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-2016-0158
Requested By:	Tennessee Gas Pipeline Company, LLC
Operator ID#:	19160
Original Date Requested:	December 8, 2016
Original Issuance Date:	April 11, 2022 to April 11, 2032
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 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 0.074 miles of the 31-inch diameter

[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.

Line 100-2 located in Harris County, Texas and approximately 0.648 miles of the 30-inch diameter Line 200-2 Pipelines located in Wyoming County, New York (Pipelines).

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
100-2	31	1948	DSAW	Coal tar enamel	X52	0.312	750	1,037	1.42
200-2	30	1991	DSAW	Fusion bonded epoxy	X60	0.312	878	1,139	1.30

Note: DSAW is double submerged arc welded pipe seam type.

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 8, 2016, 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 31-inch diameter Line 100-2 Pipeline located in Harris County, Texas and 30-inch diameter Line 200-2 Pipelines located in Wyoming County, New York.

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

Special Permit Segments:

This special permit applies to the ***special permit segments*** in **Table 2 – Special Permit Segments** and are identified using the TGP survey station (SS) references.

Table 2 – Special Permit Segments										
Special Permit Segment Number[3]	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)
404	31	100-2	389.08	20-2 – 36818	20-2 – 37207	Harris, TX	1	1948	DSAW	750
418	30	200-2	1,425.64	231-2 – 341	231-2 – 1782	Wyoming, NY	1	1991	DSAW	878
419	30	200-2	557.16	231-2 – 2153	231-2 – 2710	Wyoming, NY	21	1991	DSAW	878
420	30	200-2	1,437.15	231-2 – 7917	231-2 – 9354	Wyoming, NY	4	1991	DSAW	878

Special Permit Inspection Areas:

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

Table 3 – Special Permit Inspection Areas							
Special Permit Inspection Area Number	Special Permit Segment(s) Included	Outside Diameter (inches)	Line Name	Master Segment Name	Start Survey Station (SS)	End Survey Station (SS)	Length[4] (miles)
1	404	31	100-2	17-2D to 20-2A (END LOOP)	17-2S LAUNCHER – 1376.71	20-2 RECIEVER – 39038.15	35.63
2	418, 419, 420	30	200-2	229-2 TO 232-2 (END OF LOOP)	229-2S – 336.8	232-2 – 17315.4	38.67

Public Notice:

On May 5, 2017, PHMSA posted a notice of this special permit request in the Federal Register (82 FR 21298) with a closing date of June 5, 2017. PHMSA received one (1) public comment concerning this special permit request through June 5, 2017.

PHMSA received one (1) comment from the Pipeline Safety Trust (PST) on this application. The comment disagrees with TGP that avoidance of a blowdown due to pipe replacement should be considered a safety or environmental benefit of granting a special permit. PST argues avoidance of a pipeline blowdown should not justify pipe replacement if mitigation measures of a blowdown are

[3] On February 3, 2022, TGP rescinded requested ***special permit segments number 401, 402, 403, 405, 406, 407, 409, 410, 411, 412, 413, 414, 415, 416, 417, 421, 422, 423, 428, and 429. Segment number 408*** was rescinded on February 7, 2022. These segments were withdrawn at the request of PHMSA.

[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.

available. PST states that if emissions are unavoidable for all segments, they still should not be a deciding factor in whether to waive important safety regulations like pipe wall thickness dimensions and strength. PST next argues the draft environmental assessment (DEA) included with the application does not provide a complete comparison of the effects of granting or denying the permit. Next, PST states that the special permit application fails to provide an explanation of the unique circumstances that make the regulation necessary or inappropriate. Finally, PST states that the operator has not provided rationale for the continuous requests for special permits and at what point should pressure reduction or pipe replacement to comply with 49 CFR 192.611 be required.

PHMSA agrees that the requirements regarding pipe wall thickness dimensions and strength are important safety requirements. PHMSA uses strict criteria when determining whether class location waivers (special permits) will provide an equivalent level of safety to people and the environment as the pipeline safety regulations, and that criteria does not include the consideration of avoidance of blowdowns.[5] Please see the Federal Register Notice, "Pipeline Safety: Development of Class Location Change Waiver Criteria," (69 FR 38948) for detailed description of the criteria, as well as the unique circumstances class changes present for pipeline operators that warrant waivers.

PHMSA has reviewed this special permit application to ensure the special permit conditions address pipeline safety and integrity threats to the pipeline in the special permit segments and special permit inspection areas. Based on that analysis, PHMSA has determined that the four (4) ***special pipeline segments*** have documentation supporting suitability for continued pipeline operations to remain in service and will be subject to the pressure testing, material documentation, and other additional safety conditions of the permit. The conditions require that TGP provide a systematic program to review and remediate the pipeline for safety concerns in its Operations and Maintenance (O&M) Manual and procedures.

PHMSA also notes that TGP must follow current Federal, state, and local regulations for emissions mitigation, when integrity assessments, repairs, or pressure testing is required on the four (4) ***special permit segments***.

[5] *See* Pipeline Safety: Development of Class Location Change Waiver Criteria, 69 FR 38948, June 29, 2004.

The Final Environmental Assessment (FEA) addresses PST's argument that the DEA[6] was not complete. Finally, 49 CFR 190.341 does not limit an operator to how many miles of pipe that it can submit for special permit consideration, which includes a Class 1 to Class 3 location change.

The TGP special permit application letter, Federal Register notice, FEA, Finding of No Significant Impact, and all other pertinent documents are available for review in Docket No. PHMSA-2016-0158 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, 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 four (4) ***special permit segments*** 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 segments*** are externally coated with coal tar enamel or fusion bonded epoxy.

[6] The DEA and FEA can be found under Docket No. PHMSA-2016-0158 on www.regulations.gov .

- TGP has met this requirement.

3) No pipe containing wrinkle bends will be considered.
    - There are no reported wrinkle bends in the ***special permit segments***.
    - TGP 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 segments*** operate at or below 72% SMYS.
    - TGP has met this requirement.
5) 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 each pipeline:
    - TGP has communicated that all ***special permits segments*** have been tested to at least 1.25 times the MAOP.
    - TGP has met 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).
    - TGP ran a high-resolution magnetic flux leakage (HR-MFL) ILI for corrosion and deformation ILI for denting.
    - TGP has met 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 one (1) or more ***special permit segments***.

- A special permit would be contingent upon TGP's incorporation of the ***special permit segments*** in its written integrity management 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 segments*** have been compared to the class location change special permit criteria matrix.

1) The following ***special permit segments*** fall in the *probable acceptanc*e column of the criteria matrix for:
    - Pipe manufactured in 1991 (***special permit segments 418, 419, and 420***), coating type, design stress, depth of pipe cover, test pressure, test failures, local geology, type of service, pressure fluctuations, safety related conditions, direct assessment, ILI type, and damage prevention program.
2) The following ***special permit segments*** fall in the *possible acceptanc*e column of the criteria matrix for:
    - ***Special permit segments 404*** has coal tar enamel coating which may shield cathodic protection when disbonded, causing SCC.[7]
3) The following ***special permit segments*** fall in the *requires substantial justification* column of the criteria matrix for:
    - ***Special permit segments 404*** has pipe manufactured in 1948.
    - ***Special permit segment 404*** has had a pipeline leak within a 10-mile radius of the ***special permit segment***.

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 areas***. This integrity information was used to consider special permit conditions to provide a systematic program to review and remediate the

[7] Two (2) types of SCC are found on pipelines: High pH (9 to 11) SCC and near-neutral pH (6 to 8) SCC. Coal tar and asphalt coatings that are disbonded are more prone to have SCC.

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, 2011 through January 31, 2022:

During January 1, 2011 through January 31, 2022, TGP was cited in 23 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 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 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, 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 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, Tejas, NGPL, TGP, and TGP

From January 1, 2011, through January 31, 2022, Kinder Morgan, the operator of TGP, was cited in 64 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 (TGP), and Tennessee Gas Pipeline Company (TGP) pipeline systems. PHMSA issued sixteen (16) Notice of Amendments, twenty-one (21) Notices of Probable Violations, twenty (20) Warning Letters, one (1) Safety Order, and six (6) 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, Tejas, NGPL, TGP, and TGP with operator identification numbers (OPID#) 19160, 18516, 2564, 4280, 13120, and 4900.

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, 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 191.5, 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, Tejas, NGPL, SNG, 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 that requires TGP to operate the ***special permit segments*** on the 31-inch diameter Line 100-2 Pipeline located in Harris County, Texas and 30-inch diameter Line 200-2 Pipeline located in Wyoming County, New York, at

either their current or at a reduced MAOP for a Class 1 to 3 location change segment would not be inconsistent with pipeline safety. This special permit grant is based upon TGP's implementation of the special permit conditions. For the four (4) ***special permit segments,*** TGP must identify, assess, and remediate threats including threats to the pipe body, weld seams and girth welds, and the cause of these integrity threats or replace the pipe, as required in the special permit conditions.

Completed in Washington DC on: April 11, 2022
Prepared by: PHMSA - Engineering and Research Division

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