U.S. DEPARTMENT OF TRANSPORTATION
PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION

Special Permit Analysis and Findings

Special Permit Information:

Docket Number:	PHMSA-2016-0008
Requested By:	Colorado Interstate Gas Company, L.L.C.
Operator ID#:	2564
Date Requested:	January 11, 2016
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, L.L.C.[1] (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 16 segments and 3.58 miles of natural gas transmission pipeline segments as described in Appendix A.[2]

Pipeline System Affected:

This special permit request applies to 16 segments and 3.58 miles 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

[1] Colorado Interstate Gas Company, L.L.C. is owned by Kinder Morgan, Inc.

[2] Appendix A of this special permit lists the pipeline ***special permit segment*** location (County and State), MAOP, class location, diameter, wall thickness, grade, seam type, boundaries, and other attributes. Appendix A can be reviewed in Docket PHMSA-2016-0008 at www.regulations.gov.

to continue to operate the 16 pipeline segments and 3.58 miles at their current maximum allowable operating pressure (MAOP).

Special Permit Request:

CIG submitted an application to PHMSA on January 11, 2016, for a special permit seeking relief from the Federal pipeline safety regulations in §§ 192.611(a) and (d), 192.619(a), and 192.5 for 16 segments and 3.58 miles of natural gas transmission pipeline as described in Appendix A of the Special Permit Conditions. The ***special permit segments*** are located in the states of Colorado and Wyoming.

This special permit applies to the ***special permit segments*** listed in Appendix A. ***Special permit segments*** shall be 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*** 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). ***Type A special permit segments*** must be replaced or pressure tested so that the MAOP is commensurate with the present class location within three (3) years of issuance of this special permit. There are 1.45 miles of ***Type A special permit segments*** and of this total 1.43 miles must be replaced and 0.02 miles must be pressure tested as listed on Attachment A.
- **Type A special permit segments** with pipe with integrity issues as determined by Conditions 6(c) and 14 or that have not been pressure tested in accordance with 49 CFR Part 192, Subpart J to 1.25 times MAOP of this special permit must be replaced within two and one-half (2½) years of the grant of this special permit or within two (2) years of assessment finding.
- ***Type B special permit segments*** include those ***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. There are 2.13 miles of ***Type B special permit segments*** and 0.93 miles of this total must be pressure tested as listed on Attachment A.

- ***Special permit inspection area***[3] – 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 35.11 miles of pipe as detailed in Attachment A.

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 would allow CIG to continue to operate each of the 16 segments and 3.58 miles at their existing MAOP's despite a change in class location for the special permit specified time interval.

Public Notice:

On February 23, 2016, PHMSA posted a notice of this special permit request in the Federal Register (81 FR 9075). PHMSA received one (1) public comment letter in response to the draft EA from the "Pipeline Safety Trust" dated March 24, 2016, concerning this proposed special permit. The public comments are summarized as noted below and the referenced Findings of No Significant Impact (FONSI) can be reviewed on the docket (PHMSA-2016-0008) at www.regulations.gov.

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[3] ***Special permit inspection areas*** throughout these conditions include ***special permit segments*** unless specifically defined as not applicable or if the ***special permit segment*** has more stringent conditions.

- A summary of the questions asked by Pipeline Safety Trust are below:
  - Only PHMSA announcement of the permit noted the fact that the operator's previous class locations had been in error. (FONSI Review: Section II)
  - The 5-year waiver to accomplish this seems unreasonably long. (FONSI Review: Section II, Footnote 2)
  - The Pipeline Safety Trust had several concerns with the information presented in the application and the environmental assessment.
    - Claimed environmental and safety benefit of the permit would occur from the elimination of the methane emissions from pipeline blowdowns; (FONSI Review: Section VIII)
    - Application fails in a couple of cases to provide a complete comparison of the effects of granting or denying the permit including the impact on adjacent right-of-way owners by allowing the existing pipe to remain in-service; (FONSI Review: Section V)
    - In the section of Safety Risks the operator indicates that the consequence of a failure would be no different if the permit is granted or is denied, without an indication of whether denying the permit would result in a reduction of pressure or pipe replacement; (FONSI Review: Section V)
  - There appears to be many segments included in the application which have never been tested in that their MAOP was determined by the Grandfather Clause (§ 192.619(c)). (FONSI Review: The special permit conditions would require as a minimum pressure tests for any segments that had not been pressure tested.)
  - The application fails to give a complete useful response to § 190.341(c)(4). (FONSI Review: Section II)
  - Rather than use the special permit process in a situation like this, PHMSA should consider entering a consent agreement with the operator with both acknowledging the operator is out of compliance. PHMSA risks regulating many individual operators by special permit, without any justification for why the regulations should not be met, in effect negating the safety factors in place under § 192.611 or other regulations. (FONSI Review: Section II on pages 3 and 4 of 25 of the

FONSI notes as follows: "PHMSA considered both a Consent Agreement and Safety Order in reviewing the issues of the CIG request. Since the operator notified PHMSA of the violation, PHMSA considered a special permit with integrity management concepts in a special permit with conditions an appropriate mechanism for this situation to maintain safety. Also, the special permit conditions would ensure the special permit segments were maintained while the segments could be upgraded with pipe replacements or pressure tests. With integrity management procedures being effective in other safety situations, PHMSA considers this to be an effective approach for the sliding mile areas with 10 or fewer dwellings or structures for human occupancy, which is the case for over 90 percent of the CIG 16 special permit segments. Special permit conditions are measures to assess, evaluate, and implement measures to manage and eliminate threats to pipe integrity and public safety in areas of high consequence such as these sliding mile special permit segments." The special permit requires replacement or pressure testing of segments with over 10 dwellings. The special permit has conditions and integrity management procedures for the special permit inspection area, 35.11 miles of pipeline.

The request letter, Federal Register notice, public comments, FONSI, and all other pertinent documents are available for review in Docket No. PHMSA-2016-0008 in the Federal Docket Management System (FDMS) located on the internet 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 class location change waivers, now being granted through special permits. First, certain threshold requirements must be met for a pipeline section to be 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 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 integrity management program provides a level of safety equal to a pipe replacement or pressure reduction.

Threshold Requirements: Each of the threshold requirements published by PHMSA in the June 29, 2004, Federal Register notice is discussed below in regards to the CIG special permit petition.

1) No pipeline segments in a class location changing to Class 4 location will be considered. This special permit request is for 16 segments and 3.58 miles on the CIG pipeline system where a class location change has occurred from Class 1 to Class 3 locations as defined in § 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 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 integrity management 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 integrity management program as a *"covered segment"* in a *"high consequence area"* (HCA) per 49 CFR § 192.903.

Criteria Matrix: 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, flash welded, electric weld, and double submerged arc welded.
    - Pipe coatings included: coal tar enamel, tape-polyethelene, and fusion bonded epoxy.
    - Pipe design stress was 72% specified minimum yield strength or lower.
    - Several leaks within 20-miles of the ***special permit segment***: CIG will be required to conduct a stress corrosion cracking assessment (SCCDA) of *the* ***special permit segments*** to evaluate where the risk of stress corrosion cracking

(SCC) is present. CIG will be required to implement a plan to improve cathodic protection reliability and perform inspections for SCC during excavations.

- To further address pipe manufacturing, material, construction, pipe coating, 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 stress corrosion cracking direct assessment (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: PHMSA has reviewed this special permit request to ensure that integrity threats to the pipeline in the ***special permit segments*** and ***special permit inspection areas*** are addressed in the operator's operations and management plan (O&M Plan). CIG must have a systematic program to review and remediate pipeline safety concerns. Additional operational integrity review and remediation requirements will be required by this special permit for this special permit segment class location change. The pipeline operational integrity requirements are to ensure that the operator has an ongoing program to locate and remediate safety threats. Some of these threats to integrity and safety are the pipe coating quality, cathodic protection effectiveness, anomalies in the pipe steel, and material and structures either along or near the pipeline that could cause the cathodic protection system to be ineffective. PHMSA carefully designed a comprehensive set of conditions that CIG would be required to meet in order for the special permit to be granted. Among other things, the conditions include:

1) ***Special permit inspection areas*** must be incorporated into its CIG's written integrity management program (IMP) as a *"covered segment"* in a *"high consequence area (HCA)"* in accordance with 49 CFR § 192.903.

2) A close interval survey to determine the effectiveness of the cathodic protection system must be performed within the ***special permit segments*** and ***special permit inspection area*** and all areas with inadequate cathodic protection must be remediated. Close interval surveys must be performed on a seven (7) year reassessment interval.

3) Cathodic protection reliability and inspections for stress corrosion cracking (SCC) must be performed.

4) Stress corrosion cracking surveys on the pipeline will be required to ensure that the pipe steel is not cracking due to the effects of high and near neutral pH SCC within the ***special permit segments*** and ***special permit inspection area***.

5) Operations and maintenance (O&M) manual(s) must include the conditions of the special permit including in-line inspection (ILI), close interval inspections (CIS), remediation, and reassessment intervals.

6) Annual reports must be sent by CIG to PHMSA updating compliance.

7) Interference currents from electric transmission lines and other interfering structures in the ***special permit segments*** and ***special permit inspection area*** must be identified, controlled and mitigated by conducting surveys and installing remediation measures where required.

8) Anomalies and dents on the pipeline must be repaired based upon the special permit repair criteria for the ***special permit segments*** and ***special permit inspection areas***.

9) Pipeline longitudinal seams within the ***special permit segments*** and ***special permit inspection areas*** must have an engineering analysis to determine if there are any threats and remediated if integrity threats are determined.

10) Data integration of special permit condition findings and remediation must be maintained for the ***special permit segments*** and ***special permit inspection areas***.

11) Long term pipeline system flow reversals that include a ***special permit segment*** must have a written plan that corresponds to those applicable criteria identified in PHMSA Advisory Bulletin (ADB-2014-04), "Guidance for Pipeline Flow Reversals, Product Changes and Conversion of Service" issued on September 18, 2014 (79 FR 56121, Docket PHMSA-2014-0400).

12) A senior executive officer, vice president or higher must certify in writing that CIG is complying with the special permit conditions.

The special permit will contain numerous conditions to ensure CIG meets or exceeds the threshold requirements with equivalent safety and to ensure that granting the special permit will not be inconsistent with safety.

Past Enforcement History – 2005 through Mach 28, 2016

The enforcement history is an important reflection of how CIG has been observed to follow pipeline safety regulations and is a major area of focus for the review of this application.

Below is a listing of PHMSA closed enforcement matters of all types in all PHMSA Regions for CIG (OPID #2564) from 2005 through March 28, 2016:

- Letters - of Concern or Warning - 6 matters
- Notices – of Amendment or of Probable Violation – 4 matters
- Orders – Corrective Action – 0 matters
- Orders – Safety – 0 matter
- Fines - A notice of violation case was assessed $2,335,000. CIG paid all of the assessed violation penalties.
- CIG had no repeat offences during this period.

PHMSA has determined that imposing the special permit conditions summarized in this document will ensure that granting the special permit will not be inconsistent with safety.

Findings:

Based on the information submitted by CIG and PHMSA's analysis of technical, operational and safety issues, and given the conditions that will be imposed in the special permit, PHMSA finds that granting this special permit to CIG to operate ***special permit segments*** at the current MAOP, where a change in class location has occurred from an original Class 1 location to a Class 3 location, would not be inconsistent with pipeline safety.

Completed in Washington, DC, on: September 1, 2016
Prepared By: PHMSA – Engineering and Research Division