

**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-2017-0161
Requested By: Tennessee Gas Pipeline Company, LLC
Operator ID#: 19160
Original Date Requested: December 7, 2017
Original Issuance Date: August 11, 2022
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),¹ provides this information to describe the facts of the subject special permit application submitted by Tennessee Gas Pipeline Company, LLC (TGP)² 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. TGP requested that PHMSA waive compliance from the 49 Code of Federal Regulations (CFR) 192.611(a) and (d) and 192.619(a) for a natural gas transmission pipeline segment, where the class location has changed from Class 1 to a Class 3 location.

Pipeline System Affected:

This special permit application by TGP requests a waiver from the class location change requirements in 49 CFR 192.611(a) and (d) and 192.619(a) for approximately 1.050 miles of the 20-inch diameter gas

¹ 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.

² TGP is a wholly owned subsidiary of Kinder Morgan, Inc.

transmission pipeline located in Kanawha County, West Virginia.

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)	Min. Test Pressure (psig)	Pressure Test Factor
100-1	20	1984	DSAW	Fusion bonded epoxy	X52	0.25	936	1,198	1.28

Note: DSAW is double submerged arc welded pipe weld seam type.
Psig means pounds per square inch gauge.

Without this special permit, 49 CFR 192.611(a) would require TGP 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 December 29, 2020, TGP 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 20-inch diameter Line 100-1 Pipeline (Pipeline) located in Kanawha County, West Virginia.

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

Special Permit Segments:

This special permit applies to the *special permit segments* identified using the TGP valve and station references as detailed in **Table 2 – Special Permit Segments**.

Table 2 – Special Permit Segments

Special Permit Segment Number ³	Outside Diameter (inches)	Line Name	Length (feet)	Start Survey Station (Valve/MP – Station)	End Survey Station (Valve/MP – Station)	County/Parish, State	No. Dwellings	Year Installed	Seam Type	MAOP (psig)
451	20	100-1	4,249.18	120-1 – 14819	120-1 – 15995	Kanawha, WV	13	1984	DSAW	936
452	20	100-1	1,816.56	120-1 – 19928	120-1 – 21744	Kanawha, WV	2	1984	DSAW	936
453	20	100-1	845.38	120-1 - 23426	120-1 – 24271	Kanawha, WV	1	1984	DSAW	936

Special Permit Inspection Area:

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

Table 3 – Special Permit Inspection Area

Special Permit Inspection Area Number	Special Permit Segment Number	Outside Diameter (inches)	Line Name	Start Survey Station (Valve/MP – Station)	End Survey Station (Valve/MP – Station)	Length ⁴ (miles/feet)
1	451,452, 453	20	100-1	118-1 – 18.79	121-1 – 27219.53	46.02/ 242,989.49

Public Notice:

On April 5, 2022, PHMSA posted a notice of this special permit request in the Federal Register (87 FR 19735) with a closing date of May 5, 2022. PHMSA did not receive any comments concerning this special permit request.

The TGP special permit application letter, Federal Register notice, Final Environmental Assessment, Finding of No Significant Impact, and all other pertinent documents are available for review in Docket No. PHMSA-2017-0161 in the Federal Docket Management System (FDMS) located at www.Regulations.gov.

Analysis:

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

³ On February 3, 2022, TGP rescinded requested *special permit segments* 454, 455, 456, 457, 458, 459, 462, and 463.

⁴ 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.

through a special permit. First, certain threshold requirements should be met on a pipeline *special permit segments* 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 (IM) 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 IM 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.

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

- No pipeline segment in a class location changing to Class 4 location will be considered.
 - This special permit request is for three (3) *special permit segments* where a change has occurred from a Class 1 location to a Class 3 location.
 - TGP meets this requirement.
- No bare pipe will be considered.
 - The *special permit segments* are externally coated with fusion bonded epoxy.
 - TGP meets this requirement.
- No pipe containing wrinkle bends will be considered.
 - There are no reported wrinkle bends in the *special permit segments*.
 - TGP meets this requirement.
- No pipe segment operating above 72% of the specified minimum yield strength (SMYS) will be considered for a Class 3 special permit.
 - The *special permit segments* operate at or below 72% SMYS.
 - TGP meets this requirement.
- Records must be produced that show a hydrostatic test to at least 1.25 times the MAOP. The records should include test pressure, year of the test, test duration, and pressure test percent of MAOP for the pipeline:
 - TGP has provided records to PHMSA that the *special permit segments* have been tested to at least 1.25 times the MAOP.

- TGP meets this requirement
- Inline Inspection (ILI) must have been performed with no significant anomalies identified that indicate systemic problems such as stress corrosion cracking (SCC).
 - TGP ran an ILI for corrosion and deformation and an ILI for denting in all *special permit segments*.
- 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)*.
 - TGP has identified a longer segment surrounding the *special permit segments* as the *special permit inspection area*. The *special permit inspection area* is the entire segment length between the upstream launcher and downstream receiver on the ILI segment that contains the *special permit segments*.
 - A special permit would be contingent upon TGP's incorporation of the *special permit segments* into its written IM program as a covered segment in a high consequence area in accordance with 49 CFR 192.903.

Criteria Matrix: The data submitted by TGP for the *special permit segment* has 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:
 - Pipe material and toughness, coating type, design stress, depth of cover, test pressure, test failures, local geology, type of service, pressure fluctuations, safety related conditions, ILI type, ILI timeframe, and damage prevention program.
- The *special permit segments* fall in the *requires substantial justification* column of the criteria matrix for:
 - Kinder Morgan, Inc. overall enforcement findings fall in the *requires substantial justification category*. TGP's 11-year enforcement findings do not fall within this category.
 - This special permit requires TGP to implement the special permit conditions that include safety requirements on the operations, maintenance, and IM of the *special permit segments (1.050 miles)* and the *special permit inspection area (46.02 miles)*. Therefore, the safety benefits are obtained well beyond the portion of the pipeline that experienced a class location change.

- TGP will be required to submit an annual report for this special permit on integrity threats to the pipeline in the *special permit segments* and the *special permit inspection area*.

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 would have to carefully design a comprehensive set of conditions that TGP must implement to comply with this special permit.

Past Enforcement History – January 1, 2011 through January 31, 2022:

During January 1, 2011, through January 31, 2022, TGP was cited in 27 enforcement actions with a total of \$257,600 in assessed civil penalties. PHMSA issued four (4) Corrective Action Orders, six (6) Notices of Amendment, ten (10) Notices of Probable Violation, one (1) Safety Order, and six (6) Warning Letters to TGP. **Tables 4 and 5** below show PHMSA’s enforcement actions and civil penalties for TGP:

Table 4: TGP Enforcement Matters from January 1, 2011 through January 31, 2022						
Status	Corrective Action Order	Notice of Amendment	Notice of Probable Violation	Safety Order	Warning Letter	Total
CLOSED	3	5	9	1	6	24
OPEN	1	1	1	0	0	3
Total	4	6	10	1	6	27

Table 5: TGP Enforcement Civil Penalty Status January 1, 2011 through January 31, 2022				
Proposed	Awaiting Order	Assessed	Withdrawn/Reduced	Collected
\$384,200	\$0	\$257,600	\$126,000	\$257,000

Summary of Enforcement Findings for TGP includes: Reporting, welding, compliance with specifications or procedures, corrosion control, operations and maintenance procedures, continuing surveillance, public awareness, MAOP, control room management, relief devices, maintenance of valves, qualification of operating personnel, and IM:

- 49 CFR 191.22, 191.27, 192.225, 192.229, 192.303, 192.469, 192.479, 192.481, 192.603, 192.605, 192.613, 192.615, 192.616, 192.619, 192.631, 192.705, 192.706, 192.709, 192.713, 192.735, 192.736, 192.739, 192.743, 192.745, 192,805, 192.905, 192.921, and 192.937.

Table 6 below shows PHMSA’s enforcement actions and civil penalties for TGP and the specific 49 CFR Part 191 and 192 violations:

Table 6: Summary of Enforcement Findings from TGP January 1, 2011 through January 31, 2022					
Notice of Amendment					
Construction	1	Control Room Management	3	OME Procedural Manual	2
Operation and/or Maintenance	2	Reporting	2	Welding of Steel in Pipelines	1
Notice of Amendment Total:					11
Notice of Probable Violation					
Control Room Management	1	OME Procedural Manual	7	Public Awareness	1
Corrosion Control	3	Operation and/or Maintenance	8	Reporting	1
Integrity Management	3	Operator Qualification	3	Welding of Steel in Pipelines	1
Notice of Probable Violation Total:					28
Warning Letter					
OME Procedural Manual	2	Operation and/or Maintenance	4	Reporting	1
Notice of Amendment Total:					7
Grand Total:					46

Summary of Enforcement Findings for the Kinder Morgan Gas Pipelines Companies - CIG, EPNG, NGPL, SNG, TEJAS, and TGP:

From January 1, 2011, through January 31, 2022, Kinder Morgan, the operator of TGP, was cited in 69 enforcement actions with a total of \$1,077,800 in assessed civil penalties on its Colorado Interstate Gas Company (CIG), El Paso Natural Gas Company (EPNG), Natural Gas Pipeline of America (NGPL), Southern Natural Gas Company (SNG), Tejas Pipeline (TEJAS), and Tennessee Gas Pipeline Company (TGP) pipeline systems. PHMSA issued seventeen (17) Notice of Amendments, twenty-two (22) Notices of Probable Violation, twenty (21) Warning Letters, one (1) Safety Order, and eight (8) Corrective Action Orders to Kinder Morgan.

Tables 7 and 8 below show PHMSA’s enforcement actions and civil penalties for Kinder Morgan on these pipeline systems – CIG, EPNG, NGPL, SNG, TEJAS, and TGP with operator identification numbers (OPID#) 2564, 4280, 13120, 18516, 4900, and 19160.

Table 7: Kinder Morgan Enforcement Matters from January 1, 2011 through January 31, 2022						
Status	Corrective Action Order	Notice of Amendment	Notice of Probable Violation	Safety Order	Warning Letter	Total
CLOSED	5	16	21	1	21	64
OPEN	3	1	1	0	0	5
Total	8	17	22	1	21	69

Table 8: Kinder Morgan Enforcement Civil Penalty Status January 1, 2011 through January 31, 2022				
Proposed	Awaiting Order	Assessed	Withdrawn/Reduced	Collected
\$1,461,500	\$0	\$1,077,800	\$383,700	\$1,077,800

The type of 49 CFR Part 192 enforcement violations against Kinder Morgan on these six (6) pipeline systems from January 1, 2011 through January 31, 2022, were as follows:

Summary of Enforcement Findings for CIG, EPNG, NGPL, SNG, TEJAS, and TGP includes:

The type of 49 CFR Part 192 enforcement violations against Kinder Morgan on these six (6) pipeline systems from January 1, 2011, through January 31, 2022, included reporting, design, welding, compliance with specifications or procedures, corrosion control, operations and maintenance

procedures, continuing surveillance, public awareness, emergency plans, MAOP, control room management, relief devices, maintenance of valves, qualification of operating personnel, and IM:

- 49 CFR 191.5, 191.14, 191.15, 191.22, 191.25, 191.27, 192.12, 192.14, 192.161, 192.199, 192.225, 192.227, 192.229, 192.303, 192.459, 192.463, 192.465, 192.469, 192.475, 192.479, 192.481, 192.603, 192.605, 192.613, 192.615, 192.616, 192.619, 192.625, 192.631, 192.705, 192.706, 192.707, 192.709, 192.713, 192.735, 192.736, 192.739, 192.743, 192.745, 192,805, 192.807, 192.905, 192.911, 192.917, 192.921, 192.933, 192.935, and 192.937.

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 for CIG, EPNG, NGPL, SNG, TEJAS, and TGP January 1, 2011, through January 31, 2022					
Notice of Amendment					
OME Procedural Manual	11	Operation and/or Maintenance	2	Operator Qualification	3
Public Awareness	8	Reporting	3	Transportation of Gas	5
Integrity Management	10	Control Room Management	4	Construction	1
Welding of Steel in Pipelines	3				
Notice of Amendment Total:					50
Notice of Probable Violation					
Corrosion Control	13	OME Procedural Manual	14	Operation and/or Maintenance	26
Operator Qualification	7	Public Awareness	2	Reporting	5
Integrity Management	10	Control Room Management	1	Welding of Steel in Pipelines	1
Design	2				
Notice of Probable Violation Total:					81
Warning Letter					
Corrosion Control	10	OME Procedural Manual	9	Operation and/or Maintenance	31
Operator Qualification	2	Public Awareness	4	Reporting	1
Transportation of Gas	1	Integrity Management	1	Design	1
Notice of Amendment Total:					60
Grand Total:					191

Findings:

Based on the information submitted by TGP and PHMSA's analysis of the technical, operational, and safety issues, PHMSA finds that granting this special permit with conditions for TGP to operate the *special permit segments* defined in **Table 1** at its current MAOP for a Class 1 to 3 location change would not be inconsistent 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 TGP properly implements the special permit conditions, TGP 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 for a class location change to a Class 3 location is not inconsistent with pipeline safety. This special permit requires TGP to implement the special permit conditions that include safety requirements on the operations, maintenance, and IM of the *special permit segments* and the *special permit inspection area*. TGP will be required to implement the special permit conditions in the *special permit segments* and *special permit inspection area*, which include areas along the pipeline where periodic assessment is not required by 49 CFR Part 192.

Completed in Washington DC on: August 11, 2022

Prepared by: PHMSA - Engineering and Research Division

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