

**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-2019-0152
Requested By:	Tennessee Gas Pipeline Company, LLC
Operator ID#:	19160
Original Date Requested:	December 29, 2018
Original Issuance Date:	March 30, 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),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 0.536 miles of the 36-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 Barren County, Kentucky.

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
800-2	36	1969	DSAW	Coal Tar Enamel	X60	0.468	936	1,293	1.38

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 segment* with stronger pipe or reduce the pipeline MAOP for a Class 1 to Class 3 location change.

Special Permit Request:

On December 19, 2018, 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 segment*, where a class location change occurred from the original Class 1 to a Class 3 on the 36-inch diameter Line 800-2 Pipeline located in Barren County, Kentucky.

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

Special Permit Segment:

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

Table 2 – Special Permit Segment										
Special Permit Segment Number ³	Outside Diameter (inches)	Line Name	Length (feet)	Start Survey Station (Valve – Station)	End Survey Station (Valve – Station)	County, State	No. Dwellings	Year Installed	Seam Type	MAOP (psig)
508	36	800-2	2,829.6	868-2 - 56874	868-2 - 59963	Barren, KY	19	1968	DSAW	936

³ On February 3, 2022, TGP rescinded requested *special permit segment numbers 506, 507, 509, 510, 511, and 512*.

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 – Station)	End Survey Station (Valve – Station)	Length ⁴ (miles)
1	508	36	800-2	867-2 - 2558	869-2 - 79291	50.54

The *special permit inspection area* is in Allen, Barren, Metcalfe, Green, and Taylor Counties, Kentucky.⁵

Public Notice:

On May 31, 2022, PHMSA posted a notice of this special permit request in the Federal Register (87 FR 32495) with a closing date of June 30, 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-2019-0152 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 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 (IMP) elements are evaluated as significant criteria. These significant criteria are presented in matrix form and can be reviewed in the FDMS,

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.

⁵ The *special permit inspection area* includes the *special permit segment*.

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.

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 one (1) *special permit segment* 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 segment* is externally coated with coal tar enamel.
 - TGP meets this requirement.
- No pipe containing wrinkle bends will be considered.
 - There are no reported wrinkle bends in the *special permit segment*.
 - 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 segment* operates 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 segment* has 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 the *special permit segment* in 2017.

- 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 segment* 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 segment*.

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 segment* falls in the *probable acceptance* column of the criteria matrix for:
 - Pipe material and toughness, design stress, depth of cover, coating type, 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 segment* falls in the *possible acceptance* column of the criteria matrix for:
 - The *special permit segment* was installed in 1968.
- The *special permit segment* falls 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 integrity management of the *special permit segment (0.536 miles)* and the *special permit inspection area (50.54 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 segment* 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 segment* 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 July 31, 2022:

During January 1, 2011, through July 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 shows PHMSA’s enforcement actions and civil penalties for TGP:

Table 4: TGP Enforcement Matters from January 1, 2011, through July 31, 2022						
Status	Corrective Action Order	Notice of Amendment	Notice of Probable Violation	Safety Order	Warning Letter	Total
CLOSED	3	6	10	1	6	26
OPEN	1	0	0	0	0	1
Total	4	6	10	1	6	27

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

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

- 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 or 192 violation:

Table 6: Summary of Enforcement Findings from TGP January 1, 2011, to July 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	Corrosion Control	3	Integrity Management	3
OME Procedural Manual	7	Operation and/or Maintenance	8	Operator Qualification	3
Public Awareness	1	Reporting	1	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
Warning Letter Total:					7
Grand Total:					46

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

From January 1, 2011, through July 31, 2022, Kinder Morgan, the operator of TGP, was cited in 71 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), Tejas Pipeline (Tejas), Natural Gas Pipeline of

America (NGPL), Southern Natural Gas Company (SNG), and Tennessee Gas Pipeline Company (TGP) pipeline systems. PHMSA issued seventeen (17) Notice of Amendments, twenty-two (22) Notices of Probable Violations, twenty-two (22) Warning Letters, one (1) Safety Order, and nine (9) 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 July 31, 2022						
Status	Corrective Action Order	Notice of Amendment	Notice of Probable Violation	Safety Order	Warning Letter	Total
CLOSED	5	17	22	1	22	67
OPEN	4	0	0	0	0	4
Total	9	17	22	1	22	71

Table 8: Kinder Morgan Enforcement Civil Penalty Status January 1, 2011, through July 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 July 31, 2022, were as follows:

Summary of Enforcement Endings for CIG, EPNG, Tejas, NGPL, SNG, and TGP includes:

Reporting, design, welding, compliance with specifications or procedures, corrosion control, operations and maintenance procedures, continuing surveillance, public awareness, emergency plans, maximum allowable operating pressure, control room management, relief devices, maintenance of valves, qualification of operating personnel, and integrity management:

- 49 CFR 191.3, 191.5, 191.15, 191.22, 191.23, 191.25, 191.27, 192.3, 192.12, 192.14, 192.161, 192.163, 192.199, 192.201, 192.225, 192.227, 192.229, 192.303, 192.459, 192.461, 192.463, 192.465, 192.469, 192.475, 192.479, 192.481, 192.491, 192.603, 192.605, 192.611, 192.613, 192.615, 192.616, 192.619, 192.625, 192.631, 192.705, 192.706, 192.707, 192.709, 192.713, 192.731, 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, 192.937, 195.42, 195.44, 195.428, and 195.452.

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

Table 9: Summary of Enforcement Findings for CIG, EPNG, Tejas, NGPL, SNG, and TGP January 1, 2011, through July 31, 2022					
Notice of Amendment					
Construction	1	Control Room Management	4	Integrity Management	10
OME Procedural Manual	11	Operation and/or Maintenance	2	Operator Qualification	3
Public Awareness	8	Reporting	3	Transportation of Gas	5
Welding of Steel in Pipelines	3				
Notice of Amendment Total:					50
Notice of Probable Violation					
Control Room Management	1	Corrosion Control	13	Design	2
Integrity Management	10	OME Procedural Manual	14	Operation and/or Maintenance	26
Operator Qualification	7	Public Awareness	2	Reporting	5
Welding of Steel in Pipelines	1				
Notice of Probable Violation Total:					81
Warning Letter					
Corrosion Control	11	Design	1	Integrity Management	1
OME Procedural Manual	10	Operation and/or Maintenance	31	Operator Qualification	2
Public Awareness	4	Reporting	1	Transportation of Gas	1
Warning Letter Total:					62
Grand Total:					193

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 segment* 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 segment* and *special permit inspection area*, including pressure testing (where it does not meet 49 CFR 192.624(a)), obtaining pipe material records, conducting assessments to evaluate pipe girth welds that have not been non-destructively tested, and SCC assessments. 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(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 TGP 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 areas*. TGP will be required to implement the special permit conditions along the *special permit segment* 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 to be assessed on a periodic interval for threats.

Completed in Washington DC on: March 30, 2023.

Prepared by: PHMSA - Engineering and Research Division

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