

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-2023-0001
Requested By: Tennessee Gas Pipeline Company, LLC
Operator ID#: 19160
Date Requested: December 29, 2022
Issuance Date: July 31, 2023
Code Sections: 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 natural gas transmission pipeline segments, 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 1.266 miles of the

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 owned by Kinder Morgan, Inc.

36-inch diameter Line 500-3 Pipeline located in Dickson County, Tennessee.

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 |
| 500-3 | 36 | 1973 | DSAW | Fusion Bonded Epoxy | X60 | 0.391 | 936 | 1,263 | 1.39 |

Note: DSAW is a double submerged arc welded pipe longitudinal seam.

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 29, 2022, 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 500-3 Pipeline located in Dickson County, Tennessee.

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

Special Permit Segment:

This special permit applies to the *special permit segment* in **Table 2 – Special Permit Segment**.

| Table 2 – Special Permit Segment | | | | | | | | | | |
|----------------------------------|---------------------------|-----------|---------------|---------------------------|-------------------------|---------------|---------------|----------------|-----------|-------------|
| 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 (KM 726) | 36 | 500-3 | 6,685.07 | 559-3A – 89542.28 | 559-3A – 96227.35 | Dickson, TN | 48 | 1973 | DSAW | 936 |

Note: DSAW is a double submerged arc 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 | Master Segment | Start Survey Station (Valve - SS) | End Survey Station (Valve - SS) | Length ³ (miles) |
| 1 | 1 (KM 726) | 36 | 500-3 | 559-3 to 560-3 | 559-3A - 335.24 | 560-3 - 70.3 | 18.26 |

Public Notice:

On January 24, 2023, PHMSA posted a notice of this special permit request in the Federal Register (88 FR 4290) with a closing date of February 23, 2023. PHMSA has reviewed all public comments received for Docket Number PHMSA-2023-0001. PHMSA received public comments concerning this special permit request that have been addressed in the Final Environmental Assessment and Finding of No Significant Impact (FEA and FONSI).

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-2023-0001 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 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,

³ 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.

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.

- 1) No pipeline segments 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.
- 2) No bare pipe will be considered.
 - The *special permit segment* is externally coated with fusion bonded epoxy.
 - TGP meets this requirement.
- 3) No pipe containing wrinkle bends will be considered.
 - There are no reported wrinkle bends in the *special permit segment*.
 - TGP meets 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.
 - TGP meets this requirement.
- 5) 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:
 - TGP has provided records that demonstrate the *special permits segment* has been tested to at least 1.25 times the MAOP.
 - TGP meets this requirement.
- 6) In-line inspection (ILI) must have been performed with no significant anomalies identified that indicate systemic problems such as stress corrosion cracking (SCC).
 - An ILI tool was run in 2018 with no significant anomalies.
 - TGP meets this requirement.

7) 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 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 the *special permit segment*.

Criteria Matrix: The data submitted by TGP for the *special permit segments* have been compared to the class location change special permit criteria matrix.

- The following falls in the *probable acceptance* column of the criteria matrix for:
 - Class location change, pipe material, design stress, pipe girth welds, fusion bonded epoxy coating, test pressure, test failures, local geology, leaks and failures, type of service, pressure fluctuations, safety related conditions, IM program, ILI time frame, ILI type, direct assessment, coating assessment, damage prevention program.
- The following falls in the *possible acceptance* column of the criteria matrix for:
 - Pipe manufactured in 1973 and cathodic protection.
- The *special permit segment* falls in the *required substantial justification* column of the criteria matrix for the enforcement history for the operating company, Kinder Morgan, Inc.

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 has carefully designed a comprehensive set of conditions that TGP 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, TGP was cited in 23 enforcement actions with a total of \$232,600 in assessed civil penalties. PHMSA issued two (2) Corrective Action Order, six (6) Notice of Amendments, nine (9) Notice of Probable Violations, 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, 2012 through January 22, 2023 | | | | | | |
|--|----------------------------|------------------------|------------------------------------|-----------------|-------------------|-----------|
| Status | Corrective Action Order | Notice of Amendment | Notice of Probable Violation | Safety Order | Warning Letter | Total |
| CLOSED | 1 | 6 | 9 | 0 | 6 | 22 |
| OPEN | 1 | 0 | 0 | 0 | 0 | 1 |
| Total | 2 | 6 | 9 | 0 | 6 | 23 |

| Table 5 - TGP Enforcement Civil Penalty Status January 1, 2011 through July 31, 2022 | | | | |
|---|----------------|-----------|-------------------|-----------|
| Proposed | Awaiting Order | Assessed | Withdrawn/Reduced | Collected |
| \$359,200 | | \$232,600 | \$126,600 | \$232,600 |

Summary of Enforcement Findings for TGP includes:

- **Atmospheric Corrosion Control:** General and Monitoring; **Construction:** Compliance with Standards; **Control Room Management:** Alarm Management, Fatigue Mitigation, and Roles and Responsibilities; **External Corrosion Control:** Protective Coating and Test Stations; **Integrity Management:** Continual Process Evaluation and Assessment and High Consequence Area Identification; **Maintenance:** Compressor Stations-Gas Detection, Compressor Stations-Storage of Combustible Materials, Leak Surveys, Permanent Field Repair of Damage, Pressure Limiting and Regulating Stations Inspection and Testing, Relief Devices, Patrolling, Record Keeping, and Valve Maintenance; **OME Procedural Manual:**

Emergency Plans, General, and Maintenance and Normal Operations; **Operations:** Continual Surveillance, Emergency Plans, General, and MAOP; **Operator Qualification:** Qualification Program; **Public Awareness:** General; **Reporting:** Incident Reports, Construction, and Pipeline Condition Report; **Welding:** Limitations on Welders and Procedures.

- 49 CFR 191.15, 191.22, 191.27, 192.225, 192.229, 192.303, 192.461, 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 Parts 191 and 192 violations:

| Table 6 - Summary of Enforcement Findings from TGP January 1, 2012 through January 22, 2023 | | | | | |
|--|---|------------------------------|---|-------------------------------|-----------|
| 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 | 5 | Operation and/or Maintenance | 3 | Operator Qualification | 2 |
| Public Awareness | 1 | Reporting | 1 | Welding of Steel in Pipelines | 1 |
| Notice of Probable Violation Total: | | | | | 20 |
| Warning Letter | | | | | |
| OME Procedural Manual | 3 | Operation and/or Maintenance | 9 | Operator Qualification | 1 |
| Reporting | 1 | | | | |
| Warning Letter Total: | | | | | 14 |
| Grand Total: | | | | | 45 |

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

From January 1, 2011, through January 22, 2023, Kinder Morgan, the operator of TGP, was cited in 64 enforcement actions with a total of \$979,900 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 seven (7) Corrective Action Orders, 15 Notice of Amendments, 20 Notices of Probable Violations, and 22 Warning Letters 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, 2012 through January 22, 2023 | | | | | | |
|---|-------------------------|---------------------|------------------------------|--------------|----------------|-----------|
| Status | Corrective Action Order | Notice of Amendment | Notice of Probable Violation | Safety Order | Warning Letter | Total |
| CLOSED | 3 | 15 | 20 | 0 | 22 | 60 |
| OPEN | 4 | 0 | 0 | 0 | 0 | 4 |
| Total | 7 | 15 | 20 | 0 | 22 | 64 |

| Table 8 - Kinder Morgan Enforcement Civil Penalty Status January 1, 2012 through January 22, 2023 | | | | |
|---|----------------|-----------|-------------------|-----------|
| Proposed | Awaiting Order | Assessed | Withdrawn/Reduced | Collected |
| \$1,363,600 | \$0 | \$979,900 | \$383,700 | \$979,900 |

The type of 49 CFR Part 192 enforcement violations against Kinder Morgan on these six (6) pipeline systems from January 1, 2012 through January 22, 2023 were as follows:

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

- Atmospheric Corrosion Control:** General and Monitoring; **Construction:** Compliance with Standards; **Control Room Management:** Alarm Management and Fatigue Mitigation; **Design:** Supports and Anchors; **External Corrosion Control:** Cathodic Protection, Examination of Buried Pipe, Monitoring, and Test Stations; **Gas Transportation:** Conversion of Service and Underground Natural Gas Storage; **Internal Corrosion Control:** Inspection Internal Surface; **Integrity Management:** Addressing Integrity Issues, Continual IM Baseline Assessment, Continual Process of Evaluation and Assessment, High Consequence Area (HCA) Identification, HCAs – Integrity Actions, Preventative and Mitigative Measures, and Threat Identification; **Maintenance:** Compressor Stations-Gas Detection, Compressor Stations-Inspection and Testing of Relief Devices, Compressor Stations-Storage of Combustible Materials, Line Markers, Leak Surveys, Pressure Limiting and Regulating Stations Inspection and Testing, Relief Devices, Patrolling, Record Keeping,

and Valve Maintenance; **OME Procedural Manual:** General and Maintenance and Normal Operations; **Operations and Maintenance:** Overpressure safety devices and overflow protection systems and Valve Maintenance; **Operations:** Change in Class Location, Continual Surveillance, Emergency Plans, General, MAOP, and Odorization of Gas; **Operator Qualification:** Qualification Program and Recordkeeping; **Public Awareness:** Develop and Implement Public Awareness, Documentation available for Review, Follow API RP 1162, Justification for not following API RP 1162, Language Used, and Specifics addressing the Public; **Reporting:** Filing SRCR, Incident Reports, Immediate Reporting Incident, National Registry of Pipeline and LNG Operators, Offshore Pipeline Condition Report; **Welding:** Limitations on Welders and Procedures.

- 49 CFR 191.3, 191.5, 191.15, 191.22, 191.23, 191.25, 191.27, 192.3, 192.12, 192.14, 192.161, 192.201, 192.225, 192.227, 192.229, 192.303, 192.459, 192.461, 192.463, 192.465, 192.469, 192.475, 192.479, 192.481, 192.603, 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, 192.917, 192.921, 192.933, 192.935, and 192.937.

Table 9 below gives a complete summary of the findings and the specific 49 CFR Parts 191 and 192 violations:

| Table 9 - Summary of Enforcement Findings for CIG, EPNG, NGPL, SNG, Tejas, and TGP January 1, 2012 through January 22, 2023 | | | | | |
|---|----|-------------------------------|----|------------------------|----|
| Notice of Amendment | | | | | |
| Construction | 1 | Control Room Management | 4 | Integrity Management | 2 |
| OME Procedural Manual | 6 | Operation and/or Maintenance | 2 | Operator Qualification | 3 |
| Public Awareness | 8 | Reporting | 3 | Transportation of Gas | 5 |
| Welding of Steel in Pipelines | 1 | | | | |
| Notice of Amendment Total: | | | | | 35 |
| Notice of Probable Violation | | | | | |
| Corrosion Control | 6 | Integrity Management | 9 | OME Procedural Manual | 11 |
| Operation and/or Maintenance | 14 | Operator Qualification | 8 | Public Awareness | 2 |
| Reporting | 4 | Welding of Steel in Pipelines | 2 | | |
| Notice of Probable Violation Total: | | | | | 56 |
| Warning Letter | | | | | |
| Corrosion Control | 13 | Design | 1 | Integrity Management | 1 |
| OME Procedural Manual | 13 | Operation and/or Maintenance | 43 | Operator Qualification | 4 |

| Table 9 - Summary of Enforcement Findings for CIG, EPNG, NGPL, SNG, Tejas, and TGP January 1, 2012 through January 22, 2023 | | | | | |
|---|---|-----------|---|-----------------------|-----|
| Public Awareness | 4 | Reporting | 4 | Transportation of Gas | 1 |
| Warning Letter Total: | | | | | 84 |
| Grand Total: | | | | | 167 |

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 that requires TGP to operate the *special permit segment* on the 36-inch diameter 500-3 Pipeline located in Dickson County, Tennessee at the current MAOP for a Class 1 to Class 3 location change segment is not 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, 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(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 segment* and the *special permit inspection area*. 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: July 31, 2023

Prepared By: PHMSA – Engineering and Research Division