

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

Special Permit Information:

Docket Number: PHMSA-2021-0042
Requested By: National Fuel Gas Supply Corporation
Operator ID#: 13063
Original Date Requested: March 15, 2021
Original Issuance Date: October 15, 2021
Effective Dates: October 15, 2021 to October 15, 2031
Code Sections: 49 CFR 192.53, 192.55, 192.105, 192.107, 192.109, 192.111, 192.113, 192.144, 192.149, 192.150, 192.327, 192.463, and 192.619

Purpose:

The Pipeline and Hazardous Materials Safety Administration (PHMSA)¹ provides information to describe the facts of the subject special permit application submitted by National Fuel Gas Supply Corporation (NFG), 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. NFG requested a special permit to waive compliance from 49 Code of Federal Regulations (CFR) 192.53, 192.55, 192.105, 192.107, 192.109, 192.111, 192.113, 192.144, 192.149, 192.150, 192.327, 192.463, and 192.619 for one (1) pipeline segment totaling approximately 12.58 miles of 6-inch diameter FM120 Pipeline located in McKean, Elk, and Cameron Counties, Pennsylvania.

Pipeline System Affected:

The special permit application is part of a modernization project which allows NFG to use FlexSteel pipe to replace a 12.75-inch diameter, 1950's vintage bare steel pipeline, known as the FM120

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.

Pipeline. The new 6-inch diameter FlexSteel will be inserted through the existing 12.75-inch diameter pipeline, which will require significant maintenance and repair to operate in pressurized natural gas service. Use of FlexSteel pipe will reduce excavation, earth disturbance, and other activities associated with removal of the existing 12.75-inch diameter steel pipeline and installation of a new steel pipeline into the right of way.

This special permit with conditions implemented by NFG will allow the use of FlexSteel pipe for this modernization project of the FM120 Pipeline. This special permit will benefit NFG by allowing the replacement of approximately 12.58 miles of the FM120 Pipeline (1950s vintage 12.75-inch diameter bare steel natural gas pipeline) through insertion of 6-inch FlexSteel pipe into the existing 12.58 miles of pipeline. Replacement of the FM120 Pipeline will enhance the reliability and safety for the public and users of the state forest, and gas supply for distribution markets, production, and storage where the pipeline is located. 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 March 15, 2021, NFG applied to PHMSA for a special permit seeking relief from 49 CFR 192.53, 192.55, 192.105, 192.107, 192.109, 192.111, 192.113, 192.144, 192.149, 192.150, 192.327, 192.463, and 192.619 for one (1) pipeline segment totaling approximately 12.58 miles of 6-inch diameter FlexSteel pipe and components located in gas transmission Class 1 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 NFG to use 6-inch diameter FlexSteel pipe and components by inserting them into an existing 12.75-inch diameter casing pipe. FlexSteel pipe is a type of flexible steel 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 below:

Section	Section Title	Review
192.53	General	Sub-paragraph (c) does not recognize flexible steel pipe in meeting the requirements of the Subpart.
192.55	Steel Pipe	(a)(1) There is no listed specification for flexible steel pipe.

		(a)(2) Qualification requirements are specific to rigid steel pipe and do not apply to flexible steel.
192.105	Design formula for steel pipe	This section does not provide a design formula for flexible steel pipe.
192.107	Yield strength (S) for steel pipe	This section does not provide a design formula for flexible steel pipe and fittings.
192.109	Nominal wall thickness (t) for steel pipe	This section does not address the steel strip reinforcement used in flexible steel pipe.
192.111	Design factor (F) for steel pipe	This section does not provide design factors for flexible steel pipe.
192.113	Longitudinal joint factor (E) for steel pipe	This section does not apply to flexible steel pipe.
192.144	Qualifying metallic components	There is no listed specification for the swaged steel connectors to use with the FlexSteel pipe system.
192.149	Standard fittings	There is no listed specification for the flexible steel pipe connectors.
192.150	Passage of internal inspection devices	There is no need or value in running an ILI tool since the internal wall of the flexible steel pipe is thermoplastic instead of steel.
192.327	Cover	The existing 12.75-inch diameter steel pipeline is proposed to be used as a casing for the new 6-inch FlexSteel line. Given that the existing line was installed in the mid-1950's, there are some areas with less than 30-inches to 36-inches of cover. However, the existing steel pipe, will serve as a casing for the FlexSteel line, thereby affording it an additional level of protection from 3 rd party damage and from anticipated wheel loads.
192.463	External corrosion control: Cathodic Protection	This section envisions steel coated or bare pipe and does not contemplate externally HDPE lined steel materials. NFG will insert FlexSteel pipe into the existing 12.75-inch diameter pipeline, which will be cleaned prior to insertion (See section VIII.5.a.v for pipeline cleaning procedure). NFG will direct bury and install a cathodic protection test station and anode in soil at every FlexSteel fitting outside the 12.75-inch diameter casing.
192.619	Maximum allowable operating pressure: Steel or plastic pipelines	This section does not provide a design formula for flexible steel pipe.

PHMSA designed a comprehensive set of special permit conditions that NFG is required to implement in order to operate the 6-inch diameter FM120 Pipeline using FlexSteel pipe and components. An overview of the special permit condition topics is in the Operational Integrity Compliance section of this document. The special permit conditions were based upon pipeline safety considerations for the Code sections that NFG was seeking relief for an alternative pipe material other than steel pipe.

This special permit applies to the *special permit segment* defined as follows using the NFG FM120 Pipeline survey station references:

- ***Special permit segment*** – FM120 Pipeline — 66,406 feet (approximately 12.58 miles) from Mile Post 0.0 to 12.58.

The ***special permit segment*** is defined as 66,406 feet (approximately 12.58 miles) of the FM120 Pipeline which is being replaced with a 6-inch diameter FlexSteel pipe inserted into an existing 12.75-inch diameter pipeline. The ***special permit segment*** is in McKean, Elk, and Cameron Counties, Pennsylvania. The ***special permit segment*** maximum allowable operating pressure (MAOP) is 720 pounds per square inch gauge (psig).

Attachment 1 is a map of the FM120 Pipeline.

Public Notice:

On May 25, 2021, PHMSA published the special permit request in the Federal Register (86 FR 28187) and the public comment period ended on June 24, 2021. PHMSA received no comments on the NFG special permit for the FM120 Pipeline.

The NFG 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-2021-0042 in the Federal Docket Management System (FDMS) located at www.Regulations.gov.

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 NFG is required to implement to operate the FM120 Pipeline with 6-inch diameter FlexSteel pipe.

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) NFG must design, operate, and maintain the pipeline in accordance with the following:
 - a) The pipeline must operate at or below a MAOP of 720 psig.

- b) The pipeline must operate at or below a design factor of 0.24 of the stated product burst rating of 3,000 psig, which is 48% of the product's 1,500 psig manufacturer pressure rating, for all Class locations and road crossings within the *special permit segment*.
- 2) General and Design Requirements
 - 3) Material and Testing Requirements
 - 4) Construction Operator Qualifications
 - 5) Excavation, Pipe Cover, and Damage Prevention
 - 6) Corrosion Control
 - 7) Pressure and Temperature Control and Monitoring
 - 8) Construction and Operations
 - 9) Communication and Records
 - 10) Gas Quality
 - 11) Right-of-Way Management Program
 - 12) Annual Reporting
 - 13) Certification
 - 14) Limitations

On August 27, 2019, PHMSA granted NFG a special permit, PHMSA-2017-0090, to install approximately 5.80 miles of 6-inch diameter FlexSteel pipe in a portion of the FM120 Pipeline in McKean and Elk Counties, Pennsylvania. This *special permit segment* was installed in 2019 and has been operated in accordance with special permit conditions that are similar to the special permit conditions for this permit. As of the date of the issuance of this special permit, there have been no operational issues with use of the FlexSteel pipe by NFG.

Past Enforcement History – January 1, 2011 through June 15, 2021:

During the period January 1, 2011 to June 15, 2021, NFG (Operator ID# 13063) has had two (2) enforcement cases for violation of 49 CFR Part 192 (Notices of Probable Violation), four (4) Notices of Amendments, and three (3) Warning Letters. In total, 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 January 1, 2011 through June 15, 2021.

- 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)

Table 1: NFG Enforcement Matters from January 1, 2011, through June 15, 2021						
Status	Corrective Action Order	Notice of Amendment	Notice of Probable Violation	Safety Order	Warning Letter	Total
CLOSED	0	4	1	0	3	8
OPEN	0	0	1	0	0	1
Total	0	4	2	0	3	9

PHMSA issued a final order in April 2019 related to one of the Notices of Probable Violations (NOPV) assessing a civil penalty of \$53,200.

Table 2: NFG Enforcement Civil Penalty Status January 1, 2011 through June 15, 2021				
Proposed	Awaiting Order	Assessed	Withdrawn/Reduced	Collected
\$202,900	\$0	\$53,200	\$149,700	\$53,200

Table 3 is a summary of enforcement findings/violations for NFG, which 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, integrity management.

- 49 CFR 192.169, 192.225, 192.241, 192.465, 192.473, 192.475, 192.481, 192.483, 192.503, 192.553, 192.605, 192.616, 192.617, 192.631, 192.705, 192.735, and 192.739.

Table 3: Summary of Enforcement Findings from NFG January 1, 2011 to June 15, 2021					
Notice of Amendment					
Operation and/or Maintenance	2	OME Procedural Manual	11	Welding	3
Public Awareness	7	Control Room Management	4		
Notice of Amendment Total:					27
Notice of Probable Violation					
Corrosion Control	1	Operation and/or Maintenance	1		
Design	2	OME Procedural Manual	1		
Notice of Probable Violation Total:					5
Warning Letter					
Construction	1	Operation and/or Maintenance	1		
Welding	1	Public Awareness	6		
Warning Letter Total:					9
Grand Total:					41

Findings:

Based on the information submitted by NFG and PHMSA’s analysis of the technical, operational, and safety issues, PHMSA finds that granting this special permit to NFG to operate one (1) *special permit segment* of approximately 12.58 miles of 6-inch FlexSteel pipe inserted into the existing FM120 Pipeline located in McKean, Elk, and Cameron Counties, Pennsylvania, is consistent with pipeline safety.

NFG’s enforcement record does not reflect sustained and substantial noncompliance with 49 CFR Part 192. PHMSA has designed the special permit conditions to effectively assess and remediate threats to the *special permit segment*. To ensure NFG properly implements the special permit conditions, NFG will be required to give PHMSA an annual review of their compliance with the special permit.

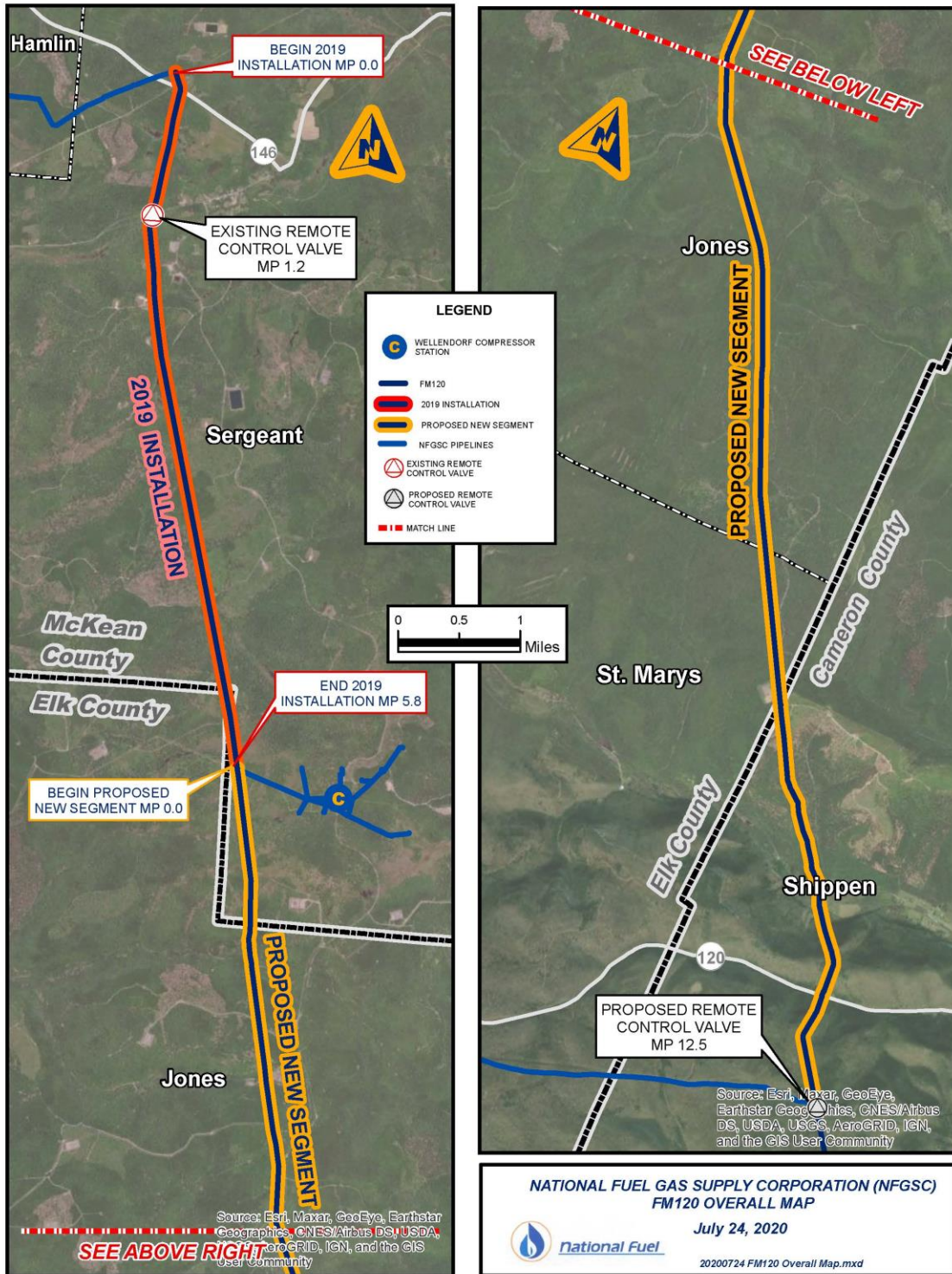
PHMSA finds that no significant negative impact to human safety and the environment will result

from the issuance and full implementation of a special permit that waives the requirements of 49 CFR 192.53, 192.55, 192.105, 192.107, 192.109, 192.111, 192.113, 192.144, 192.149, 192.150, 192.327, 192.463, and 192.619. This permit requires NFG 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: October 15, 2021

Prepared By: PHMSA – Engineering and Research Division

Attachment 1 – FM120 Pipeline Overall Map



Last Page of Special Permit Analysis and Findings