# U.S. DEPARTMENT OF TRANSPORTATION PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION Special Permit Analysis and Findings Class 1 to 3 Location

#### **Special Permit Information:**

Docket Number:	PHMSA-2006-24058
Requested By:	Portland Natural Gas Transmission System
<b>Operator ID#:</b>	31145
Original Issuance Date:	December 17, 2007
1 <sup>st</sup> Renewal Issuance Date:	May 22, 2023
Code Section(s):	49 CFR 192.611(a) and (d) and 192.619(a)

#### **Purpose:**

The Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS),<sup>1</sup> provides this information to describe the facts of the subject special permit renewal and revision application submitted by Portland Natural Gas Transmission System (PNGTS)<sup>2</sup> to discuss any relevant public comments received with respect to the application, to present the engineering and 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. PNGTS requested that PHMSA waive compliance from the 49 Code of Federal Regulations (CFR) 192.611(a) and (d) and 192.619(a) for two (2) existing *special permit segments* consisting of approximately 1.454 miles of 24-inch diameter gas transmission pipelines and two (2) new *special permit segments* consisting of approximately 0.422 miles of 24-inch diameter pipelines, which are all located in Cumberland County, Maine and Coos County, New Hampshire. where the class location has changed from Class 1 to a Class 3 location.

#### **Pipeline System Affected:**

<sup>&</sup>lt;sup>1</sup> Throughout this special permit the usage of "PHMSA" or "PHMSA OPS" means the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration Office of Pipeline Safety.

<sup>&</sup>lt;sup>2</sup> TC Energy owns 61.7 percent of PNGTS. The remaining 38.3% is owned by Northern New England Investment Company. TC Energy operates the PNGTS system.

This special permit application by PNGTS requests a waiver from the class location change requirements in 49 CFR 192.611(a) and (d) and 192.619(a) for approximately 1.876 miles of the 24-inch diameter PNGTS Mainline Pipeline located in Cumberland County, Maine and Coos County, New Hampshire.

Pipe specifications including outside diameter, year installed, seam type, coating type, pipe grade, wall thickness, maximum allowable operating pressure (MAOP), minimum pressure test pressure, and pressure test factor based on the minimum test pressure are detailed in **Table 1 – Pipe Specifications by Line Name**.

	Table 1 – Pipe Specifications by Line Name								
Line Name	Outside Diameter (inches)	Year Installed	Seam Type	Coating Type	Grade	Wall Thickness (inches)	MAOP (psig)	Minimum Test Pressure (psig)	Pressure Test Factor
PNGTS Mainline	24	1998	ERW	Fusion Bonded Epoxy	X70	0.343	1,440	1,807	1.25

Note: ERW is a high frequency electric resistance welded pipe longitudinal seam.

Without this special permit, 49 CFR 192.611(a) would require PNGTS to replace the *special permit segments* with stronger pipe or reduce the pipeline MAOP for a Class 1 to Class 3 location change.

# **Special Permit Request:**

On November 30, 2022, PNGTS applied to PHMSA for a special permit seeking relief from 49 CFR 192.611(a) and (d) and 192.619(a) for the below-listed *special permit segments*, where a class location change occurred from the original Class 1 to a Class 3 on the 24-inch diameter PNGTS Mainline Pipeline located in Cumberland County, Maine; and Coos County, New Hampshire.

PNGTS's special permit applies to the *special permit segments* and *special permit inspection area* described and defined as follows, using the PNGTS survey station references:

#### **Special Permit Segments:**

This special permit applies to the *special permit segments* in Table 2 – Special Permit Segments.

Table 2 – Special Permit Segments										
Special Permit Segment Number	Outside Diameter (inches)	Line Name	Length (feet)	Start Survey Station (SS)	End Survey Station (SS)	County, State	No. Dwellings	Year Installed	Seam Type	MAOP (psig)
1	24	PNGTS Mainline	2,913	6980+10	7009+23	Cumberland, ME	11	1998	ERW	1,440
2	24	PNGTS Mainline	4,766	6910+19	6957+85	Cumberland, ME	59	1998	ERW	1,440
3	24	PNGTS Mainline	960	213+00	222+60	Coos, NH	2	1998	ERW	1,440
4	24	PNGTS Mainline	1,266	3164+00	3176+66	Coos, NH	6	1998	ERW	1,440

Note: ERW is a high frequency electric resistance welded pipe longitudinal seam.

#### **Special Permit Inspection Area:**

The *special permit inspection area* is defined as the area that extends 220 yards on each side of the centerline as listed in **Table 3 – Special Permit Inspection Area**.

Table 3 – Special Permit Inspection Area								
Special Permit Inspection Area Number	Special Permit Segment(s) Included	Outside Diameter (inches)	Line Name	Start Survey Station (SS)	End Survey Station (SS)	Length <sup>3</sup> (miles)		
1	1, 2, 3, 4	24	PNGTS Mainline	-0+30	7594+97	143.844		

# **Public Notice:**

On December 29, 2022, PHMSA posted a notice of this special permit request in the Federal Register (87 FR 80258) with a closing date of January 30, 2023. PHMSA did not receive any public comments concerning this special permit request.

The PNGTS special permit application letter, Federal Register notice, FEA and FONSI, and all other pertinent documents are available for review in Docket No. PHMSA-2006-24058 in the Federal Docket Management System (FDMS) located at <u>www.Regulations.gov</u>.

# Analysis:

<sup>&</sup>lt;sup>3</sup> If the *special permit inspection area* footage does not extent from launcher to receiver then the *special permit inspection area* would need to be extended.

**Background**: On June 29, 2004, PHMSA published in the Federal Register (69 FR 38948) the criteria it uses for the consideration of applications for class location change waivers, now being granted or denied through a special permit. First, certain threshold requirements should be met on a pipeline *special permit segment* for a class location change special permit to be granted. 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 No. PHMSA–RSPA-2004-17401. Third, special permits will only be granted when pipe conditions and active integrity management provide a level of safety greater than or equal to a pipe replacement or pressure reduction. The operator's Federal pipeline safety regulation compliance history is also evaluated as part of the criteria matrix for acceptability prior to issuance of a special permit.

<u>Threshold Requirements</u>: Each of the threshold requirements published by PHMSA in the June 29, 2004, Federal Register notice is discussed below regarding the PNGTS special permit request.

- No pipeline segments in a class location changing to Class 4 location will be considered.
  - This special permit request is for four (4) *special permit segments* where a change has occurred from a Class 1 location to a Class 3 location.
  - PNGTS meets this requirement.
- No bare pipe will be considered.
  - The *special permit segments* are externally coated with fusion bonded epoxy.
  - PNGTS meets this requirement.
- No pipe containing wrinkle bends will be considered.
  - There are no reported wrinkle bends in the *special permit segments*.
  - PNGTS meets this requirement.
- 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 segments* operates at or below 72% SMYS.
  - PNGTS meets this requirement.
- Records must be produced that show a hydrostatic test to at least 1.25 time the MAOP. The records should include test pressure, year of the test, test duration, and pressure test percent of MAOP for each pipeline:

- PNGTS has communicated that all *special permits segments* have been tested to at least 1.25 times the MAOP.
- PNGTS meets this requirement.
- In-line inspection (ILI) must have been performed with no significant anomalies identified that indicate systemic problems such as stress corrosion cracking (SCC).
  - PNGTS ran a high-resolution magnetic flux leakage (HR-MFL) ILI for corrosion and deformation ILI for denting.
  - PNGTS meets this requirement.
- Criteria for consideration of a class location change waiver, being considered through the 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 on either side of the *waiver segment (special permit segment)*.
  - PNGTS has identified longer segments surrounding each *special permit segment* as the *special permit inspection area*. These segments have been extended to the entire segment length between the upstream launcher and downstream receiver on each ILI segment that contains one (1) or more *special permit segments*.

<u>Criteria Matrix</u>: The data submitted by PNGTS for the *special permit segments* have been compared to the class location change special permit criteria matrix.

- The following *special permit segments* fall in the *probable acceptance* column of the criteria matrix for:
  - Class location change, design stress, depth of pipe cover, test pressure, test failures, local geology, type of service, pressure fluctuations, safety related conditions, direct assessment, ILI type, damage prevention program, pipe manufactured in 1998, and fusion bonded epoxy coating.
- No *special permit segments* fall in the *possible acceptance* column of the criteria matrix.
- The *special permit segments* fall in the *required substantial justification* column of the criteria matrix for the enforcement history for the operating company, TC Energy. PNGTS enforcement findings do not fall within this category.

# **Operational Integrity Compliance:**

To inform PHMSA's decision about whether a special permit could provide a level of safety greater than or equal to a pipe replacement or pressure reduction and is consistent with pipeline safety, PHMSA reviewed this special permit request to understand the known type of integrity threats that are in the *special permit segments* and *special permit inspection area*. This integrity information was used to consider special permit conditions to provide a systematic program to review and remediate the pipeline for safety concerns. Additional operational integrity review and remediation requirements are required by this special permit to ensure that the operator has an ongoing program to locate and remediate safety threats. These threats to integrity and safety include any issues with the pipe coating quality, cathodic protection effectiveness, operations damage prevention program, pipe depth of soil cover, weld seam and girth weld integrity, anomalies in the pipe steel and welds, and material and structures either along or near the pipeline that could cause the cathodic protection system to be ineffective. PHMSA has carefully designed a comprehensive set of conditions that PNGTS must implement to comply with this special permit.

### Past Enforcement History – January 1, 2012 through January 22, 2023:

During January 1, 2012 through January 22, 2023, PNGTS was cited in two (2) enforcement actions with no assessed civil penalties. PHMSA issued one (1) Notices of Amendment and one (1) Warning Letter. **Table 5** below shows PHMSA's enforcement actions for PNGTS:

Table 5: PNGTS Enforcement Matters fromJanuary 1, 2012 through January 22, 2023								
Status	Corrective Action Order	Notice of Amendment	Notice of Probable Violation	Safety Order	Warning Letter	Total		
CLOSED	-	1	-	-	1	2		
OPEN	-	-	-	-	-	-		
Total	-	1	-	-	1	2		

**Summary of Enforcement Findings for PNGTS includes**: Reporting, operations and maintenance procedures, and room management: 49 CFR 191.5, 192.605, 192.617 and, 192.631.

**Table 6** below shows PHMSA's enforcement actions and civil penalties for PNGTS and the specific49 CFR Part 191 and 192 violation:

Table 6: Summary of Enforcement Findings from PNGTSJanuary 1, 2012 through January 22, 2023							
	Notice of Amendment						
Control Room Management	2						
		Notice of Amendment Total:	2				
	Warı	ning Letter					
OME Procedural Manual	1						
		Warning Letter Total:	1				
		Grand Total:	3				

#### Summary of Enforcement Findings for TC Energy – ANR, CGT, GLGTC, PNGTS, and TCO:

From January 1, 2012 through January 22, 2023, TC Energy, the operator of PNGTS, was cited in 73 enforcement actions with a total of \$2,978,004 in assessed civil penalties on its ANR Pipeline Company (ANR) (OPID 405), Columbia Gulf Transmission (CGT) (OPID 2620), Columbia Gas Transmission (TCO) (OPID 2616), Great Lakes Gas Transmission Company (GLGTC) (OPID 6660), and Portland Natural Gas System (PNGTS) (OPID 31145) pipeline systems. PHMSA issued three (3) Corrective Action Orders, 18 Notices of Amendment, 24 Notices of Probable Violation, two (2) Safety Orders and 26 Warning Letters to TC Energy.

**Tables 7 and 8** below show PHMSA's enforcement actions and civil penalties for TC Energy on these pipeline systems – ANR, CGT, TCO, GLGTC, and PNGTS pipeline systems.

Table 7: TC Energy Enforcement Matters fromJanuary 1, 2012 through January 22, 2023								
Status	Corrective Action Order	Notice of Amendment	Notice of Probable Violation	Safety Order	Warning Letter	Total		
CLOSED	3	18	22	2	26	71		
OPEN	-	-	2	-	-	2		
Total	3	18	24	2	26	73		

Table 8: TC Energy Enforcement Civil Penalty Status								
	January 1, 2012 through January 22, 2023							
Proposed	Awaiting Order	Assessed	Withdrawn/Reduced	Collected				
\$3,161,004	\$0	\$2,978,004	\$156,600	\$2,978,004				

The type of 49 CFR Part 192 enforcement violations against TC Energy on these five (5) pipeline

PHMSA-2006-24058 – Portland Natural Gas Transmission System Special Permit Analysis and Findings – NH and ME systems from January 1, 2012 through January 22, 2023 were as follows:

Summary of Enforcement Endings for ANR, CGT, TCO, GLGTC, and PNGTS includes: **Construction:** Compliance with specifications or standards, General Inspection, Installation of Pipe in a Ditch; Control Room Management: Alarm Management, Compliance and Deviations, Fatigue Mitigation, Provide Adequate Information (Point to Point Checks), Roles & Responsibilities, SCADA System Limitations, Training, and Training Procedures; Atmospheric Corrosion Control: General and Monitoring; Corrosion Control: Corrosion Control Records; External Corrosion Control: Buried Pipe Post 1971, Interference Currents, Monitoring, and Test Leads; Design: Compressor Station Design & Construction, Compressor Stations Additional Safety Equipment, Compressor Stations Emergency Shutdown, and Supports and Anchors; Drug and Alcohol: Alcohol Tests Required and Drug Testing Required; Enforcement Procedures: Inspections and Investigations, Integrity **Management (IM):** Addressing Integrity Issues, Elements and Implementation, Change to IM Plan, HCA Identification, Preventative and Mitigative Measures, Program Elements, and Requirements for SCCDA; OME Procedural Manual: General, Maintenance and normal operations, Abnormal operations, Alternative MAOP, and Safety Related Condition Report (SRCR); Maintenance: Abandonment or Deactivation of Facilities, Compressor Stations-Gas Detection, Compressor stationsinspection and testing of relief devices, Compressor stations-Storage of Combustible Materials, General, Line Markers, Pressure Limiting and Regulating Stations-Inspection and Testing, Pressure Limiting and Regulating Stations-Relief Devices, Prevention of Accidental Ignition, Procedures, Remedial Measures, Patrolling, Record keeping, Repair Procedures, and Valve Maintenance Transmission Lines; **Operations:** Change in Class Location (Required Study), Emergency Plans, General, MAOP-Steel or Plastic, Odorization of Gas, Procedures, Transfer Procedures, and Underwater Inspection to Identify Gulf of Mexico Pipeline Hazards; **Operator Qualification:** Qualification Program; Public Awareness: Activities for advising affected municipalities, Comprehensive Media, Develop and Implement Public Awareness, Justification for not following API RP 1162, Specifics addressing the Public; Reporting: Filing SRCR, Annual Reports, Immediate Reporting Incident, and National Registry of Pipeline and LNG Operators; **Test Requirements:** General; **Gas Transportation:** Class Locations, Gathering Line Requirements, Underground Natural Gas Storage Facilities; Welding: Inspection and Test of Welds, Procedures, and Qualification of Welders,

• 49 CFR 190.203, 191.3, 191.5, 191.15, 191.17, 191.22, 191.25, 192.5, 192.9, 192.12, 192.161,

192.163, 192.167, 192.171, 192.201, 192.225, 192.241, 192.303, 192.305, 192.309, 192.319, 192.455, 192.465, 192.471, 192.473, 192.479, 192.481, 192.491, 192.603, 192.605, 192.609, 192.612, 192.615, 192.616, 192.619, 192.625, 192.631, 192.703, 192.705, 192.707, 192.709, 192.727, 192.731, 192.735, 192.736, 192.739, 192.743, 192.745, 192.751, 192.805, 192.905, 192.907, 192.909, 192.911, 192.933, and 192.935.

**Table 9** below gives a complete summary of the findings and the specific 49 CFR Part 191 and 192
 violation:

Table 9: Summary of Enforcement Findings forANR, TCO, CGT, GLGTC, and PNGTSJanuary 1, 2012 through January 22, 2023							
	1	Notice of Amendmen	t				
Construction	1	Control Room Management	16	Integrity Management	5		
OME Procedural Manual	9	Operation and/or Maintenance	7	Operator Qualification	2		
Public Awareness	6	Transportation of Gas	10	Welding of Steel in Pipelines	1		
	Notice of Amendment Total: 57						
		Notice of Probable Viola	tion				
Construction	2	Corrosion Control	11	Design	3		
Drug and Alcohol	2	Integrity Management	tegrity Management 6 OME Procedural Manual		6		
Operation and/or Maintenance	16	Public Awareness 1 Reporting		8			
Test Requirements	1	Transportation of Gas	1	Welding of Steel in Pipelines	1		
			Not	tice of Probable Violation Total:	58		
		Warning Letter					
Control Room Management	5	Corrosion Control	4	Design	2		
Enforcement and Regulatory Procedures	1	Integrity Management	2	OME Procedural Manual	11		
Operation and/or Maintenance	19	Operator Qualification	1	Reporting	8		
Transportation of Gas	5	Welding of Steel in Pipelines	1				
Warning Letter Total:							
				Grand Total:	174		

### **Findings:**

Based on the information submitted by PNGTS and PHMSA's analysis of the technical, operational, and safety issues, PHMSA finds that granting this special permit with conditions that requires PNGTS to operate the four (4) *special permit segments* on the 24-inch diameter PNGTS Pipeline located in Cumberland County, Maine; and Coos County, New Hampshire, at their current MAOP for a Class 1 to Class 3 location change segment is consistent with pipeline safety.

PHMSA has designed the special permit conditions to effectively assess and remediate threats to the *special permit segments* and *special permit inspection area*, including pressure testing, obtaining pipe material records, and conducting assessments to evaluate pipe girth welds that have not been non-destructively tested, any pipe with missing material records, and SCC. To ensure PNGTS properly implements the special permit conditions, PNGTS will be required to give PHMSA an annual review of their compliance with the special permit.

PHMSA finds the issuance and full implementation of this special permit that waives the requirements of 49 CFR 192.611(a) and (d) and 192.619(a) for a class location change to a Class 3 location is not inconsistent with pipeline safety. This special permit requires PNGTS to implement the special permit conditions that include safety requirements on the operations, maintenance, and integrity management of the *special permit segments* and the *special permit inspection area*. PNGTS will be required to implement the special permit conditions along the *special permit segments* and *special permit inspection area* in pipeline segments that are not high consequence areas and would not normally be required by 49 CFR Part 192, subpart O to be assessed on a periodic interval for threats.

Completed in Washington DC on: May 22, 2023 Prepared by: <u>PHMSA - Engineering and Research Division</u>