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-2016-0008
Requested By:	Colorado Interstate Gas Company, LLC
Operator ID#:	2564
Original Date Requested:	January 11, 2016
1 st Renewal Issuance Date:	March 17, 2023
Code Section(s):	49 CFR 192.611(a) and (d), 192.619(a), and 192.5

Purpose:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) provides this information to describe the facts of the subject special permit application submitted by Colorado Interstate Gas Company, LLC¹ (CIG), to discuss any relevant public comments received with respect to the application, to present the engineering/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. CIG requests that PHMSA waive compliance from 49 Code of Federal Regulations (CFR) 192.611(a) and (d), 192.619(a), and 192.5 for eight (8) *special permit segments* of approximately 1.208 miles of natural gas transmission pipeline segments.

Pipeline System Affected:

This special permit request applies to eight (8) *special permit segments* of natural gas transmission pipeline operated by CIG and located in the states of Colorado and Wyoming where a change has occurred from an original Class 1 location to a Class 3 location. This special permit allows CIG to continue to operate the eight (8) pipeline segments and approximately

¹ Colorado Interstate Gas Company, LLC is owned by Kinder Morgan, Inc.

1.208 miles (6,379.96 feet) at their current maximum allowable operating pressure (MAOP) shown in pounds per square inch gauge (psig).

Special Permit Request:

CIG applied to PHMSA on March 4, 2021, for a renewal of a previously granted special permit seeking relief from the Federal pipeline safety regulations in 49 CFR 192.611(a) and (d), 192.619(a), and 192.5 for eight (8) *special permit segments* and 1.208 miles of natural gas transmission pipelines. The *special permit segments* are in the states of Colorado and Wyoming, that are identified using CIG station references of mile post (MP) and survey station (SS).

Special permit segments are divided into two (2) categories: Type A special permit segments and Type B special permit segments.

Type A special permit segments include those *special permit segments* as described in Table 1 – Type A Special Permit Segments, where there is a cluster, as described in 49 CFR 192.5(c), of more than 10 buildings intended for human occupancy in a "class location unit" and for which the MAOP has not been confirmed in accordance with 49 CFR 192.611(a) or where the pipe installed has been identified to have a seam type or manufacturer type that is problematic for maintaining pipeline integrity. *Type A special permit segments* total approximately 0.827 miles (4,365.03 feet) of pipe in this proposed special permit renewal. *Type A special permit segments* must meet Condition 1(d) and Conditions 8(b)(i) and (c) of the Special Permit Conditions.

	Table 1 – Type A Special Permit Segments										
Special Permit Segment Number ²	Outside Diameter (inches)	Line Name	Segment Length (feet) ³	Start Survey Station (MP - SS)	End Survey Station (MP - SS)	County, State	No. Dwellings	Year Installed	Seam Type	External Coating	MAOP (psig)
1 (KM 33)	20	0002-A	782.61	0222 - 5203	0223 - 53	Adams, CO	1	1947	LF-ERW	CTE	920
2 (KM 34)	20	0002-A	1,370.52	0223 - 529	0223 - 1900	Adams, CO	1	1947	LF-ERW	CTE	920
3 (KM 36)	20	0002-В	845.14	0222 - 5219	0223 - 177	Adams, CO	1	1950	LF-ERW	CTE	920
4 (KM 37)	20	0002-В	1,366.76	0223 - 618	0223 - 1984	Adams, CO	1	1950	LF-ERW	CTE	920

² The initial special permit required the replacement of *special permit segments 10 (KM 43) and 11 (KM 44)*. In addition to the required replacements, CIG has not elected to request a renewal for *special permit segments 5 (KM 38), 6 (KM 39), 7 (KM 40), 8 (KM 41), 9 (KM 42), and 15 (KM 332)*. These segments must now meet the requirements of 49 CFR 192.611(a).

³ Differences between the actual length and what is calculated from the begin and end station is due to station equations.

- <u>Note</u>: LF-ERW is a low frequency electric resistance welded pipe longitudinal seam. CTE is coal tar enamel pipe coating type.
 - *Type B special permit segments* include those *special permit segments* as described in Table 2 Type B Special Permit Segments where there is a cluster, as described in 49 CFR 192.5(c), of 10 or fewer buildings intended for human occupancy in a "class location unit" and for which the MAOP has not been confirmed in accordance with 49 CFR 192.611. *Type B special permit segments* total approximately 0.382 miles (2,014.93 feet) of pipe.

	Table 2 – Type B Special Permit Segments										
Special Permit Segment Number	Outside Diameter (inches)	Line Name	Lengt h (feet)	Start Survey Station (MP - SS)	End Survey Station (MP - SS)	County, State	No. Dwellings	Year Installed	Seam Type	External Coating	MAOP (psig)
12 (KM 45)	20	0059-A	543.6	0005 - 2956	0005 - 3500	Morgan, CO	1	1995	HF-ERW	Tape	1,050
13 (KM 46)	20	0059-A	779.6	0005 - 3579	0005 - 4359	Morgan, CO	1	1995	HF-ERW	Tape	1,050
14 (KM 47)	20	0059-A	82	0005 - 4775	0005 - 4857	Morgan, CO	0	1995	HF-ERW	Tape	1,050
16 (KM 333)	22	0005-A	609.7 3	0348 - 1253	0348 - 1863	Sweetwater, WY	4	1957	DSAW	CTE	845

Note: HF-ERW is a high frequency electric resistance welded pipe longitudinal seam. DSAW is double submerged arc welded pipe longitudinal seam.

Special permit inspection area – is defined as a one (1) mile continuous segment on both sides of the special permit segment (Type A and Type B) plus the footage in the special permit segment. Appendix A lists the boundaries for the special permit inspection area associated with each special permit segment. The special permit inspection areas total 8.83 miles of pipe as detailed in Table 3 – Type A Special Permit Inspection Areas and Table 4 – Type B Special Permit Inspection Areas.

Table 3 – Type A Special Permit Inspection Area							
Special Permit Inspection Area Number	Outside Diameter (inches)	Line Name	Inspection Area Start (MP – SS)	Inspection Area End (MP – SS)	Inspection Area Length (Miles)		
1 (KM 33)	20	0002-A	0221 - 5177	0224 - 14.81	2.15		
2 (KM 34)	20	0002-A	0222 - 1182	0224 - 1718	2.26		
3 (KM 36)	20	0002-В	0221 - 5305	0224 - 146	2.16		
4 (KM 37)	20	0002-В	0222 - 1225	0224 - 1947	2.26		

	Table 4 – Type B Special Permit Inspection Area							
Special Permit Segment Number	Outside Diameter (inches)	Line Name	Inspection Area Start (MP – SS)	Inspection Area End (MP – SS)	Inspection Area Length (Miles)			
12 (KM 45)	20	0059-A	0004 - 2956	0006 - 3500	2.10			
13 (KM 46)	20	0059-A	0004 - 3579	0006 - 4359	2.15			
14 (KM 47)	20	0059-A	0004 - 4775	0006 - 4857	2.02			
16 (KM 333)	22	0005-A	0347 – 1253	0349 - 1863	2.23			

Subsequent to the issuance of this special permit, those *special permit segments* that have been pressure tested or replaced, such that the MAOP has been made commensurate with the present class location as defined in 49 CFR 192.611, would no longer be included in this special permit.

This special permit allows CIG to continue to operate the pipeline segments at their current maximum allowable operating pressure (MAOP) until either replaced, hydrostatically tested, or operated in accordance with the special permit conditions. The Federal pipeline safety regulations in 49 CFR 192.611(a) require natural gas pipeline operators to confirm or revise the MAOP of a pipeline segment after a change in class location. A special permit allows CIG to continue to operate each of the eight (8) *special permit segments* at their existing MAOP's despite a change in class location for the special permit specified time interval.

Public Notice:

On May 27, 2022, PHMSA posted a notice of this special permit request in the Federal Register (87 FR 32236) with a closing date of June 27, 2022. PHMSA received a public comment concerning this special permit request that has been addressed in the Final Environmental Assessment and Finding of No Significant Impact (FEA and FONSI).

The CIG 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-2016-0008 in the Federal Docket Management System (FDMS) located at <u>www.Regulations.gov</u>.

Analysis:

<u>Background</u>: On June 29, 2004, PHMSA published in the Federal Register (69 FR 38948) the criteria it uses for the consideration of class location change waivers, now being granted through special permits. First, certain threshold requirements must be met for a pipeline section to be

PHMSA-2016-0008 – Colorado Interstate Gas Company, LLC Special Permit Analysis and Findings – Colorado and Wyoming further evaluated for a class location change special permit. 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 Number PHMSA–RSPA-2004-17401. Third, such special permits will only then be granted when pipe conditions and the operator's IM program provides a level of safety equal to a pipe replacement or pressure reduction.

<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 CIG special permit petition.

- No pipeline segments in a class location changing to Class 4 location will be considered. This special permit request is for eight (8) *special permit segments* on the CIG pipeline system where a class location change has occurred from Class 1 to Class 3 locations as defined in 49 CFR 192.5(c) for cluster locations and segments outside the cluster (and inside the sliding mile for the class location) where an additional dwelling(s) have been identified. CIG has met this requirement.
- 2) No bare pipe will be considered. These CIG *special permit segments* are coated with an external protective coating. CIG has met this requirement.
- 3) No pipe containing wrinkle bends will be considered. There are no wrinkle bends in the *special permit segments*. CIG 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. CIG has met this requirement.
- 5) Records must be produced that show a hydrostatic test to at least 1.25 x maximum allowable operating pressure (MAOP). CIG will pressure test any *special permit segments* that do not meet this requirement through the special permit conditions.
- 6) In-line inspection (ILI) must have been performed with no significant anomalies identified that indicate systemic problems. CIG will meet this requirement through the special permit conditions.

7) Criteria for consideration of class location change waiver, now being granted through special permits, 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 either side of the *waiver segment* (*special permit segment*). The *special permit inspection area* must be inspected according to CIG's IM program and periodically inspected with an in-line inspection technique. The *special permit inspection area* extends one-mile out from either side of the *special permit segments* and the Class location 3 sliding mile. This additional length was used since the Type B areas that are not being replaced are locations with 10 or fewer buildings intended for human occupancy in a "class location unit" and are outside the original "cluster area." This special permit is contingent upon CIG's incorporation of each of the *special permit segments* in its written IM program as a "*covered segment*" in a "*high consequence area*" (HCA) per 49 CFR 192.903.

<u>**Criteria Matrix**</u>: The original and supplemental data submitted by CIG for the *special permit segment* have 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 all criteria except for:

- Possible acceptance pipe coating and several leaks within 20-miles of the *special permit segment*.
- Requires substantial justification pipe manufacture and pipe material The data findings below fall within the "possible acceptance and requires substantial justification" columns of the criteria matrix:
- 1) Pipe design and construction, including pipe manufacture, material and design stress:
 - CIG pipeline *special permit segments* have:
 - Pipe manufactured with the following pipe seams: low frequency electric resistance welded, high frequency electric resistance welded, and double submerged arc welded.
 - Pipe coatings included: coal tar enamel and tape-polyethylene.
 - \circ Pipe design stress was 72% specified minimum yield strength or lower.
 - To further address pipe manufacturing, material, construction, pipe coating, stress corrosion cracking direct assessment (SCCDA), and possible pipe leak issues, this special

permit will include conditions requiring CIG to treat all *special permit segments* as "covered segments" in an HCA per 49 CFR 192.903.

- CIG will also be required to perform ILI assessments, anomaly repairs, close interval surveys, identify any pipeline segment that may be susceptible to pipe seam issues because of the vintage of the pipe, the manufacturing process of the pipe, or other issues and SCCDA along the entire length of the *special permit inspection areas* and *special permit segments* according to the requirements of 49 CFR 192.929 after the grant of this special permit.
- This special permit will include a condition that CIG must continue to operate each *special permit segment* at or below its existing MAOP.

PHMSA has determined that imposing the special permit conditions will address these concerns and provide equivalent safety for these areas.

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 CIG 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, CIG was cited in six (6) enforcement actions with a total of \$154,800 in assessed civil penalties. PHMSA issued two (2) Notices of Amendment, one (1) Notice of Probable Violation, and three (3) Warning Letters to CIG. **Tables 5 and 6** below shows PHMSA's enforcement actions and civil penalties for CIG:

Table 5: CIG Enforcement Matters fromJanuary 1, 2011, through July 31, 2022								
Status	StatusCorrective Action OrderNotice of AmendmentNotice of Probable ViolationSafety OrderWarning LetterTotal							
CLOSED	0	2	1	0	3	6		
OPEN	0	0	0	0	0	0		
Total	0	2	1	0	3	6		

Table 6: CIG Enforcement Civil Penalty Status						
January 1, 2011, through July 31, 2022						
Proposed	Awaiting Order	Assessed	Withdrawn/Reduced	Collected		
\$198,000 \$0 \$154,800 \$43,200 \$154,800						

Summary of Enforcement Findings for CIG includes: definitions, supports and anchors, design of pressure relief or limiting devices, external corrosion control monitoring, internal corrosion control, procedures for O&M, patrolling transmission lines, record keeping for transmission lines, compressor stations, valve maintenance, and IM.

• 49 CFR 192.5, 192.14, 192.42, 192.225, 192.227, 192.475, 192.491, 192.603, 192.605, 192.933, and 192.935.

Table 7 below shows PHMSA's enforcement actions and civil penalties for CIG and the specific 49CFR Part 191 and 192 violations:

Table 7: Summary of Enforcement Findings from CIGJanuary 1, 2011, to July 31, 2022							
	Notice of Amendment						
Integrity Management	1	OME Procedural Manual	2	Reporting	1		
Welding of Steel in Pipelines	2	Transportation of Gas	1				
	Notice of Amendment Total: 7						
Notice of Probable Violation							

Table 7: Summary of Enforcement Findings from CIGJanuary 1, 2011, to July 31, 2022						
Integrity Management	3	Operation and/or Maintenance 2				
Notice of Probable Violation Total:						
Warning Letter						
Corrosion Control	1	Integrity Management	1	OME Procedural Manual	1	
Operation and/or Maintenance	1					
				Warning Letter Total:	4	
				Grand Total:	16	

Summary of Enforcement Findings for the Kinder Morgan Gas Pipelines Companies - CIG, EPNG, Tejas, NGPL, TGP, 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 8 and 9 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 8: Kinder Morgan Enforcement Matters fromJanuary 1, 2011, through July 31, 2022								
StatusCorrective Action OrderNotice of AmendmentNotice of Probable ViolationSafety OrderWarning LetterTotal								
CLOSED	5	17	22	1	22	67		
OPEN	4	0	0	0	0	4		
Total	9	17	22	1	22	71		

Table 9: 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 10 below gives a complete summary of the findings and the specific 49 CFR Part 191 and 192

 violation:

Table 10: 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	e 2 Operator Qualification				
Public Awareness	8	Reporting	3	Transportation of Gas	5		
Welding of Steel in Pipelines	3						
		-		Notice of Amendment Total:	50		
		Notice of Probable Violatio	n				
Control Room Management	1	Corrosion Control	Corrosion Control 13 Design 2				
Integrity Management	10	OME Procedural Manual	14	Operation and/or Maintenance	26		

Table 10: Summary of Enforcement Findings for CIG, EPNG, Tejas, NGPL, SNG, and TGP January 1, 2011 through July 31, 2022					
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 CIG and PHMSA's analysis of the technical, operational, and safety issues, PHMSA finds that granting this special permit with conditions that requires CIG to operate the eight (8) *special permit segments* on 20-inch diameter and 22-inch diameter natural gas transmission pipelines located in Adams and Morgan Counties, Colorado, and Sweetwater County, Wyoming at their current MAOP for a Class 1 to Class 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 areas*, 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 stress corrosion cracking (SCC). To ensure CIG properly implements the special permit conditions, CIG 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 CIG 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*. CIG will be required to implement the special permit conditions along the *special permit segments* and *special permit inspection areas* 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 17, 2023. **Prepared By:** PHMSA – Engineering and Research Division