

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

Special Permit Analysis and Findings

Special Permit Information:

Docket Number: PHMSA-2008-0213
Pipeline Operator: Empire Pipeline, Inc.¹, (operator of Empire State Pipeline)
Original Date Requested: August 8, 2008
Original Special Permit: May 20, 2010
Segment 6 Date Requested: August 19, 2016
Special Permit Renewal Period: Through May 20, 2020
Code Section(s): 49 CFR § 192.611

Purpose:

The Pipeline and Hazardous Materials Safety Administration (PHMSA) provides this information to describe the facts of the subject special permit application submitted by Empire Pipeline, Inc. (Empire), operator of the Empire State Pipeline. PHMSA also herein provides discussion of any relevant public comments received with respect to the application, presents the engineering/safety analysis of the special permit application, and to makes findings regarding whether the requested special permit should be granted and if so under what conditions.

Pipeline System Affected:

This special permit request involves six (6) *special permit segments* along Empire's 24-inch natural gas transmission pipeline known as the Empire State Pipeline. The six *special permit segments* are located in Niagara, Genesee, Monroe, and Wayne Counties, NY. The *special permit segments* class location along the pipeline has changed from a Class 1 Location to a Class 2 Location or a Class 2² Location to a Class 3 Location.

¹ Empire Pipeline, Inc. is owned by National Fuel Gas Company.

² The Class 3 segments were originally a Class 1 Location that was upgraded to Class 2 Location by reason of hydrostatic test in accordance with § 192.611(a).

Niagara, Genesee, Monroe, and Wayne Counties, NY

This special permit applies to the *special permit segments* defined using Empire's Survey Station Numbers. Mileposts are provided for information only.

- **Special Permit Segment 1** - 24-inch Empire State Pipeline mainline, approximately 730 feet in length, located in Genesee County, New York, from Survey Station 3027 + 50 to Survey Station 3034 + 80; (MP 57.33 to MP 57.49),
- **Special Permit Segment 2** - 24-inch Empire State Pipeline mainline, approximately 1,715 feet in length, located in Monroe County, New York, from Survey Station 4018 + 73 to Survey Station 4035 + 88; (MP 76.09 to MP 76.42),
- **Special Permit Segment 3** - 24-inch Empire State Pipeline mainline, approximately 1,650 feet in length, located in Monroe County, New York, from Survey Station 4483 + 10 to Survey Station 4499 + 60; (MP 84.88 to MP 85.19),
- **Special Permit Segment 4** - 24-inch Empire State Pipeline mainline, approximately 2,675 feet in length, located in Niagara County, New York, from Survey Station 1230 + 69 to Survey Station 1257 + 44; (MP 23.30 to MP 23.81),
- **Special Permit Segment 5**, 24-inch Empire State Pipeline mainline, approximately, 1,760 feet in length, located in Niagara County, New York, from Survey Station 1330 + 50 to Survey Station 1348 + 10; (MP 25.19 to MP 25.54), and
- **Special Permit Segment 6**, 24-inch Empire State Pipeline mainline, approximately, 1,055 feet in length, located in Wayne County, NY from Survey Station 5234+21 to Survey Station 5244+76; (MP 99.13 to MP 99.33).

Niagara, Genesee, Monroe, Ontario, Wayne, Cayuga, Onondaga and Oswego Counties, NY

Special permit inspection area - means the area that extends 220 yards on each side of the centerline of 24" mainline along the entire length of the Empire State Pipeline from Mile Post 0 (NY/Canada Border) to Mile Post 157 (Phoenix, NY). The *special permit inspection area* is located in Niagara, Genesee, Monroe, Ontario, Wayne, Cayuga, Onondaga and Oswego Counties, NY. The total length of the *special permit inspection area* is approximately 157 miles.

The Empire State Pipeline special permit inspection area includes the following sections:

- Western Section - from Mile Post 0 in Niagara County, New York to Mile Post 90.8 in Ontario County, New York and the pipeline has an MAOP of 1440 pounds per square inch gauge (psig); and

- Eastern Section – from Mile Post 90.8 in Ontario County, New York to Mile Post 157 in Oswego County, New York and the pipeline has an MAOP of 1000 psig.

Special Permit Request

Empire submitted an application to PHMSA on August 8, 2008, for a special permit seeking relief from the Federal pipeline safety regulations in 49 CFR § 192.611(a) for five (5) segments of the Empire State Pipeline where a change has occurred from a Class 1 to Class 3 Location at five (5) segments located in Niagara, Genesee, and Monroe Counties, NY.

Special permit segment 6 was requested by Empire on August 19, 2016. As requested, this special permit would allow Empire to continue to operate the pipeline segments at their current maximum allowable operating pressure (MAOP) of 1440 psig in the Western Section and 1000 psig in the Eastern Section. 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. *Special Permit Segment 6* has a MAOP of 1000 psig. A special permit will allow Empire to continue to operate each of the six (6) special permit segments at their existing MAOP's despite a change in class location. The total length of the *special permit inspection area* is approximately 157 miles.

Public Notice:

On November 3, 2016, PHMSA posted a notice of this special permit request for *special permit segment 6* in the Federal Register (81 FR 76687). The request letter, Federal Register notice and all other pertinent documents including the original Federal Register notice (74 FR 4286) for *special permit segments 1 through 5* are available for review in Docket No. PHMSA-2008-0213 in the Federal Docket Management System (FDMS) located on the internet at www.Regulations.gov.

PHMSA did not receive any comments for or against this special permit request for *special permit segment 6* as a result of this notice.

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 a special permit. 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-2004-17401. Third, such special permits will only then be granted when pipe conditions and active integrity management provides a level of safety greater than or equal to a pipe replacement or pressure reduction.

Threshold Requirements: Each of the threshold requirements published by PHMSA in the June 29, 2004, FR notice is discussed below in regards to the Empire 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 six (6) segments of Empire's Empire State Pipeline where a class location change has occurred from Class 1 Location to Class 3 Location or Class 2 Location to Class 3 Location. Empire has met this requirement.
- 2) No bare pipe will be considered. The Empire special permit segments are coated with fusion bonded epoxy (FBE) coating. Empire has met this requirement.
- 3) No pipe containing wrinkle bends will be considered. There are no wrinkle bends in this special permit segment. Empire Pipeline 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. This special permit segment operates at or below 72 percent SMYS. Empire has met this requirement.
- 5) Records must be produced that show a hydrostatic test to at least 1.25 x MAOP for class location change from Class 1 or Class 2 to Class 3 Location and 90 percent of SMYS for class location change from Class 1 to Class 3 Location. Empire Pipeline records submitted show that the Class 1 pipe (0.343") of the 24-inch Empire State Pipeline existing within the special permit segments, has been hydrostatically tested to a minimum of 1,808 psig, which is 1.25 x MAOP and 90% of SMYS for class location change from Class 1 to Class 3

Location. Pipe used in Class 1 Locations for tie-ins and road crossings is heavier wall pipe (0.412-inch and 0.494-inch), but has been tested to the same pressure as the 0.343-inch wall pipe. Empire has met these requirements.

- 6) In-line inspection (ILI) must have been performed with no significant anomalies identified that indicate systemic problems. The proposed *special permit segments* have been inspected by ILI, with no immediately actionable anomalies found. Empire has met this requirement.
- 7) Criteria for consideration of class location change waiver, now being granted through 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 either side of the *waiver segment (special permit segment)*. The *special permit inspection area* must be inspected according to Empire's integrity management program and periodically inspected with an in-line inspection technique. The portion of the *special permit inspection area* is approximately 157 miles long which is the entire length of the Empire State Pipeline. The *special permit inspection area* transverses from Mile Post 0 (NY/Canada border) to Mile Post 157 (Phoenix, NY) through Niagara, Genesee, Monroe, Ontario, Wayne, Cayuga, Onondaga and Oswego Counties, NY. From Mile Post 0 to 90.8 (western portion) in Niagara, Genesee, Monroe, and Ontario, NY, the Empire State Pipeline has a MAOP of 1,440 PSIG. From Mile Post 90.8 to Mile Post 157 (eastern portion) in Ontario, Wayne, Cayuga, Onondaga and Oswego Counties, NY, the Empire State Pipeline has a MAOP of 1,000 psig. The original special permit was contingent upon Empire's incorporation of each of the *special permit segments* in its written integrity management program as "*covered segment*" in a "*high consequence area*" (HCA) per 49 CFR 192.903. Empire has met these requirements.

The special permit segments meet the threshold requirements; however, future in-line inspection (ILI) tool runs and other integrity mitigation measures will be necessary to ensure safety and therefore will be required in the special permit conditions.

Criteria Matrix: The original and supplemental data submitted by Empire for the special permit segments have been compared to the class location change special permit criteria matrix. The

data fall within the *probable acceptance* column of the criteria matrix for all criteria except submittal of material test reports with charpy-impact toughness.

- The six (6) special permit segments fall in the probable acceptance column of the criteria matrix for all criteria except for:
 - Possible acceptance – Special permit conditions will require future ILI.
 - Requires substantial justification – none

PHMSA has determined that imposing the special permit conditions provides a level of safety greater than or equal to pipe replacement or pressure reduction for this area.

Operational Integrity Compliance: PHMSA reviewed this special permit request to ensure that integrity threats to the pipeline in the special permit segment and special permit area are in the operator's operations and management plan (O&M Plan) to provide a systematic program to review and remediate the pipeline for safety concerns. Additional operational integrity review and remediation requirements have been 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. These threats to integrity and safety include the pipe coating quality, cathodic protection effectiveness, operations damage prevention program for third party damage, weld seam and girth weld integrity, 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 Empire would be required to meet in order for the special permit to be granted. Among other things, the conditions include:

- A close interval survey to determine the effectiveness of the cathodic protection system must be performed within the special permit inspection area and all areas with inadequate cathodic protection must be remediated.
- A coating survey to determine the quality of the pipe coating must be conducted and ineffective coating areas must be required to be remediated.
- Stress corrosion cracking (SCC) surveys on the pipeline will be required to ensure that the pipe steel does not contain cracks due to the effects of high and near neutral pH SCC.

- The latest methods of damage prevention must be incorporated by the operator, such as the best practices of the Common Ground Alliance (CGA) within the special permit inspection areas.
- Interference currents from electric transmission lines and other interfering structures in the special permit inspection areas must be identified, controlled and mitigated by conducting surveys and installing grounding systems where required.
- An analysis of pipeline field coated girth welds that could have shielding coatings that could cause corrosion of the pipe steel must be undertaken in the special permit segments and in-line inspection logs that indicate 30% corrosion indications on shielding or unknown coatings must be exposed and evaluated.
- Anomalies and dents in the pipeline must be repaired, based upon the special permit repair criteria.
- Girth welds in the special permit segments must have been inspected to a non destructive test plan during construction, or a quality review and remediation program must be implemented by the pipeline operator.
- All shorted casing at road crossings and railroad crossings in the special permit segments (either metallic or electrolytic) must be cleared to prevent corrosion.
- Pipeline longitudinal seams within the special permit inspection area must have an engineering analysis to determine if there are any threats and remediated, if integrity threats are determined.
- Periodic close interval surveys and in-line inspection surveys (pipeline internal surveys to determine corrosion in the pipeline) must be performed on the special permit segments at the applicable reassessment intervals.
- In-line tool (ILI) inspections must be conducted through the six (6) special permit segments and special permit inspection area in accordance with the 49 CFR Part 192, Subpart O; § 192.485; and the conditions of this special permit.

PHMSA has determined that imposing these conditions (along with the remainder of the conditions set forth in the special permit) will ensure that granting the special permit will not be inconsistent with safety.

Enforcement History – 2000 through 2009:

A review of PHMSA enforcement actions against Empire from 2000 through 2009 shows the following enforcement actions against the companies. The enforcement actions place Empire in the “possible acceptance category” for a special permit grant. Empire Pipeline, Inc. is owned by the National Fuel Gas Company. Company assets are distributed among the following 4 business segments: Empire Pipeline, Inc. OPID #31592 National Fuel Gas Distribution Corporation OPID #13061 (PA) & 13062 (NY), National Fuel Gas Supply Corporation OPID #13063, and Seneca Resources Corporation OPID #18201.

Below is a listing of the Empire State Pipeline enforcement matters of all types in all PHMSA Regions:

- Eastern Region – 1 matter
- Notice of Probable Violation’s (NOPV) – 0
- States where violations have occurred: New York

Empire State Pipeline’s regulatory enforcement history from 2000 to 2009 indicates one non-compliance issue as shown above with 49 CFR 192 and no outstanding corrective action orders (CAO). The single enforcement item that includes 9 notices of amendment was issued in 2005 in the course of a Part 192, Subpart O, Integrity Management Plan inspection with the National Fuel Gas Company which covered the National Fuel Gas Distribution Corporation, the National Fuel Gas Supply Corporation and Empire Pipeline, Inc.

Enforcement History – 2010 through 2016:

From 2010 through 2016, PHMSA³ has conducted and completed 10 pipeline facility inspections of the Empire State Pipeline with no enforcement cases. These 10 completed pipeline inspections consisted of: two (2) construction inspections, one (1) integrated inspection, five (5) specialized inspections, and two (2) unit inspections. One (1) pipeline construction inspection is in progress.

³ The referenced 49 CFR Part 192 inspections were conducted by either PHMSA or the appropriate state authorities, in states that have interstate agent agreements with PHMSA.

All enforcement cases were issued to National Fuel Supply Corp. (OPID 13063) and did not include Empire State Pipeline. Below is a listing of the National Fuel Supply Corp. (OPID 13063) enforcement matters of all types in all PHMSA Regions from 2010 through 2016:

- Eastern Region – 41 matters
- Notice of Probable Violation's (NOPV) – 4 matters with \$202,900 proposed penalties.
- Notice of Amendment's (NOA) – 27 matters
- Warning Letter's (WI) – 10 matters
- States where violations have occurred: New York, Pennsylvania

Based upon Empire State Pipeline's compliance history, PHMSA concludes that Empire State Pipeline's compliance history will not require additional assurances to ensure full compliance with the Special Permit conditions.

PHMSA has determined that imposing the special permit conditions will ensure that granting the special permit will not be inconsistent with pipeline safety.

Findings:

Based on the information submitted by Empire and PHMSA's analysis of the technical, operational, and safety issues, and given the additional measures required and conditions that will be imposed, PHMSA finds that granting this special permit to Empire to operate six (6) segments of the Empire State Pipeline, a natural gas transmission pipeline, at the current MAOP where a change in class location has occurred from a Class 1 location to a Class 3 location is consistent with pipeline safety.

MAR 28 2017

Completed in Washington DC on: _____

Prepared by: PHMSA – Engineering and Research Division