9, 2010, TCPL submitted an application requesting modification of the conditions in the Original Special Permit<sup>1</sup> and an additional pipe segment to be included in the revised special permit. TCPL’s application petitions PHMSA for a waiver of compliance with 49 CFR 192.611 for three (3) segments of natural gas transmission pipeline located in Coos County, New Hampshire as described below.

**Pipeline System Affected:**

This special permit request involves one (1) *special permit segment* along the PNGTS 24-inch Mainline pipeline natural gas transmission pipeline in Coos County, New Hampshire. The

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<sup>1</sup> The Original Special Permit was issued on March 4, 2004, to PNGTS Operating Co., LLC, operator of the Portland Natural Gas Transmission System (PNGTS). TCPL acquired PNGTS on August 3, 2004, and is presently owner and operator of the PNGTS 24-inch Mainline pipeline.

*special permit segment* class location along the pipeline has changed from an original Class 1 location to a Class 3<sup>2</sup> location.

This special permit would allow, if granted, TCPL to continue to operate the one (1) pipeline segment at its current maximum allowable operating pressure (MAOP) of 1440 pounds per square inch gauge (psig) for the PNGTS 24-inch Mainline pipeline.

This special permit applies to the three (3) *special permit segments* defined as follows using the PNGTS 24-inch Mainline pipeline mile post (MP) or survey station (Sta.) references:

- *Special permit segment 1* (existing from Original Special Permit) is defined as the PNGTS 24-inch Mainline pipeline beginning at Mile Post 2.81 (Survey Station 148+52 feet). The *special permit segment* extends for 440 feet along the PNGTS 24-inch Mainline and concludes at Mile Post 2.90 (Survey Station 152+92 feet). The *special permit segment 1* is located in Coos County, New Hampshire.
- *Special permit segment 2* (existing from Original Special Permit) is defined as the PNGTS 24-inch Mainline pipeline beginning at Mile Post 3.30 (Survey Station 174+25 feet). The *special permit segment* extends for 155 feet along the PNGTS 24-inch Mainline and concludes at Mile Post 3.33 (Survey Station 175+80 feet). The *special permit segment 2* is located in Coos County, New Hampshire.
- *Special permit segment 3* (new segment application on June 9, 2010) is defined as the PNGTS 24-inch Mainline pipeline beginning at Mile Post 3.24 (Survey Station 171+17 feet). The *special permit segment* extends for 308 feet along the PNGTS 24-inch Mainline and concludes at Mile Post 3.30 (Survey Station 174+25 feet). The *special permit segment 3* is located in Coos County, New Hampshire.

This special permit, if granted, would apply to the *special permit inspection area* defined as the area that extends 220 yards on each side of the centerline along the entire length of the PNGTS 24-inch Mainline pipeline as follows:

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<sup>2</sup> The Class 3 location *special permit segment* was originally a Class 1 location that was upgraded to Class 2 location in accordance with 49 CFR 192.611 (a) hydrostatic test.

- *Special permit inspection area* is defined as the pipeline that begins at Mile Post -0.01 (Survey Station -0+30 feet) at the Hereford Compressor Station in Coos County, New Hampshire. The *special permit inspection area* extends to Mile Post 143.8 at the Westbrook Interconnect Meter Station in Cumberland County, Maine. The *special permit inspection area* includes Coos County, New Hampshire, and Oxford and Cumberland Counties, Maine.

The total length of the *special permit inspection area* is approximately 143.8 miles and includes the *special permit segment*.

### **Special Permit Request**

TCPL submitted an application to PHMSA on June 9, 2010, for a special permit seeking a change in the existing special permit conditions (Docket PHMSA-RSPA-2004-17401) for two (2) existing segments, and relief from the Federal pipeline safety regulations in 49 CFR 192.611(a) for one (1) new segment of TCPL's PNGTS 24-inch Mainline natural gas transmission pipeline, where a change has occurred from an original Class 1 location to a Class 3 location in Coos County, New Hampshire. This special permit, if granted, would allow TCPL to continue to operate the pipeline segments at their current maximum allowable operating pressure (MAOP) of 1,440 pounds per square inch gauge (psig). The Federal pipeline safety regulations in 49 CFR 192.611(a) require natural gas pipeline operators to confirm or revise the MAOP of a pipeline segment after a change in class location. A special permit, if granted, will allow TCPL to continue to operate the special permit segments at their existing MAOP's despite a change in class location.

In its application, TCPL suggested that the *special permit segments* be included in a *special permit inspection area* (see TCPL's application for the specific details). The *special permit inspection area* on the PNGTS 24-inch Mainline pipeline would begin at approximately Mile Post - 0.3 miles upstream of the beginning of the *special permit segment* and approximately 25 miles downstream of the *special permit segment*. The *special permit inspection area*, if granted, will be approximately 143.8 miles in length and will include the *special permit segment*.

TCPL in the special permit application requested that Conditions 1 through 6 of its existing special permit be replaced with the following conditions:

- **TCPL proposed replacing existing Condition 1 as follows:**
  - “The assessments of the mainline along the entire length of the special permit inspection area using ILI must confirm to the required maximum reassessment intervals specified in § 192.939.”
- **TCPL proposed replacing existing Condition 2 as follows:**
  - “TCPL-PNGTS must perform a close interval survey (CIS) of the mainline along the entire length of all special permit inspection area and remediate any areas of inadequate cathodic protection. A CIS and remediation need not be performed, if TCPL-PNGTS has performed a CIS and remediation on the mainline along the entire length of the special permit inspection area less than four (4) years prior to the grant of this petition for change of the special permit conditions. If factors beyond TCPL-PNGTS’s control prevent the completion of the CIS and remediation within one (1) year, a CIS and remediation must be completed as soon as practicable and a letter justifying the delay and providing the anticipated date of completion must be submitted to the Director, PHMSA Eastern Region no later than one (1) year after the grant of this petition.”
- **TCPL proposed replacing existing Condition 3 as follows:**
  - “TCPL-PNGTS must perform a Direct Current Voltage Gradient (DCVG) survey or an Alternating Current Voltage Gradient (ACVG) survey of each special permit segment to determine the pipeline coating conditions and must then remediate, including external coating repairs, any integrity issues in the special permit segments. A DCVG or ACVG survey and remediation need not be performed on the special permit segments if TCPL-PNGTS has performed a DCVG or ACVG and remediation on the pipeline along the entire length of the special permit inspection area less than four (4) years prior to the grant of this petition. TCPL-PNGTS must remediate any damaged coating indications found during these assessments that are classified as moderate (i.e. 35% IR and above for DCVG or 50 dB $\mu$ V and above for ACVG) or severe based on NACE International Recommended Practice 0502-2002, “Pipeline External Corrosion

Direct Assessment Methodology”, (NACE RP 0502-2002). A minimum of two (2) coating survey assessment classifications must be excavated, classified and/or remediated per each survey crew. If factors beyond TCPL’s control prevent the completion of the DCVG or ACVG survey and remediation within one (1) year, a DCVG or ACVG survey and remediation must be performed as soon as practicable and a letter justifying the delay and providing the anticipated date of completion must be submitted to the Director, PHMSA Eastern Region no later than one (1) year after the grant of this petition.”.

- **TCPL proposed replacing existing Condition 4 as follows:**

- “Anomaly Evaluation and Repair:
- a) General: TCPL-PNGTS must account for ILI tool tolerance and corrosion growth rates in scheduled response times and repairs and document and justify the values used.
- b) Dents: TCPL-PNGTS must repair dents to the mainline in the special permit inspection area in accordance with § 192.933 repair criteria. Special permit inspection area must have a geometry tool inspection as part of the initial ILI. The geometry tool can be from past ILI inspections. The timing for these dent repairs should follow TCPL-PNGTS’s O&M Manual but must not be longer than one (1) year after discovery.
- c) Repair Criteria: Repair criteria apply to anomalies located on the mainline within the special permit inspection area when they have been excavated and investigated in accordance with § 192.485 and § 192.933 incorporating appropriate class location design factors in the anomaly repair criteria, including HCAs as follows:
  - Special permit segment - Repair any anomaly that meets either: (1) a failure pressure ratio (FPR) less than or equal to 1.39 for original Class 1 location pipe in a Class 3 location operating up to 72% of the specified minimum yield strength (SMYS); (2) an anomaly depth greater than or equal to 40% of pipe wall thickness.
  - Special permit inspection area – Anomaly evaluations and repairs in the special permit inspection area must be performed in accordance with § 192.485 and § 192.111 incorporating appropriate class location design safety factors, except

HCA's outside of the special permit segment may be repaired in accordance with § 192.933

- Special permit inspection area – The response time must be in accordance with 49 CFR Part 192, Subpart O, the applicable edition of the American Society of Mechanical Engineers Standard B31.8S, Managing System Integrity of Gas Pipelines (ASME B31.8S) and TransCanada's Integrity Management Program.
- d) Response Time for ILI Results: The following section provides the required timing for excavation and investigation of anomalies based on ILI results. Reassessment by ILI will "reset" the timing for anomalies not already investigated and/or repaired. TCPL-PNGTS must evaluate ILI data by using either the ASME Standard B31G, "Manual for Determining the Remaining Strength of Corroded Pipelines" (ASME B31G), the modified B31G (0.85dL) or R-STRENG for calculating the predicted FPR to determine anomaly responses.
- Special permit segment:
    - Immediate response: Any anomaly within a special permit segment operating up to 72% SMYS that meets either: (1) an FPR equal to or less than 1.1; (2) an anomaly depth equal to or greater than 80% wall thickness loss.
    - One-year response: Any anomaly within a special permit segment with original Class 1 location pipe in a Class 3 location operating up to 72% SMYS that meets either: (1) an FPR equal to or less than 1.39; (2) an anomaly depth equal to or greater than 40% wall thickness loss.
    - Monitored response: Any anomaly within a special permit segment with original Class 1 location pipe in a Class 3 location operating up to 72% SMYS that meets both: (1) an FPR greater than 1.39; (2) an anomaly depth less than 40% wall thickness loss. The schedule for the response must take tool tolerance and corrosion growth rates into account.
  - Special permit inspection area: The response time must be in accordance with 49 CFR Part 192, Subpart O, or TransCanada's Integrity Management Program, whichever is shorter. Anomaly evaluations and repairs be performed in accordance with § 192.111 incorporating appropriate class location design factors, except HCA's outside of the special permit segment may be repaired in accordance



with § 192.933.”

- **TCPL proposed to replace existing Conditions 5 and 6 as follows:**
  - “TCPL must ensure its damage prevention program incorporates the applicable best practices of the Common Ground Alliance (CGA) within the special permit inspection area.”

**Public Notice:**

On March 3, 2011, PHMSA posted a notice of this special permit request in the Federal Register (76 FR 11853). The request letter, Federal Register notice, and all other pertinent documents are available for review in Docket No. PHMSA-RSPA-2003-15733 in the Federal Docket Management System (FDMS) located on the internet at [www.Regulations.gov](http://www.Regulations.gov).

PHMSA did not receive any public comments on this application for a class location special permit.

**Analysis:**

Background: On June 29, 2004, PHMSA published in the Federal Register (69 FR 38948) the criteria it uses for the consideration of class location change waivers, now being granted through a special permit. First, certain threshold requirements must be met for a pipeline section to be further evaluated for a class location change special permit. Second, the age and manufacturing process of the pipe; system design and construction; environmental, operating and maintenance histories; and integrity management program elements are evaluated as significant criteria. These significant criteria are presented in matrix form and can be reviewed in the FDMS, Docket Number PHMSA-RSPA-2004-17401. Third, such special permits will only then be granted when pipe conditions and active integrity management provides a level of safety greater than or equal to a pipe replacement or pressure reduction.

Threshold Requirements: Each of the threshold requirements published by PHMSA in the June 29, 2004, Federal Register notice is discussed below in regards to the TCPL special permit petition for the PNGTS 24-inch Mainline.

- 1) No pipeline segments in a class location changing to Class 4 location will be considered. This special permit request is for three (3) segments of the PNGTS 24-inch Mainline pipeline where a class location change has occurred from Class 1 to Class 3 location. TCPL has met this requirement.
- 2) No bare pipe will be considered. This TCPL *special permit segment* is coated with fusion bonded epoxy (FBE). TCPL has met this requirement.
- 3) No pipe containing wrinkle bends will be considered. There are no wrinkle bends in the *special permit segment*. TCPL has met this requirement.
- 4) No pipe segments operating above 72% of the specified minimum yield strength (SMYS) will be considered for a Class 3 special permit. The *special permit segment* operates at or below 72% SMYS. TCPL has met this requirement.
- 5) Records must be produced that show a hydrostatic test to at least 1.25 x maximum allowable operating pressure (MAOP) and 90% of SMYS. TCPL records submitted show that the sections of the PNGTS 24-inch Mainline pipeline containing the *special permit segments* have been hydrostatically tested to 1807 psig, which is 1.255 x MAOP and 90.3% of SMYS. TCPL has met this requirement.
- 6) In-line inspection (ILI) must have been performed with no significant anomalies identified that indicate systemic problems. The proposed *special permit segments* were last inspected by ILI on February 29, 2008, with no immediate or one (1) year actionable anomalies found. TCPL has met this requirement and would be required to re-inspect the *special permit inspection area* and *special permit segments* with ILI tools by February 29, 2015, if a special permit is granted.
- 7) Criteria for consideration of class location change waiver, now being granted through special permit, published by PHMSA in the Federal Register (69 FR 38948), define a *waiver inspection area (special permit inspection area)* as up to 25 miles of pipe either side of the *waiver segment (special permit segment)*. A *special permit inspection area* must be inspected according to TCPL's integrity management program and periodically inspected with an in-line inspection technique. The *special permit inspection area* is approximately 143.8 miles. A special permit, if granted, would be contingent upon TCPL's incorporation of the *special permit segment* in its written integrity management program as a "*covered segment*" in a "*high consequence area*" (HCA) in accordance with 49 CFR 192.903.

The *special permit segments* met the threshold requirements.

Criteria Matrix: The original and supplemental data submitted by TCPL for the *special permit segments* have been compared to the class location change special permit criteria matrix. The *special permit segments* fall in the probable acceptance column of the criteria matrix for all criteria except for:

- Possible acceptance – pipeline depth of cover.
- Requires substantial justification – none.

The data findings above fall within the “possible acceptance” columns of the criteria matrix and will require some remediation measures as described below:

- Depth of Cover: TCPL has not conducted a pipeline depth of cover survey, and would be required to conduct a depth of cover survey in the *special permit segment* and implement remediation measures where depth of cover is reduced, if the special permit is granted.

Operational Integrity Compliance:

PHMSA reviewed TCPL’s proposed new Conditions 1 through 6 outlined above for a new special permit. The proposed conditions are similar to most current conditions used in class location special permits. These TCPL proposed conditions or current class location special permit conditions used would be consistent with safety.

PHMSA reviewed the existing special permit to ensure that TCPL is following the conditions of this existing special permit, PHMSA-RSPA-2003-15733. PHMSA found that TCPL has not followed all conditions in the special permit through-out the life of the special permit as follows:

**Special Permit Condition 5:** Findings, remediation, and documentation – Perform weekly aerial patrols and quarterly ground patrols over the entire 143.8 miles of the 24-inch pipeline. The ground patrols must include leak surveys on all Class 3 portions of the pipeline using appropriate instrumented leak detection equipment.

**PHMSA review of compliance documents:**

TCPL/PNGTS did not meet the Special Permit conditions for performing weekly aerial patrols and quarterly ground patrols.

- TCPL/PNGTS stopped conducting weekly aerial patrols in July, 2006, through the present time. Bi-weekly aerial patrols were performed from 2008 through the present time. PHMSA was not notified of this Special Permit modification.
- TCPL/PNGTS performed quarterly ground patrols until the 4<sup>th</sup>-quarter of 2004, and annual ground patrols were conducted in 2005, 2006, and 2007. Quarterly ground patrols were resumed in 2008. PHMSA was not notified of this Special Permit modification.

PHMSA finds that TCPL/PNGTS lack of diligence in following all of the conditions of the existing special permit to be inconsistent with pipeline safety.

**Compliance History – 2007 through 2010:**

A review of PHMSA enforcement actions of TCPL operations on the PNGTS pipeline from August 3, 2004, through July 29, 2010, shows the following closed enforcement actions against TCPL during the time interval they have owned and operated PNGTS (OPID 31145).

- Letters - of Concern or Warning - 1 matters closed
- Notices – of Amendment or of Probable Violation – 3 matters closed
- Collected Civil Penalties - none collected

This enforcement history reveals a few compliance issues, including pipeline maintenance issues. TCPL has owned and operated PNGTS since August 3, 2004.

**Findings:**

Based on the information submitted by TCPL and PHMSA’s analysis of the technical, operational, and existing special permit non-compliance issues, PHMSA finds that granting a special permit modification to TCPL to operate the existing *special permit segments 1 and 2* with new conditions, and the new proposed *special permit segment 3* at the current MAOP (where a change in class location has occurred from an original Class 1 location to a Class 3 location) is inconsistent with pipeline safety.

Completed in Washington DC on:           JUN 9 7 2011          

Prepared by: Engineering and Research Division.