

**U.S. DEPARTMENT OF TRANSPORTATION**  
**PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION**  
**Special Permit Analysis and Findings**

**Special Permit Information:**

**Docket Number:** PHMSA-2017-0158  
**Requested By:** Empire Pipeline, Inc.  
**Operator ID#:** 31592  
**Date Requested:** December 14, 2017  
**Special Permit:** October 23, 2018  
**Effective Dates:** October 23, 2018, to October 23, 2028  
**Code Section(s):** 49 CFR 192.112(c)(1), 192.112(c)(2), 192.112(f)(3), 192.328(a), and 192.328(e)

**Purpose:**

The Pipeline and Hazardous Materials Safety Administration (PHMSA)<sup>1</sup> provides information to describe the facts of the subject special permit application submitted by Empire Pipeline, Inc.<sup>2</sup> (Empire), to discuss any relevant public comments received with respect to the application for the Empire Connector Pipeline (ECP), 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. Empire requested to operate the ECP using the alternative maximum allowable operating pressure (alternative MAOP) method for calculating the MAOP in accordance with the 49 Code of Federal Regulations (CFR) Part 192 for natural gas transmission pipelines. The 49 CFR Part 192 code sections that pertain to alternative MAOP for gas transmission pipelines are 49 CFR 192.112, 192.328 and 192.620.

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<sup>1</sup> 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.

<sup>2</sup> Empire Pipeline, Inc. is owned by National Fuel Gas Company. Empire Pipeline is operator of the Empire Connector Pipeline.

### **Pipeline System Affected:**

The special permit request applies to the ECP and asks for a waiver of the pipe material requirements in 49 CFR 192.112(c)(1), 192.112(c)(2), 192.112(f)(3), 192.328(a), and 192.328(e) for 76.6 miles of 24-inch diameter pipeline located Ontario, Yates, Schuyler, Chemung, and Steuben Counties, New York. The special permit requires Empire to meet or implement additional conditions on the design, construction, operations, and maintenance of the 76.6-mile, 24-inch diameter natural gas transmission pipeline, as described in the special permit. The special permit allows Empire to increase the ECP MAOP from 1,290 pounds per square inch gauge (psig) to 1,440 psig. This ECP operating pressure increase would be an alternative MAOP for Class 1, 2 and 3 locations.

### **Special Permit Request:**

Empire applied to PHMSA on December 14, 2017, for a special permit seeking relief from the Federal pipeline safety regulations in 49 CFR 192.112(c)(1), 192.112(c)(2), 192.112(f)(3), 192.328(a), and 192.328(e) for the ECP as described below:

#### **49 CFR 192.112(c)(1) – Plate / Coil Quality Control:**

(1) There must be an internal quality management program at all mills involved in producing steel, plate, coil, skelp, and/or rolling pipe to be operated at alternative MAOP. These programs must be structured to eliminate or detect defects and inclusions affecting pipe quality.

#### **49 CFR 192.112(c)(2) – Plate / Coil Quality Control:**

(2) A mill inspection program or internal quality management program must include (i) and either (ii) or (iii):

(i) An ultrasonic test of the ends and at least 35 percent of the surface of the plate/coil or pipe to identify imperfections that impair serviceability such as laminations, cracks, and inclusions. At least 95 percent of the lengths of pipe manufactured must be tested. For all pipelines designed after December 22, 2008, the test must be done in accordance with ASTM A578/A578M Level B, or API 5L Paragraph 7.8.10 (incorporated by reference, see § 192.7) or equivalent method, and either

(ii) A macro etch test or other equivalent method to identify inclusions that may form centerline segregation during the continuous casting process. Use of sulfur prints is not an equivalent method. The test must be carried out on the first or second slab of each sequence graded with an acceptance criteria of one or two on the Mannesmann scale or equivalent; or

(iii) A quality assurance monitoring program implemented by the operator that includes audits of: (a) all steelmaking and casting facilities, (b) quality

control plans and manufacturing procedure specifications, (c) equipment maintenance and records of conformance, (d) applicable casting superheat and speeds, and (e) centerline segregation monitoring records to ensure mitigation of centerline segregation during the continuous casting process.

**49 CFR 192.112(f)(3) – Coating:**

(3) A quality assurance inspection and testing program for the coating must cover the surface quality of the bare pipe, surface cleanliness and chlorides, blast cleaning, application temperature control, adhesion, cathodic disbondment, moisture permeation, bending, coating thickness, holiday detection, and repair.

**49 CFR 192.328(a) – Quality Assurance:**

(1) The construction of the pipeline segment must be done under a quality assurance plan addressing pipe inspection, hauling and stringing, field bending, welding, non-destructive examination of girth welds, applying and testing field applied coating, lowering of the pipeline into the ditch, padding and backfilling, and hydrostatic testing.

(2) The quality assurance plan for applying and testing field applied coating to girth welds must be:

- (i) Equivalent to that required under § 192.112(f)(3) for pipe; and
- (ii) Performed by an individual with the knowledge, skills, and ability to assure effective coating application.

**49 CFR 192.328(e) – Interference Currents:**

(1) For a new pipeline segment, the construction must address the impacts of induced alternating current from parallel electric transmission lines and other known sources of potential interference with corrosion control.

PHMSA designed a comprehensive set of special permit conditions that Empire is required to meet in order to operate the ECP at alternative MAOP based upon this special permit request. The special permit conditions are outlined in **Operational Integrity Compliance** section of this document. The special permit conditions were based upon pipeline safety considerations for the Code sections that Empire was seeking relief and for the pressure uprating process and their procedures.

The ECP consists of 76.6 miles of 24-inch diameter natural gas steel pipeline that was placed in-service on December 10, 2008. The special permit applies to the Class 1 and 2 locations<sup>3</sup> of the

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<sup>3</sup> As defined in 49 CFR 192.5.

pipeline, which totals 70.1 miles, as well as to 6.5 miles of Class 3 location pipeline.<sup>4</sup> The special permit also prescribes the terms and conditions for the *special permit segment* as defined below:

- The *special permit segment* is defined as the ECP 24-inch pipeline located in Ontario, Yates, Schuyler, Chemung, and Steuben Counties, New York. The *special permit segment* consists of 76.6 miles of 24-inch diameter (OD) pipe as follows:

Class 1 location: 24-inch OD, 0.309-inch Wall Thickness, Grade X-70, Steel, High Frequency-Electric Resistance Welded (HF-ERW), and Fusion Bonded Epoxy (FBE) External Coated, 50.2 miles.

Class 2 location: 24-inch OD, 0.369-inch Wall Thickness, Grade X-70, Steel, HF-ERW, and FBE External Coated, 19.9 miles.

Class 3 location: 24-inch OD, 0.494-inch and 0.500-inch Wall Thickness, Grade X-70, Steel, HF-ERW, and FBE External Coated, 6.5 miles.

This special permit allows Empire to operate the ECP *special permit segment* at the alternative MAOP of 1,440 psig. The *special permit segment* has a current MAOP of 1,290 psig prior to the granting of this special permit. This special permit applies to the *special permit segment* as described in the Conditions.

### **Public Notice:**

On July 25, 2018, PHMSA published the special permit request in the Federal Register (83 FR 35313) and the public comment period ended on August 24, 2018, with all comments received through September 4, 2018, being reviewed and considered. The special permit application from Empire, pipeline route maps, public comments, environmental assessment, and special permit conditions are available in Docket No. PHMSA-2017-0158 at: [www.regulations.gov](http://www.regulations.gov).

PHMSA received two (2) stakeholder comments on the proposed ECP special permit. The comments received were for denying the special permit request. A summary of the stakeholders posting comments are:

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<sup>4</sup> PHMSA has added 6.5 miles of ECP Class 3 location pipe to the *special permit segment* to ensure that the entire ECP mileage is treated with the same integrity inspections and remediation as the Class 1 and 2 locations. The Class 3 locations are in areas that include high consequence areas (HCAs) and with either Class 1 or 2 locations on its ending survey stations.

- Stakeholder Comments Requesting PHMSA to Deny the ECP Special Permit: 2
  - Private Citizens – 2
- Public Officials - 0
- Stakeholder Comments in support of the ECP Special Permit: 0

**PHMSA Overall Response and Considerations of Public Safety Concerns:**

PHMSA has reviewed public stakeholder comments on the docket, e-mails sent to PHMSA, and any phone calls received through September 4, 2018, concerning the ECP. Based upon the public stakeholder concerns, PHMSA will grant the special permit with conditions to consistently maintain safety along the ECP *special permit segment*.

The public comments are summarized as noted below and the referenced in the Findings of No Significant Impact (FONSI) can be reviewed on the docket (PHMSA-2017-0158) at [www.regulations.gov](http://www.regulations.gov).

PHMSA’s summarization of the public stakeholder comments and how the concerns are being handled within the special permit are below:

- 1) **Stakeholder Comment:** Safety regulations should increase not decrease.
  - **PHMSA Response:**
    - The special permit conditions were structured to maintain safety throughout the operational life of the ECP *special permit segment* at the alternative MAOP (up to 80% of the pipelines specified minimum yield strength (SMYS)).
    - The special permit conditions require increased operational monitoring and anomaly remediation standards that are more conservative than 49 CFR 192 for alternative MAOP pipelines. The special permit conditions are summarized below and can be reviewed in complete detail in the Docket (PHMSA-2017-0158) at: [www.regulations.gov](http://www.regulations.gov).
- 2) **Stakeholder Comment:** Running higher pressure leaves a smaller safety margin which is unacceptable.
  - **PHMSA Response:**

- Sections 192.112, 192.328, and 192.620 allow gas transmission pipelines built in accordance with these sections of 49 CFR Part 192 to operate at an alternative MAOP.
  - The special permit conditions were developed to maintain safety in areas where the ECP does not meet the Code requirements (49 CFR 192.112(c)(1), 192.112(c)(2), 192.112(f)(3), 192.328(a), and 192.328(e)) through the operational life of the ECP *special permit segment*.
- 3) **Stakeholder Comment:** Regulations are in place to protect public safety. It would be irresponsible governance to grant a special request to lift those regulations without a public vote or congressional oversight.
- **PHMSA Response:**
    - 49 CFR 190.341 allows issuance of special permits in accordance with the standards in U.S.C. 60118(c) and subject to the conditions set forth in the order (special permit).
    - 49 CFR 190.341 requires a description of any measures or activities the special permit applicant proposes to undertake as an alternative to compliance with the relevant regulations(s). These alternative safety measures are noticed in the Federal Register for public comment. After review by the public and a review of relevant safety concerns by PHMSA, PHMSA can either approve or deny the special permit application.
    - The special permit conditions require Empire to submit to the Docket at [www.regulations.gov](http://www.regulations.gov) for public review and to PHMSA an annual report on the integrity of the ECP *special permit segment*.

**Analysis:**

PHMSA developed the special conditions to achieve an equivalent or higher level of safety by decreasing the likelihood of a release of natural gas in the *special permit segment*. The Operational Integrity Compliance and Past Enforcement History sections below along with public comments were used in developing the findings of this special permit request.

**Operational Integrity Compliance:**

PHMSA has reviewed this special permit request to ensure that integrity threats to the pipeline in the *special permit segment* are addressed in the operator's operations and management plan (O&M Procedures and specifications). PHMSA carefully designed a comprehensive set of conditions that Empire is required to meet in order to operate the ECP at alternative MAOP. The special permit conditions are summarized below:

- 1) **Design, Construction, Operations, and Maintenance in accordance with 49 CFR Part 192:** The ECP *special permit segment* must meet the specific alternative MAOP requirements of 49 CFR 192.112, 192.328, and 192.620 with the exception of 49 CFR 192.112(c)(1), 192.112(c)(2), 192.112(f)(3), 192.328(a), and 192.328(e), which are waived for pipeline facilities in the *special permit segment* provided Empire complies with the special permit conditions.
- 2) **Design Factor – Existing Pipelines:** Existing pipe installed in the ECP *special permit segment* may use a maximum design factor of 0.80 in Class 1 locations, a maximum design factor of 0.67 in Class 2 locations, and a maximum design factor of 0.56 in any Class 3 locations.
- 3) **Cased Crossings:** Empire must identify and clear any casings which are “metallically shorted” (the carrier pipe and the casing are in metallic contact) in the *special permit segment*.
- 4) **Pipeline Segments – Class Location and HCA Changes:** Empire must conduct class location and high consequence area surveys at least once each calendar year, not to exceed 15 months in the *special permit segment*.
- 5) **Interference Currents Control:** An induced Alternating Current (AC) and/or Direct Current (DC) program to protect the *special permit segment* from corrosion caused by stray currents must be in place within three (3) years of the grant of this special permit and prior to operating at the alternative MAOP.
- 6) **Close Interval Survey:** Empire must have performed a close interval survey (CIS) on ECP in the *special permit segment* within the three (3) years immediately prior to the increase in operating pressure above the existing MAOP to the alternative MAOP.

- 7) **Pipeline Coating Assessments**: Empire must verify and remediate pipeline coating conditions by performing either a direct current voltage gradient (DCVG) or alternating current voltage gradient (ACVG) survey of the *special permit segment* in accordance with 49 CFR 192.620(d)(7).
- 8) **Initial and Future In-Line Inspection**: Empire must have performed an initial in-line inspection (ILI) of the ECP *special permit segment* within three (3) years immediately prior to operating at the alternative MAOP using a high-resolution (HR) magnetic flux leakage (MFL) tool and a HR-deformation tool.
- 9) **Anomaly Response and Repair**: Anomaly response and repair for the ECP *special permit segment* must be conducted as required by 49 CFR 192.620(d)(10)(i) and Subpart O as well as the additional evaluation and remediation criteria in the special permit conditions, regardless of HCA status.
- 10) **Controlling Internal Corrosion**: To control internal corrosion for low volume, less than 1 MMCFD,<sup>5</sup> natural gas receipt tie-ins to the *special permit segment*, Empire may use a dual channel gas analyzer for moisture and carbon dioxide measurement instead of a chromatograph specified in 49 CFR 192.620 (d)(5)(iii) for a maximum of five (5) receipt tie-ins.
- 11) **Mainline Valve – Monitoring and Remote Control for Leaks or Ruptures**: Prior to operating at an alternative MAOP, all ECP mainline valves<sup>6</sup> within the *special permit segment* must be controlled by a supervisory control and data acquisition (SCADA) system and must be equipped for remote monitoring and control, or remote monitoring and automatic control, in accordance 49 CFR 192.620(d)(3)(iii).
- 12) **Data Integration**: Empire must maintain data integration of special permit condition findings and remediation in the ECP *special permit segment*.

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<sup>5</sup> Million cubic feet per day (MMCFD).

<sup>6</sup> Empire has designated mainline valves and other valves at Mile Posts: 0.00, 8.34, 19.98, 32.04, 45.19, 61.41, and 76.6. as being applicable to Condition 11 as remote controlled valves that will be used to shut-in the ECP during emergency situations such as large volume pipeline leaks and ruptures.



- 13) **Environmental Assessments and Permits**: Empire must evaluate the potential environmental consequences and affected resources of any land disturbances and water body crossings needed to implement the special permit conditions for the *special permit segment* prior to the disturbance.
- 14) **Communications**: Empire must provide pipeline safety awareness material to emergency responders and residents within the potential impact radius (PIR) of the *special permit segment* 30 days prior to conducting operations to raise the ECP MAOP from 1,290 psig to 1,440 psig.
- 15) **Upgrading MAOP to Alternative MAOP**: Empire must develop and implement an upgrading procedure for raising the MAOP from 1,290 psig to 1,440 psig (alternative MAOP) in the *special permit segment*.
- 16) **Pipe Properties Records**: Empire must mechanically and/or hydrostatically test pipe in the *special permit segment* that does not meet **Condition 19(c)** in the special permit conditions. Hydrostatic tests must meet 49 CFR 192.620 and Subpart J.
- 17) **Annual Report**: Annually, after issuance of this special permit, Empire must report the following to the Director, PHMSA, OPS Eastern Region; the Director, PHMSA, OPS Engineering, Research; and the Director, PHMSA, OPS Standards and Rulemaking Division:<sup>7</sup>
  - a. Any new integrity threats identified during the previous year in the *special permit segment*, and the results of any ILI or direct assessments performed (including any remediated anomalies with their wall loss, length, and unrepaired failure pressure; any un-remediated anomalies over 30% pipe wall loss and their wall loss, length and failure pressure; cracking found in the pipe body, weld seam or girth welds; and dents with metal loss, cracking or stress riser);
  - b. Summaries of any close interval surveys that indicated low cathodic protection levels in the *special permit segment* in the previous year and a remediation schedule;

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<sup>7</sup> Empire must place a copy of each ECP annual report on the PHMSA docket, PHMSA-2017-0158, at [www.regulations.gov](http://www.regulations.gov).

- c. Any reportable incident or any leak normally indicated on the DOT Annual Report, and all repairs on the pipeline that occurred during the previous year in the *special permit segment*;
- d. Any pressure test leaks or failures with a description of the cause in the *special permit segment*;
- e. Any class location or HCA changes in the *special permit segment* during the previous year including location (length, mile post, county, and State), including any population changes that cause class location changes or new HCAs;
- f. Any reportable incidents associated with the *special permit segment* that occurred during the previous year;
- g. Any leaks on the pipeline in the *special permit segment* that occurred during the previous year;
- h. On-going damage prevention initiatives on the pipeline in the *special permit segment* and a discussion of their success or failure;
- i. Any emergency events that cause closure of mainline valves as described in 49 CFR 192.620(d)(3), including the location (county and mile post) of valves and closure times;
- j. Any company mergers, acquisitions, transfers of assets, or other events affecting the regulatory responsibility of the company operating the pipeline to which this special permit applies; and
- k. Summary report of all annual findings from **Data Integration**.

18) **Notifications**: Empire must provide notifications where required in the ECP special permit conditions.

19) **Certifications**: An Empire senior executive officer, vice president or higher must certify in writing the following:

- a. ECP *special permit segment* meets the conditions described in this special permit;
- b. Empire has conducted a class location study;
- c. Empire has maintained ECP records for pressure tests, pipe properties, and compliance with the special permit conditions;
- d. The written manual of O&M procedures required by 49 CFR 192.605 for the ECP has been updated to include all requirements of this special permit; and

- e. Empire must send a certification to PHMSA that all special permit conditions as required by this special permit have been implemented.

The special permit contains conditions to ensure the ECP *special permit segment* 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 – 2008 through August 31, 2018**

Since the beginning of 2008 through April 30, 2018, Empire (Operator ID# 31592) has not had any enforcement cases for violation of 49 CFR Part 192. Enforcement cases include: Notices of Amendments, Notices of Probable Violations, Safety Orders, Warning Letters, and Corrective Action Orders. Empire is owned by National Fuel Gas Company. There have been nine (9) enforcement cases against National Fuel Gas Company (Operator ID# 13061, 13062, 13063, 31592, 32506, 32672, 38956, 39034, 39087, 39577) from 2008 through April 30, 2018.

- National Fuel Gas Supply Corp. (13063)
- National Fuel Gas Distribution Corp. (13061)
- National Fuel Gas Distribution Corp. – New York (13062)
- Empire Pipeline, Inc. (31592)
- NFG Midstream Covington, LLC (32506)
- NFG Midstream Trout Run, LLC (32672)
- NFG Midstream Tionesta, LLC (38956)
- NFG Midstream Mt. Jewett, LLC (39034)
- NFG Midstream Clermont, LLC (39087)
- NFG Midstream Wellsboro, LLC (39577)

Status	Corrective Action Order	Notice of Amendment	Notice of Probable Violation	Safety Order	Warning Letter	Total
CLOSED	0	4	0	0	3	7
OPEN	0	0	2	0	0	2
<b>Total</b>	<b>0</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>9</b>

There are \$202,900 case fines awaiting order against National Fuel Gas companies.

PHMSA has determined that imposing the conditions and limitations summarized in this document will ensure that granting the special permit for usage of alternative MAOP on the ECP *special permit segment* will be consistent with safety.

**Findings:**

Based on the information submitted by Empire 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 Empire to operate the ECP *special permit segment* located Ontario, Yates, Schuyler, Chemung, and Steuben Counties, New York at the alternative MAOP design factors in 49 CFR 192.620(a) would not be inconsistent with pipeline safety.

**Completed in Washington DC on:** October 23, 2018

**Prepared By:** PHMSA – Engineering and Research Division