Federal Energy Regulatory Commission
Office of Energy Projects, Division of Gas-Environment & Engineering

ENVIRONMENTAL ASSESSMENT REPORT

Name of Applicant: National Fuel Gas Supply Company (National Fuel)

Date Filed: 3/10/17	**Docket No:** CP17-74-000
Type: Sections 7(b) and 7(c) – Abandonment and Construction of Facilities	**Cost:** $39.5 million

National Fuel proposes to:

- Construct approximately 14.4 miles of new 12-inch-diameter pipeline installed within existing and new rights-of-way (ROW) in McKean County (designated Line KL);
- install approximately 5.8 miles of new 6-inch-diameter pipeline via insertion into the existing 12-inch-diameter FM120 pipeline in McKean and Elk Counties;
- abandon in place of approximately 7.7 miles of the existing Line YM28 in McKean County;
- remove approximately 12.5 miles of Line FM120 from service in McKean, Elk, and Cameron Counties;
- construct a new interconnect between the proposed Line KL and existing FM120, which would include the relocation of a meter station from Line YM28 and construction of a line heater, at Line KL milepost (MP) 14.4;
- construct a bridle connection and mainline valve (MLV) at an existing facility at Line KL MP 0.0;
- construct a new MLV and catalytic heaters at Line KL MP 7.1;
- install a line heater at an existing particleboard plant; and
- conduct miscellaneous valve and piping modifications within existing ROW.

The project, known as the Line YM28 & Line FM120 Modernization Project, is in Cameron, Elk, and McKean Counties, Pennsylvania. National Fuel's stated purpose of the project is to enhance the reliability and safety of its system for distribution markets, storage, local production, and transportation services. National Fuel requests approval of the project by December 31, 2017. Construction would begin in Spring 2018 with the facilities placed in service in November 2018.

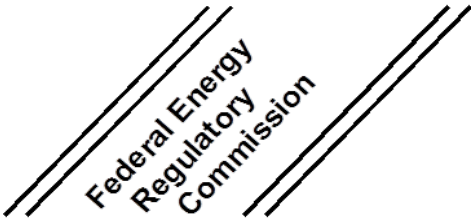
Environmental Impact -- Conclusions:

___ **Categorical Exclusion**	___ **Deficiency Letter Required**
___ **Environment Not Involved**	___ **EA/EIS Required**
_X_ **Environment Complete**	___ **No NOI Required**
	___ **NOI Required**

Environmental Considerations or Comments:

An environmental assessment is attached.

Prepared by:	**Date:**	**Approved by Branch Chief:**	**Date:**
/s/ J. Keith Rodgers, PG	September 29, 2017	*/s/ David C. Swearingen*	September 29, 2017



Office of Energy Projects

September 2017

National Fuel Gas Supply Corporation **Docket No. CP17-74-000**

YM28 and FM120 Modernization Project

Environmental Assessment

Washington, DC 20426

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1.0 PROPOSED ACTION

1.1 Introduction

The staff of the Federal Energy Regulatory Commission (FERC or Commission) prepared this environmental assessment (EA) to address the environmental impacts of the construction and operation of the proposed YM28 and FM120 Modernization Project (Project). On March 10, 2017, National Fuel Gas Supply Corporation (National Fuel) filed an application with the Commission in Docket No. CP17-74-000 under Sections 7(c) and 7(b) of the Natural Gas Act (NGA). National Fuel seeks to obtain a Certificate of Public Convenience and Necessity (Certificate) and Abandonment Authorization to (1) construct approximately 14.4 miles of new 12-inch-diameter pipeline, (2) replace approximately 5.8 miles of Line FM120 and idle approximately 9.5 miles of Line FM120, and (3) abandon in place approximately 7.7 miles of the existing Line YM28 in Cameron, Elk, and McKean Counties, Pennsylvania.

We[1] prepared this EA in compliance with the requirements of the National Environmental Policy Act (NEPA); the Council on Environmental Quality's regulations for implementing NEPA (Title 40 Code of Federal Regulations, Parts 1500-1508 [40 CFR 1500-1508]); and the Commission's regulations at 18 CFR 380. The EA is an integral part of the Commission's decision-making process whether to issue National Fuel a Certificate to construct and operate the proposed facilities, and an authorization to abandon facilities. Approval would be granted if, after consideration of both environmental and non-environmental issues, the Commission finds the Project is in the public convenience and necessity.

The EA includes our independent assessment and our conclusions regarding the proposed action as well as our additional recommendations that we believe would appropriately and reasonably avoid, minimize, or mitigate environmental impacts associated with the Project. Our principal purposes in preparing this EA are to:

- identify and assess potential impacts on the natural and human environment that could result from implementation of the proposed action;
- identify and recommend reasonable alternatives and specific mitigation measures, as necessary, to avoid or minimize Project-related environmental impacts; and
- facilitate public involvement in the environmental review process.

[1] "We," "us," and "our" refer to the environmental staff of the FERC's Office of Energy Projects.

National Fuel requested a Certificate by December 31, 2017, in order to target an in-service date of November 2018. Clearing and site preparation is anticipated to commence in January 2018 and construction is anticipated to commence in May 2018.

1.2 Purpose and Need

According to National Fuel, the Project would enhance the reliability and safety of the National Fuel system, allow for continued transportation services performed by the abandoned facilities, and offer better connectivity for storage and transportation services to National Fuel's backbone transmission pipeline (Line K).

Section 7(b) of the NGA specifies that no natural gas company shall abandon any portion of its facilities subject to the Commission's jurisdiction without the Commission first finding that the abandonment would not negatively affect the present or future public convenience and necessity.

Under Section 7(c) of the NGA, the Commission determines whether interstate natural gas transportation facilities are in the public convenience and necessity and, if so, grants a Certificate to construct and operate them. The Commission bases its decisions on technical competence, financing, rates, market demand, gas supply, environmental impact, long-term feasibility, and other issues concerning a proposed project.

1.3 Proposed Facilities

The Project would consist of the following:

- approximately 14.4 miles of new 12-inch-diameter pipeline installed within existing and new rights-of-way (ROW) in McKean County (designated Line KL);
- approximately 5.8 miles of new 6-inch-diameter pipeline installed via insertion into the existing 12-inch-diameter FM120 pipeline in McKean and Elk Counties;
- abandonment in place of approximately 7.7 miles of the existing Line YM28 in McKean County;
- approximately 9.5 miles of Line FM120 removed from service (idled) in McKean, Elk, and Cameron Counties;
- a new interconnect between the proposed Line KL and existing Line FM120, which would include the relocation of a meter station from Line YM28 and construction of a line heater, at Line KL milepost (MP) 14.4;
- a bridle connection and mainline valve (MLV) at an existing facility at Line KL MP 0.0;
- a new MLV and catalytic heaters at Line KL MP 7.1;
- a line heater at MP 7.2 at an existing particleboard plant; and

- miscellaneous valve and piping modifications within existing ROW.

National Fuel would own and operate all facilities. The general location of the Project facilities is shown on figure 1.

1.4 Public Review and Comment

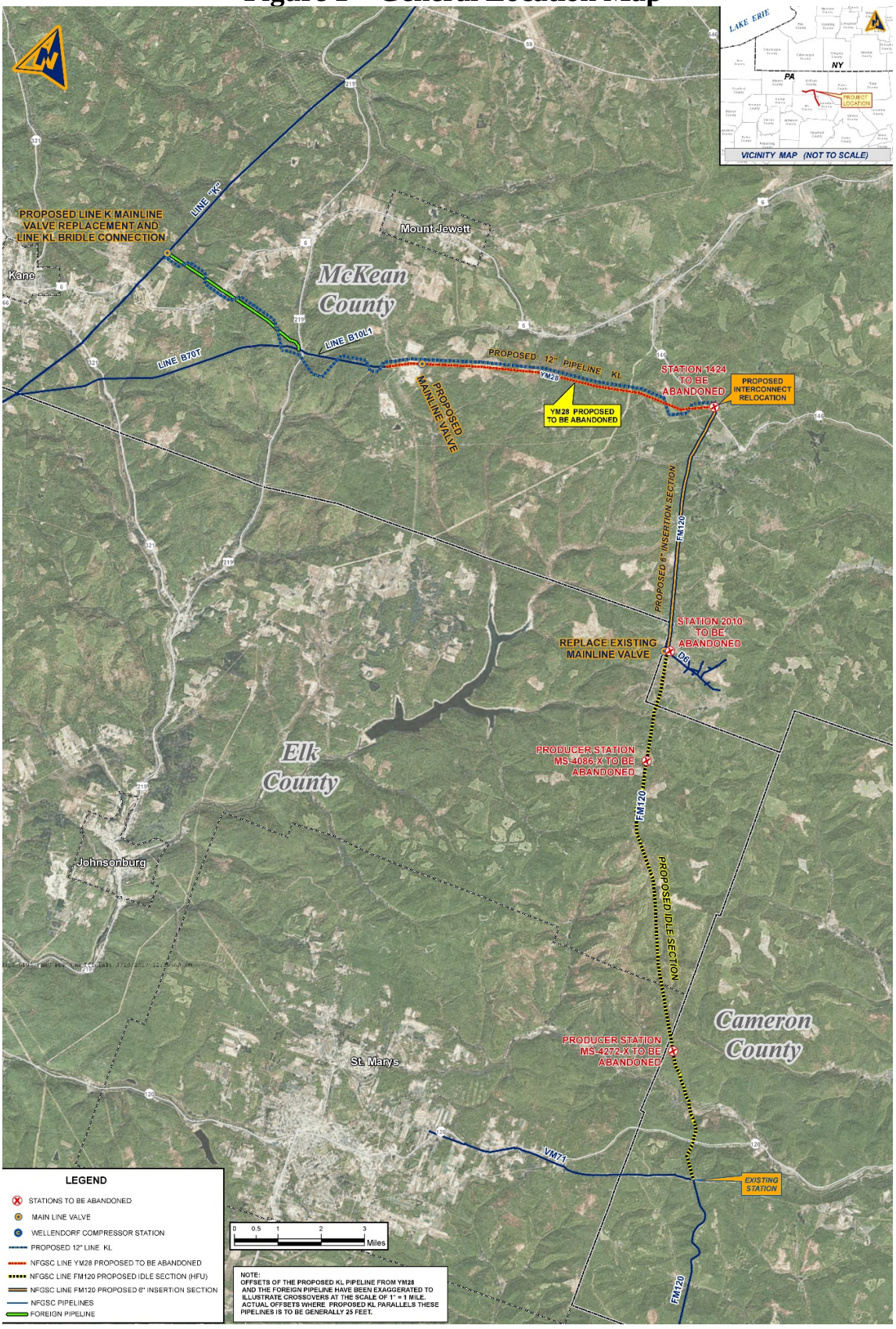
On May 16, 2017, we issued a *Notice of Intent to Prepare an Environmental Assessment for the Proposed YM28 and FM120 Modernization Project and Request for Comments on Environmental Issues* (NOI). The NOI was published in the Federal Register on May 22, 2017, and was mailed to interested parties including federal, state, and local officials; agency representatives; conservation organization; potentially interested Indian tribes; local libraries and newspapers; and property owners affected by the proposed facilities. In response to the NOI, the Commission received comments from the Alleghany Defense Project and William Belitskus. The primary issues raised by the commenters are improper segmentation of the Project from the Northern Access 2016 Project, cumulative impacts, and impacts from increased shale gas development. Environmental comments received during the scoping period are addressed in the applicable sections of the EA.

1.5 Non-Jurisdictional Facilities

Under Section 7 of the NGA, the Commission is required to consider, as part of its decision to authorize jurisdictional facilities, all factors bearing on the public convenience and necessity. Occasionally, proposed projects have associated facilities that do not come under the jurisdiction of the Commission. These non-jurisdictional facilities may be integral to the need for the proposed facilities (e.g., a gas-fueled power plant at the end of a jurisdictional pipeline) or they may be minor, non-integral components of the jurisdictional facilities that would be constructed and operated as a result of the proposed facilities.

Non-jurisdictional facilities associated with the Project include a distribution feed for the Town of Clermont within the Line KL and Line FM120 interconnect workspace. National Fuel would relocate the distribution feed to allow for construction of the interconnect. This non-jurisdictional facility is further addressed in the cumulative impacts section of this EA (see section 2.9).

Figure 1 – General Location Map



1.6 Land Requirements

Construction of the Project would affect 210.85 acres of land, including new permanent ROW, access roads, and additional temporary workspace (ATWS). Operation of the Project would affect 88.94 acres of land in addition to the 42.83 acres of existing permanent ROW (table 1-1). The construction ROW would be 75 feet wide; and the permanent ROW width would be 50 feet wide. Four contractor yards would be used for Line KL and Line FM120 Project activities (two each). The contractor yards are within existing disturbed and cleared lots. The contractor areas will be returned to pre-construction conditions upon completion of construction.

TABLE 1-1

Land Requirements for the Project Facilities

Facility	Land Affected During Construction (acres)		Permanent Operational ROW (acres)	
	New[a]	Existing[b]	New[a]	Existing[b]
Pipeline ROW				
Line KL	117.37	13.56	73.86	13.31
Line FM120 Insertion	10.19	41.72	7.56	27.2
Subtotals	**127.56**	**55.28**	**81.42**	**40.51**
ATWS				
Line KL	5.83	0.05	0	0
Line FM120 Insertion	0.1	0	0	0
Producer Station 4086	0.01	0.29	0	0
Producer Station 4272	0.63	0.02	0	0
Subtotals	**6.57**	**0.36**	**0**	**0**
Staging Areas/Contractor Yards				
Line KL	13.67	0	0	0
Line FM120 Insertion	5.33	0	0	0
Subtotals	**19**	**0**	**0**	**0**
Aboveground Facilities				
Line KL Interconnect	5.39	2.01	5.39	2.01
Line KL Bridle Connection	0.04	0.32	0.04	0.32
Subtotals	**5.44**	**2.32**	**5.44**	**2.32**
Cathodic Protection				
Line KL	2.08	0	2.08	0
Total Land Affected	**160.65**	**57.96**	**88.94**	**42.83**

a Includes only new temporary ROW, excludes use of existing ROW.
b Includes only existing ROW, excludes new temporary ROW.

A total of 31 access roads would be utilized for pipeline construction, of which 30 are existing roads and 1 is new temporary access road. The existing roads would not require modification for Project activities. The new 758-foot-long temporary access road would convert open land to utility use, but would be restored to pre-construction conditions once construction activity has been completed.

Additional or alternative workspaces may be identified in the future due to changes in site-specific construction requirements. National Fuel would be required to file information on each of those areas for FERC review and approval prior to use, following the FERC's established process for evaluating variance requests.

1.7 Construction Procedures

The new Project facilities would be designed, constructed, tested, operated, and maintained to conform with or exceed federal, state, and local requirements, including the U.S. Department of Transportation's (DOT) regulations in 49 CFR 192, *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards*; FERC's *Siting and Maintenance Requirements* in 18 CFR 380.15; and other applicable federal and state safety regulations.

During the construction and restoration phase of the Project, National Fuel would implement the measures contained in its Erosion and Sediment Control and Agricultural Mitigation Plan (ESCAMP) which is based on FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) and FERC's *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures).[2] As further discussed in sections 2.2.2 and 2.2.4 of this EA, National Fuel has proposed 12 alternate measures to the FERC Procedures, which we find acceptable. In addition to its ESCAMP, National Fuel would implement other construction, restoration, and mitigation plans for the Project, including its Project-specific Erosion and Sediment Control Plan (E&SCP), its Spill Prevention Response Procedures (SPRP), and Unanticipated Discovery Plan for cultural resources. We have reviewed these construction and mitigation plans and have found them acceptable.

Based on the age of the pipes to be abandoned and modernized, pipeline liquid may contain polychlorinated biphenyls (PCBs). National Fuel would implement its PCB Procedure which requires contemporaneous PCB sampling to classify PCB levels and determine acceptable disposal plans. National Fuel would comply with the requirements of the Toxic Substances Control Act and 18 CFR 380.12(n)(1) and (n)(2).

1.7.1 Abandonment

Abandoning the pipeline in place would be completed by cutting the pipe and capping it with weld caps or a steel plate. The pipeline would be cleared of gas or natural gas liquids using nitrogen. Pressure would be left on the abandoned pipeline to prevent internal corrosion, and cathodic protection would remain functional. Following the capping, excavated areas would be backfilled and graded to their original elevations and revegetated according to the E&SCP. In addition, abandoned road crossings would be capped and filled with grout on a per crossing basis. National Fuel states it would

[2] The FERC Plan and Procedures are a set of construction and mitigation measures that were developed to minimize the potential environmental impacts of the construction of pipeline projects in general. The Plan and Procedures can be accessed via the FERC website, http://www.ferc.gov/industries/gas/enviro/guidelines.asp.

maintain the existing ROW, which is currently servicing other active and parallel pipelines.

1.7.2 Construction and Insertion

Typical pipeline construction consists of specific activities that make up a linear construction sequence. Prior to construction, National Fuel would clear and grade the construction ROW. Large obstacles, such as trees, rocks, brush, and logs would be removed. Fences, erosion control devices (ECDs) and other environmental and safety measures would be installed (and maintained) in accordance with the E&SCP, all applicable permits, and landowner agreements. As necessary in agricultural and residential areas, segregated topsoil would be stockpiled, usually along one side of the construction corridor.

After clearing and grading the construction ROW, a trench would be excavated to a depth allowing for a minimum of 3 feet of soil cover above the top of the pipeline. Additional cover may be required at foreign utility line crossings to allow at least 12 inches of clearance between the proposed pipe and the foreign line. If necessary, trench dewatering would be performed. Pipeline joints would then be strung alongside the trench on skids, bent as necessary, welded together, inspected, coated, and lowered into the trench.

Once the pipeline is lowered in, the trench would be backfilled using previously excavated materials and if necessary, clean fill. Excess excavated materials or materials unsuitable for backfill would be spread evenly over the construction corridor or transported offsite and properly disposed. The trench would be backfilled to grade or a small crown of material would be left over the trench line to account for potential soil settling. The area would then be rough graded and all debris removed and properly disposed.

After backfilling the trench, the pipeline would be hydrostatically tested to ensure its integrity. The test would be performed in accordance with the requirements of DOT pipeline safety regulations, 49 CFR 192, National Fuel's testing specifications, and applicable permits.

Hydrostatic test water would be withdrawn and discharged in accordance with the applicable permits and Pennsylvania Department of Environmental Protection (PADEP) regulations. Appropriate energy dissipating devices, containment structures, and/or other measures would be implemented as necessary to minimize erosion and sedimentation at the discharge point. Following the pipeline installation and hydrostatic testing, disturbed areas would be restored and graded to pre-construction contours as closely as possible. Permanent ECDs would be installed as appropriate and revegetation measures would be implemented. National Fuel would monitor disturbed areas for successful revegetation.

Regarding the insertion part of the Project, the existing 5.8-mile portion of Line FM120 would be purged of residual natural gas and pigged of free flowing liquids prior to the insertion of the 6-inch-diameter FlexSteel pipe. Although excavation would not be required for the for purging and pigging activities, the in-pipe insertion part of the Project would require bell holes along the pipeline for installation and pull out, as well as cathodic protection on the couplings.

1.7.3 Dry-Ditch Waterbody Crossing Methods

Dry-ditch waterbody crossing methods such as flume or dam and pump may be used for the Project. A flume crossing involves diverting the flow of water across the construction work area through one or more flume pipes placed in the waterbody. Sandbags or other diversion structures are placed directly in the waterbody upstream and downstream of the pipeline centerline to divert the water flow through the flume pipes. The dam and pump crossing method involves using pumps and hoses instead of flumes to move water around the construction work area. The trench line is then isolated and pumped dry, allowing construction crews to excavate the trench and install the pipe. Downstream water flow would be maintained until the trench is backfilled, at which time the dams and other crossing materials (e.g., flume pipe, dams, pumps, hoses) are removed and the banks restored and stabilized.

To the extent possible, streambeds would be returned to their preconstruction contours, and stream and river banks restored to their preconstruction condition and allowed to revegetate in accordance with National Fuel's ESCAMP and E&SCP and any other applicable permit conditions.

1.7.4 Construction Workforce and Environmental Monitoring

Construction of the Project would require about 15 employees for the Line FM120 Insertion and about 150 employees for the Line KL installation. Employees would be trained regarding proper field implementation of the E&SCP and other Project-specific plans and mitigation measures, Project-specific conditions contained in any Commission Certificate, and other applicable federal, state, and local permits and approvals. No new permanent employees would be required for operation or maintenance of the Project.

In order to monitor environmental compliance during construction, National Fuel would employ at least one environmental inspector (EI) per spread. The EI would be responsible for ensuring that construction activities are in compliance with the environmental requirements from construction through restoration. This includes the requirements of the FERC Plan and Procedures; environmental conditions of any Certificate; mitigation measures proposed by National Fuel; and the requirements of any other environmental permits and approvals. The EI would be responsible for identifying, documenting, and overseeing any corrective actions to bring any non-conforming activity

back into compliance. The EI would also have authority to stop activities that violate the environmental conditions of a Certificate or other applicable permits. In addition, the Commission staff would conduct its own independent compliance inspections during construction and restoration of the Project to confirm compliance with the Commission's orders.

1.8 Permits and Approvals

A number of federal, state, and local regulatory agencies have permit or approval authority or consultation requirements for the proposed Project. Table 1-2 provides a list of permits and consultations for the Project; the applicable local, state, and federal agencies; as well as any responses received to date. National Fuel would be responsible for obtaining all necessary permits and approvals for construction and operation of the Project, regardless of whether or not they appear in the table.

TABLE 1-2

Environmental Permit, Review and Consultation Status List

Agency	Permit/Approval/Consultations	Status
FEDERAL		
Federal Energy Regulatory Commission Office of Energy Projects	Certificate of Public Convenience and Necessity to construct, install, own, operate, and maintain a pipeline under NGA Section 7(c) and Abandonment Authorization under NGA Section 7(b).	Formal application filed March 10, 2017.
U.S. Army Corps of Engineers (USACE) Pittsburg District, Regulatory Division	Clean Water Act, Section 404 (Wetland and Waterbody crossing permit), Joint Permit Application.	Filed with the USACE on June 16, 2017.
United States Fish and Wildlife Service - PA	Consultation under Section 7 of the Endangered Species Act; the Migratory Bird Treaty Act; the Bald and Golden Eagle Protection Act; and the Fish and Wildlife Coordination Act (16 U.S. Code §§ 661 *et seq*.).	Initial consultations sent September 19, 2016; additional consultations sent September 27, 2016, November 8, 2016, January 9, 2017, and March 8, 2017. Consultation complete on September 24, 2017.
AMERICAN INDIAN TRIBES		
Absentee Shawnee Tribe of Oklahoma	Comment on the Project under Section 106, National Historic Preservation Act (NHPA).	Initial consultation dated January 20, 2017.
Delaware Nation of Oklahoma	Comment on the Project under Section 106, NHPA.	Initial consultation dated January 20, 2017.
Delaware Tribe of Indians	Comment on the Project under Section 106, NHPA.	Initial consultation dated January 20, 2017. Comments received June 16, 2017.
Eastern Shawnee Tribe of Oklahoma	Comment on the Project under Section 106, NHPA.	Initial consultation dated January 20, 2017.
Seneca Nation of Indians	Comment on the Project under Section 106, NHPA.	Initial consultation dated January 20, 2017.
Seneca-Cayuga Tribe of Oklahoma	Comment on the Project under Section 106, NHPA.	Initial consultation dated January 20, 2017.
Shawnee Tribe of Oklahoma	Comment on the Project under Section 106, NHPA.	Initial consultation dated January 20, 2017.
St. Regis Mohawk	Comment on the Project under Section 106, NHPA.	Initial consultation dated January 20, 2017.
Tonawanda Band of Seneca Indians of New York	Comment on the Project under Section 106, NHPA.	Initial consultation dated January 20, 2017.
LOCAL		
McKean County Conservation District	Chapter 102, Erosion and Sediment Control General Permit (ESCGP-2)	Filed on June 16, 2017.
Elk County Conservation District	Chapter 102, ESCGP-2	Filed on June 16, 2017.
Cameron County Conservation District	Chapter 102, ESCGP-2	Filed on June 16, 2017.

TABLE 1-2

Environmental Permit, Review and Consultation Status List

Agency	Permit/Approval/Consultations	Status
STATE OF PENNSYLVANIA		
Pennsylvania Department of Environmental Protection (PADEP)	Individual Clean Water Act, Section 401 Water Quality Certification	Filed with PADEP on June 16, 2017.
	Clean Water Act, Section 401/Chapter 105, Joint Permit Application	Filed with PADEP on June 16, 2017.
	Existing General Permit-11 (Drip Removal)	Filed with PADEP on August 29, 2016. Permit received on October 24, 2016.
Pennsylvania Department of Conservation and Natural Resources	Rare, Threatened, and Endangered Species Consultation (Line KL)	Initial consultations sent September 26, 2016; additional consultations sent December 28, 2016, and January 16, 2017. Concurrence received on September 27, 2016, and February 6, 2017.
	Rare, Threatened, and Endangered Species Consultation (Line FM120 Insertion)	Initial consultations sent September 19, 2016; additional consultations sent November 3, 2016, and February 14, 2017. Concurrence received on September 27, 2016, and February 28, 2017.
	Bureau of Forestry – Elk State Forest Project Proposal Package (Line FM120 Insertion)	Initial consultations sent May 25, 2017.
Pennsylvania Fish and Boat Commission	Rare, Threatened, and Endangered Species Consultation (Line KL)	Initial consultations sent September 26, 2016; additional consultations sent December 28, 2016. Concurrence received on September 29, 2016, and January 6, 2017.
	Rare, Threatened, and Endangered Species Consultation (Line FM120 Insertion)	Initial consultations sent September 19, 2016; additional consultations sent December 28, 2016. Additional information provided on February 14, 2017. Concurrence received on February 28, 2017.
Pennsylvania Game Commission	Rare, Threatened, and Endangered Species Consultation (Line KL)	Initial consultations sent September 26, 2016; additional consultations sent December 28, 2016. Concurrence received on September 27 and December 29, 2016.
	Rare, Threatened, and Endangered Species Consultation (Line FM120 Insertion)	Initial consultations sent September 26, 2016; additional consultations sent December 28, 2016 and February 14, 2017. Concurrence received on September 19, 2016, November 4, 2016, and February 15, 2017.
Pennsylvania Historic and Museum Commission, Bureau for Historic Preservation Pennsylvania State Historic Preservation Officer	Consultation on the Project under Section 106, NHPA.	Initial consultation dated November 15, 2016; Phase I survey report provided February 21, 2017. Consultation completed March 24, 2017.

2.0 ENVIRONMENTAL ANALYSIS

When considering the environmental consequences of constructing and operating the proposed Project, we describe the duration and significance of any potential impacts according to the following four levels: temporary, short-term, long-term, and permanent. Temporary impacts generally occur during construction, with the resources returning to pre-construction conditions almost immediately. Short-term impacts could continue for approximately 3 years following construction. Long-term impacts would require more than 3 years to recover, but eventually would recover to pre-construction conditions. Permanent impacts could occur as a result of activities that modify resources to the extent that they may not return to pre-construction conditions during the life of the Project, such as with the construction of an aboveground facility. An impact would be considered significant if it would result in a substantial adverse change in the physical environment.

2.1 Geology and Soils

2.1.1 Geology

Geologic Setting

The Project is within the High Plateau, Pittsburg Low Plateau, and Deep Valleys Sections of the Appalachian Plateaus physiographic province. This area is a highland that has been eroded by streams which created deep valleys and hilly topography. The topography in the Project area is characterized by rounded flat uplands that have angular valleys. The local relief is moderate to high, ranging from 300 to 1,000 feet. Elevations range between 560 and 2,560 feet above sea level. The Project area has underlying rocks that include shale, sandstone, coal, limestone, siltstone, and conglomerate.

Mineral Resources

According to the PADEP and the Pennsylvania State University's Mine Map Atlas, no subsurface mining operations are present within 0.25 mile of the Project area. Numerous active and abandoned gas wells are within the Project area. National Fuel would coordinate with the well owners to avoid adverse impacts on production and transportation of oil and gas. Based on the proposed pipeline route and the mitigation measures included in National Fuel's ESCAMP, SPRP, and Project-specific E&SCP, we conclude there would not be a significant impact on mineral resources.

Geologic Hazards

Geologic hazards are naturally occurring physical conditions that are capable of producing property damage and loss of life. Typically, these potential hazards include

seismic-related issues such as ground rupture due to faulting, strong ground shaking, liquefaction, subsidence, slope stability and landslides, flash floods, and karst terrain.

Seismicity

Historically, there is very little seismic activity in the Project area. Because of the lack of active faults and earthquake activity in the area, the risk of soil liquefaction is unlikely. Given these conditions, we conclude that there is a low potential for damage due to prolonged ground shaking, ground rupture, or soil liquefaction to occur within the Project area.

Landslides and Slope Stability

The majority of the Project crosses areas of low landslide incidence. We therefore conclude that the Project is unlikely to be affected by landslides or unstable slopes.

Flooding

According to Federal Emergency Management Agency flood insurance rate maps and the National Flood Hazard Layer data, portions of the Project would cross areas of 100-year floodplains. National Fuel would restore all Project areas to preconstruction contours. No post-construction impacts related to flooding are anticipated.

Karst Terrain

Based on current mapping from the Pennsylvania Department of Conservation and Natural Resources (PADCNR), there are no known karst features within the Project area. As such, surface subsidence due to karst is not expected.

Blasting

Based on surface appearance, lack of outcrops, and proximity to existing utility lines, National Fuel does not anticipate the need for blasting. If blasting is deemed necessary, National Fuel would implement appropriate pre- and post-blasting surveys, coordinate with appropriate local authorities, and develop a Project-specific blasting program. Blasting activities would adhere to local, state, and federal regulations, and appropriate notifications and permits would be obtained prior to blasting operations.

Paleontological Resources

The Project area is underlain by Paleozoic sedimentary rocks that have the potential to contain marine fossils. Although fossil specimens may be encountered during construction activities, no impacts on sensitive paleontological resources are

anticipated during construction. If unique or significant fossil specimens are discovered during excavation activities, National Fuel would notify the PADCNR upon discovery.

2.1.2 Soils

Soil series are soils that are grouped together due to their similar soil chemistry and physical properties. Each soil series is delineated as a single map unit and represent the dominant soil patterns or characteristics. Soil characteristics in the Project area were assessed using the U.S. Department of Agriculture Natural Resources Conservation Services Soil Survey Geographic database. The regional soils associations identified for the Project include generally silty and channery loams developed from sandstone and shale parent materials. Drainage classes generally range from poorly-drained to well-drained.

Construction activities that create soil disturbance, such as clearing, grading, trench excavation, backfilling, and the movement of construction equipment along the ROW, would result in temporary, minor impacts on soil resources. Soil characteristics could affect construction performance or increase the potential for adverse construction-related soil impacts. The activities that have the potential to impact soils and reduce soil quality are the mixing topsoil of with subsoil, bringing excess rocks to the surface, compacting soil by heavy equipment, and disrupting surface and subsurface drainage patterns.

The U.S. Department of Agriculture defines prime farmland soils as those that have the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available for these uses. Prime farmland soils can include either actively cultivated land or land that is potentially available for cultivation. Farmland that does not meet the criteria for prime farmland may still be considered farmland of statewide importance for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the local conservation districts. Generally, this land includes soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. A total of about 111.61 acres of prime farmland soils and about 13.63 acres of farmland of statewide importance would be affected by the Project. It should be noted that only a portion of this land is currently being used for agricultural purposes.

During construction, National Fuel would segregate topsoil unless the landowner or land management agency requests otherwise. Topsoil would be stripped from over the pipeline trench and the adjacent subsoil storage area. National Fuel would remove the topsoil layer to the full topsoil depth, up to 12 inches or as otherwise negotiated with the landowner, in cultivated or rotated croplands and managed

pastures, hayfields, residential areas, and other areas at the landowner's or land managing agency's request. Segregated topsoil would be returned following backfilling of the pipeline trench with subsoil, ensuring preservation of topsoil within the construction area. With implementation of National Fuel's ESCAMP measures, long-term impacts on prime farmland soils and farmland of statewide importance would be minimized. Further, a landowner would not be precluded from using the pipeline easement for agricultural use in the future.

Successful restoration and revegetation is important for maintaining soil productivity and to protect the underlying soil from potential damage and erosion. In accordance with the E&SCP, National Fuel would apply soil amendments, as necessary, to create a favorable environment for the re-establishment of vegetation. National Fuel would also obtain written recommendations from the local soil conservation authority, land management agencies, or the landowner.

Topsoil removal, clearing, grading, and equipment movement could accelerate the erosion process and, without adequate protection, result in discharge of sediment to waterbodies and wetlands. Soil loss due to erosion could also reduce soil fertility and impair revegetation. National Fuel would implement measures specified in its E&SCP to avoid and minimize potential impacts due to soil erosion and sedimentation. During construction, erosion and sediment control measures would be installed and maintained. At the end of construction, National Fuel would reestablish vegetation as soon as possible following final grading. Disturbed areas would be reseeded with seed mixtures developed in consultation with the local soil conservation authority or existing landowners. The Project's compaction potential ranges from low to high, though most of the Project area is in the low range. In accordance with its E&SCP, National Fuel would minimize compaction.

Contamination from spills or leaks of fuels, lubricants, and coolant from construction equipment could adversely affect soils. However, the impacts of such contamination are typically minor because of the low frequency and volumes of spills and leaks. Measures outlined in National Fuel's SPRP would be implemented to reduce potential impacts on soils from spills of the hazardous materials used during construction. These measures include regularly inspecting equipment to ensure it is in good working order, properly training employees regarding the handling of fuels and other hazardous materials, implementing appropriate clean-up protocols, and promptly reporting any spills to the appropriate agencies.

Given the impact minimization and mitigation measures described above, we conclude that soils would not be significantly affected by Project construction and operation.

2.2 Water Resources and Wetlands

2.2.1 Groundwater Resources

The Project is underlain by the principle Appalachian Plateaus aquifer system. The aquifers are consolidated in sedimentary rock in the Appalachian Plateaus Province. These aquifers provide the primary source of drinking water for all counties in the vicinity of the Project. This groundwater is often utilized for agriculture and industrial purposes. The Project is not underlain by any U.S. Environmental Protection Agency (EPA) - designated Sole Source Aquifers. Based on field surveys and a search of agency databases, no municipal water wells were identified within 150 feet of the Project area. Two active private, domestic wells were identified within 150 feet of the Project. To ensure well integrity, National Fuel would offer landowners pre- and post-construction testing of the wells within 150 feet of the construction workspaces and would test for both quality and quantity parameters. If the results of the sampling events indicated any significant differences in the well quality between the pre- and post-construction sampling events National Fuel would compensate the landowner for the repair of the well, installation of a new well, or otherwise arrange for suitable water supplies to be provided.

Impacts on groundwater from construction of the Project could include encountering perched water tables or fracturing the water bearing strata. In addition, spills from fuels and hazardous materials during the abandonment and construction could potentially impact groundwater. However, National Fuel would implement measures contained in its SPRP to contain and clean up any inadvertent spills during construction. Construction techniques would be in accordance with National Fuel's E&SCPs.

Potential impacts on groundwater resources would be minimized through implementation of the E&SCP, SPRP, and other best management practices. We do not anticipate any significant changes to groundwater quality, quantity, or recharge to result from Project activities.

2.2.2 Surface Waters

National Fuel conducted surveys of waterbodies and wetlands within the Project area between September and December 2016. A total of 59 streams (10 ephemeral, 31 intermittent, and 18 perennial) are associated with the construction of the Project (Table 2-1). No major waterbodies (i.e., waterbodies greater than 100 feet at crossing) would be crossed.

TABLE 2-1

Waterbodies Crossed by the Project

MP[a]	Waterbody Name	Flow Regime[b]	Crossing Width (feet)[c]	Designated Water Uses and Water Quality Criteria[d]	Existing Use Classification[e]	Crossing Method
Line KL						
0.59	Glad Run	Intermittent	9	HQ-CWF	None	Dam and Pump/Flume
0.97	UNT to Glad Run	Intermittent	7	HQ-CWF	None	Dam and Pump/Flume
1.04	UNT to Glad Run	Intermittent	4	HQ-CWF	None	Dam and Pump/Flume
2.09	Lanigan Brook	Perennial	12	CWF	EV, MF	Dam and Pump/Flume
2.31	UNT to Lanigan Brook	Perennial	6	CWF	EV, MF	Dam and Pump/Flume
2.91	UNT to Lanigan Brook	Ephemeral	5	CWF	EV, MF	Dam and Pump/Flume
3.93	UNT to West Branch Clarion River	Intermittent	8	CWF	None	Dam and Pump/Flume
3.99	West Branch Clarion River	Perennial	30	CWF	None	Dam and Pump/Flume
6.12	Sicily Run	Perennial	10	CWF	None	Dam and Pump/Flume
7.32	UNT to Sevenmile Run	Perennial	4	HQ-CWF	None	Dam and Pump/Flume
7.75	UNT to Sevenmile Run	Perennial	4	HQ-CWF	None	Dam and Pump/Flume
8.07	Sevenmile Run	Intermittent	3	HQ-CWF	None	Dam and Pump/Flume
12.39	UNT to Martin Run	Intermittent	4	HQ-CWF	None	Dam and Pump/Flume
13.69	Warner Brook	Perennial	7	HQ-CWF	None	Dam and Pump/Flume
Line KL Access Roads						
2.37	UNT to Lanigan Brook	Ephemeral	4	CWF	EV, MF	Existing Access, No Improvements Proposed[f]
2.37	UNT to Lanigan Brook	Intermittent	4	CWF	EV, MF	Existing Access, No Improvements Proposed[f]
2.37	UNT to West Branch Clarion River	Intermittent	4	CWF	None	Existing Access, No Improvements Proposed[f]
2.37	UNT to West Branch Clarion River	Ephemeral	4	CWF	None	Existing Access, No Improvements Proposed[f]
2.37	West Branch Clarion River	Perennial	35	CWF	None	Existing Access, No Improvements Proposed[f]
3.84	UNT to West Branch Clarion River	Ephemeral	3	CWF	None	Existing Access, No Improvements Proposed[f]
11.24	UNT to Marvin Creek	Intermittent	5	CWF	None	Existing Access, No Improvements Proposed[f]
11.24	UNT to Marvin Creek	Intermittent	5	CWF	None	Existing Access, No Improvements Proposed[f]
11.24	UNT to Marvin Creek	Intermittent	5	CWF	None	Existing Access, No Improvements Proposed[f]
11.24	UNT to Marvin Creek	Intermittent	4	CWF	None	Existing Access, No Improvements Proposed[f]
11.24	UNT to Marvin Creek	Intermittent	5	CWF	None	Existing Access, No Improvements Proposed[f]
11.24	UNT to Marvin Creek	Ephemeral	3	CWF	None	Existing Access, No Improvements Proposed[f]

TABLE 2-1

Waterbodies Crossed by the Project

MP[a]	Waterbody Name	Flow Regime[b]	Crossing Width (feet)[c]	Designated Water Uses and Water Quality Criteria[d]	Existing Use Classification[e]	Crossing Method
12.17	UNT to Martin Run	Intermittent	3	HQ-CWF	None	Existing Access, No Improvements Proposed[f]
13.53	UNT to Warner Brook	Perennial	4	HQ-CWF	None	Existing Access, No Improvements Proposed[f]
13.67	UNT to Warner Brook	Intermittent	3	HQ-CWF	None	Existing Access, No Improvements Proposed[f]
13.67	UNT to Warner Brook	Intermittent	3	HQ-CWF	None	Existing Access, No Improvements Proposed[f]
13.67	Warner Brook	Perennial	8	HQ-CWF	None	Existing Access, No Improvements Proposed[f]
Line FM120						
0.53	Warner Brook	Perennial	8	HQ-CWF	None	Pipe Insertion /Timbermat[g]
1.79	East Branch Clarion River	Perennial	5	HQ-CWF	None	Pipe Insertion /Timbermat[g]
2.45	Gum Boot Run	Perennial	8	HQ-CWF	None	Pipe Insertion /Timbermat[g]
2.75	UNT to Buck Run	Intermittent	4	HQ-CWF	None	Pipe Insertion /Timbermat[g]
3.17	UNT to Buck Run	Intermittent	5	HQ-CWF	None	Pipe Insertion /Timbermat[g]
3.23	UNT to Buck Run	Intermittent	5	HQ-CWF	None	Pipe Insertion /Timbermat[g]
3.78	UNT to Doe Run	Intermittent	4	HQ-CWF	None	Pipe Insertion /Timbermat[g]
3.79	UNT to Doe Run	Ephemeral	2	HQ-CWF	None	Pipe Insertion /Timbermat[g]
3.98	Doe Run	Intermittent	4	HQ-CWF	None	Pipe Insertion /Timbermat[g]
4.46	UNT to County Line Run	Intermittent	4	HQ-CWF	None	Pipe Insertion /Timbermat[g]
4.49	UNT to County Line Run	Intermittent	3	HQ-CWF	None	Pipe Insertion /Timbermat[g]
4.56	UNT to County Line Run	Intermittent	5	HQ-CWF	None	Pipe Insertion /Timbermat[g]
4.6	County Line Run	Perennial	15	HQ-CWF	None	Pipe Insertion /Timbermat[g]
5.6	Wellendorf Branch	Perennial	5	HQ-CWF	EV, MF	Pipe Insertion /Timbermat[g]
Line FM120 Access Roads						
1.95	UNT to East Branch Clarion River	Intermittent	4	HQ-CWF	None	Existing Access, No Improvements Proposed
5.8	UNT to North Fork Straight Creek	Perennial	8	HQ-CWF	EV, MF	Existing Access, No Improvements Proposed
N/A	UNT to Reed Hollow Run	Intermittent	3	HQ-CWF, MF	None	Existing Access, No Improvements Proposed
N/A	UNT to Reed Hollow Run	Intermittent	4	HQ-CWF, MF	None	Existing Access, No Improvements Proposed
N/A	UNT to Reed Hollow Run	Intermittent	4	HQ-CWF, MF	None	Existing Access, No Improvements Proposed
N/A	UNT to Reed Hollow Run	Ephemeral	4	HQ-CWF, MF	None	Existing Access, No Improvements Proposed
N/A	UNT to Reed Hollow Run	Ephemeral	3	HQ-CWF, MF	None	Existing Access, No Improvements Proposed
N/A	UNT to Reed Hollow Run	Ephemeral	3	HQ-CWF, MF	None	Existing Access, No Improvements Proposed
N/A	Reed Hollow Run	Perennial	9	HQ-CWF, MF	None	Existing Access, No Improvements Proposed

TABLE 2-1

Waterbodies Crossed by the Project

MP[a]	Waterbody Name	Flow Regime[b]	Crossing Width (feet)[c]	Designated Water Uses and Water Quality Criteria[d]	Existing Use Classification[e]	Crossing Method
N/A	Sugar Bush Hollow Run	Intermittent	3	EV, MF	None	Existing Access, No Improvements Proposed
N/A	UNT to Sugar Bush Hollow Run	Ephemeral	3	EV, MF	None	Existing Access, No Improvements Proposed
N/A	UNT to Sugar Bush Hollow Run	Intermittent	3	EV, MF	None	Existing Access, No Improvements Proposed
N/A	UNT to Big Run	Intermittent	3	HQ-CWF, MF	None	Existing Access, No Improvements Proposed
N/A	UNT to Big Run	Perennial	6	HQ-CWF, MF	None	Existing Access, No Improvements Proposed
N/A	UNT to Reed Hollow Run	Intermittent	3	HQ-CWF, MF	None	Existing Access, No Improvements Proposed

a MP: approximate upland milepost of waterbody crossing.
b Flow regime as classified by PA Code Title 25 Chapter 93.
c Crossing width is the bank to bank width of stream at the pipeline or access road centerline crossing unless noted otherwise.
d As classified by PA Code Title 25 Chapter 93.9. WWF - Warm Water Fishes; CWF - Cold Water Fishes; MF - Migratory Fishes; HQ - High Quality; and EV - Exceptional Value
e As classified by http://files.dep.state.pa.us/Water/Drinking%20Water%20and%20Facility%20Regulation/WaterQualityPortalFiles/Existing%20Use/EU%20table%20list.pdf, dated February 3, 2017. Accessed January, 2017. EV - Exceptional Value; and MF - Migratory Fishes.
f Depending on the conditions at the time of construction, National Fuel would utilize a temporary portable bridge in addition to the existing crossing. Use of the bridge is not anticipated to impact the stream.
g National Fuel would obtain the necessary permits from regulating agencies that would allow excavation if absolutely necessary to accommodate the Line FM120 pipeline insertion.

Several waterbodies crossed by the Project have an existing use classification of "Exceptional Value (EV)," including Lanigan Brook and Wellendorf Branch, as well as unnamed tributaries to Lanigan Brook and North Fork Straight Creek. Waterbodies with the EV designation have state inherent value worthy of protection, and are subject to Pennsylvania's antidegradation rules and additional standards for erosion and sediment control.

All streams crossed by the Project are considered to be sensitive surface waters due to them being either listed by the Pennsylvania Fish and Boat Commission (PFBC) as a stream section that supports the natural reproduction of trout or are an unnamed tributary that contributes to the water quality of the naturally reproducing stream. Additional sensitive surface waters were those considered as an approved trout water by the PFBC. No streams crossed by the Project are listed on the PFBC website as being Class A wild trout streams or wilderness trout streams.

The Project would not cross any National Wild and Scenic rivers or waterbodies that are considered impaired. There are no public drinking water surface intakes within 3 miles downstream of the Project waterbody crossings.

Construction activities associated with the installation of Line KL include clearing and grading, trench dewatering, and backfilling, would have the potential to temporarily impact waterbodies, such as temporary increase in sedimentation and turbidity, particularly within or near flowing surface waters. To minimize these impacts, National Fuel proposes to use a dry-ditch crossing method (using flume or dam and pump) at all waterbody crossings, if water is flowing. National Fuel would evaluate at the time of construction the use of open-cut methods for intermittent and ephemeral streams if no flow is present. National Fuel would use existing access roads. No improvements to those roads are proposed; therefore, we expect no impacts on waterbodies crossed by the access roads. Staging areas and aboveground facilities for Line KL would not cross nor impact waterbodies.

National Fuel proposes to insert approximately 5.8 miles of 6-inch-diameter FlexSteel pipeline into the existing Line FM120 12-inch-diameter 1950s vintage bare steel pipe. National Fuel would use existing access roads to access Line FM120 and ATWS, and no improvements to those roads are proposed. As such, we expect no impacts on waterbodies from the pipe insertion or from use of access roads. Staging areas and ATWS for the pipe insertion would not cross nor impact waterbodies.

Clearing and grading of vegetation cover could increase erosion into waterbodies. Compaction of soils by heavy equipment near waterbodies may accelerate erosion and the transportation of sediment carried by stormwater runoff. To minimize erosion, National Fuel would implement its E&SCP, which include installing and maintaining erosion controls, locating all ATWS at least 50 feet from the waterbody banks and wetlands (with the exception where National Fuel is requesting alternate measures to the sections V.B.2.a and VI.B.1.a of the FERC's Procedures), limiting vegetation clearing of the approaches to waterbodies, and stabilizing and restoring the construction work areas in a timely manner.

National Fuel's mitigation measures to protect surface waters include:

- constructing crossings as close to perpendicular to the axis of the waterbody channel as engineering and routing conditions permit;
- leaving at least 15 feet of ground on either side of the waterbody (top of bank) as a natural, vegetated strip (except for the trench and equipment crossing);
- where pipelines parallel a waterbody, maintaining at least 15 feet of undisturbed vegetation between the waterbody (and any adjacent wetland) and the construction right of way, except where maintaining this offset would result in greater environmental impact.
- where waterbodies meander or have multiple channels, routing the pipeline to minimize the number of waterbody crossings.
- maintaining adequate waterbody flow rates to protect aquatic life, and prevent the interruption of existing downstream uses

- clearly marking waterbody buffers (e.g., extra work area setbacks, refueling restrictions) in the field with signs and/or highly visible flagging until construction-regulated ground disturbing activities are complete.

FERC's Procedures (sections V.B.2 and VI.B.1.a) require that ATWS be at least 50 feet away from the water's edge and/or wetland boundaries, unless site-specific justification warrants an alternate arrangement. National Fuel has requested 12 ATWS within 50 feet of the edge of a waterbody or wetland, due to terrain or because the existing facility to be removed is sited within the buffer. The work area locations and site-specific justifications for the work areas as alternate measures from FERC's Procedures are provided in table 2-2. We have reviewed the locations and the site-specific justifications provided by National Fuel and find them to be acceptable.

TABLE 2-2

Additional Temporary Workspaces within 50 feet of a Wetland or Waterbody

MP	Feature ID (Type)	Description of Modification	Justification
Line KL			
1.51	WPA-CMB-002 [Palustrine Scrub-Shrub (PSS) wetland]	ATWS within 32 feet of wetland	bore of railroad and road
2.9	SPA-CMB-005 (Ephemeral)	ATWS within 42 feet of stream	slope
4.02	WPA-CMB-033 [Palustrine Forested (PFO) wetland]	ATWS within 36 Feet of wetland	crossing of wetland and slope
7.29	WPA-JTK-095 [Palustrine Emergent (PEM)/PFO wetland]	ATWS within 12 feet of wetland	crossing of stream and wetland complex
7.32	SPA-JTK-039 (Perennial)	ATWS within 31 feet of stream	crossing of stream and wetland complex
7.74	WPA-JTK-093 (PEM)	ATWS within 44 feet of Wetland	crossing of stream and wetland complex and slope
12.73	WPA-JTK-057 (PEM)	ATWS within 23 feet of Wetland	slope
13.72	SPA-JTK-016 (Perennial)	ATWS within 40 feet of Wetland	crossing of stream and wetland complex
Line FM120 Insertion			
5.8	WPA-JTK-007 (PEM), WPA-JTK-008 (PEM), WPA-JTK-009 (PEM), and WPA-JTK-010 (PEM)	ATWS within 0, 2, 41 and 8 feet of wetland	replacement of existing MLV
Line FM120 Idle			
N/A	WPA-CMB-029 (PEM)	ATWS within a wetland	abandonment of existing producer station MS-4086-X
N/A	WPA-CMB-027 (PEM)	ATWS within a wetland	abandonment of existing producer station MS-4272-X
N/A	SPA-CMB-032 (Perennial) and WPA-CMB-028 (PEM)	ATWS within 40 feet of stream and within wetland	removal of existing SR 120 Drip

MP: milepost; N/A: not applicable

The FERC Procedures require that National Fuel install sediment barriers along the edge of the workspace to contain spoil within the area of disturbance and to maintain the sediment barrier until restoration and stabilization of disturbed areas are complete. National Fuel would construct the Project according to its E&SCP and install erosion

control devices to provide adequate protection for these resources from Project-related erosion and run-off. If additional ATWS cannot be set back 50 feet from a waterbody or wetland, National Fuel would file the appropriate variance request with the FERC for review and approval.

The Project is within the 100-year Federal Emergency Management Agency floodplain; however, the Project would not result in permanent fill of any floodplains. National Fuel would submit all required documentation for construction in the floodplain through the Joint Permit Application with the U.S. Army Corps of Engineers (USACE) and PADEP, and perform all construction in compliance with its Erosion and Sediment Control General Permits (ESCGP-2) from McKean and Cameron Counties.

To minimize the risk of potential fuel or equipment fluid spills into waterbodies, National Fuel has developed its SPRP, which would be implemented throughout the duration of construction. Hazardous materials, chemicals, lubricating oils, and fuels used during construction would be stored in upland areas at least 100 feet from waterbodies. No equipment would be parked and/or refueled within 100 feet of waterbodies without the coordination of the EI and implementation of additional precautions such as continual monitoring of fuel transfer and use of secondary containment structures.

All surface waterbodies crossed by the Project would be restored to pre-construction contours to ensure that no surface flow capacity is lost. Restoration activities would be performed immediately after the completion of pipeline installation. National Fuel would follow its E&SCP, which incorporates the protocols and procedures contained within FERC's Plan and Procedures, and its SPRP during construction and revegetation for the Project to ensure that impacts on surface waters would be short-term and not significant.

2.2.3 Hydrostatic Testing

Abandoning portions of Line YM and removing portions of Line FM120 would not require the use of hydrostatic test water; however, National Fuel would hydrostatically test the new Line KL and the newly inserted portions of Line FM120. National Fuel would use approximately 450,000 gallons of water to test Line KL, and approximately 40,000 gallons of water to test Line FM120. National Fuel would obtain water from a freshwater pond, near the Line KL/FM120 intersection. The pond is a plastic-lined water impoundment that was permitted and installed by a subsidiary company for producer activities and has a 2,000,000 gallon capacity. Upon completion of the hydrostatic test, water would be filtered and returned to the pond; as such, no permits to withdraw or discharge hydrotest water from this impoundment would be required. In the event that hydrostatic water is released to the ground, National Fuel would abide by the permit conditions contained in its existing Pennsylvania statewide National Pollutant Discharge Elimination System (NPDES) permit, issued by PADEP.

2.2.4 Wetlands

The USACE defines wetlands as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of wetland vegetation typically adapted for life in saturated soil conditions." We define wetlands as any area that is not actively cultivated or rotated cropland and that satisfies the requirements of the current federal methodology for identifying and delineating wetlands.

Wetlands can be classified based on the National Wetlands Inventory classification system. Wetland classifications found in the Project area include palustrine emergent (PEM) wetlands, which are freshwater wetlands characterized by herbaceous hydrophytic vegetation and typically occur along stream banks and in wet meadows; palustrine unconsolidated bottom (PUB) wetlands, which are ponds; and palustrine forested (PFO) wetlands, which are freshwater wetlands that are dominated by woody vegetation that is at least 20 feet tall.

National Fuel conducted surveys between September and December 2016 in accordance with the 1987 USACE Wetland Delineation Manual and the 2012 Regional Supplement to the USACE Wetland Delineation Manual: Eastern Mountains and Piedmont Region, Version 2.0. National Fuel conducted additional field reviews in April 2016 to verify features previously identified during the winter conditions.

The Project would cross 23 wetlands that have EV status, as defined by Pennsylvania Code Title 25 Chapter 105.17.1. National Fuel would implement antidegradation best available combination of technologies and other best management practices, per the State code for protecting EV-designated wetlands.

Construction of the Project would impact 5.20 acres of total wetlands (0.19 acre of PFO, 0.23 acre of PUB, and 4.78 acres of PEM). Operation of the Project would impact 0.69 acre of total wetlands (0.10 acre of PFO, 0.05 acre of PUB, and 0.54 acre of PEM). Table 2-3 summarizes the wetland crossings impacted by the Project, including wetland classification, crossing lengths, and permanent and temporary wetland impacts.

Project construction activities directly affecting wetlands would be related to open cut, abandonment activities, use of workspace, and other ground-disturbing activities. The Project would affect wetlands primarily as a result from the potential alteration of wetland value from vegetation clearing to install the various parts of the Project. Construction could result in temporary and long-term impacts on wetlands from the loss of forest and herbaceous vegetation, potentially altering wildlife habitat; soil disturbance from excavation, trenching, grading, and compaction; increased sedimentation and turbidity; and hydrologic profile changes. Construction activities could also impact water quality within the affected wetlands as a result of increased sedimentation or inadvertent

spills of fuel or chemicals. The use of timber mats to provide a stable work area within wetlands could also result in the compaction of wetland soils.

National Fuel would conduct wetland crossings, install and maintain erosion control measures, and restore and revegetate wetlands in accordance with its E&SCP to avoid or minimize impacts on wetlands.

In saturated wetlands where soils are unstable, temporary prefabricated equipment mats would be installed adjacent to the pipeline trench to create a stable travel working surface through the wetland. Construction would proceed as in unsaturated wetlands, except topsoil would not be segregated due to the saturated conditions. ATWS would not be within 50 feet of any wetland unless site-specific conditions dictate otherwise and are deemed acceptable by FERC staff (see table 2-2).

After construction, the wetlands would be restored and revegetated. Revegetation would be deemed successful if the cover of the herbaceous and/or woody species is at least 80 percent of the type, density, and distribution of the vegetation for the wetland prior to construction or in adjacent wetland areas that were not disturbed by construction.

In PEM wetlands, the herbaceous vegetation would regenerate quickly (typically within 1 to 3 years), resulting in short-term, temporary impacts on this type of wetlands. The 0.54-acre emergent wetland vegetation in the maintained pipeline ROW of Line KL and Line FM120 would be allowed to revegetate to previous conditions, despite a 10-foot-wide corridor centered on the pipeline that would be maintained through routine mowing.

Areas of PFO wetlands affected by the construction of Line KL (0.19 acre) would be allowed to revegetate; however, woody vegetation may take several years to decades to regenerate fully. Approximately 0.10 acre of PFO wetland would be permanently converted to PEM or scrub/shrub wetland because the trees would not be allowed to regrow within the 30-foot-wide permanent ROW for PFO wetlands. This represents a conversion of wetland type, but not a net loss of wetland habitat. In the long term, the affected PFO wetlands would be expected to continue to provide important ecological functions such as sediment retention, nutrient removal, flood attenuation, groundwater recharge/discharge, and wildlife habitat.

National Fuel would conduct all crossing of wetlands in compliance with USACE Section 404 permits terms and conditions, including any required mitigation for PFO wetland impacts. Based on the above discussion, we conclude that impacts on wetlands resulting from construction and operation of Project would not be significant.

TABLE 2-3

Wetlands Impacted by the Project

Wetland ID	MP	Classification	Pipeline Crossing Length (feet)[a]	Wetland Impact (Acres)		Exceptional Value (Yes/No)[d]
				Construction[b]	O&M[c]	
Line KL						
WPA-CMB-032	3.93	PFO	155	0.14	0.09	Yes
WPA-CMB-033	4.01	PFO	23	0.03	0.02	Yes
WPA-JTK-103	6.44	PEM	71	0.10	0.02	No
WPA-JTK-097	6.74	PEM	0	0.01	0.00	No
WPA-JTK-095 Crossing 1	7.29	PFO	0	0.02	<0.01	Yes
WPA-JTK-095 Crossing 2	7.29	PEM	36	0.05	0.01	Yes
WPA-JTK-094	7.56	PEM	0	0.01	0.00	No
WPA-JTK-093	7.75	PEM	0	0.06	<0.01	Yes
WPA-JTK-092	8.03	PEM	12	0.04	<0.01	Yes
WPA-JTK-091	8.05	PEM	0	0.01	0.00	No
WPA-JTK-073	10.22	PEM	8	0.02	<0.01	No
WPA-JTK-071	10.58	PEM	0	0.01	0.00	No
WPA-JTK-069	10.69	PEM	0	0.01	0.00	No
WPA-JTK-063	11.22	PEM	0	0.01	0.00	No
WPA-JTK-061	11.29	PEM	0	0.01	0.00	No
WPA-JTK-056	12.54	PEM	0	0.01	0.00	No
WPA-JTK-057	12.71	PEM	47	0.08	0.01	Yes
WPA-CMB-026	12.87	PEM	0	0.01	0.00	No
WPA-JTK-052	13.69	PEM	0	0.02	0.00	Yes
		SUBTOTAL	**353**	**0.65**	**0.14**	
		PFO	*178*	*0.19*	*0.10*	
		PEM	*175*	*0.46*	*0.04*	
Line FM120						
WPA-JTK-040	0.83	PEM	0	0.01	<0.01	No
WPA-JTK-087	1.16	PEM	0	0.10	0.00	No
WPA-JTK-039	1.25	PEM	86	0.08	0.02	Yes
WPA-JTK-036 Crossing 1	1.27	PEM	16	0.03	<0.01	Yes
WPA-JTK-036 Crossing 2	1.28	PUB	204	0.23	0.05	Yes
WPA-JTK-036 Crossing 3	1.31	PEM	37	0.12	0.01	Yes
WPA-JTK-035	1.33	PEM	34	0.02	0.01	Yes
WPA-JTK-034	1.79	PEM	0	0.02	<0.01	Yes
WPA-JTK-033	1.97	PEM	25	0.09	0.01	No
WPA-JTK-032	2.05	PEM	4	0.20	<0.01	No
WPA-JTK-031	2.16	PEM	46	0.20	0.01	No
WPA-JTK-030	2.48	PEM	125	0.20	0.03	Yes
WPA-JTK-029	2.77	PEM	0	0.09	0.00	No
WPA-JTK-028	2.93	PEM	21	0.05	0.01	No
WPA-JTK-027	3.16	PEM	49	0.13	0.01	Yes
WPA-JTK-026	3.17	PEM	21	0.02	<0.01	Yes
WPA-JTK-025	3.19	PEM	40	0.08	0.01	Yes
WPA-JTK-024	3.24	PEM	114	0.03	0.02	Yes
WPA-JTK-023	3.29	PEM	11	0.02	<0.01	No
WPA-JTK-022	3.32	PEM	0	0.02	0.00	No

TABLE 2-3

Wetlands Impacted by the Project

Wetland ID	MP	Classification	Pipeline Crossing Length (feet)[a]	Wetland Impact (Acres) Construction[b]	Wetland Impact (Acres) O&M[c]	Exceptional Value (Yes/No)[d]
WPA-JTK-020	3.84	PEM	160	0.22	0.04	Yes
WPA-JTK-019	3.98	PEM	47	0.06	0.01	Yes
WPA-JTK-018	4.08	PEM	31	0.06	0.01	No
WPA-JTK-017	4.54	PEM	321	0.54	0.07	Yes
WPA-JTK-016	4.62	PEM	102	0.12	0.02	Yes
WPA-JTK-015	5.04	PEM	0	0.07	0.00	No
WPA-JTK-014	5.25	PEM	116	0.11	0.03	No
WPA-JTK-013	5.32	PEM	61	0.18	0.02	No
WPA-JTK-012	5.57	PEM	171	0.45	0.04	Yes
WPA-JTK-011	5.71	PEM	154	0.11	0.04	No
WPA-JTK-009	5.79	PEM	0	0.09	0.00	No
WPA-JTK-010	5.79	PEM	14	0.02	0.00	No
WPA-JTK-007	5.8	PEM	0	0.01	0.00	No
WPA-JTK-008	5.8	PEM	0	0.04	0.00	No
		SUBTOTAL	**2,367**	**4.33**	***0.55***	
		PFO	*0*	*0.00*	*0.00*	
		PUB	*204*	*0.23*	*0.05*	
		PEM	*2,163*	*4.10*	*0.50*	
Line FM120 ATWS (Producer Station 4086 Abandonment)						
WPA-CMB-029	N/A	PEM	0	0.15	0.00	No
Line FM120 ATWS (Drip Removal)						
WPA-CMB-028	N/A	PEM	0	0.05	N/A	Yes
		PROJECT TOTALS	**2,720**	**5.20**	**0.69**	
		PFO	***178***	***0.19***	***0.10***	
		PUB	***204***	***0.23***	***0.05***	
		PEM	***2,338***	***4.78***	***0.54***	

a Length of crossing is representative of the centerline crossing length. Where the crossing length is 0, the wetland is crossed by workspace but not the pipeline.
b Construction wetland acreage includes impacts associated with all areas within the construction workspace limits, both temporary and permanent.
c Operation and Maintenance (O&M) wetland impacts include impacts associated with vegetation maintenance areas.
d Exceptional Value as defined by PA Code Title 25 Chapter 105.17.1.

2.3 Vegetation, Wildlife, and Special Status Species

2.3.1 Vegetation

The Project would cross several distinct upland communities and cover types, including agriculture, upland herbaceous, upland shrub, mixed hardwood forest, and palustrine wetland. Descriptions of the vegetation communities crossed by the Project are described below.

Agricultural Land

Agricultural land in the Project area includes areas that are used for cropland and hay. Non-crop vegetation identified during Project surveys included lateflowering thoroughwort, Canada goldenrod, brackenfern, wild rye, and common rush.

Upland Herbaceous

Upland herbaceous land in the Project area consists of disturbed land that is actively maintained in herbaceous vegetation and is mainly associated with existing ROW, open pasture, developed land, and residential lands. Species occurring in upland herbaceous cover include Japanese stiltgrass, common velvetgrass, birdsfoot trefoil, and deertongue.

Upland Shrub

Upland shrub land in the Project area consists of land that is actively maintained in scrub-shrub herbaceous vegetation, and is mainly associated with pasture. Species occurring in upland shrub cover include multiflora rose and pin cherry.

Mixed Hardwood Forest

The Project area is within the Laurentian Mixed Forest Province. The Laurentian Mixed Forest Province includes forests from early- to late-successional stage with some coniferous components along with a mosaic of pure deciduous forest in favorable habitats with good soils and pure coniferous forest in less favorable habitats with poor soils. Common deciduous species identified within the Project area included sugar maple, red maple, black cherry, American beech, and eastern hemlock.

The majority of the forest along Line KL are stands of mixed immature hardwoods and softwoods. Approximately 13 miles (out of 14.4 miles total) of the proposed Line KL ROW is privately owned and actively managed for timber. Mature forests (i.e., stands that contain saw timber of 18-inch diameter-at-breast-height or above; generally 70-80 years or older) make up about 0.69 acre of the total acres of mixed hardwood forest that would be affected by construction of Line KL.

National Fuel consulted with Elk State Forest personnel to determine if the Line FM120 insertion would impact mature forest, as a section of the pipeline (from MP 0.07 to 0.36) is within the state forest. Mature forests make up about 3.82 acres of the total acres of mixed hardwood forest that would be impacted by the Line FM120 insertion, as a result of an additional 12.5 feet of ROW that would be cleared (National Fuel's ROW is 50 feet wide, of which 37.5 feet is currently cleared).

Palustrine Wetland

As described above, wetlands within the Project area are classified as PFO, PUB, and PEM. Vegetation present within wetlands crossed or otherwise impacted by the Project includes: yellow birch, eastern hemlock, marsh blue violet, sensitive fern, swamp dewberry, lamp rush, arrowleaf tearthumb, bladder sedge, wrinkleleaf goldenrod, and woolgrass.

Noxious Weeds and Invasive Species

The PADCNR Bureau of Forestry (PADCNR-BOF) requested that National Fuel conduct a broad scale invasive plant survey utilizing guidance from the PADCNR's *Oil and Gas Management Guidelines – Appendix D: Invasive Plant Management*. National Fuel conducted an invasive plant survey from September through December 2016. Common noxious weeds in the Project area include reed canary grass, goatsrue, crown vetch, velvet grass, bull thistle, and Japanese stilt grass.

Impacts on vegetation from Project construction would result from activities related to installation of Line KL, insertion of Line FM120, abandonment activities, use of workspace, and other ground-disturbing activities. Table 2-4 provides a summary of vegetation communities affected by the pipelines.

Construction activities from the Project components would affect mixed hardwood forest the most, about 112.12 acres (82 percent of the total lands impacted). Following Project activities, all of the areas cleared or otherwise disturbed would be allowed to revert to pre-construction vegetation cover types. However, construction impacts on forests would be long term, taking up to several decades for hardwoods to reach maturity. National Fuel would implement measures to revegetate these areas as outlined in its E&SCP, the FERC Plan, and landowner requests.

Mixed hardwood forest would also be the vegetation community most affected by Project operation, consisting of about 69.35 acres (83 percent) of the total lands impacted by operation. These areas within the permanent ROW would be permanently converted from forested to herbaceous cover. For the Line FM120 insertion, National Fuel proposed to clear trees on lands owned by Elk State Forest, within the existing ROW. The ROW is 50 feet wide, of which approximately 37.5 feet is currently cleared. National Fuel would clear an additional 12.5 feet on the eastern side of the existing pipeline to accommodate future patrols and preserve the integrity of the pipeline.

During operations, maintenance of the permanent pipeline ROW, including tree removal, would be necessary to allow for visibility and access to the pipeline for required patrols and surveys. The permanent ROW would be periodically and

seasonally mowed, but not more frequently than every three years, in accordance with the vegetation maintenance restrictions outlined in the FERC Plan and Procedures. Areas that become part of the 50-foot permanent ROW would be maintained as herbaceous cover. Where forested areas are permanently impacted, the Project components would primarily parallel National Fuel's existing ROW, minimizing forest fragmentation where there is a permanent conversion of forests to maintained herbaceous cover. The Project would clear about 0.69 acre of mature forests along the Line KL corridor and 3.82 acres along the Line FM120 insertion ROW, for a total of 4.51 acres.

TABLE 2-4

Vegetation Communities Affected by Construction and Operation of the Project

Facility	Agricultural (acres)		Upland Herbaceous (acres)		Upland Shrub (acres)		Mixed Hardwood Forest (acres)		Palustrine Wetland (acres)		Total (acres)	
	Constr.	Oper.	Constr.	Oper.	Constr.	Oper.	Constr.	Oper.	Constr.	Oper.	Constr.	Oper.
Pipeline ROW												
Line KL ROW	0.85	0.57	4.58	3.52	7.04	4.34	101.11	62.42	0.62	0.47	114.20	71.32
Line FM120 Insertion ROW	0.00	0.00	1.91	0.94	0.01	0.00	6.28	5.73	4.35	2.37	12.55	9.05
Subtotal	***0.85***	***0.57***	***6.49***	***4.46***	***7.05***	***4.34***	***107.39***	***68.15***	***4.97***	***2.84***	***126.75***	***80.36***
Additional Temporary Workspaces												
Line KL ATWS	0.33	0.00	1.31	0.00	0.62	0.00	3.36	0.00	0.00	0.00	5.61	0.00
Line FM120 Insertion ATWS	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.02	0.00
Producer Station 4086 Abandonment ATWS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.15	0.00
Producer Station 4272 Abandonment, Drip Removal, and Cut/Cap ATWS	0.00	0.00	0.08	0.00	0.00	0.00	0.16	0.00	0.05	0.00	0.29	0.00
Subtotal	***0.33***	***0.00***	***1.39***	***0.00***	***0.62***	***0.00***	***3.53***	***0.00***	***0.21***	***0.00***	***6.07***	***0.00***
Staging Areas/Contractor Yards												
Line KL Staging/Contractor Yards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00
Line FM120 Insertion Staging/Contractor Yards	0.00	0.00	1.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.21	0.00
Subtotal	***0.00***	***0.00***	***1.21***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.02***	***0.00***	***1.23***	***0.00***
Aboveground Facilities												
Line KL Interconnect	0.00	0.00	0.31	0.31	0.61	0.61	0.00	0.00	0.00	0.00	0.92	0.92
Line KL Bridle Connection	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.05	0.05
Line KL MLV	N/A[4]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MLV Replacement	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Subtotal	***0.00***	***0.00***	***0.31***	***0.31***	***0.61***	***0.61***	***0.05***	***0.05***	***0.00***	***0.00***	***0.97***	***0.97***
Cathodic Protection												
Line KL	0.00	0.00	**0.73**	0.73	0.20	0.20	**1.15**	1.15	0.00	0.00	2.08	2.08
Subtotal	***0.00***	***0.00***	***0.73***	***0.73***	***0.20***	***0.20***	***1.15***	***1.15***	*0.00*	***0.00***	***2.08***	***2.08***
Project Total	**1.18**	**0.57**	**10.13**	**5.50**	**8.48**	**5.15**	**112.12**	**69.35**	**5.20**	**2.84**	**137.11**	**83.41**

MLV: mainline valve

During construction, exposed topsoil may provide for the recruitment of invasive species, and the potential for equipment to bring in seeds to non-infested areas. To avoid and minimize the potential for the introduction of noxious weed and

invasive species seeds to new areas in the Project corridor, National Fuel would implement the following practices:

- adhere to erosion control measures in our Plan and Procedures to ensure that sediment movement into newly disturbed soils are minimized to avoid the potential of invasive plant species seed distribution;
- use construction techniques along the pipeline route that minimize the time that bare soil is exposed and, therefore, minimize the opportunity for exotic species to become established;
- reseed all disturbed areas promptly after final grading, weather and soil conditions permitting, and in compliance with state and local permits. Prompt reseeding would ensure that any bare soil within the Project corridor is not available for exotic or invasive species for an extended period of time providing the opportunity for the establishment of plant species listed; and
- use mulch, if available, consisting of local sources or certified weed-free straw or hay or other erosion-control materials during constructions activities and installation of permanent erosion control measures.

Additionally, National Fuel would continue to coordinate with the PADCNR-BOF to develop a reclamation plan, to include use of Pennsylvania native grasses, forbs, trees, and shrubs for work within the Elk State Forest.

Based on the acreage of each vegetation cover type affected, the time for most vegetation to revert to preconstruction conditions, and National Fuel's proposed avoidance, minimization, and mitigation measures to limit Project impacts, we conclude that impacts on vegetation from the proposed Project would not be significant.

2.3.2 Wildlife Resources

The ROW along the YM28 and FM120 Insertion Project crosses a variety of vegetation communities and habitat types commonly found in forested regions of northern Pennsylvania. Typical wildlife present in the Project area include mammals such as elk, American black bear, gray fox, coyote, eastern chipmunk and, white-tailed deer; amphibians and reptiles such as spotted salamander, red-spotted newt, Eastern American toad, spring peeper, snapping turtle, and northern ring-necked snake; and birds such as cedar waxwing, blue jay, indigo bunting, dark-eyed junco, and American robin.

Potential impacts on wildlife include habitat removal and construction-related ground disturbance and noise. During Project construction, clearing and grading of the ROW and the ATWS would result in loss of vegetation cover and some disturbance to soils. A total of about 4.51 acres of mature forest would be permanently impacted by the Project. Some non-mobile, small, or nesting individuals could be inadvertently injured or

killed by construction equipment. However, more mobile species such as birds and larger mammals would likely relocate to other nearby suitable habitat and avoid Project-related noise and ground vibrations.

Following construction, wildlife is expected return to the area and resume normal activities in most Project areas. The temporary disturbance of local habitat is not expected to have population-level effects on wildlife because almost all of the Project area would return to pre-construction condition. Long-term impacts from habitat alteration would be minimized by the implementation of measures contained in National Fuel's E&SCP, which ensures that all areas temporarily disturbed by construction would be revegetated. Therefore, we conclude that impacts on wildlife from the proposed Project would not be significant.

2.3.3 Migratory Birds

Migratory birds are species that nest in the United States during the summer and make short or long-distance migrations for the non-breeding season. Neotropical migrants migrate south to the tropical regions of Mexico, Central and South America, and the Caribbean for the non-breeding season. Migratory birds are protected under the Migratory Bird Treaty Act (MBTA). The Act prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, or nests unless authorized under a U.S. Fish and Wildlife Service (FWS) permit. Bald and Golden Eagles are additionally protected under the Bald and Golden Eagle Protection Act.

Executive Order 13186 directs federal agencies to identify where unintentional take is likely to have a measurable negative effect on migratory bird populations and to avoid or minimize adverse impacts on migratory birds through enhanced collaboration with the FWS. The executive order states that emphasis should be placed on species of concern, priority habitats, and key risk factors and that particular focus should be given to addressing population-level impacts.

On March 30, 2011, the FWS and FERC entered into a *Memorandum of Understanding Between the Federal Energy Regulatory Commission and the U.S. Fish and Wildlife Service Regarding Implementation of Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds"* that focuses on avoiding or minimizing adverse impacts on migratory birds and strengthening migratory bird conservation through enhanced collaboration between FERC and the FWS by identifying areas of cooperation. This voluntary Memorandum of Understanding does not waive legal requirements under the MBTA, the Endangered Species Act (ESA), the Federal Power Act, the NGA, or any other statutes and does not authorize the take of migratory birds.

The Project crosses the Susquehanna Headwaters Forest Block Important Bird Area. Approximately 5.9 miles of Line KL, 5.8 miles of Line FM120 and 22.4 miles of access roads are within this designated forest block.

The FWS established Birds of Conservation Concern lists for various regions in the country in response to the 1988 amendment to the Fish and Wildlife Conservation Act, which mandated the FWS to identify migratory nongame birds that, without additional conservation actions, were likely to become candidates for listing under the ESA. The proposed Project falls within Bird Conservation Region 28 – Appalachian Mountains. Six Birds of Conservation Concern were identified as potentially occurring in the Project area, including bald eagle, whip-poor-will, wood thrush, blue-winged warbler, Louisiana waterthrush, and Canada warbler.

In general, breeding and nesting season for migratory birds in the Project area is April 1 – August 31, with the exception of the bald eagle, which is January 1 – July 21. National Fuel proposes to complete clearing activities before March 31 (i.e., before the breeding and nesting season for most species of Birds of Conservation Concern). In the event that National Fuel cannot obtain the require agency permits/approval to complete clearing by March 31, National Fuel would make the effort to avoid clearing in forested, grassland, and shrub habitats between April 15 and July 15.

Potential impacts on migratory birds include habitat loss, disruption of nesting adults, and abandonment or destruction of active nests, should clearing occur during the nesting season. Some indirect impacts caused by construction activity and noise could occur during the construction period. The proposed construction areas represent a very small portion of the available nesting habitat in the overall area. Some individuals may leave the Project area as construction activities commence and relocate to available habitat nearby. The Project would clear about 4.51 acres of mature forest habitat.

National Fuel initiated MBTA coordination with the FWS on January 25, 2017. National Fuel has proposed measures to minimize potential impacts on migratory birds, such as clearing of natural and semi-natural areas outside of breeding season, collocating the Project to existing disturbed areas, and minimizing the width of the ROW. The FWS responded on March 23, 2017, in support of National Fuel's efforts to minimize impacts on migratory birds. Further, National Fuel would perform all Project activities in accordance with its E&SCP which also addresses the frequency of ROW clearing during Project operation. For these reasons, we conclude that the Project's impacts on migratory birds would not be significant.

2.3.4 Fisheries and Aquatic Resources

The Project is within the Ohio River Drainage Basin and the Susquehanna River Drainage Basin, and would cross 59 waterbodies. State water quality designations and uses for each waterbody crossed by the Project are described in table 2-1.

Waterbodies in Pennsylvania are classified as: coldwater fishes (CWF), warmwater fishes (WWF), migratory fishes (MF), and trout stocking fisheries (TSF). As described in section 2.2, above, selected waterbodies are further classified as High Quality (HQ) or Exceptional Value (EV) based on designated or existing uses and are provided special protection by the State of Pennsylvania. Further, all streams crossed by the Project are considered sensitive surface waters due to them being either listed by the PFBC as stream sections that support the natural reproduction of trout or are an unnamed tributary that contributes to the water quality of the naturally reproducing stream. Species likely to occur within the streams in the Project area include, brown, brook, and lake trout; tiger muskellunge; walleye; and smallmouth and rock bass.

Based on the National Marine Fisheries Services' online essential fish habitat mapper tool, there is no Essential Fish Habitat within the Project area.

Habitat alterations could lead to temporary loss of habitat and changes in behavior in fish. Alterations of water quality could also increase stress, injury, and/or mortality among fish and other aquatic species. As indicated in section 2.2.2, National Fuel proposes install Line KL using a dry-ditch crossing method (flume or dam and pump) at all waterbody crossings, if water is flowing. National Fuel would use existing roads for access; therefore, no impacts on waterbodies and aquatic habitat are anticipated from use of access roads.

To minimize impacts on aquatic species, National Fuel would adhere to appropriate measures as outlined in the FERC Procedures, including maintaining a 50-foot-wide riparian strip adjacent to waterbodies, limiting vegetation maintenance immediately adjacent to waterbodies to a 15-foot-wide corridor centered over the pipeline, and limiting construction to seasonal spawning windows, depending on fisheries type and/or state recommendations. National Fuel would also implement its E&SCP during all phases of construction to avoid or reduce impacts from erosion and sedimentation, which would provide protection to fisheries resources.

Impacts on fisheries and aquatic resources from construction and operation of the pipelines would be temporary, and National Fuel would limit impacts on aquatic resources by using dry-ditch crossing methods, and by implementing the measures listed above. Hydrostatic testing (discussed in section 2.3) would not impact fisheries or aquatic habitat. Therefore, we conclude that impacts on fisheries would not be significant.

2.3.5 Special Status Species

Special status species are those species for which state or federal agencies provide an additional level of protection by law, regulation, or policy. Included in this category for the purposes of this EA are federally listed species that are protected under the ESA, species that are state-listed as threatened or endangered, and state species of special concern.

Section 7 of the ESA requires the lead federal agency (in this case, the FERC) to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of a federally listed endangered or threatened species, or result in the destruction or adverse modification of the designated critical habitat of a federally listed species. The agency is required to consult with the FWS to determine whether any federally listed endangered or threatened species of their designated critical habitats are in the vicinity of the Project, and to determine the proposed action's potential effects on those species or critical habitat.

National Fuel, as our non-federal representative, conducted informal consultations with the FWS – Pennsylvania Field Office to determine whether any federally listed threatened or endangered species, federal species of concern, or designated critical habitats occur in the Project area. National Fuel also consulted the PADCNR, PFBC, Pennsylvania Game Commission (PGC), and the online Pennsylvania Natural Heritage Program Conservation Explorer - Natural Diversity Index (PNDI) Environmental Review system regarding state-listed species and habitats.

Based on these consultations, federal and state-listed species that potentially occur within the environmental survey corridor, along with their associated habitats, are presented in table 2-5. Details of consultations with the agencies on each species are discussed below.

Federally Listed Species

Northern long-eared bat

The northern long-eared bat is a medium-sized bat with a wingspan of 9-10 inches. The species' range includes 37 states, primarily in the eastern and north-central United States. The northern long-eared bat was formally listed as a federally threatened species in April 2015 due, in part, to its susceptibility to white-nose syndrome. Northern long-eared bats occur in widespread, but uncommon, patterns in forest habitats. During the winter, these bats hibernate in caves and underground mines. Individuals may travel up to 35 miles from their summer habitat to their winter hibernacula. Summer roosting habitat, including maternity roosts, includes tree cavities, exfoliating bark, snags of dead or dying trees, and man-made structures (e.g., barns).

TABLE 2-5

Federally Listed, State-Listed, and Other Special Status Species Potentially Occurring in the Vicinity of the Project

Common Name (*Scientific Name*)	Federal Status	Pennsylvania State Status	Location	Habitat	Determination of Effect/Impact
Mammals					
Northern long-eared bat (*Myotis septentrionalis*)	Threatened	Species of Concern	Line KL and FM 120	Winter habitat consists of caves and mines, summer habitat consists of bark and in cavities or in crevices of both live trees and snags (dead trees). The bat has also been found rarely roosting in structures, like barns and sheds.	National Fuel submitted form to the FWS for 4d Rule Streamlined Consultation. *Not likely to adversely affect*
Plants					
Small-whorled Pogonia (*Isotria medeoloides*)	Threatened	Endangered	Line KL	The small-whorled pogonia occurs in upland sites in mixed-deciduous or mixed-deciduous/coniferous forests that are generally in second or third-growth stages. Most sites include sparse to moderate ground cover, a relatively open understory canopy, and proximity to features (logging roads, streams, or other features) that create long-persisting breaks in the forest canopy. Soils are acidic and nutrient poor, with moderately high soil moisture values. Most sites also include various types of decaying vegetation.	*No effect*
Balsam Poplar (*Populus balsamifera*)	Not Applicable	Endangered	Line KL	According to the PADCNR, balsam poplar has been locally documented in a sparsely wooded, moist seepy area along Sicily Run and it prefers cool, seasonally wet soils and bog margins.	No impact
Case's Ladies'-tresses (*Spiranthes casei*)	Not Applicable	Endangered	FM120	Case's ladies'-tresses prefer habitats consisting of dry, open areas usually associated with sandy soil or old abandoned railroad beds.	No impact

The northern long-eared bat could be present in the Project area; however, according to National Fuel's research of the PNDI and correspondence with the FWS, no hibernation sites or occupied roost trees are known in the vicinity of the Project. As such, According to the FWS Final 4(d) Rule, both the Line KL and Line FM 120 Insertion Project components qualify under the following:

> *Incidental take from tree removal activities is not prohibited unless it results from removing a known occupied maternity roost tree or from tree removal activities within 150 feet of a known occupied maternity roost tree from June 1 through July 31 or results from tree removal activities within 0.25 mile of a hibernaculum at any time.*

National Fuel completed and submitted the northern long-eared bat 4(d) Rule Streamlined Consultation Form on August 24, 2017, with a determination of *not likely to adversely affect*. No response was received. Per the FWS's streamlined consultation process, after 30 days of no response, section 7 consultation for the ESA is considered

complete. No additional consultation or requests from FWS were issued; therefore, consultation for the northern long-eared bat is complete.

Small-whorled pogonia

The federally threatened (and state endangered) small-whorled pogonia was initially listed as a federally endangered species in 1982, but was reclassified as threatened in 1994. Small-whorled pogonia is a member of the orchid family and grows in older hardwood stands of beech, birch, maple, oak, and hickory that have an open understory. Sometimes it grows in stands of softwoods such as hemlock. It prefers acidic soils with a thick layer of dead leaves, often on slopes near small streams. Urban expansion and recreational activities (i.e., trampling) pose the greatest threat to this species.

In its response to National Fuel on February 13, 2017, the FWS noted that it was not aware of any occurrence records of small-whorled pogonia within the Line KL Project area; however, it may be present in areas of suitable habitat. The FWS recommended that National Fuel conduct a survey of all suitable habitat within the Project between May 15 and July 31.

National Fuel conducted presence/absence botanical surveys for small-whorled pogonia from May 15-19, 2017, and June 6-8, 2017. The surveys included an approximately 70-foot-wide study corridor along the Project alignment, 50-foot-wide study corridor along access roads, and specific study corridor boundaries surrounding ATWS within 30 habitats as identified during the surveys. No populations of small whorled pogonia were found during the surveys. The FWS concurred, in a letter dated July 7, 2017, that the Project would have no effect on the small-whorled pogonia. We agree.

State-Listed Species

Balsam Poplar

Balsam poplar is the northernmost American hardwood. It grows across North America on upland and flood plain sites but attains the best development on flood plains. It is a hardy, fast-growing tree which is generally short lived, with some trees reaching 200 years. In eastern North America, balsam poplar is found mainly in mixed stands where other species dominate.

Correspondence from the PADCNR on September 26, 2016, stated that the state-endangered balsam poplar is locally documented in a sparsely wooded, moist seepy area along Sicily Run, and that National Fuel should conduct a botanical survey if preferred habitat exists within the Line KL Project area. National Fuel conducted botanical

presence/absence surveys for balsam poplar from October 10, 2016 to December 7, 2016 within an approximate 300-foot-wide study corridor centered on the proposed Line KL pipeline centerline. No populations of balsam poplar or other Pennsylvania species of special concern were identified within the study corridor. The report was submitted to the PADCNR on January 16, 2017. The PADCNR responded on February 6, 2017, indicating that no impacts on the species is anticipated. We concur.

Case's ladies'-tresses

Case's ladies'-tresses is a terrestrial orchid that grows in mesic to dry open, sandy, sterile sites in meadows, pastures, open woodlands, outcrops, roadsides, railroad banks, sand pits, and old fields at low elevations. Common habitats include the tops of sandstone bluffs and sandy jack-pine barrens. The taxon favors disturbed sites where it often forms large colonies. Case's ladies'-tresses flowers from August to September.

The PADCNR-BOF requested that National Fuel perform a survey for the presence of the state-endangered Case's ladies'-tresses within the existing Line FM120 ROW. National Fuel conducted field surveys for this species from September 27, 2016 through October 6, 2016. No populations of Case's ladies'-tresses were identified during the surveys nor was suitable habitat present. National Fuel provided the results of the survey to the PADCNR-BOF on October 18, 2016. The PADCNR-BOF responded in a letter dated February 27, 2017, stating that it is unlikely that suitable habitat for Case's ladies'-tresses is present in the Line FM120 Project area and that no impacts on the species are anticipated. We concur.

State Species of Concern

Silver-haired bat

Silver-haired bats prefer temperate, northern hardwoods with ponds or streams nearby. The typical day roost for the bat is behind loose tree bark. Silver-haired bats appear to be particularly fond of willow, maple, and ash trees (most likely due to the deeply fissured bark).

Based on the Pennsylvania Natural Heritage Program, Conservation Explorer online mapping tool, an approximate 1.2-mile segment of the western portion of the proposed Line KL (MPs 0.0 to 1.2) is within the PGC Species of Special Concern buffer for silver-haired bats. Correspondence from the PGC, dated December 29, 2016, indicated that there are no known occurrences of state-listed threatened or endangered birds or mammal species associated with the Project; however, because the silver-haired bat is a species of concern, the PGC suggested seasonal tree clearing restrictions. The PGC suggested that all trees or dead snags greater than 5 inches in diameter at breast height that need to be harvested to facilitate the Project (including any access roads or

workspaces) should be cut between November 1 and March 31. National Fuel's proposed schedule would accommodate this timeframe.

Timber rattlesnake

The timber rattlesnake inhabits mountainous or hilly deciduous or mixed deciduous-coniferous forest, often with rocky outcroppings, steep ledges, and rock slides. Hibernacula are typically located in a rocky area where underground crevices provide retreats for overwintering, such as a fissure in a ledge, a crevice between ledge and ground, talus (rock slide) below a cliff, open skree slope (fallen rocks not associated with a cliff), or fallen rock (talus or skree) partly covered by soil.

Correspondence from the PFBC, dated September 26, 2016, stated that timber rattlesnakes are present in the forested mountainous regions of Pennsylvania and that the PFBC needed additional Project information to determine if surveys would be necessary. National Fuel provided additional information to the PFBC through a PNDI resubmittal on February 14, 2017. The PFBC responded on March 3, 2017, that there have been observations of timber rattlesnakes in the vicinity of the Line FM120 Project area, but based on the PFBC's review of the supplemental information National Fuel provided, PFBC does not anticipate any direct adverse impacts to the timber rattlesnake from the proposed Project. We agree.

2.4 Land Use, Recreation, and Visual Resources

The existing land use within the Project area is agricultural lands, forest/woodland, open land, residential land, industrial/commercial land, open water, and utility ROW. The Project would affect 218.61 acres of land during construction, including 1.18 acres of agricultural land, 19.85 acres of open land, 112.44 acres of forest land, 26.82 acres of industrial/commercial land, 0.25 acre of residential land, 57.96 of utility ROW, and 0.11 acre of open water. Of the 218.61 affected acres, approximately 131.77 acres would be maintained for operation of the Project. Table 2-6 identifies the land use affected by construction and operation of the Project.

TABLE 2-6

Land Use Acreage Affected by Construction and Operation of the Project[a, b, c]

Facility	Agricultural		Open Land		Forest		Commercial/Industrial		Residential		Utility ROW		Open Water[d]		Project Totals	
	Const.[e]	Op.[f]	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.	Const.	Op.
Pipeline ROW																
Line KL ROW	0.85	0.57	11.94	8.07	101.34	62.61	3.24	2.61	0.00	0.00	13.56	13.31	0.00	0.00	130.93	87.17
Line FM120 Insertion ROW (McKean County)	0.00	0.00	2.80	1.20	6.15	5.61	0.66	0.34	0.25	0.13	39.26	25.70	0.11	0.06	49.23	33.04
Line FM120 Insertion ROW (Elk County)	0.00	0.00	0.00	0.00	0.22	0.22	0.00	0.00	0.00	0.00	2.46	1.50	0.00	0.00	2.68	1.72
Subtotals	**0.85**	**0.57**	**14.74**	**9.27**	**107.71**	**68.44**	**3.90**	**2.95**	**0.25**	**0.13**	**55.28**	**40.51**	**0.11**	**0.06**	**182.84**	**121.93**
ATWS																
Line KL ATWS	0.33	0.00	1.92	0.00	3.36	0.00	0.22	0.00	0.00	0.00	0.05	0.00	0.00	0.00	5.88	0.00
Line FM120 Insertion ATWS	0.00	0.00	0.00	0.00	0.01	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00
Producer Station 4086 Abandonment ATWS	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.30	0.00
Producer Station 4272 Abandonment, Drip Removal, and Cut/Cap ATWS	0.00	0.00	0.13	0.00	0.16	0.00	0.34	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.65	0.00
Subtotals	**0.33**	**0.00**	**2.05**	**0.00**	**3.53**	**0.00**	**0.66**	**0.00**	**0.00**	**0.00**	**0.36**	**0.00**	**0.00**	**0.00**	**6.93**	**0.00**
Staging Areas/Contractor Yards																
Line KL Staging/ Contractor Yards	0.00	0.00	0.00	0.00	0.00	0.00	13.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.67	0.00
Line FM120 Insertion Staging/Contractor Yards	0.00	0.00	1.21	0.00	0.00	0.00	4.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.33	0.00
Subtotals	**0.00**	**0.00**	**1.21**	**0.00**	**0.00**	**0.00**	**17.79**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**19.00**	**0.00**
Aboveground Facilities																
Line KL Interconnect	0.00	0.00	0.92	0.92	0.00	0.00	4.47	4.47	0.00	0.00	2.01	2.01	0.00	0.00	7.40	7.40
Line KL Bridle Connection	0.00	0.00	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.32	0.32	0.00	0.00	0.36	0.36
Line KL MLV	N/A[g]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MLV Replacement	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Subtotals	**0.00**	**0.00**	**0.92**	**0.92**	**0.05**	**0.05**	**4.47**	**4.47**	**0.00**	**0.00**	**2.32**	**2.32**	**0.00**	**0.00**	**7.76**	**7.76**
Cathodic Protection																
Line KL	0.00	0.00	0.93	0.93	1.15	1.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.08	2.08
Subtotals	**0.00**	**0.00**	**0.93**	**0.93**	**1.15**	**1.15**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.08**	**2.08**
Project Totals	**1.18**	**0.57**	**19.85**	**11.12**	**112.44**	**69.64**	**26.82**	**7.42**	**0.25**	**0.13**	**57.96**	**42.83**	**0.11**	**0.06**	**218.61**	**131.77**

a Valves would be constructed within the 50-foot-wide permanent ROW and are included in the pipeline impacts.
b Wetlands are included within the land use for which they are a part. PFO wetlands have been included in the forested land use category, and PEM wetlands have been included in the utility ROW and open land use category.
c The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends in all cases or in related tables.
d Open water acreage reflects one PUB wetland crossing greater than 100 feet wide.
e Land affected during construction is comprised of the 50-foot-wide permanent ROW and 25 feet of extra workspace and ATWS where applicable.
f Land affected during operation includes the 50-foot-wide permanent ROW and aboveground facilities.
g Facilities designated N/A are within the pipeline ROW.

The Project would cross portions of Elk State Forest, Pennsylvania Game Commission State Game Lands, BicyclePA Route Y, and the Pennsylvania Route 6 Heritage Corridor. No impact is anticipated on the bicycle route or Route 6, as the features would be crossed via bore. Impact on the state forest and game lands would be minimal as the majority of the construction activities would be within or adjacent to existing ROW with no additional permanent land impacts. The Project would not cross any other public lands, including national forests; National Park Service-designated natural, recreational, or scenic areas; nor would it be within 0.25 mile of any recreational areas or public lands. National Fuel consulted with local planning departments and identified that there are no planned or proposed developments within 0.5 mile of the Project. There are no residential homes within 50 feet of the Line KL workspaces.

Impacts on visual and/or aesthetic resources would primarily occur during construction as a result of vegetation clearing and the presence of construction equipment. The majority of impacts on visual resources would be temporary; however, the creation of new easements and the installation of new aboveground facilities would be permanent. However, the new aboveground facilities would be in rural areas and primarily within existing National Fuel facilities. Therefore, visual impacts from the Project's aboveground facilities would be minimal, and additional visual screening methods are not anticipated to be necessary.

Pipeline Facilities

Installation of the pipeline would require the use of a 75-foot-wide construction ROW in most areas, with ATWS as needed. National Fuel would maintain a 50-foot-wide permanent easement along the pipeline lateral for operation and maintenance purposes. ATWS would be required to facilitate construction spoil storage associated with wetland and waterbody crossing, for equipment turning along access roads, and for the existing pipeline crossings. A total of 5.88 acres of ATWS would be temporarily utilized during construction of the pipeline; however, all ATWS would be restored to preconstruction conditions following construction.

Aboveground Facilities

The aboveground facilities for the Project consist mainly of MLVs and meter station-related infrastructure such as connections and line heaters. The MLVs would be within the permanent ROW. The new aboveground facilities would each impact less than 5 acres, except for the new interconnect site. We anticipate that the modification and operation of the small aboveground facilities would have minimal impact on existing land use as these modifications would primarily be within existing facilities. The interconnect would be within an existing facility presently owned by National Fuel; therefore, construction would have minimal impact on existing land use.

Facility Abandonment/Replacement

National Fuel proposes to abandon approximately 7.7 miles of YM28. The pipeline would be abandoned in place and would not require ground disturbance beyond exposure of the pipe to cut and cap the abandoned pipeline segment. The abandoned pipe would be purged of residual natural gas and pigged of free-flowing liquids. National Fuel states it would maintain the existing ROW, which is currently servicing other active and parallel pipelines.

National Fuel also proposes to remove from service a total of approximately 9.5 miles of Line FM120. This 12-inch-diameter pipeline would be purged of residual natural gas and pigged of free-flowing liquids, requiring no ground disturbance beyond exposure of the pipe to cut and cap the abandoned pipeline segment at one location, prior to its removal from service. In addition, one MLV would be replaced, two producer stations would be abandoned, and one pipeline drip would be removed. National Fuel states it would maintain the existing ROW, which is currently servicing other active and parallel pipelines. Based on the limited ground disturbance and National Fuel's mitigation measures, abandonment/replacement activities would have a minimal impact on land use in the Project area.

2.5 Cultural Resources

Section 106 of the National Historic Preservation Act, as amended, requires the FERC to take into account the effects of its undertakings on properties listed, or eligible for listing, on the National Register of Historic Places (NRHP), and to afford the Advisory Council on Historic Preservation an opportunity to comment. National Fuel, as a non-federal party, is assisting the FERC in meeting our obligations under Section 106 and its implementing regulations at 36 CFR Part 800.

National Fuel completed a cultural resources survey for the Project, and provided a *Phase I Archaeological Investigation* report to the FERC and Pennsylvania State Historic Preservation Office (SHPO). The survey included a 300-foot-wide corridor for new pipeline installation, a 100-foot-wide corridor for the insertion pipeline and cathodic protection installation areas, a 100-foot-wide corridor for new access roads, and a 50-foot-wide corridor for existing access roads. The survey also included MLV/tap/drip removal areas, extra work spaces and ATWS, contractor/pipe yards, and the interconnect location. Approximately 975.7 acres were visually inspected and further examined with 2,238 shovel test units.

As a result of the survey, 30 industrial features (site 36MC0309) associated with the Burning Well Oil Field District (late-19th to mid-20th century) scattered along 1.25 miles of the proposed Line KL pipeline ROW were identified. Features included

concrete pads/piers, concrete platforms, earthen dams, a piping stockpile, wooden timbers, and a capped well location. Shovel testing did not reveal any subsurface cultural remains. In addition, three previously identified historic railroad grades (the Knox and Kane Railroad, Western New York and Pennsylvania Railway, and Buffalo, Rochester, and Pittsburg Railway) were identified. None of the resources were recommended as eligible for the NRHP.

In a letter dated March 24, 2017, the SHPO agreed that the portion of site 36MC0309 within the Project area would not contribute to the site's overall eligibility, and indicated no further archaeological work was necessary. The SHPO further indicated that the Project would have no effect on the Burning Well Oil Field District, Knox and Kane Railroad, Western New York and Pennsylvania Railway, and Buffalo, Rochester, and Pittsburg Railway. We concur with the SHPO and find that the Project would not affect historic properties.

National Fuel contacted the following Native American tribes regarding the Project: Absentee-Shawnee Tribe of Oklahoma; Delaware Nation; Delaware Tribe of Indians; Eastern Shawnee Tribe of Oklahoma; Seneca Nation of Indians; Seneca-Cayuga Tribe of Oklahoma; Shawnee Tribe of Oklahoma; St. Regis Mohawk Tribe; and Tonawanda Band of Seneca Indians. The Delaware Tribe of Indians responded and requested additional information, which National Fuel provided. No other responses have been received to date. We sent our NOI to these same tribes. The Delaware Nation had no objections to the Project, but requested to be contacted in the event of any discoveries during construction. The Delaware Tribe requested a copy of the survey report, and to be informed of inadvertent discoveries. National Fuel provided the tribe with a copy of the report. The Unanticipated Discoveries Plan (see below) provides for notification of Native American tribes in the event of a discovery. No other responses to our NOI have been received.

National Fuel provided a plan to deal with the unanticipated discovery of historic properties and human remains during construction. We requested a minor revision to the plan. National Fuel provided a revised plan which we find acceptable.

2.6 Air Quality

Federal and state air quality standards are designed to protect human health. The EPA has developed National Ambient Air Quality Standards (NAAQS) for criteria air pollutants such as oxides of nitrogen (NO_x) and carbon monoxide (CO), sulfur dioxide (SO_2), and inhalable particulate matter ($PM_{2.5}$ and PM_{10}). $PM_{2.5}$ includes particles with an aerodynamic diameter less than or equal to 2.5 micrometers, and PM_{10} includes particles with an aerodynamic diameter less than or equal to 10 micrometers. The NAAQS were set at levels the EPA believes are necessary to protect human health and

welfare. Volatile organic compounds (VOC) and hazardous air pollutants (HAP) are also emitted during fossil fuel combustion.

Greenhouse Gases (GHG) produced by fossil-fuel combustion are carbon dioxide, methane, and nitrous oxide. GHGs status as a pollutant is not related to toxicity. GHGs are non-toxic and non-hazardous at normal ambient concentrations, and there are no applicable ambient standards or emission limits for GHG under the Clean Air Act. GHGs emissions due to human activity are the primary cause of increased levels of all GHG since the industrial age. During construction and operation of the Project, GHGs would be emitted from construction equipment and line heaters. Emissions of GHGs are typically expressed in terms of carbon dioxide equivalents (CO_{2e}).

Based on EPA criteria, if measured ambient air pollutant concentrations for a subject area remain below the NAAQS criteria, the area is considered to be in attainment with the NAAQS. The Project areas are in attainment for all NAAQS.

The Clean Air Act is the basic federal statute governing air pollution in the United States. National Fuel does not propose any new or modified compressor stations or substantial operating emission sources as part of the Project; therefore, no air permitting actions are required. We have reviewed the following federal requirements and determined that they are not applicable to the proposed Project:

- New Source Review;
- Title V;
- National Emissions Standards for Hazardous Air Pollutants;
- Greenhouse Gas Reporting Rule; and
- General Conformity of Federal Actions

However, New Source Performance Standards Subpart OOOO (Crude Oil and Natural Gas Production Transmission and Distribution) may apply to the reduction of fugitive gas emissions.

During construction, a temporary reduction in ambient air quality may result from criteria pollutant emissions and fugitive dust generated by construction equipment. The quantity of fugitive dust emissions would depend on the moisture content and texture of the soils that would be disturbed. Fugitive dust and other emissions due to construction activities generally do not pose a significant increase in regional pollutant levels; however, local pollutant levels could increase. Dust suppression techniques, such as watering the ROW may be used as necessary in construction zones near residential and commercial areas to minimize the impacts of fugitive dust.

Construction Emissions Impact and Mitigation

The YM28 and FM120 Modernization Project would result in air emissions through short-term construction activities. Emissions associated with construction activities generally include: 1) exhaust emissions from construction equipment, 2) fugitive dust emissions associated with construction vehicle movement on unpaved surfaces, and 3) fugitive dust associated with grading, trenching, backfilling, and other earth-moving activities. Table 2-7 shows the estimated construction emissions (in tons) resulting from Project construction.

Table 2-7

Total Estimated Construction Emissions from the YM28 and FM120 Modernization Project (tons per year)

Emission Source	Pollutants						
	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$	VOC	GHG
Non-road Construction Emissions	38.66	12.50	0.07	2.15	2.08	2.35	3,852
Fugitive Dust	NA	NA	NA	19.70	1.97	NA	NA
Total[a]	38.66	12.50	**0.07**	**21.85**	**4.06**	**2.35**	3,852

NA: emissions not associated with fugitive dust
GHG: as CO_2e
a Totals are subject to rounding

National Fuel states that the vast majority of pipe to be abandoned is bare steel, but short segments of pipe may be coated. National Fuel would treat any coal tar coating as asbestos-containing material, unless demonstrated otherwise, and implement its Coal Tar Pipe Removal and Handling Procedure. This procedure includes limiting cutting of coatings to the extent possible, prohibiting the use of power tools or burning on coatings, and instead using wet methods to remove the coatings. Removed coatings would be collected and tested for asbestos content and, if present, disposed of at properly permitted landfills. In addition, National Fuel commits to following the PADEP regulations and permitting requirements related to asbestos containing materials set forth in 25 Pennsylvania Code Title 25 section 124.

Once construction activities are completed, fugitive dust and construction equipment emissions would return to current levels. Emissions associated with the construction-related activities would be temporary in nature and are not expected to cause, or significantly contribute to, a violation of any applicable ambient air quality standard.

Operation Impacts and Mitigation

As part of the Project, National Fuel would construct heaters at an existing particleboard plant along the pipeline, at the new interconnect facility, and at approximately MP 7.1 for small distribution feeds. These heaters represent small stationary sources of emissions of criteria air pollutants. In addition, fugitive natural gas emissions occur during pipeline operations from components such as valves and fittings,

both along the pipeline and at the meter stations. Table 2-8 provides an estimate of the operational emissions from the heaters and fugitive emissions.

Odorization equipment is also proposed to be installed at the Line FM120 / Line KL Interconnect in McKean County and could create local impacts from odors. National Fuel proposes the following mitigation measure to reduce potential odors:

- odorization equipment would be operated inside of an enclosed building;
- the odorant tank would be a double-walled, non-venter tank;
- the pneumatic odorant pump injecting the gas with odorant would be equipped with an activated charcoal filter to eliminate odorant from the exhaust gas; and
- the filter would be properly operated and maintained throughout the operational life of the interconnect.

As the Project is a modernization of an existing line, no new capacity would be generated by the Project and therefore no new downstream emissions are anticipated.

Table 2-8

Total Estimated Operational Emissions from the YM28 and FM120 Modernization Project (tons per year)

Emission Source	Pollutants						
	NO_x	CO	SO_2	PM_{10} / $PM_{2.5}$	VOC	GHG	HAPs
Line FM120 / Line KL Interconnect Heater	0.06	0.05	0.00	0.00	0.00	71	0.00
Particleboard Plant Heater	0.63	0.53	0.00	0.10	0.03	769	0.01
Catalytic Heaters at MP 7.1	0.00	0.00	0.00	0.00	0.00	3	0.00
Misc. Fugitive Gas Emissions	NA	NA	NA	NA	2.02	7,704	0.00
Total[a]	**0.69**	**0.58**	**0.00**	**0.05**	**2.06**	**8,549**	**0.01**

NA: no such emissions are associated with fugitive gas releases
GHG: as CO_2e
a Totals are subject to rounding

Potential impacts on air quality associated with construction and operation of the Project would be minimized by National Fuel's proposed mitigation measures and adherence to all applicable federal and state regulations. Based on the analysis presented above, we conclude that construction and operation of the YM28 and FM120 Modernization Project would have no significant impact on local or regional air quality.

2.7 Noise

The ambient sound level of a region is defined by the total noise generated within the specific environment, over varying land use types, and is usually comprised of natural and artificial sounds. At any location, both the magnitude and frequency of environmental noise may vary considerably over the course of a day and throughout the week. This variation is caused in part by changing weather conditions, the effect of seasonal vegetation cover, and human activities.

Two measurements used by federal agencies to relate the time-varying quality of environmental noise to its known effects on people are the equivalent sound level (L_{eq}) and the day-night sound level (L_{dn}). The L_{eq} is an A-weighted sound level[3] containing the same sound energy as instantaneous sound levels measured over a specific time period. Noise levels are perceived differently, depending on length of exposure and time of day, among other factors. The L_{dn} takes into account the duration and time the noise is encountered. Late night through early morning (10:00 p.m. to 7:00 a.m.) noise exposures are penalized +10 decibels (dB) to account for people's greater sensitivity to sound during nighttime hours. An L_{dn} of 55 dB on the A-weighted scale (dBA) is equivalent to a continuous L_{eq} noise level of 48.6 dBA. People's threshold for perception of a change in noise is considered to be 3 dB.

The EPA has indicated that an L_{dn} of 55 dBA protects the public from indoor and outdoor activity interference. We have adopted this criterion and use it to evaluate the potential noise impact from operation of compressor facilities.

Impacts are determined at receptors known as noise-sensitive areas (NSA). NSAs include residences, schools and day-care facilities, hospitals, long-term care facilities, places of worship, libraries, and parks and recreational areas (e.g., wilderness areas) valued specifically for their solitude and tranquility.

Construction Noise Impacts and Mitigation

Construction of the Project would result in temporary increases in ambient sound levels. National Fuel anticipates construction activities would occur during the daytime hours between 7:00 AM and 7:00 PM, Monday through Saturday, with the potential exception of hydrostatic testing, tie-ins, and purging and packing the pipeline. Construction-related sound level increases could be highly variable due to intermittent equipment operation. The type of equipment operating at any location changes with each construction phase. The sound level impacts on NSAs near the Project sites would depend upon the duration of use for each piece of equipment, the number of construction vehicles and equipment used simultaneously, and the distance between the sound source and receptor. The Project would utilize conventional construction techniques and equipment, including graders, clearers, heavy trucks, and similar heavy construction equipment.

Generally, construction noise impacts are only incurred by residents or other NSAs within about 0.25 mile of the activity. The nearest NSAs for the Project are a set

[3] The A-weighted scale is used because human hearing is less sensitive to low and high frequencies than to mid-range frequencies.

of seasonal camps and a permanent home on Clermont Road about 1,000 feet to the southeast. Given the generally rural nature of the Project area, and the overall lack of residential development within 0.25 mile of the Project, minimal noise impact on residences is anticipated. Because of the temporary nature of construction and the limitation to daytime activity, we conclude that construction of the Project would not result in significant noise impacts.

Operational Noise Impacts

Increase in operational noise from the Project would occur as a result of the meter station to be installed at the Line FM120 / Line KL Interconnect in McKean County. The nearest NSAs are the seasonal camps and the Clermont Road residence mentioned above. Using conservative assumptions (e.g. "worst case," such as no foliage on the surrounding trees), National Fuel estimated the noise from the facilities would be 46 dBA L_{dn} at this home, a potential increase of up to 6.4 dBA above background. While this may be perceptible, the anticipated noise from the station is well below our criteria, and thus we conclude that no significant operational noise impacts would occur.

2.8 Reliability and Safety

The transportation of natural gas by pipeline involves some risk to the public in the event of an accident and subsequent release of gas. The greatest hazard is a fire or explosion following a major pipeline rupture. Methane, the primary component of natural gas, is colorless, odorless, and tasteless. It is not toxic, but is classified as a simple asphyxiate, possessing a slight inhalation hazard. If breathed in high concentration, oxygen deficiency can result in serious injury or death.

The DOT is mandated to provide pipeline safety under Title 49, U.S. Code Chapter 601. The DOT's Pipeline and Hazardous Materials Safety Administration administers the national regulatory program to ensure the safe transportation of natural gas and other hazardous materials by pipeline. It develops safety regulations and other approaches to risk management that ensure safety in the design, construction, testing, operation, maintenance, and emergency response of pipeline facilities. Many of the regulations are written as performance standards which set the level of safety to be attained and allow the pipeline operator to use various technologies to achieve safety. The Pipeline and Hazardous Materials Safety Administration ensures that people and the environment are protected from the risk of pipeline incidents. This work is shared with state agency partners and others at the federal, state, and local level. Section 5(a) of the Natural Gas Pipeline Safety Act provides for a state agency to assume all aspects of the safety program for intrastate facilities by adopting and enforcing the federal standards, while Section 5(b) permits a state agency that does not qualify under Section 5(a) to perform certain inspection and monitoring functions. A state may also act as DOT's

agent to inspect interstate facilities within its boundaries; however, the DOT is responsible for enforcement actions.

The DOT pipeline standards are published in 49 CFR 190-199. For example, Part 192 specifically addresses natural gas pipeline safety issues, prescribes the minimum standards for operating and maintaining pipeline facilities, and incorporates compressor station design, including emergency shutdowns and safety equipment. Part 192 also requires a pipeline operator to establish a written emergency plan that includes procedures to minimize the hazards in a natural gas pipeline emergency. The operator must also establish a continuing education program to enable customers, the public, government officials, and those engaged in excavation activities to recognize a gas pipeline emergency and report it to appropriate public officials. Thus, the new Project facilities would be designed, constructed, tested, operated, and maintained to conform with or exceed the DOT standards in 19 CFR 192.

2.9 Cumulative Impacts

Cumulative impacts may result when the environmental effects associated with a proposed project are added to construction-related (temporary) or operations-related (permanent) impacts associated with other past, present, or reasonably foreseeable future projects in the area of the proposed Project.

The purpose of this analysis is to identify and describe cumulative impacts that would potentially result from construction and/or operation of the YM28 and FM120 Modernization Project. We based our cumulative impacts analysis on the guidance set forth by the Council on Environmental Quality and the EPA. Under these guidelines, a cumulative impacts analysis is based on identifying commonalities between the potential impacts that would result from a proposed project and the impacts likely to be associated with other past, present, or potential future projects. We undertook this assessment for the YM28 and FM120 Modernization Project considering the following factors:

- A past, present, or future project must impact a resource potentially affected by the proposed action (i.e., within a defined geographic scope). Distant projects were not considered because their impacts would not likely overlap or otherwise be cumulative.
- The timing of other past or future projects was considered, since the potential for cumulative effects is dependent on the duration of the impact, and whether it would be short-term, long-term, or permanent. Present projects are considered to overlap in time of occurrence.

As discussed above, geology and soil impacts would be highly localized and limited primarily to the Project footprint during the period of construction. In addition,

Project-related construction activities would not result in significant impacts on groundwater resources because the majority of construction would involve shallow, temporary, and localized excavation. Further, NRHP-eligible sites would be avoided; therefore, the Project would not impact cultural resources. Visual impacts associated with the Project would be minimized to the greatest extent practicable because as the majority of the Project activities are proposed to be within or adjacent to existing ROW. Additionally, we determined that the Project would not generate significant air emissions during operation. Expected GHG emissions from the Project are minor and below reporting thresholds, and no new downstream emissions are expected as the Project would not supply any new capacity. Therefore, we conclude that the impacts from this Project, when considered cumulatively with past, present, and reasonably foreseeable projects, would not contribute to significant cumulative impacts on these resources, and these resources will not be discussed further in this section.

The cumulative impacts discussed herein have been identified by information provided by National Fuel, information found in other FERC filings, National Fuel's consultation with municipal and county planning departments, and from internet research of projects under review at federal, state, and local agencies. We evaluated a number of past, present, and reasonably foreseeable future projects within the resource-specific geographic scopes. The geographic scope of analysis varies for each resource is identified in table 2-9.

Table 2-9

Resource-Specific Geographic Scopes for Cumulative Impact Analysis

Environmental Resource	Cumulative Impact Geographic Scope	Justification for Geographic Scope
Surface Water, Wetlands, Vegetation, and Wildlife	Hydrologic Unit Code (HUC) 12-digit Watersheds.	Impacts on surface waters can result in downstream contamination or turbidity. Impacts on water/wetland, vegetation, wildlife, and fishery resources would occur as a result of temporary ground disturbance and vegetation clearing, dewatering, and hydrostatic testing activities during construction. Impacts on water resources are traditionally assessed on a watershed level. Impacts on biological resources may also be considered on the watershed scale as it provides a natural boundary and geographic proxy to accommodate wildlife habitat and ecosystem characteristics in the Project area.
Land Use	0.5 mile from construction activity.	Project impacts on general land uses would be restricted to the construction workspaces and surrounding area. Therefore, we considered a 0.5-mile distance from the Project for the geographic scope because this would cover any land use/recreational impacts which could be incremental to the Project.
Traffic Impacts	Affected counties and cities.	Due to the Project's limited scope and the short construction duration, the geographic scope for assessing contributions to cumulative impacts on traffic were evaluated on a county-wide basis for concurrent projects only.
Noise	Overlapping NSAs during construction and operation.	The geographic scope for assessing potential cumulative impacts on noise was determined to be areas within direct proximity to the construction activities and new regulator stations.
Air Quality - Construction	0.25 mile from construction activity.	Due to the Project's limited scope, the short construction duration, and the minimal amount of emissions generated by construction equipment, the geographic scope used to assess potential cumulative impacts on air from construction activities was set at 0.25 mile from the Project area.

The first European settlements in Pennsylvania date back to the mid-seventeenth century. However, indigenous peoples who lived in large settlements and associated satellite villages occupied the state more than 15,000 years ago. Currently, the state is the sixth most populated state in America. Consequently, the natural environment has been modified numerous times over a very long period of human residency. We therefore considered past actions with ongoing impacts that continue within the time span of the proposed Project. A summary of the identified current and reasonably foreseeable projects and affected resources is shown in table 2-10.

Wetlands and Surface Water Resources

Construction of the proposed Project would mainly result in short-term impacts on surface water and wetlands; however, approximately 0.10 acre of PFO wetland would be permanently converted to PEM wetland. The projects listed in table 2-10 that could contribute to cumulative impacts on surface water and wetlands within the geographic scope and at the same time as the Project are the active oil and gas wells and the associated ongoing construction for the various gathering pipelines, as well as the potential for National Fuel's Northern Access 2016 Project. Construction of the Northern Access 2016 Project would mainly result in short-term impacts on surface water and wetlands; however, approximately 0.40 acre of PFO wetland would be permanently converted to PEM wetland for that project. This acreage, added to the 0.10 acre of PFO conversion for the YM28 and FM120 Modernization Project, represents a slight cumulative impact. Cumulative impacts on surface water and wetlands could occur from the other listed projects, primarily from direct construction activities across waterbodies and wetlands or from temporary erosion and sedimentation of exposed soils.

National Fuel would minimize impacts on surface water resources by following its E&SCP, which incorporates the protocols and procedures contained within FERC's Plan and Procedures, and National Fuel's SPRP during construction and revegetation. National Fuel would construct all crossing of wetlands in compliance with USACE Section 404 permits terms and conditions, including any required mitigation for impacts on PFO wetlands. We expect that the other projects listed in table 2-10 would be subject to similar USACE permitting and/or would employ protective measures to minimize impacts within the watershed. Thus, the projects listed in table 2-10 would have limited impacts on wetland and waterbody resources. Thus, we anticipate that the Project, when combined with these other projects, would result in minor cumulative impacts on surface water and wetlands.

Table 2-10

Summary of Recently Constructed and Proposed Projects that Could Result in Cumulative Impacts

Sponsor/Proponent and Project Name	Distance and Direction from Project and Location	Description	Potentially Affected Resource Areas[a]	Project Status
Tennessee Gas MPP Project CP12-28-000[b]	MPP Compressor Station 310 is 2.75 miles from National Fuel's proposed Interconnect in McKean County.	Proposed 8-mile natural gas pipeline and modifications to four compressor stations.	Wetlands, Surface Water, Vegetation, and Wildlife	Construction completed 2013 and currently in service; restoration complete
Oil and Natural Gas Wells	Within 0.25 mile. Various locations in Cameron, Elk, and McKean Counties.	Active oil and gas wells.	Wetlands, Surface Water, Vegetation, Wildlife, Land Use, Air Quality, and Noise	Active wells
Various Gathering Pipelines	Various possible locations in Cameron, Elk, and McKean Counties.	Facilities to gather the gas from wells will be constructed in the counties crossed by the Project.	Wetlands, Surface Water, Vegetation, Wildlife, Traffic, Air Quality, and Noise	Ongoing
Bridge Replacement on W Branch Road, West Branch Potato Creek.	Approximately 4 miles west of an existing access road to Line FM120 in Norwich Township, McKean County.	Bridge replacement over West Branch Potato Creek.	Traffic	Summer - Fall 2017
Bridge Replacement on SR-2001, Sevenmile Run.	Approximately 3 miles west of an existing access road to Line FM120 in Sergeant Township, McKean County.	Bridge replacement over Sevenmile Run.	Wetlands, Surface Water, Vegetation, Wildlife, and Traffic	2018
National Fuel Northern Access 2016 Project CP15-115-000	Adjacent to Line KL/FM120 interconnect in McKean County.	Proposed 96-mile-long natural gas pipeline, additional compression, and one meter station.	Wetlands, Surface Water, Vegetation, Wildlife, Land Use, Traffic, Air Quality, and Noise	Approved by FERC, but start of construction unknown
National Fuel FM100 Modernization Project PF17-10-000[c]	Adjacent to Line KL/FM120 interconnect and MLV replacement in McKean County. Adjacent to the end of the FM120 idle section in Cameron County.	Planned construction of one compressor station, 30 miles of new natural gas pipeline, and some replacement/ abandonment activities.	Wetlands, Surface Water, Vegetation, Wildlife, Land Use, and Traffic	Currently in FERC pre-filing; anticipated construction Summer 2019 - Spring 2020

a As discussed in the text, not all resources that could be impacted by any particular project would result in cumulative impacts with the Project.
b MPP Compressor Station 310 is the only component of that project within the geographic scope of the proposed Project for cumulative impacts. Activities at Compressor Station 310 were limited to modification of the existing station within previously disturbed areas. Therefore, we anticipate that the proposed Project, when combined with the MPP Project, would result in no cumulative impacts. Thus, the MPP Project is not considered further in this section.
c On September 14, 2017, National Fuel filed a request to begin the pre-filing process for its FM100 Modernization Project (PF17-10), which would be located in the vicinity of the Line YM28 and Line FM120 Modernization Project. The FM100 Modernization Project is in the early stage of development, and therefore project scope, facilities, and/or location of facilities may change if, and when, an application is filed. Accordingly, at this point in time staff has insufficient information to meaningfully identify potential impacts of the FM100 Modernization Project, including whether it will result in cumulative impacts to any resources located in the same area as the YM20 and Line FM120 Modernization Project. If the FM100 Modernization Project ultimately moves forward, an environmental analysis for that proposal will include a full review of the cumulative impacts including, if appropriate, those associated with the Line YM28 and Line FM120 Modernization Project.

Vegetation and Wildlife

Construction and operations associated with the Project would result in temporary and permanent impacts on vegetation and wildlife. Impacts on wildlife are related to vegetation, as a loss of vegetation would result in removal/alteration of available habitat. Construction activities would also impact wildlife through noise generated during active construction. Cumulative impacts on wildlife would be greatest if active construction takes place at the same time; however, some residual impact could occur based on cumulative habitat alteration or removal.

The projects listed in table 2-10 that could contribute to cumulative impacts on vegetation and wildlife within the geographic scope and at the same time as the Project are the active oil and gas wells and the associated ongoing construction for the various gathering pipelines, as well as the potential for National Fuel's Northern Access 2016 Project and FM100 Modernization Project. None of the other listed projects would be constructed concurrently with and in the same vicinity of the proposed Project. In addition, none of these projects would appear to require major habitat alteration within the vegetation and wildlife geographic scope of the proposed Project. Thus, we anticipate that the Project, when combined with these other projects, would result in minor cumulative impacts on vegetation and wildlife.

Land Use

The Project would permanently impact about 69.64 acres and temporarily impact 42.8 acres of forested land in the Project areas. However, the amount of forested land impacted by the Project would not significantly reduce the available forested land relative to adjacent habitats as the majority of the area has already been fragmented by the existing ROW. The Project's impact on other land uses, such as agriculture, would be minimal and short-term. Likewise, the other projects listed in table 2-10 would appear to be limited in scale and scope and not result in region-wide or significant alteration of land use. Therefore, we conclude that cumulative impacts on land use would not be significant.

Traffic Impacts

Construction of the Project would generate traffic associated with delivery of pipe sections and other construction materials and supplies, worker commutes, and movement of construction equipment. This added traffic could increase congestion on public roads and contribute to cumulative impact if other projects listed in table 2-10 were concurrently using the same or nearby roads for their construction equipment. Traffic impacts resulting from Project construction would typically be localized to the specific segment under construction, for the duration of that segment's construction. The other

projects listed in table 2-10 that could contribute to traffic congestion at the same time as National Fuel's construction for the YM28 and FM120 Modernization Project are the active oil and gas wells and associated ongoing construction for the various gathering pipelines, as well as the potential for National Fuel Northern Access 2016 Project. None of the other listed projects would be constructed concurrently with and in the same vicinity of the proposed Project.

Little to no traffic would be expected from the active oil and gas wells, as new wells have not been installed in the Project area in 2017. Some minor traffic impacts may occur during construction of the various gathering pipelines; however, due to National Fuel's traffic mitigation measures and the availability of other public roadways in the area, we conclude that the Project would not result in significant cumulative traffic impacts.

Air Quality and Noise

Construction of both the YM28 and FM120 Modernization Project and other projects listed in table 2-10 would involve the use of heavy equipment that would generate temporary emissions of air contaminants, fugitive dust, and noise during construction. Cumulative impacts would occur if project construction were concurrent and within a short distance of each other. Ongoing work at active wells and associated gathering lines may contribute to ongoing noise and air emissions in the vicinity of the Project; however, such projects would have to meet state and federal standards. There is a possibility for concurrent construction of the proposed Project and the National Fuel Northern Access 2016 Project, which intersects the proposed project at Line KL/FM120 interconnect. Impacts may be prolonged or overlap, but the effect would be limited to the duration of construction. Therefore, we conclude that the Project would not result in significant cumulative impacts on air quality or noise.

Conclusions on Cumulative Impacts

Small to insignificant cumulative effects are anticipated on several resources (vegetation, wildlife, surface waters, wetlands, land use, air quality, noise, and local traffic) when the impacts of the YM28 and FM120 Modernization Project are added to other projects within the geographic scope of analysis for those resources. We conclude that the cumulative impacts associated with the Project, when considered with past, present, and reasonably foreseeable projects, would be minor.

3.0 ALTERNATIVES

In accordance with NEPA, we evaluated alternatives to National Fuel's proposed action to determine whether they would be preferable to constructing the Project as proposed. Our evaluation criteria for selecting potentially preferable alternatives are:

- technical and economic feasibility and practicality;
- significant environmental advantage over the proposed action; and
- ability to meet the objectives of the proposed action.

Our evaluation of alternatives is based on Project-specific information provided by the applicant, publicly available information, our consultations with federal and state resource agencies, and our expertise and experience regarding the siting, construction, and operation of the proposed Project and its potential impact on the environment. Because the only proposed new aboveground facilities would be minor installations within existing ROW or within other existing National Fuel-owned natural gas facilities, and we did not receive any comments regarding siting of the new facilities, we did not evaluate any aboveground facility site alternatives for the Project.

Likewise, for the part of the Project that involves new pipeline, the proposed route primarily parallels existing natural gas and utilities ROW, with minor deviations already incorporated to avoid specific environmental resources and more densely populated areas. We found this routing acceptable and that it minimizes environmental impact without interruption of service to existing customers. Further, we did not receive any comments regarding alternative routes. Therefore, we did not evaluate alternative routes.

No-Action Alternative

Under the No-Action alternative, National Fuel would not implement the proposed action, thus avoiding the potential environmental impacts associated with the Project as described in this EA; however, the Project objectives would not be met. Due to the age and condition of Line YM28, National Fuel states that implementation of the No-Action alternative would result in continued operating and maintenance expenditures on pipeline segments and facilities that are not needed. National Fuel would be required to continue maintenance of the pipeline in accordance with DOT regulations, thus incurring costs that National Fuel anticipates would increase significantly over time. We believe this is a reasonable assumption and conclude that the No-Action alternative is not preferable to the proposed Project.

Complete Removal of the Line YM28 Pipeline

Complete removal by National Fuel of the Line YM28 pipeline facilities would require far more ground disturbance than the proposed action, including the use of additional access roads that would be necessary for excavation activities. Impacts on sensitive resources, such as fisheries and threatened and endangered species, would also increase due to increased scope of removing the entire Line YM28 pipeline. At times, removal of abandoned pipe can be an attractive option if the pipeline operator will no longer be maintaining the easement and the landowner has plans for the property that conflict with a buried pipeline. However, for the proposed Project, National Fuel will continue to maintain the ROW after abandoning the pipe in place, due to other current uses of the ROW. Thus, National Fuel would still be responsible for addressing any landowner issues related to the ROW, and easement restrictions would still be in effect. Therefore, because complete removal of the National Fuel pipeline would require a significantly larger area of disturbance, which would have cascading effects on sensitive environmental resources, and little benefit would result from removing the pipe, we do not recommend this alternative and are not considering it further.

In conclusion, we have determined that the proposed Project is the preferred alternative to meet the Project objectives.

4.0 STAFF'S CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis in this EA, we have determined that if National Fuel constructs and operates the proposed facilities in accordance with its application and supplements, and the staff's recommended mitigation measures below, approval of the Project would not constitute a major action significantly affecting the quality of the human environment. We recommend that the Commission Order contain a finding of no significant impact and include the measures listed below as conditions in any authorization the Commission may issue to National Fuel.

1. National Fuel shall follow the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests) and as identified in the EA, unless modified by the Order. National Fuel must:

    a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);
    b. justify each modification relative to site-specific conditions;
    c. explain how that modification provides an equal or greater level of environmental protection than the original measures; and
    d. receive approval in writing from the Director of the Office of Energy Projects (OEP) **before using that modification.**

2. The Director of OEP, or the Director's designee, has delegated authority to address any requests for approvals or authorizations necessary to carry out the conditions of the Order, and take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the Project, and for all associated abandonment activities. This authority shall allow:

    a. the modification of the conditions of the Order;
    b. stop-work authority; and
    c. the imposition of any additional measures deemed necessary to ensure continued compliance with the intent of the conditions of the Order as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from Project construction and operation.

3. **Prior to any construction**, National Fuel shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, EIs, and contractor personnel would be informed of the EI's authority and have been or would be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.

4. The authorized facility locations shall be as shown in the EA, as supplemented by filed alignment sheets. **As soon as they are available, and before the start of construction**, National Fuel shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by the Order. All requests for modifications of environmental conditions of the Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

   National Fuel's exercise of eminent domain authority granted under NGA section 7(h) in any condemnation proceedings related to the Order must be consistent with these authorized facilities and locations. National Fuel's right of eminent domain granted under NGA section 7(h) does not authorize it to increase the size of its natural gas facilities to accommodate future needs or to acquire a ROW for a pipeline to transport a commodity other than natural gas.

5. National Fuel shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction in or near that area**.

   This requirement does not apply to extra workspaces allowed by the Commission's Plan and/or minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

   Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

   a. implementation of cultural resources mitigation measures;
   b. implementation of endangered, threatened, or special concern species mitigation measures;
   c. recommendations by state regulatory authorities; and
   d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.

6. **Within 60 days of the acceptance of this authorization and before construction begins**, National Fuel shall file an Implementation Plan with the Secretary for review and written approval by the Director of the OEP. National Fuel must file revisions to the plan as schedules change. The plan shall identify:

    a. how National Fuel would implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EA, and required by the Order;
    b. how National Fuel would incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
    c. the number of EIs assigned, and how the company would ensure that sufficient personnel are available to implement the environmental mitigation;
    d. company personnel, including EIs and contractors, who would receive copies of the appropriate material;
    e. the location and dates of the environmental compliance training and instruction National Fuel would give to all personnel involved with construction and restoration (initial and refresher training as the Project progresses and personnel change);
    f. the company personnel (if known) and specific portion of National Fuel's organization having responsibility for compliance;
    g. the procedures (including use of contract penalties) National Fuel would follow if noncompliance occurs; and
    h. for each discrete facility, a Gantt or PERT chart (or similar Project scheduling diagram), and dates for:

        i. the completion of all required surveys and reports;
        ii. the environmental compliance training of onsite personnel;
        iii. the start of construction; and
        iv. the start and completion of restoration.

7. National Fuel shall employ at least one EI. The EI(s) shall be:

    a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or other authorizing documents;
    b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 above) and any other authorizing document;

c. empowered to order correction of acts that violate the environmental conditions of the Order, and any other authorizing document;
d. a full-time position, separate from all other activity inspectors;
e. responsible for documenting compliance with the environmental conditions of the Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
f. responsible for maintaining status reports.

8. Beginning with the filing of its Implementation Plan, National Fuel shall file updated status reports with the Secretary on a **biweekly basis until all construction and restoration activities are complete**. On request, these status reports would also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:

    a. an update on National Fuel's efforts to obtain the necessary federal authorizations;
    b. the construction status of the Project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally-sensitive areas;
    c. a listing of all problems encountered and each instance of noncompliance observed by the EI(s) during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
    d. a description of the corrective actions implemented in response to all instances of noncompliance, and their cost;
    e. the effectiveness of all corrective actions implemented;
    f. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and
    g. copies of any correspondence received by National Fuel from other federal, state, or local permitting agencies concerning instances of noncompliance, and National Fuel's response.

9. **National Fuel must receive written authorization from the Director of OEP before commencing construction of any Project facilities.** To obtain such authorization, National Fuel must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).

10. National Fuel must receive written authorization from the Director of OEP **before placing the Project into service.** Such authorization would only be granted

following a determination that rehabilitation and restoration of the ROW and other areas affected by the Project are proceeding satisfactorily.

11. **Within 30 days of placing the authorized facilities in service**, National Fuel shall file an affirmative statement with the Secretary, certified by a senior company official:

    a. that the facilities have been constructed and abandoned in compliance with all applicable conditions, and that continuing activities would be consistent with all applicable conditions; or
    b. identifying which of the conditions in the Order National Fuel has complied with or would comply with. This statement shall also identify any areas affected by the Project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.

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