

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

Special Permit Information:

Docket Number: PHMSA-2022-0167
Requested By: East Tennessee Natural Gas Transmission, LLC
Operator ID#: 4070
Original Date Requested: December 2, 2022
Original Issuance Date: March 31, 2023
Code Sections: 49 CFR 192.53(c), 192.121, 192.144, 192.149, 192.150, 192.619(a), 192.624, 192.710, and 192.714 (effective May 24, 2023)

Purpose:

The Pipeline and Hazardous Materials Safety Administration (PHMSA)¹ provides information to describe the facts of the subject special permit application submitted by East Tennessee Natural Gas Transmission, LLC (ETNG) to discuss any relevant public comments received with respect to the application for a special permit, to present the engineering/safety analysis, and to make findings regarding whether the requested special permit should be granted and if so under what conditions. ETNG requested a special permit to waive compliance from 49 Code of Federal Regulations (CFR) 192.53(c), 192.121, 192.144, 192.149, 192.150, 192.619(a), 192.624, 192.710, and 192.714 for one (1) pipeline segment totaling approximately 0.64 miles of an 8.625-inch diameter Line 3200A-100 Pipeline located in Roanoke County, Virginia.

Pipeline System Affected:

The special permit would allow ETNG to use composite pipe (Smartpipe®)² inside the existing steel pipeline. The new 7.6-inch diameter Smartpipe® will be inserted through the existing 8.625-inch

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 Smartpipe® is defined as the composite pipe. Smartpipe® system is the Smartpipe® pipe and components.

diameter pipeline. Use of Smartpipe® will reduce excavation, earth disturbance, and other activities associated with remediation of the steel pipe.

This special permit with conditions implemented by ETNG will allow the use of Smartpipe® for this remediation project of the 3200A-100 Pipeline. This special permit will benefit ETNG by allowing the remediation of approximately 0.64 miles of the 3200A-100 Pipeline through insertion of 7.6-inch Smartpipe® into the existing 8.625-inch diameter pipeline. Remediation of the 3200A-100 Pipeline will enhance the reliability and safety for the public and the environment. This special permit benefits the public since the insertion process will greatly reduce the earth disturbance and amount of time required to complete the project as compared to the standard direct bury or open trench type of construction.

Special Permit Request:

On December 2, 2022, ETNG applied to PHMSA for a special permit seeking relief from 49 CFR 192.53(c), 192.121, 192.144, 192.149, 192.150, 192.619(a), 192.624, 192.710, and 192.714 for one (1) pipeline segment totaling approximately 0.64 miles of 7.6-inch diameter Smartpipe® and components located in gas transmission Class 3 location. The special permit applies to the pipe material, design, construction, operations, and maintenance requirements of the above listed 49 CFR Part 192 sections. The special permit will allow ETNG to use 7.6-inch diameter Smartpipe® and components by inserting them into an existing 8.625-inch diameter casing pipe. Smartpipe® is a type of composite pipeline, which is not currently authorized for use in PHMSA regulated transmission pipelines. The applicable 49 CFR Part 192 sections for this special permit are as described in **Table 1 – 49 CFR Part 192 Sections**.

Table 1 – 49 CFR Part 192 Sections		
Section	Section Title	Description of Waived Requirements
192.53(c)	General	Section 192.53(c) does not recognize Smartpipe® in meeting the requirements of the Subpart.
192.121	Design of Plastic Pipe	The qualification requirements are specific to plastic pipe, and do not apply to flexible non-metallic Reinforced Thermoplastic Pipe (RTP) such as Smartpipe®.
192.144	Qualifying metallic components	There is no listed specification for the swaged steel connectors to use with the Smartpipe® system.
192.149	Standard fittings	There is no listed specification for Smartpipe® connectors.

Table 1 – 49 CFR Part 192 Sections		
Section	Section Title	Description of Waived Requirements
192.150	Passage of internal inspection devices	There are presently no ILI tools for composite pipe systems since the internal wall of the composite is thermoplastic instead of steel.
192.619(a)	Maximum allowable operating pressure: Steel or plastic pipelines	This section does not provide a design formula for Smartpipe®.
192.624	Maximum allowable operating pressure reconfirmation: Onshore steel transmission pipelines	The maximum allowable operating pressure (MAOP) reconfirmation requirements do not expressly contemplate the installation of composite RTP.
192.710	Transmission lines: Assessments outside of high consequence areas	The assessment requirements are specific to onshore steel transmission pipelines and do not expressly contemplate assessment of pipelines comprised of composite RTP.
192.714 (effective May 24, 2023)	Transmission lines: Repair criteria for onshore transmission pipelines	The repair requirements are specific to onshore steel transmission pipelines and do not expressly contemplate assessment of pipelines comprised of composite RTP.

Special Permit Segments:

This special permit applies to the *special permit segment* in **Table 2 – Special Permit Segment** and is identified using the ETNG survey station (SS) references.

Table 2 – Special Permit Segment									
Outside Diameter (inches)	Line Name	Length (feet)	Start Survey Station (MP - SS)	End Survey Station (MP - SS)	County, State	No. Dwellings	Year Installed	Seam Type	MAOP (psig)
8.625	RURA-ELON 3320A-100	3403	0+00	34+03	Roanoke, VA	6	1965	ERW	813

Note: ERW is a low frequency electric resistance welded pipe longitudinal seam.

Public Notice:

On January 5, 2023, PHMSA published the special permit request in the Federal Register (88 FR 909) and the public comment period ended on February 6, 2023. PHMSA has reviewed all public comments received for Docket Number PHMSA-2022-0167. PHMSA received public comments concerning this special permit request that have been addressed in the Final Environmental Assessment and Finding of No Significant Impact (FEA and FONSI).

The ETNG special permit application letter, Federal Register notice, FEA and FONSI, and all other pertinent documents are available for review in Docket No. PHMSA-2022-0167 in the Federal Docket Management System (FDMS) located at www.Regulations.gov.

Operational Integrity Compliance:

PHMSA reviewed this special permit request to understand the known type of integrity threats that are in the *special permit segment*. 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. The *special permit segment* was reviewed to identify threats to the pipe. The main threat to the Smartpipe® would normally be third party damage, but the special permit requires Smartpipe® to be installed into existing steel pipe. Other threats to a pipeline are mitigated by ETNG being required to implement the special permit conditions. The PHMSA has carefully designed a comprehensive set of conditions that ETNG must implement to comply with this special permit. The special permit conditions are summarized by topics in the below list. The full conditions can be reviewed in their entirety in the special permit.

1) MAOP and General Conditions:

- a) The pipeline must operate at or below a MAOP of 813 pounds per square inch gauge (psig).
- b) The pipeline must operate at or below a design factor of 0.449 of the stated product burst rating of 4,300 psig within the *special permit segment*.

2) Procedure Updates

3) General and Design Requirements

4) Material and Testing Requirements

5) Construction Operator Qualifications

6) Excavation, Pipe Cover, and Damage Prevention

7) Corrosion Control

8) Pressure and Temperature Control and Monitoring

9) Mainline Valve – Monitoring and Remote Control for Ruptures

10) Construction and Operations

11) Communication and Records

12) Gas Quality

13) Annual Reporting

14) Certification

15) Limitations

Past Enforcement History – January 1, 2013 through February 14, 2023:

During January 1, 2013 through February 14, 2023, ETNG was cited in four (4) enforcement actions with no assessed civil penalties. PHMSA issued one (1) Notices of Probable Violation related to 49 CFR 193, two (2) Notice of Amendments, and one (1) Warning Letter. **Table 5** below shows PHMSA’s enforcement actions for ETNG:

Table 5: ETNG Enforcement Matters from January 1, 2013 through February 14, 2023						
Status	Corrective Action Order	Notice of Probable Violation	Notice of Amendment	Safety Order	Warning Letter	Total
CLOSED	0	0	2	0	1	3
OPEN	0	1	0	0	0	1
Total	0	1	2	0	1	4

Summary of Enforcement Findings for ETNG includes:

Integrity Management (IM): Conducting IM Baseline Assessment, Continual Process of Evaluation and Assessment, Elements and Implementation, and Threat Identification; **Maintenance:** Auxiliary Power Sources and Procedures; **Operations:** Change in Class Location and Procedures.

- 49 CFR 192.609, 192.611, 192.909, 192.917, 192.921, and 192.937.

Table 6 below shows PHMSA’s enforcement actions and civil penalties for ETNG and the specific 49 CFR Part 191 and 192 violation:

Table 6: Summary of Enforcement Findings for ETNG January 1, 2013 through February 14, 2023					
Notice of Amendment					
Integrity Management	6	Operation and/or Maintenance	3	Qualifications and Training	1
Notice of Amendment Total:					10
Warning Letter					
Integrity Management	2	Operation and/or Maintenance	2		
Warning Letter Total:					4
Grand Total:					14

Summary of Enforcement Findings for Enbridge:

From January 1, 2013 through February 14, 2023, Enbridge, the operator of ETNG, was cited in 53 enforcement actions with a total of \$1,901,900 in assessed civil penalties on its Algonquin Gas Transmission, LLC, (OPID 288), ETNG (OPID 04070), Enbridge Pipelines, LLC (OPID 31448), Enbridge Pipelines, LLC (Ozark) (OPID 31947), Enbridge Pipelines, LLC (Southern Lights) (OPID 32502), Maritimes & Northeast Pipeline, LLC (OPID 31335), Nexus Gas Transmission, LLC (OPID 39192), Sabal Trail Transmission (OPID 39167), Steckman Ridge, LP (OPID 32380), and Texas Eastern Transmission, LP (OPID 19235) pipeline systems. PHMSA issued three (3) Corrective Action Orders, 22 Notices of Probable Violation, 13 Notices of Amendment, and 15 Warning Letters to Enbridge.

Tables 7 and 8 below show PHMSA's enforcement actions and civil penalties for Enbridge on these 10 pipeline systems.

Table 7: Enbridge Enforcement Matters from January 1, 2013 through February 14, 2023						
Status	Corrective Action Order	Notice of Probable Violation	Notice of Amendment	Safety Order	Warning Letter	Total
CLOSED	2	19	13	0	15	49
OPEN	1	3	0	0	0	4
Total	3	22	13	0	15	53

Table 8: Enbridge Enforcement Civil Penalty Status January 1, 2013 through February 14, 2023				
Proposed	Awaiting Order	Assessed	Withdrawn/Reduced	Collected
\$2,233,700	\$193,700	\$1,901,900	\$105,300	\$1,261,600

The type of 49 CFR Part 192 enforcement violations against Enbridge on these 10 pipeline systems from January 1, 2013 through February 14, 2023 were as follows:

Summary of Enforcement Endings for the 10 Enbridge pipeline systems include:

Atmospheric Corrosion Control: Monitoring; **Construction:** Compliance with specifications or standards, General Inspection, and Repair; **Corrosion Control:** Corrosion Control Records; **Design:** Compressor Stations Emergency Shutdown; **Enforcement Procedures:** Inspections and Investigations, **Integrity Management (IM):** Conducting IM Baseline Assessment, Continual

Process of Evaluation and Assessment, Elements and Implementation, Preventative and Mitigative Measures, Program Elements, Record Keeping, and Threat Identification; **OME Procedural Manual:** Abnormal Operations, General, and Maintenance and normal operations; **Maintenance:** Auxiliary Power Sources, Control Systems, Procedures, Transmission lines-leak surveys, Transmission lines-patrolling, Transmission lines-Record keeping, and Valve Maintenance Transmission Lines; **Operations:** Change in Class Location (Confirmation or Revision of MAOP), Change in Class Location (Required Study), Continuing Surveillance, Emergency Plans, General, Procedures, and Transfer Procedures; **Operator Qualification:** Qualification Program; **Public Awareness:** Develop and Implement Public Awareness, Follow API RP 1162, and Justification for not following API RP 1162; **Test Requirements:** SMYS > 30%; **Gas Transportation:** Underground Natural Gas Storage Facilities; **Welding:** Preparation for Welding, Procedures, and Qualification of Welders.

- 49 CFR 192.7, 192.105, 192.12, 192.167, 192.225, 192.227, 192.233, 192.235, 192.303, 192.305, 192.307, 192.455, 192.461, 192.463, 192.465, 192.469, 192.475, 192.481, 192.491, 192.503, 192.505, 192.507, 192.517, 192.603, 192.605, 192.609, 192.611, 192.613, 192.615, 192.616, 192.619, 192.705, 192.706, 192.709, 192.736, 192.745, 192.801, 192.805, 192.907, 192.911, 192.917, 192.921, 192.933, 192.935, 192.937, and 192.947.

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 Enbridge January 1, 2013 through February 14, 2023					
Notice of Amendment					
Construction	4	Integrity Management	3	OME Procedural Manual	4
Operator Qualification	1	Public Awareness	6	Transportation of Gas	2
Welding of Steel in Pipelines	3				
Notice of Amendment Total:					23
Notice of Probable Violation					
Construction	2	Corrosion Control	6	Design	1
Integrity Management	5	OME Procedural Manual	5	Operation and/or Maintenance	4
Public Awareness	2	Reporting	2	Welding of Steel in Pipelines	2
Notice of Probable Violation Total:					29
Warning Letter					
Construction	4	Corrosion Control	5	Integrity Management	2
National Pipeline Mapping System	1	OME Procedural Manual	9	Operation and/or Maintenance	6
Operator Qualification	1	Public Awareness	4	Test Requirements	1

Table 9: Summary of Enforcement Findings for Enbridge January 1, 2013 through February 14, 2023				
Transportation of Gas	1	Welding of Steel in Pipelines	1	
Warning Letter Total:				35
Grand Total:				87

Findings:

Based on the information submitted by ETNG and PHMSA's analysis of the technical, operational, and safety issues, PHMSA finds that granting this special permit to ETNG to operate one (1) *special permit segment* of approximately 0.64 miles of 7.6-inch Smartpipe® inserted into the existing 3200A-100 Pipeline located in Roanoke County, Virginia, is consistent with pipeline safety.

PHMSA has designed the special permit conditions to effectively assess and remediate threats to the *special permit segment*. To ensure ETNG properly implements the special permit conditions, ETNG will be required to give PHMSA an annual review of their compliance with the special permit.

PHMSA finds that no significant negative impact to human safety and the environment will result from the issuance and full implementation of a special permit that waives the requirements of 49 CFR 192.53(c), 192.121, 192.144, 192.149, 192.150, 192.619(a), 192.624, 192.710, and 192.714. This permit requires ETNG to implement the special permit conditions that include safety requirements on the operations, maintenance, and integrity management of the *special permit segment*.

Completed in Washington DC on: March 31, 2023

Prepared By: PHMSA – Engineering and Research Division

Last Page of Special Permit Analysis and Findings