Federal Energy Regulatory Commission

Office of Energy Projects

October 2018

Empire Pipeline, Inc. **Docket No. CP18-89-000**

Empire North Project

Environmental Assessment

Cooperating Agency:

U.S. Department of Transportation

Washington, DC 20426

FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

In Reply Refer To:
OEP/DG2E/Gas 1
Empire Pipeline, Inc.
Empire North Project
Docket No. CP18-89-000

TO THE INTERESTED PARTY:

The staff of the Federal Energy Regulatory Commission (FERC or Commission) has prepared an environmental assessment (EA) for the Empire North Project, proposed by Empire Pipeline, Inc. (Empire) in the above-referenced docket. Empire requests authorization to construct and operate gas compression facilities in Tioga County, Pennsylvania, and Ontario County, New York.

The EA assesses the potential environmental effects of construction and operation of the Empire North Project in accordance with the requirements of the National Environmental Policy Act (NEPA). The FERC staff concludes that approval of the proposed project, with appropriate mitigating measures, would not constitute a major federal action significantly affecting the quality of the human environment.

The U.S. Department of Transportation participated as a cooperating agency in the preparation of the EA. Cooperating agencies have jurisdiction by law or special expertise with respect to resources potentially affected by the proposal and participate in the NEPA analysis.

The proposed Empire North Project includes the following facilities:

- a new 21,000 horsepower compressor station in Jackson Township, Tioga County, Pennsylvania;
- a new 32,000 horsepower compressor station in the Town of Farmington, Ontario County, New York;
- modifications of the existing regulator valves and station piping and installation of metering facilities at the existing New Victor Regulator Station in Ontario County, New York;
- minor modifications to the existing Jackson Meter and Regulator Station in Jackson Township, Tioga County, Pennsylvania; and
- upgrading the maximum allowable operating pressure of the Empire Connector Pipeline from 1,290 to 1,440 pounds per square inch gauge.

The Commission mailed a copy of the *Notice of Availability* to federal, state, and local government representatives and agencies; elected officials; Native American tribes; other interested parties; and local libraries and newspapers. The EA is only available in electronic format. It may be viewed and downloaded from the FERC's website (www.ferc.gov), on the Environmental Documents page (https://www.ferc.gov/industries/gas/enviro/eis.asp). In addition, the EA may be accessed by using the eLibrary link on the FERC's website. Click on the eLibrary link (https://www.ferc.gov/docs-filing/elibrary.asp), click on General Search, and enter the docket number in the "Docket Number" field, excluding the last three digits (i.e. CP18-89). Be sure you have selected an appropriate date range. For assistance, please contact FERC Online Support at FercOnlineSupport@ferc.gov or toll free at (866) 208-3676, or for TTY, contact (202) 502-8659.

Any person wishing to comment on the EA may do so. Your comments should focus on the EA's disclosure and discussion of potential environmental effects, reasonable alternatives, and measures to avoid or lessen environmental impacts. The more specific your comments, the more useful they will be. To ensure that the Commission has the opportunity to consider your comments prior to making its decision on this project, it is important that we receive your comments in Washington, DC on or before 5:00 pm Eastern Time on **November 29, 2018.**

For your convenience, there are three methods you can use to file your comments to the Commission. The Commission encourages electronic filing of comments and has staff available to assist you at (866) 208-3676 or FercOnlineSupport@ferc.gov. Please carefully follow these instructions so that your comments are properly recorded.

(1) You can file your comments electronically using the eComment feature on the Commission's website (www.ferc.gov) under the link to Documents and Filings. This is an easy method for submitting brief, text-only comments on a project;

(2) You can also file your comments electronically using the eFiling feature on the Commission's website (www.ferc.gov) under the link to Documents and Filings. With eFiling, you can provide comments in a variety of formats by attaching them as a file with your submission. New eFiling users must first create an account by clicking on "eRegister." You must select the type of filing you are making. If you are filing a comment on a particular project, please select "Comment on a Filing;" or

(3) You can file a paper copy of your comments by mailing them to the following address. Be sure to reference the project docket number (CP18-89-000) with your submission: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Room 1A, Washington, DC 20426

Any person seeking to become a party to the proceeding must file a motion to intervene pursuant to Rule 214 of the Commission's Rules of Practice and Procedures (18 CFR 385.214). Motions to intervene are more fully described at http://www.ferc.gov/resources/guides/how-to/intervene.asp. Only intervenors have the right to seek rehearing or judicial review of the Commission's decision. The Commission may grant affected landowners and others with environmental concerns intervenor status upon showing good cause by stating that they have a clear and direct interest in this proceeding which no other party can adequately represent. **Simply filing environmental comments will not give you intervenor status, but you do not need intervenor status to have your comments considered.**

Additional information about the project is available from the Commission's Office of External Affairs, at **(866) 208-FERC**, or on the FERC website (www.ferc.gov) using the eLibrary link. The eLibrary link also provides access to the texts of all formal documents issued by the Commission, such as orders, notices, and rulemakings.

In addition, the Commission offers a free service called eSubscription which allows you to keep track of all formal issuances and submittals in specific dockets. This can reduce the amount of time you spend researching proceedings by automatically providing you with notification of these filings, document summaries, and direct links to the documents. Go to www.ferc.gov/docs-filing/esubscription.asp.

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TECHNICAL ACRONYMS AND ABBREVIATIONS

Amsl	above mean sea level
APE	area of potential effects
AQCR	Air Quality Control Region
CAA	Clean Air Act of 1970
CEQ	Council on Environmental Quality
Certificate	Certificate of Public Convenience and Necessity
CFR	Code of Federal Regulations
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
Commission	Federal Energy Regulatory Commission
CS	Compressor Station
CWA	Clean Water Act
dB	decibel
dBA	decibels on the A-weighted scale
DOT	U.S. Department of Transportation
Dth/d	dekatherms per day
EA	environmental assessment
ECP	Empire Connector Pipeline
EI	environmental inspector
Empire	Empire Pipeline, Inc.
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
ESCAMP	Erosion Sedimentation Control and Agricultural Mitigation Plan
FERC	Federal Energy Regulatory Commission
FWS	U.S. Fish and Wildlife Service
GHG	greenhouse gas
HAP	hazardous air pollutant
HP	horsepower
HUC	Hydrologic Unit Code
L_{dn}	day-night sound level
L_{eq}	equivalent sound level
L_{max}	maximum instantaneous sound level
M&R	Meter and Regulator
MAOP	maximum allowable operating pressure
MBTA	Migratory Bird Treaty Act
$\mu g/m^3$	micrograms per cubic meter
MOU	Memorandum of Understanding
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NGA	Natural Gas Act

NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NOI	Notice of Intent to Prepare an Environmental Assessment for the Proposed Empire North Project and Request for Comments on Environmental Issues
NRCS	National Resources Conservation Service
NSA	noise sensitive area
NYSDEC	New York State Department of Environmental Conservation
O_3	ozone
OEP	Office of Energy Projects
PADCNR	Pennsylvania Department of Conservation and Natural Resources
PADEP	Pennsylvania Department of Environmental Protection
Pb	lead
PEM	palustrine emergent
PFO	palustrine forested
PGA	peak ground acceleration
PHMSA	Pipeline and Hazardous Materials Safety Administration
Plan	Upland Erosion Control, Revegetation, and Maintenance Plan
PM_{10}	particles with an aerodynamic diameter less than or equal to 10 microns
$PM_{2.5}$	particles with an aerodynamic diameter less than or equal to 2.5 microns
PNDI	Pennsylvania Natural Diversity Inventory
Procedures	Wetland and Waterbody Construction and Mitigation Procedures
Project	Empire North Project
Psig	pounds per square inch gauge
PSD	Prevention of Significant Deterioration
PTE	potential to emit
RG&E	Rochester Gas and Electric
Secretary	Secretary of the Commission
SHPO	State Historic Preservation Office
SO_2	sulfur dioxide
SPRP	Spill Prevention and Response Procedures
SWPPP	Stormwater Pollution Prevention Plan
tpy	tons per year
Tri-County	Tri-County Rural Electric Cooperative
USGS	U.S. Geological Survey
VOC	volatile organic compound

A. PROPOSED ACTION

A.1 Introduction

The Federal Energy Regulatory Commission (Commission or FERC) staff has prepared this environmental assessment (EA) to assess the environmental impacts of the natural gas pipeline facilities proposed by Empire Pipeline, Inc. (Empire). We[1] prepared this EA in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA) under Title 40 of the Code of Federal Regulations (CFR), Parts 1500–1508 (40 CFR 1500–1508), and the Commission's implementing regulations under 18 CFR 380. This effort was undertaken with the participation and assistance of the U.S. Department of Transportation (USDOT) as a "cooperating agency" under NEPA. The USDOT assisted us in preparing this EA because they have jurisdiction by law and special expertise with respect to environmental impacts associated with Empire's proposal.

On February 16, 2018, Empire filed an application in Docket No. CP18-89-000 under Section 7(b) and 7(c) of the Natural Gas Act (NGA) and the certificate procedures of Part 157 of the Commission's regulations for a Certificate of Public Convenience and Necessity (Certificate) authorizing construction, modification, and operation of natural gas pipeline facilities and authorization to abandon certain related facilities in Jackson Township, Tioga County, Pennsylvania; the Town of Farmington, Ontario County, New York; and the Town of Victor, Ontario County, New York. These proposed activities are referred to as the Empire North Project (Project).

The EA is an important and integral part of the Commission's decision on whether to issue Empire a Certificate to construct and operate the proposed facilities, and an authorization to abandon facilities. 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;
- assess reasonable alternatives to the proposed action that would avoid or minimize adverse effects on the environment;
- identify and recommend specific mitigation measures, as necessary, to minimize environmental impacts; and
- facilitate public involvement.

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, issues an order (Commission's Order) granting 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.

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

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 will not negatively affect the present or future public convenience and necessity.

A.2 Purpose and Need

Empire states the purpose of the Project is to provide 205,000 dekatherms per day (Dth/d) of incremental firm transportation capacity in order to allow abundant, reliable, and economic supplies of regionally produced natural gas into the interstate pipeline system, by way of existing Empire pipeline facilities, including local gas distribution markets and market centers in the northeastern United States, such as the State of New York, and Canada.

A.3 Scope of this Environmental Assessment

FERC prepared this EA in compliance with the requirements of NEPA, the Council on Environmental Quality's (CEQ) regulations for implementing NEPA (40 CFR 1500–1508), and FERC's regulations implementing NEPA (18 CFR 380). The Energy Policy Act of 2005 provides that FERC shall act as the lead agency for coordinating all applicable authorizations related to jurisdictional natural gas facilities and for purposes of complying with NEPA. As the lead federal agency for the Project, FERC is required to comply with Section 7 of the Endangered Species Act (ESA) and Section 106 of the National Historic Preservation Act (NHPA). These statutes have been considered in the preparation of this EA. FERC will use this document to consider the environmental impacts that could result if it authorizes the Project.

In addition to FERC, other federal, state, and local agencies may use this EA in approving or issuing permits for all or part of the proposed Project. Permits, approvals, and consultations for the Project are discussed in section A.9.

The topics addressed in this EA include alternatives, geology, soils, groundwater, surface waters, wetlands, fisheries, wildlife, vegetation, species of special concern, cultural resources, environmental justice, air quality, noise, land use, recreation, visual resources, reliability and safety, and cumulative impacts. This EA describes the affected environment as it currently exists and the environmental consequences of the Project, and compares the Project's potential impact with that of various alternatives. This EA also presents our recommended mitigation measures.

A.4 Public Review and Comment

On April 10, 2018, FERC issued a *Notice of Intent to Prepare an Environmental Assessment for the Proposed Empire North Project and Request for Comments on Environmental Issues* (NOI). The NOI was sent to various parties including federal, state, and local government representatives and agencies; elected officials; Native American Tribes; other interested parties; and local libraries and newspapers.

The Commission received comment letters from the New York State Thruway Authority and the U.S. Environmental Protection Agency (EPA) in response to the NOI. The comments related to alternatives, construction staging areas, access roads, cumulative impacts analysis, climate change, air quality, safety, and environmental justice. These issues are addressed in applicable sections of the EA.

A.5 Proposed Facilities

The Project would consist of the following:

- a new 21,068 horsepower (HP) compressor station (CS) in Jackson Township, Tioga County, Pennsylvania (Jackson CS);
- a new 32,000 HP compressor station in the Town of Farmington, Ontario County, New York (Farmington CS);
- modifications of facilities at its existing Jackson Meter and Regulator (M&R) Station and at its existing New Victor Regulator Station; and
- increasing the certificated maximum allowable operating pressure (MAOP) of the Empire Connector Pipeline (ECP)[2] from 1,290 pounds per square inch gauge (psig) to 1,440 psig.

Empire would own and operate all the proposed facilities. Figure 1 – 3 show the individual locations of the proposed Project.

A.5.1 New Compressor Stations

Jackson Compressor Station

The proposed Jackson CS would be adjacent to Empire's existing Jackson M&R Station, directly south of State Line Road and east of Buckwheat Hollow Road in Jackson Township. The Jackson CS would be developed on two parcels that total 42.2 acres, which would be acquired by Empire through executed option or purchase agreements with the existing landowners. The Jackson CS facilities would include two new 10,534 HP natural-gas-fired turbine driven centrifugal compressors. The proposed Jackson CS would also include the installation of 961 feet of new 24-inch-diameter pipeline (all within the proposed Jackson CS site footprint) that would tie the suction and discharge lines for the new compression facilities into the existing Empire Tioga County Extension Pipeline.

Empire also proposes to construct an access driveway to the proposed site and to abandon, by removal, 200 feet of 24-inch-diameter mainline pipeline between the Empire Tioga Extension Pipeline and the proposed Jackson CS, all of which would occur within the proposed Jackson CS site.

Farmington Compressor Station

Empire proposes to construct a new, approximately 32,000 HP compressor station in the Town of Farmington, Ontario County, New York comprised of two new electric motor-driven

[2] The ECP is an existing 76.6 mile, 24-inch-diameter pipeline that runs from Victor, New York to Corning, New York, and was placed in-service on December 10, 2008.

compressors to increase pressure of the ECP, north of the Hopewell Interconnection. In conjunction with the new compression, Empire has applied for a Special Permit from the United States Department of Transportation (DOT) – Pipeline and Hazardous Materials Safety Administration (PHMSA) to operate the ECP at an alternative MAOP and is furthermore seeking the Commission's authorization to increase the previously certificated ECP MAOP from 1,290 to 1,440 psig.

The proposed Farmington CS is adjacent to the existing ECP, directly south of the New York State Thruway (I-90) and east of Hook Road within the Town of Farmington. The Farmington CS would be developed on portions of two tax parcels (totaling 92.4 acres) which would be acquired by Empire through executed option agreements with the existing landowners.

The new facilities would also include 2,100 feet of new 24-inch-diameter pipeline (all within the proposed Farmington CS site footprint) to tie the new compression facilities into the adjacent ECP. In addition, electricity for the proposed Farmington CS would be supplied from an existing electric substation adjacent to the delivery point of the Hopewell Interconnection. Empire would construct an access driveway to the proposed facility site from existing Town of Farmington highway. In addition, Empire would abandon by removal, approximately 40 feet of 24-inch-diameter mainline pipeline in connection with the tie-in between the ECP and the proposed Farmington CS. The access road and abandoned pipeline would be within the proposed Farmington CS site.

A.5.2 Modifications to Existing Facilities

New Victor Regulator Station

Empire's New Victor Regulator Station was built in conjunction with the ECP and placed into service in 2008. The station is in the Town of Victor, Ontario County, New York (southeast of Rochester, New York), approximately 2,100 feet south of Valentown Road and 850 feet east of Hidden Brook Trail.

The New Victor Station regulates pressure from the ECP (currently 1,290 psig) to the eastern section of the Empire Pipeline (1,000 psig). The station currently consists of regulator valves enclosed in a building, a gas heater, pig launcher facilities, a control building, a back-up generator, and associated station piping and valves. Empire proposes to modify the existing regulator valves and station piping as well as install metering facilities to allow for more effective gas flow control to the eastern section of the Empire Pipeline. In addition, Empire proposes to abandon by removal, approximately 10 feet of 16-inch-diameter station piping at the existing New Victor Regulator Station.

Existing Jackson M&R Station

The Jackson Meter and Regulator Station was placed into service in 2011 and is in Jackson Township, Tioga County, Pennsylvania, directly east of Buckwheat Hollow Road, on a 3.0-acre parcel owned by Empire. Empire proposes minor modifications to the Jackson M&R Station, including installation of noise mitigation insulation on existing above-grade station piping and in the existing control valve building. Furthermore, Empire proposes to abandon by removal, and

subsequently replace various metering equipment and control valves. All proposed work would be completed within the existing Jackson M&R Station site boundaries.

A.5.3 Uprate of Existing Empire Connector Pipeline MAOP

As discussed above, the ECP is an existing 76.6 mile, 24-inch diameter pipeline that runs from Victor, New York, to Corning, New York, and was placed in-service in 2008. The current MAOP of this pipeline is 1,290 psig, as previously authorized in Docket No. CP06-5-000. Empire proposes to increase the certificated MAOP of the ECP from 1,290 psig to 1,440 psig. Empire would complete this uprate in compliance with the requirements of 49 CFR 192, specifically sections 192.112, 192.328, and 192.620, for operating at an alternative MAOP, and by filing a Special Permit application with PHSMA for Design Class 1 (0.309-inch wall thickness) and Design Class 2 (0.369-inch wall thickness) pipeline segment locations. No additional ground disturbing activities are anticipated with respect to the proposed MAOP uprate.

A.6 Non-jurisdictional Facilities

Under Section 7 of the NGA, the Commission is required to consider, as part of the decision to approve facilities under Commission jurisdiction, 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, such as a power plant at the end of a jurisdictional pipeline, or they may be minor, nonintegral components of the facilities under the Commission's jurisdiction. The non-jurisdictional facilities for the Project would include minor facilities necessary to provide power, telephone, and water to the compressor stations.

The proposed Farmington CS would require medium voltage transmission lines to be installed between the existing Rochester Gas and Electric (RG&E) substation northwest of the proposed facility and a new substation within the proposed Farmington CS fence line. The proposed transmission lines would also require support structures as part of the installation. The RG&E and Farmington CS properties are adjoining, and therefore no additional landowners would be affected by a new right-of-way for the proposed transmission lines.

The proposed Jackson CS would be in proximity to two power corridors owned by Tri-County Rural Electric Cooperative (Tri-County). One of the existing power lines and the associated support poles would be relocated by Tri-County to the outer edges of the Jackson CS property to allow for construction of the proposed facility.

Any state or local permits or approvals required for these non-jurisdictional facilities and modifications would be obtained by the owners of these facilities prior to construction.

The impacts associated with construction of these utility lines within the compressor station boundaries are accounted for within the disturbance areas discussed for the jurisdictional facilities. The impacts associated with constructing the lines outside of the compressor station boundaries are included in our cumulative impacts analysis.

Figure 1. Farmington Compressor Station Location

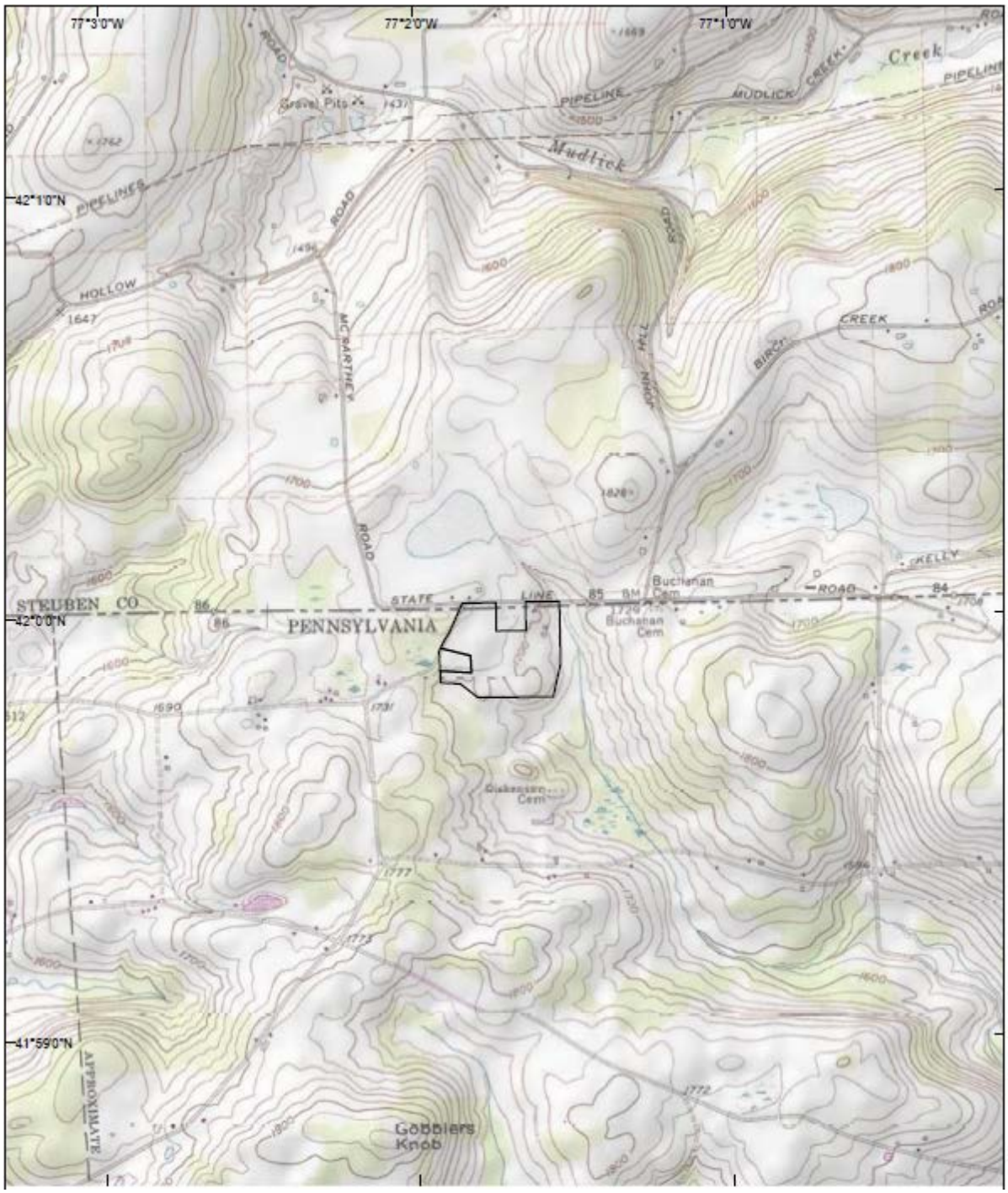

Figure 2. Jackson Compressor Station and Existing Jackson Meter and Regulator Station Location

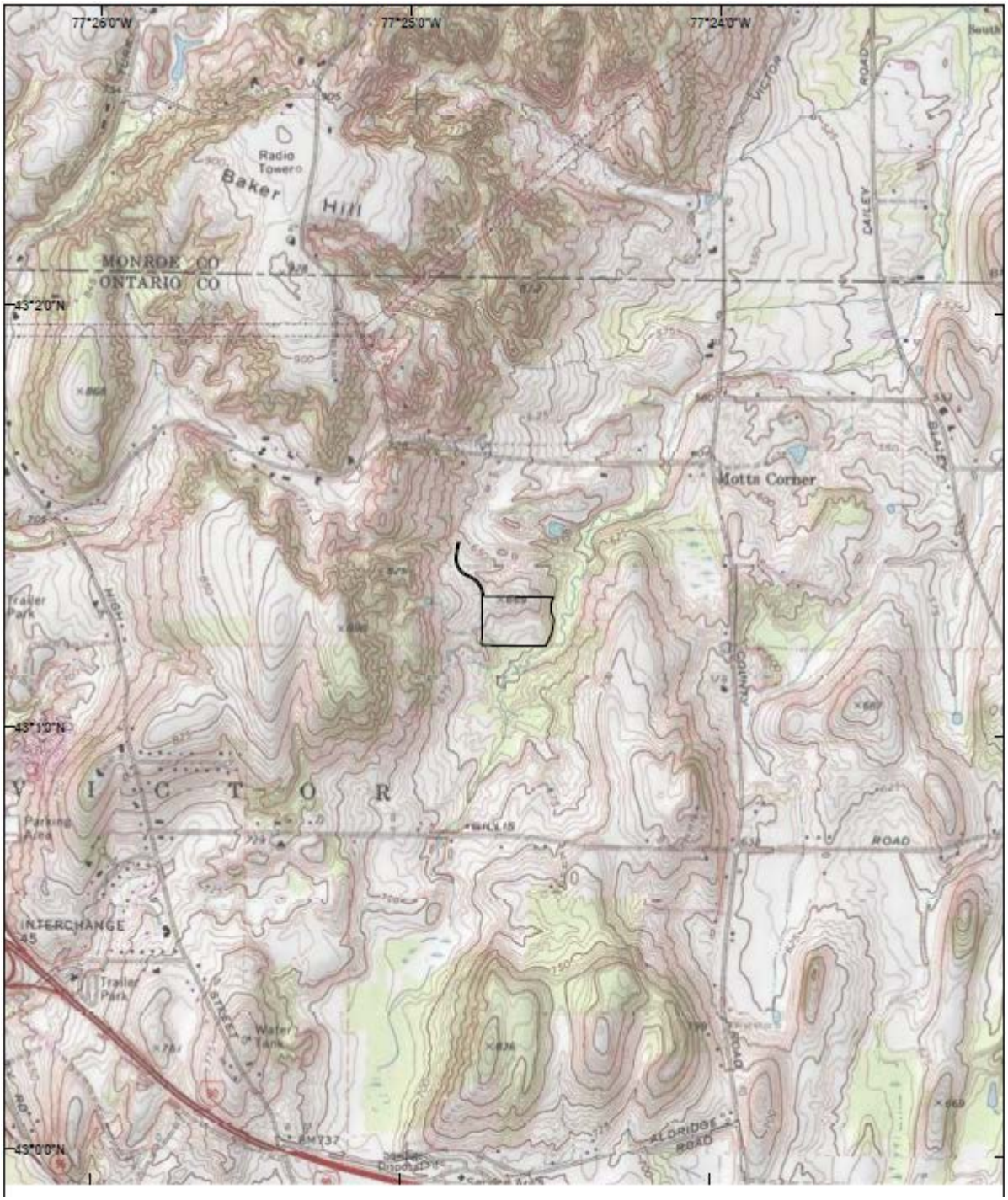

Figure 3. New Victor Regulating Station Location

A.7 Land Requirements

The Project would affect a total of 50.4 acres of land (aggregate among the four facility locations) during construction and permanently affect 17.52 acres of land during operation. Table 6 presents the area of land needed for construction and operations at each Project site.

A.8 Construction Procedures

The Project facilities would be designed, constructed, operated, and maintained in accordance with applicable requirements defined by DOT regulations in 49 CFR 192, *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards*; by FERC's *Siting and Maintenance Requirements* in 18 CFR 380.15; and by other applicable federal and state safety regulations.

Empire would construct, restore, and maintain the Project according to the measures described in its Erosion Sedimentation Control and Agricultural Mitigation Plan (ESCAMP). This plan incorporates our *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) (FERC, 2013a) and our *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures) (FERC, 2013b).[3] The Plan and Procedures provide baseline mitigation measures for minimizing the extent and duration of disturbances on soils, wetlands, and waterbodies.

Empire plans to begin construction in the Spring of 2019. Empire expects to place the Project facilities in service in November 2019, subject to Commission approval and receipt of other required permits and approvals.

A.8.1 Compressor Station Construction and Restoration Procedures

Survey crews would stake construction limits and buffer zones, and areas that would not be disturbed by construction. Vegetation within work areas would be removed and the site would be graded. Empire would segregate and protect topsoil from work areas during construction. As stipulated in the Plan, temporary erosion control would be installed immediately following initial ground disturbance.

Empire would excavate foundation sites with piers up to 40 feet below finished grade. Crews would pour reinforced concrete foundations to support the new compressor units and buildings. Once the foundations are completed, Empire would erect buildings and install piping and electrical conduit systems. Some of the buildings would be built onsite, and others would be prebuilt, modularized buildings brought to the site and installed on the constructed foundations.

Empire would test the compressor station piping before the final connection to its existing natural gas pipeline system. Hydrostatic testing would comply with DOT regulations 49 CFR 192, American Society of Mechanical Engineers Standard B31.8, and applicable state and local

[3] Our Plan and Procedures can be accessed at the FERC's website, http://www.ferc.gov/industries/gas/enviro/plan.pdf and http://www.ferc.gov/industries/gas/enviro/procedures.pdf.

regulations. Test water would be obtained from a municipal or commercial water source, trucked to the site, and stored in tanks. Pipeline connections would also be tested. Except where cut and fill is required, work areas would be graded to match preconstruction contours and drainage patterns. Empire would reseed areas disturbed by construction with turf seed mix and install permanent erosion control measures following its ESCAMP. Crews would transport all excess materials and construction debris to a licensed commercial disposal facility in accordance with applicable laws.

Empire would check and test all controls, safety equipment, and systems (including emergency shutdown, relief valves, gas and fire detection, engine over speed, and vibration) before placing them into service.

A.8.2 Environmental Compliance Inspection and Monitoring

In preparing construction drawings and specifications for the Project, Empire would incorporate the mitigation measures identified in its permit applications, and additional requirements of federal, state, and local agencies. Empire would provide the construction contractors with copies of its ESCAMP and applicable environmental permits.

Empire would conduct training for its construction personnel, including environmental inspectors (EI), contractors, and their employees regarding proper field implementation of its ESCAMP and other Project-specific plans and mitigation measures. The training would cover Project environmental documents and all Project-specific conditions contained in the Commission's Order and other applicable federal, state, and local permits and approvals.

Empire would employ an EI to oversee and document environmental compliance. The EI would have authority to stop activities that violate the measures set forth in the Project documents and authorizations and would have the authority to order corrective action. FERC staff or its contractors would also conduct routine inspections during construction to determine compliance with the Commission's Orders and to inspect the construction conditions of the Project facilities.

A.8.3 Operations and Maintenance

The Project would be owned, operated, and maintained by Empire. All facilities would be operated and maintained in compliance with DOT regulations (49 CFR 192); applicable conditions of the Commission's Order for the Project; and federal, state, and local regulations. Facilities would be periodically inspected and maintained. Standard Empire compressor station operation procedures include activities such as:

- calibration, maintenance, and inspection of equipment;
- pressure, temperature, and vibration data monitoring;
- traditional landscape maintenance; and
- periodic checks of safety and emergency equipment and cathodic protection systems.

A.9 Consultations, Approvals, and Permits

Table 1 lists the federal, state, and local regulatory agencies that have permit or approval authority or consultation requirements and the status of that review for portions of the Project. Empire would be responsible for obtaining all necessary permits, licenses, and approvals required for its Project regardless if they appear in the table.

Table 1. Permits, Approvals, and Consultations for the Empire North Project		
Agency	**Permit/Approval/Consultation**	**Status**
Federal		
FERC	NGA, Section 7(c), Certificate and NGA, Section 7(b), Authorization to Abandon	Pending
U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA)	Special Permit authorized under 49 USC § 60118(c) - Application set forth in 49 CFR 190.341	Permit issued October 23, 2018.
U.S. Fish and Wildlife Service (USFWS)	Review of Threatened and Endangered Species, Section 7 Consultation – Endangered Species Act 16 USC Chapter 35	Concurrence letter received December 14, 2017. No further consultation required.
State		
New York State Office of Parks, Recreation, and Historic Preservation New York State Historic Preservation Office (NY SHPO)	National Historic Preservation Act of 1966, Section 106 Consultation	Concurrence letter for Farmington CS received January 2, 2018.
Pennsylvania Historical and Museum Commission Pennsylvania State Historic Preservation Office (PA SHPO)	National Historic Preservation Act of 1966, Section 106 Consultation	Concurrence letter on archaeology received January 17, 2018.
Pennsylvania Department of Environmental Protection (PADEP)	• Erosion and Sedimentation Control General Permit (ESCGP-2) with Tioga County Approval • Hydrostatic Test Water Discharge General Permit (if required) • Air Permit	Pending
New York State Department of Environmental Conservation (NYSDEC) Region 8	State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (GP-0—15-002) – Notice of Intent with MS4 Approval	Pending
Pennsylvania Natural Heritage Program, Pennsylvania Natural Diversity Inventory (PNDI)	Rare, Threatened, and Endangered (RTE) Species Consultation with PA Game Commission, PA Department of Conservation and Natural Resources, and PA Fish and Boat Commission	PNDI consultation completed September 12, 2017.
New York State Department of Environmental Conservation (NYSDEC)	Rare, Threatened, and Endangered Species Consultation, New York Natural Heritage Program (NYNHP)	Consultation initiated September 12, 2017. NYNHP response letter received on September 13, 2017.

B. ENVIRONMENTAL ANALYSIS

B.1 Geology and Soils

B.1.1 Geology

Geologic Setting

The Project is in the Appalachian Plateaus physiographic province of western New York and northwestern Pennsylvania (U.S. Geological Survey [USGS], 2004). The proposed Farmington CS workspace and vicinity are generally flat with occasional glacial features, including drumlins (elongated glacially derived hill features), which exhibit generally north-south orientation. Area elevations range from 550 to 650 feet above mean sea level (ft, amsl). The existing New Victor Regulator Station and vicinity generally slope to the east toward White Brook, with elevations ranging from 600 to 650 ft, amsl. The proposed Jackson CS and existing Jackson M&R Station workspaces and vicinity generally slope to the east toward a headwater tributary to the Chemung River, with elevations ranging from 1,700 to 1,800 ft, amsl.

Surficial geologic materials in the Project vicinity consist primarily of glacial till and outwash sand and gravel, underlain by sedimentary bedrock composed of shale, sandstone, and limestone/dolostone (PADCNR, 2000; New York State Geological Survey, 2016).

Mineral Resources

Empire conducted an assessment of mineral resources within 0.25 mile of the Project workspaces using aerial photographs, USGS topographic maps, New York State Department of Environmental Conservation (NYSDEC) Oil and Gas Mineral Resource Maps and Databases (2018a), Pennsylvania Department of Environmental Protection (PADEP) Oil and Gas Mapping (2018a), and field reconnaissance at and around each workspace. According to this review, no existing or abandoned oil and gas wells or active or inactive mining operations were identified within the Project area or within 0.25 mile of Project workspaces. Therefore, we conclude that impacts on fuel and non-fuel mineral resources would not occur during Project construction or operation.

Geologic Hazards and Impact Mitigation

Geologic hazards are natural, physical conditions that can result in damage to land and structures or injury to people. Such hazards are typically seismic-related, including earthquakes, surface faulting, and soil liquefaction; landslides; and ground subsidence hazards. These hazards are discussed below.

The shaking during an earthquake can be expressed in terms of the acceleration as a percent of gravity (g), and seismic risk can be quantified by the motions experienced at the ground surface or by structures during a given earthquake expressed in terms of g. USGS National Seismic Hazard Probability Mapping shows that for the Project area, within a 50-year period, there is a 2 percent probability of an earthquake with an effective peak ground acceleration (PGA) of 4 to 10 percent g; and a 10 percent probability of an earthquake with an effective PGA of 2 to 3 percent g being exceeded (USGS, 2014a). For reference, PGA of 10 percent g (0.1g) is generally considered the

minimum threshold for damage to older structures or structures not constructed to resist earthquakes. A 2 to 3 percent g PGA is characterized as light perceived ground shaking and no potential damage, and a 4 to 10 g percent PGA is characterized as moderate to strong perceived ground shaking and very light to light potential damage (USGS, 1989). Even under much higher ground vibrations, the main risk to pipelines and aboveground facilities would be a slip fault that displaces laterally during an earthquake. Project facilities are not underlain by this type of feature (USGS, 2006). Given these conditions, we conclude that there is a low potential for damage due to prolonged ground shaking or ground rupture to occur within the Project area.

Soil liquefaction is a phenomena associated with seismic activity in which saturated, non-cohesive soils temporarily lose their strength and liquefy (i.e., behave like a viscous liquid) when subjected to forces such as intense and prolonged ground shaking. The Project is in an area with low seismicity and is not underlain by near-surface saturation. As such, the potential for soil liquefaction to occur is negligible.

USGS landslide incidence and susceptibility mapping indicates that the Project facilities would be in areas of low landslide incidence (USGS, 2014b). Project area topography is generally flat or gently sloping and/or has been previously graded. As such, the potential for landslides to occur during construction or operation of the Project is negligible.

Ground subsidence, involving the localized or regional lowering of the ground surface, may be caused by karst formation due to limestone or gypsum bedrock dissolution; sediment compaction due to groundwater pumping and/or oil and gas extraction, and underground mining. Oil and gas extraction and subsurface mines do not occur in the Project area. While Project areas in New York are identified as being within state-level mapped unconsolidated aquifer resource boundaries, each site is in an area serviced by municipal water supply; therefore, groundwater withdrawal, over-pumping, or resulting ground subsidence susceptibility are not anticipated.

The Jackson M&R Station and Jackson CS are not within mapped karst terrain areas and the lithology that could lead to bedrock dissolution and karst development do not generally occur in the vicinity of these sites. However, the proposed Farmington CS and existing Victor Regulator Station are in an areas of mapped potential karst occurrence given the carbonite nature of underlying bedrock. Surface expression of features which may indicate the existence of sub-cropping karst geology were not observed by Empire at the sites or in the vicinity. Furthermore, conditions related to karst, voids, dissolution, or cavities were not observed in the geotechnical investigation rock cores completed at the Farmington CS site. The Farmington CS is designed use helical screw piles, a form of deep foundation design, which anchors surface site structures to competent bedrock or suitable load bearing soils, minimizing the potential for impacts of shallow karst or other surficial instabilities, if present. Modifications at the New Victor Regulator Station would involve minimal and shallow ground disturbance within an existing easement.

Based on Empire's proposed construction methods and mitigation measures, we conclude that the impact from geologic hazards on the Project facilities during construction and/or operation would be minimal and the Project would not significantly impact geologic resources.

B.1.2 Soils

Soil characteristics in the Project area were assessed using the Natural Resources Conservation Service (NRCS) Soil Survey geographic database (NRCS, 2017). Soils were grouped and evaluated according to the characteristics that could affect construction or increase the potential for soil impacts during construction. These characteristics include important farmland designation, compaction potential and hydric soils, highly erodible soils, and the presence of stones and shallow bedrock (see Table 2). Additional soil-related issues considered in the analysis include revegetation and soil contamination.

Table 2. Soil Characteristics and Limitations (Construction Impacts)

Facility Name	Important Farmland[1]	Hydric[2]	Low Revegetation Potential[3]	Shallow Bedrock[4]	Highly Erodible[5]
Farmington CS (acres)	26.8	4.5	4.5	3.4	0.0
Jackson CS (acres)	20.1	2.1	13.2	13.2	11.4
Jackson M&R (acres)	1.5	0.9	1.5	1.5	0.8
New Victor Regulator Station (acres)	0.6	0.1	0.1	0.0	1.1
Total (acres)	49.0	7.6	19.3	18.1	13.3
Percent of Total Project Area[6]	97.7	15.3	38.6	36.1	26.6

[1] As designated by the NRCS, includes prime farmland, farmland of statewide importance, and farmland of local importance.
[2] As designated by the NRCS.
[3] Based on potential for seedling mortality rating class.
[4] Includes soils with a depth to bedrock of less than 60 inches.
[5] Includes soils with an average slope greater than or equal to 9 percent and land in capability subclasses 4E through 8E (highly water erodible); soils are not highly wind erodible.
[6] Totals do not equal 100 percent as not all soils are classified with limitations and certain soils are classified as having multiple limitations.

Typical soil impacts that may occur during construction include mixing of topsoil and subsoil layers, compaction, rutting, erosion, and alteration of drainage characteristics. Construction activities such as clearing, grading, trench excavation, backfilling, heavy equipment traffic, and restoration along the construction right-of-way have the potential to adversely affect natural soil characteristics such as water infiltration, storage and routing, and soil nutrient levels, thus reducing soil productivity. Clearing removes protective vegetative cover and exposes soils to the effects of wind and water which potentially increases the potential for soil erosion and the transport of sediment to sensitive resource areas.

Important Farmland

The U.S. Department of Agriculture defines prime farmland as land that has the best combination of physical and chemical characteristics for growing food, feed, forage, fiber, and oilseed crops. Unique farmland is land that is used for production of specific high-value food and fiber crops. In addition, soils may be considered of statewide or local importance if those soils are capable of producing a high yield of crops when managed according to accepted farming methods.

Construction in agricultural areas and pasture areas would temporarily disrupt ongoing agricultural activities and eliminate use of the land for the duration of construction, with permanently impacted areas converted to industrial use. Areas of active cropland are present within the proposed construction workspaces at the Farmington CS and Jackson CS.

Portions of the Project area at the Farmington CS and Jackson CS are mapped as important farmland (prime farmland and/or farmland of statewide importance). Soils at the existing Jackson M&R Station and New Victor Regulator Station are also mapped as prime farmland and/or farmland of statewide importance; however, these areas are previously disturbed/developed. Specifically, the construction workspace would temporarily disturb approximately 27.0 acres of prime farmland soils and approximately 22.1 acres of farmland of statewide importance, of which 14.7 acres would be permanent impacts comprising new aboveground facility footprints and new permanent access roads (refer to Table 3).

Table 3. Temporary and Permanent Impacts to Important Farmland (acres)

	Temporary Impacts on Prime Farmland	Temporary Impacts on Farmland of Statewide Importance	Permanent Impacts[1]
Farmington CS	26.9	0.0	9.9
New Victor Regulator Station	0.1	0.4	0.0
Jackson CS	0.0	20.2	4.8
Jackson M&R Station	0.0	1.5	0.0
Total	27.0	22.1	14.7

[1] Includes permanent impacts on prime farmland and farmland of statewide importance where land use is not currently commercial/industrial but would be converted to such following Project construction (within aboveground facility fencelines and new permanent access roads).

Potential impacts on agricultural soils would be minimized and mitigated in accordance with Empire's ESCAMP. These include measures to conserve and segregate the upper 12 inches of topsoil, alleviate soil compaction, protect and maintain existing drainage tile and irrigation systems, prevent the introduction of weeds, and retain existing soil productivity. Implementation of proper topsoil segregation, soil decompaction, drainage, and weed controls would help ensure post-construction revegetation success and productivity, thereby minimizing the potential for long term impacts on agricultural lands. Therefore, we conclude that while some important farmland would be permanently lost as a result of the Project, the majority of impacts on important farmland would be temporary and minor.

Permanent impacts to prime farmland and farmland of statewide importance would be limited to soils within the footprint of new aboveground facilities and new permanent access roads. Permanent impacts quantitatively represent less than 0.01 percent of the total area of important farmland within Ontario County and Tioga County. Therefore, permanent impacts would be minor and not significant.

Shallow Bedrock

The introduction of stones or rocks to surface soil layers may reduce soil moisture-holding capacity, resulting in a reduction of soil productivity. Areas of potential shallow bedrock were evaluated based on reported soil survey depths. The reported depth to bedrock is less than 60 inches at the Farmington CS and Jackson CS sites and the existing Jackson M&R Station. Facility-specific geotechnical investigations were completed at the Farmington CS and Jackson CS sites to support the foundation design. Bedrock was found to be 20 to 30 feet below ground surface, respectively, in the test borings completed. No blasting is anticipated at any locations due to anticipated Project construction activities, nature of the mapped bedrock underlying the site, and the limited need for removal of shallow bedrock material. Based on the previous site development and nature of the facility modifications, shallow bedrock at either the existing New Victor Regulator or Jackson M&R Stations is not anticipated to be a concern.

Furthermore, to minimize the introduction of stones or rocks to surface soil layers, Empire's ESCAMP requires that the size, density, and distribution of rock on the construction work area be similar to adjacent areas undisturbed by construction, and requires that excess rock be removed from at least the top 12 inches of soil in agricultural areas or in compliance with landowner agreements. Through adherence to these measures, we conclude no significant increase to the rock content of the topsoil would occur.

Soil Erosion and Revegetation Potential

Soil erosion is the wearing away of physical soil properties by wind and water, and could result in a loss of soil structure, organic matter, and nutrients, all of which, when present, contribute to healthy plant growth and ecosystem stability. Clearing, grading, and equipment movement can accelerate the erosion process and, without adequate protection, result in discharge of sediment to waterbodies and wetlands.

To minimize or avoid potential impacts due to soil erosion, Empire would implement controls in accordance with its ESCAMP. Temporary erosion controls, including interceptor diversions and sediment filter devices, such as silt fences, would be installed immediately following land disturbing activities. Empire would inspect these devices on a regular basis and after each rainfall event of 0.5 inch or greater to ensure proper function. Empire would additionally utilize dust-control measures, including routine wetting of the construction workspace, as necessary. Temporary erosion control devices would be maintained until the Project area is successfully revegetated or stabilized with gravel. Areas permanently converted for operational use would incorporate erosion and sediment control and stormwater design measures to avoid impacts on undisturbed soils. Furthermore, Empire has committed to incorporating recommended seed mixes and invasive species/noxious weed prevention and restoration measures provided by the local permitting agency during consultation or permitting review(s) into its Project-specific plans.

Given Empire's proposed mitigation measures and that disturbed areas would be returned to pre-construction conditions, maintained in an herbaceous state, or stabilized with gravel cover, we conclude that permanent impacts due to soil erosion or poor revegetation potential would be minimized to the extent practicable and impacts on soils would not be significant.

Soil Rutting and Compaction

While Project area soils were not classified as severely compaction prone, hydric soils are susceptible to rutting and compaction. Approximately 15 percent of soils disturbed by Project construction would be hydric. Compaction and rutting of hydric soils would be minimized by using timber mats and by de-compacting impacted agricultural areas prior to Project completion. Compaction would further be minimized through implementation of the construction and restoration measures outlined in Empire's ESCAMP. These include the segregation of topsoil/subsoil/hydric soil, the use of timber mats in wetlands, preparation of a proper seed bed prior to seeding, revegetating the right-of-way with seed mixes suitable for the area, and conducting follow-up inspections to evaluate the success of revegetation efforts. As such, any adverse impacts due to rutting and compaction would be adequately mitigated. Soils underlying permanent aboveground facility foundations would be permanently affected by compaction; however, these effects would be highly localized and minor. Therefore, we conclude that Project impacts from soil rutting and compaction would not be significant.

Inadvertent Spills or Discovery of Contaminants

A review of state and federal databases did not identify recent or historic areas of contamination crossed by Project facilities (U.S. Environmental Protection Agency [EPA], 2018; NYSDEC, 2018b; PADEP, 2018b; PADEP 2016). One leaking underground storage tank site was identified approximately 0.25 mile of the Farmington CS; however, given the distance from the Project area and that this site has reached case closure with no further action required, historic contamination is not anticipated to impact Project construction. Furthermore, oil and gas exploration and extraction were not identified within 0.25 mile of the Project areas. Based on the Project scope of work and the distance from potentially contaminated sites, we conclude the potential to encounter contaminated soils during construction is low. In the event that contaminated soils or other environmental media are identified during construction, Empire would implement measures contained in its Spill Prevention and Response Procedures (SPRP). Specifically, Empire would cease activities and restrict access in that area, initiate measures to characterize and handle contamination, and complete required agency follow-ups and reporting.

During construction, contamination from accidental spills or leaks of fuels, lubricants, and coolant from construction equipment could adversely impact soils. To minimize impacts, Empire would implement the measures contained in its SPRP, which specifies cleanup procedures in the event of inadvertent spills during Project construction. We have reviewed this plan and find it to be acceptable.

Based on these measures, we conclude that the Project's impacts on soils would be minor and not significant.

B.2 Water Resources and Wetlands

B.2.1 Groundwater Resources

New York categorizes groundwater aquifers based upon productivity and use as sources of water supply. Aquifers are categorized as either "primary" (highly productive sources of major water supply systems) or "principal" (abundant supply, not intensively used as major supply). The

most productive aquifer systems in New York consist of unconsolidated deposits of sand and gravel that occupy major river and stream valleys or lake plains and terraces. NYSDEC mapping indicates that the Farmington CS would overlie an unconfined principal aquifer which has a listed yield of greater than 100 gallons per minute. The New Victor Regulator Station overlies the primary Irondogenessee aquifer, which has a listed yield of 700 gallons per minute (NYSDEC, 1990). The maximum expected depth of excavation for the proposed Farmington CS site is 4 to 5 feet below existing grade, but may be up to 8 feet if shallow footing foundation excavations are utilized. Based on geotechnical borings proximate to the excavation area, shallow groundwater (if present) is anticipated to be approximately 10 to 15 feet below existing grade. Shallow excavation for modifications to the New Victor Regulator Station are not anticipated to intercept shallow groundwater.

Pennsylvania categorizes groundwater aquifers based on the geologic material. Sand and gravel aquifers and carbonate rock aquifers are generally the highest yield aquifers, with yields of 1,000 gallons per minute or more. Based on USGS mapping, the proposed Jackson CS and the existing Jackson M&R Station are within a sandstone and shale aquifer (USGS, 2001). The maximum expected depth of excavation for the Jackson CS site is approximately 12 to 13 feet below existing grade (up to 16 feet if shallow footing foundation excavations are utilized). Shallow groundwater was not encountered during geotechnical investigations proximate to proposed areas of excavation, but (if present) would be anticipated to be approximately 25 to 30 feet below existing grade. Shallow excavation for modifications to the Jackson M&R Station are not anticipated to intercept shallow groundwater.

Sole Source Aquifers and Wellhead Protection Areas

The EPA oversees the Sole Source Aquifer Protection Program to protect high production aquifers that supply 50 percent or more of the region's water supply and for which there are no reasonably available alternative drinking water sources should the aquifer become contaminated. The Project area does not overlie any EPA designated sole-source aquifer(s) (EPA, 2017). Wellhead protection areas are defined as designated surface and subsurface zones surrounding public water supply wells or wellfields. Project facilities would not overlie current wellhead protection areas.

Public and Private Water Supply Wells

A review of public and private water supply wells through NYSDEC records (2016) and the Pennsylvania Groundwater Information System (PADCNR, 2018), as well as field reconnaissance, landowner inquiry, and historical surveys of the Project sites and adjacent parcels was completed by Empire. Based on the results of the aforementioned reviews, no public or private water supply wells or springs were identified within 150 feet of construction workspaces.

Groundwater Contamination

There are no known sources of groundwater contamination in the immediate vicinity of the Project workspaces (EPA, 2018; NYSDEC, 2018; PADEP, 2018; PADEP 2016).

Groundwater Impacts and Mitigation

Surface drainage and groundwater recharge patterns can be temporarily altered by clearing, grading, trenching, and soil stockpiling activities, potentially causing minor fluctuations in groundwater levels and/or increased turbidity, particularly in shallow surficial aquifers. We expect the resulting changes in water levels and/or turbidity in these aquifers to be localized and temporary because water levels quickly re-establish equilibrium and turbidity levels rapidly subside. Given the anticipated depth to shallow groundwater and proposed maximum depths of excavation, Project construction is not anticipated to intercept shallow groundwater.

An accidental spill of fuel or hazardous material during refueling or maintenance of construction equipment could affect groundwater if not cleaned up appropriately. Soils impacted from spills could continue to leach contaminants to groundwater long after the spill has occurred. To minimize the risk of potential fuel or hazardous material spills, Empire would implement measures within its SPRP.

Upon completion of construction, Empire would restore the ground surface to original contours, to the extent practicable, and would re-vegetate disturbed areas, excluding areas within permanent aboveground facility fence lines and access roads, with the goal of restoring preconstruction overland flow and recharge patterns. We conclude no significant or long-term impacts from construction of the facilities would occur on groundwater resources with implementation of proposed mitigation measures and Empire's ESCAMP. The addition of impervious surfaces at aboveground facilities may affect overland flow patterns and subsurface hydrology. However, these effects would be highly localized and minor.

B.2.2 Hydrostatic Testing

Hydrostatic testing is a method by which water is introduced to segments of pipe and then pressurized to verify the integrity of the pipeline. In accordance with the requirements of DOT pipeline safety regulations, 49 CFR 192, Empire would hydrostatically test all piping prior to placing them in service. A total of about 147,000 gallons of water would be required to hydrostatically test piping at the proposed Farmington and Jackson CS. Hydrostatic test water would be sourced from municipal water supplies. Upon completion of testing, Empire would discharge hydrostatic test water into a well-vegetated upland in accordance with its ESCAMP and applicable permits. Given that hydrostatic test water would be obtained from a municipal source and that it would be discharged into a well-vegetated upland, we conclude that impacts from hydrostatic testing would not be significant.

B.2.3 Surface Water and Wetlands

Surface Water

The Project area is within the Seneca (Hydrologic Unit Code [HUC] 04140201), Chemung (HUC 02050105), and Irondequoit-Ninemile watersheds (HUC 04140101). Waterbodies and wetlands were identified through desktop reviews of publicly available data, including USGS and National Wetland Inventory maps, and field surveys conducted in July, August, and November 2017.

No waterbodies were identified within the proposed workspaces; however, three waterbodies were identified nearby. Two minor waterbodies[4] (one intermittent [unnamed] and one perennial [Black Creek]) were delineated south and east of the proposed Farmington CS. One minor, ephemeral waterbody was delineated north of the proposed Jackson CS; this ephemeral drainage is a vegetated swale with no discernable scoured channel or ordinary high watermark. No waterbodies were identified at or near the Jackson Meter and Regulator Station or the New Victor Regulator Station.

Wetlands

Empire delineated wetlands in the Project area in accordance with the U.S. Army Corps of Engineer's (Corps) *Wetlands Delineation Manual*[5] and the Northcentral and Northeast Regional Supplement (Version 2.0).[6] Wetlands were identified on the properties to be acquired for construction of the proposed facilities; however, none of these are within the proposed workspaces. At the Farmington CS, four wetlands were identified near Project workspaces: one palustrine emergent (PEM) and palustrine forested (PFO) wetland complex; one PEM wetland, which is surrounded by row crops; and two PFO wetlands. At the proposed Jackson CS, two PEM wetlands were identified within adjacent agricultural fields. No wetlands were identified at the existing Jackson M&R Station or at the existing New Victor Regulator Station.

Water Resources and Wetlands Conclusions

Construction and operation of the Project would not result in any direct impacts on surface water resources, wetlands, or New York State Department of Environmental Conservation-protected adjacent uplands. Empire would implement measures in its ESCAMP and ESCP, including the use of erosion control devices like silt fence and hay bales to minimize impacts on nearby wetlands and waterbodies during construction. Additionally, Empire would apply measures within its SPRP to prevent spills of hazardous materials and employ response procedures in the event of a spill. Further, Empire's Stormwater Pollution Prevention Plan (SWPPP) and Post-Construction Stormwater Measures would minimize any indirect impacts on these nearby resources from stormwater runoff. Therefore, we conclude that the Project would not impact surface water resources or wetlands.

B.3 Vegetation, Fisheries, and Wildlife

B.3.1 Vegetation

Field surveys conducted in July, August, and November 2017 documented vegetation types within the Project area. Three vegetative cover types have been identified along the Project areas:

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[4] FERC defines a "waterbody" as any natural or artificial stream, river, or drainage with perceptible flow at the time of crossing, and other permanent waterbodies such as ponds and lakes. A "minor waterbody" includes all waterbodies less than or equal to 10 feet wide at the water's edge at the time of crossing.

[5] U.S. Army Corps of Engineers. 1987. Corps of Engineers Wetland Delineation Manual. Environmental Laboratory, Vicksburg, MS, 92 pp.

[6] U.S. Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0). U.S. Army Engineer Research and Development Center, Vicksburg, MS, 162 pp.

cultivated crops, hay/grassland, and successional old field/shrubland (see Table 4 below). Additionally, there are areas classified as developed land at the proposed Farmington CS, existing New Victor Regulator Station, and existing Jackson Meter and Regulator Station; however, there is little to no vegetation in these areas.

Table 4. Vegetative Cover Summary and Potential Impacts

Project Facility	Vegetative Cover Type	Affected Areas	
		Construction - Temporary Work Areas (acres)[1]	Operation - Permanent (acres)[2]
Proposed Farmington CS[3]	Cultivated Crops	11.95	5.89
	Successional Old Field/Shrubland	2.68	2.72
	Developed	2.37	1.31
Proposed Jackson CS	Hay/Grassland	14.23	4.78
	Cultivated Crops	1.18	0.0
	Successional Old Field	0.26	0.0
Existing New Victor Regulator Station[4]	Developed	0.0	1.24
	Successional Old Field	0.16	0.0
Existing Jackson Meter and Regulator Station[4]	Developed	0.05	1.58
Total:		**32.88**	**17.52**

1. Temporary Work Areas includes temporary workspace beyond permanent acreage affected. Impacts on these cover types are only temporary, as these areas would be returned to their pre-construction condition.
2. Includes Permanent Impacts only. All proposed permanent aboveground facilities are included.
3. Two small stands of boxelder trees in the northern old field portion of the Project site and a single mockernut hickory tree in the middle of a cornfield would be cleared (total of about 1.4 acres).
4. Additional facilities at existing stations, Jackson M&R Station and New Victor Regulator Station, are previously developed facilities and there would be no additional temporary or permanent impacts (on cover types) beyond the existing station facilities, access roads or permanent easements. No ground disturbance is proposed associated with the Empire Connector Pipeline Maximum Allowable Operating Pressure uprating.

Farmington CS

The majority of the proposed Farmington CS is actively farmed cornfields. The successional old field/shrubland in the northern portion of the proposed Farmington CS site is associated with a former borrow area. The vegetation present is early successional typical species including common buckthorn, green ash, seedlings/small trees, black swallow wort, asters, goldenrods, and various upland grasses. Two small stands of boxelder trees in the northern old field portion of the Project site and a single mockernut hickory tree in the middle of a cornfield would be cleared (total of about 1.4 acres). Developed land associated with the Town of Farmington property to the south of the Farmington CS site is proposed as additional temporary workspace. This area has been graded and graveled for the Town of Farmington to use as a storage yard.

Jackson CS and Jackson M&R Station

The majority of the proposed Jackson CS is maintained as a hay field, dominated by various grasses, clovers, and weed species. A small portion of the proposed Jackson CS is actively farmed cornfields. The successional old field portion of the proposed Jackson CS site is associated with

a former agricultural area which appears to be mowed on an annual or semi-annual basis. Therefore, the vegetation present is early successional typical species including asters, goldenrods, and various upland grasses. The existing Jackson M&R Station is developed land that consists of an existing access road and a gravel pad that is completely fenced off from the surrounding area.

New Victor Regulator Station

The existing New Victor Regulator Station is fenced and graveled. The successional old field portion of the additional temporary workspace at the existing New Victor Regulator Station is associated with Empire's pipeline right-of-way. This area is mowed on a semi-annual basis and the vegetation present is early successional typical species including asters, goldenrods, and various upland grasses.

B.3.2 Invasive Species

Invasive plant species are non-native species that can disrupt functioning ecosystems by displacing native species and reducing overall diversity. Three invasive plant species were identified within the Project area during surveys: multiflora rose at the proposed Jackson CS; common reed in wetlands beyond the proposed Farmington CS workspace; and European buckthorn at the proposed Farmington CS.

Empire would implement measures in the ESCAMP to reduce the potential risk for invasion or spreading of invasive species and noxious weeds. Specific measures include limiting soil exposure by re-establishing vegetation in temporary workspaces as soon as practicable following final grading and post-construction monitoring to ensure that revegetation is successful. We find these measures acceptable.

B.3.3 Conclusion for Vegetation Impacts

Impacts on vegetation range from short-term to permanent. Construction of the Project would affect 50.4 acres (temporary and permanent); of which 17.5 acres would be permanently affected by facility operations. Very limited tree clearing within the successional old field/shrubland habitat is anticipated at the proposed Farmington CS. These trees would be permanently removed for operation; however, revegetation in all other areas would be relatively short-term (1-5 years). No tree clearing would be conducted at the proposed Jackson CS, existing Jackson M& Station, or at the existing New Victor Regulator Station. The majority of Project components and construction workspaces are proposed in previously disturbed areas and areas that are already frequently disturbed. While Empire may require some site modifications (e.g., re-contouring) to provide sufficient drainage and site access, it would restore most areas disturbed by construction activities that are not necessary for operation to pre-existing conditions. Some vegetation would be permanently lost for Project operation; however, all temporary work areas would be re-seeded in accordance with Empire's ESCAMP as well as recommendations from the New York State Department of Agriculture and Markets, and the Ontario County and Tioga County Soil Conservation District Offices, and landowner agreements. For these reasons and the availability of similar vegetation adjacent to the Project area, we conclude that the Project would not significantly impact vegetation.

B.3.4 Wildlife Resources

Vegetation cover types discussed in the previous section describe the habitat types for wildlife in the Project areas. Within successional old field/shrubland areas, typical wildlife species include, wild turkey, red fox, eastern cottontail, Virginia opossum, milk snake, ruffed grouse, common garter snake, raccoon, striped skunk, American kestrel, ground hog, and meadow vole. Within hay/grassland and cultivated crops, typical species include American kestrel, Eastern meadowlark, wild turkey, smooth green snake, Northern leopard frog, red fox, white-tailed deer, and small rodents. Developed areas provide no natural habitat.

Potential short-term impacts on wildlife include the temporary displacement of individuals from construction areas and adjacent habitats and the direct mortality of small, less-mobile mammals, reptiles, and amphibians that are unable to leave the construction area. Construction of the Project could also impact nearby wildlife due to the increase in noise due to construction equipment and increased human activity. The majority of Project components and construction workspaces are proposed in previously disturbed areas and areas that already undergo extensive ongoing disturbance. Following construction activities, Empire would implement the restoration measures within the ESCAMP to ensure that all temporarily disturbed areas are properly revegetated. Some habitat would be permanently removed by the operation of Project aboveground facilities. Additionally, noise and lighting associated with the operation of these facilities may preclude some wildlife use of the impacted areas following construction. However, there is an abundance of similar habitat for displaced wildlife to utilize during and after construction of the proposed facilities. For these reasons, we conclude that the Project would not significantly impact wildlife.

Migratory Birds

Migratory birds are species that nest in the United States and Canada during the summer and then migrate to and from 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] – 16 U.S. Code 703-711), and bald and golden eagles are additionally protected under the Bald and Golden Eagle Protection Act (16 U.S Code 668-668d). The MBTA, as amended, prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. Executive Order 13186 requires that all federal agencies undertaking activities that may negatively affect migratory birds take a prescribed set of actions to further implement the MBTA, and directs federal agencies to develop a memorandum of understanding (MOU) with the U.S. Fish and Wildlife Service (FWS) that promotes the conservation of migratory birds through enhanced collaboration between the two agencies. FERC entered into a MOU with the FWS in March 2011. The focus of the MOU is on avoiding or minimizing adverse impacts on migratory birds and strengthening migratory bird conservation through enhanced collaboration between the two agencies.

Though all migratory birds are afforded protection under the MBTA, both Executive Order 13186 and the MOU require that Birds of Conservation Concern and federally listed species be given priority when considering effects on migratory birds. Birds of Conservation Concern are a subset of MBTA-protected species identified by the FWS as those in the greatest need of additional conservation action to avoid future listing under the Endangered Species Act (ESA). Executive

Order 13186 states that emphasis should be placed on species of concern, priority habitats, key risk factors, and that particular focus should be given to addressing population-level impacts. The Project falls within Bird Conservation Regions 28: Appalachian Mountains Region and 13: Lower Great Lakes/St. Lawrence Plain.[7] Table 5 lists Birds of Conservation Concern with the potential to occur in the Project area.

Table 5. Birds of Conservation Concern Potentially Occurring in the Vicinity of the Project

Common Name	Scientific Name [1]	Preferred Habitat [2]
American Golden- plover[3,4]	*Pluvialis dominica*	Pastures, open ground and mudflats.
Black-billed Cuckoo[3,4,5]	*Coccyzus erythropthalmus*	Woodlands and thickets.
Black-capped Chickadee[5]	*Poecile atricapillus*	Deciduous and mixed forests, open woods, parks, willow thickets, cottonwood groves, and disturbed areas.
Bobolink[3,4,5]	*Dolichonyx oryzivorus*	Large fields with a mixture of grasses and broad- leaved plants.
Canada Warbler[3,4,5]	*Cardellina canadensis*	Forest.
Cerulean Warbler[3,4,5]	*Setophaga cerulea*	Forests with tall deciduous trees and open understory, such as wet bottomlands and dry slopes.
Dunlin[3,4]	*Calidris alpina*	Mudflats, estuaries, marshes, flooded fields, sandy beaches, and shores of lakes and ponds.
Eastern Whip-poor-will[5]	*Antrostomus vociferous*	Dry deciduous or evergreen-deciduous forest with little or no underbrush, close to open areas.
Golden-winged Warbler[3,4,5]	*Vermivora chrysoptera*	Tangled, shrubby habitats such as regenerating clearcuts, wet thickets, and tamarack bogs.
Henslow's Sparrow[5]	*Ammodramus henslowii*	Large, flat fields with no woody plants, and with tall, dense grass, a dense litter layer, and standing dead vegetation.
Kentucky Warbler[5]	*Geothlypis formosa*	Forest.
Lesser Yellowlegs[3,4]	*Tringa flavipes*	A wide variety of shallow fresh and saltwater habitats.
Northern Saw-whet Owl[5]	*Aegolius acadicus*	Mature forest with an open understory for foraging, deciduous trees for nesting, dense conifers for roosting, and riverside habitat nearby.
Prairie Warbler[3,4,5]	*Setophaga discolor*	Various shrubby habitats, including regenerating forests, open fields, and Christmas-tree farms.
Red-headed Woodpecker[3,4,5]	*Melanerpes erythrocephalus*	Deciduous woodlands with oak or beech, groves of dead or dying trees, river bottoms, burned areas, recent clearings, beaver swamps, orchards, parks, farmland, grasslands with scattered trees, forest edges, and roadsides.
Rusty Blackbird[5]	*Euphagus carolinus*	Wet areas, including flooded woods, swamps, marshes, and edges of ponds.
Semipalmated Sandpiper[3,4]	*Calidris pusilla*	Mudflats, sandy beaches, shores of lakes and ponds, and wet meadows.
Short-billed Dowitcher[3,4]	*Limnodromus griseus*	Freshwater mud flats and flooded agricultural fields.

[7] United States Fish & Wildlife Service (FWS). 2008. Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. Available at: https://www.fws.gov/migratorybirds/pdf/grants/BirdsofConservationConcern2008.pdf. Accessed July 2018.

Table 5. Birds of Conservation Concern Potentially Occurring in the Vicinity of the Project		
Common Name	**Scientific Name [1]**	**Preferred Habitat [2]**
Wood Thrush[3,4,5]	*Hylocichla mustelina*	Mature deciduous and mixed forests, most commonly those with American beech, sweet gum, red maple, black gum, eastern hemlock, flowering dogwood, American hornbeam, oaks, or pines
Yellow-bellied Sapsucker[5]	*Sphyrapicus varius*	Young forests and edge habitat, especially areas regenerating from timber harvesting.

Notes:

1. Scientific names of the listed species - Source: Cornell Lab of Ornithology's "All About Birds" online bird guide.
2. Preferred habitat of the listed species - Source: Cornell Lab of Ornithology's "All About Birds" online bird guide.
3. Source: USFWS IPAC list for proposed Farmington CS
4. Source: USFWS IPAC list for existing New Victor Regulator Station
5. Source: USFWS IPAC list for proposed Jackson CS and existing Jackson M&R Station

Vegetation removal and increased presence of humans and noise, during construction would likely cause displacement and avoidance of the area by birds in the Project area. Birds fleeing an area of disturbance could be injured or suffer mortality, or abandon nests, affecting egg-laying and potentially causing the mortality of young. However, this impact is expected to be intermittent and short-term, occurring during work hours and ceasing after construction activities have moved from a given area. As such, Project activities during construction may affect individuals but would not likely have notable effects on any local populations of migratory birds.

About 17.5 acres of vegetation would be permanently impacted by the Project for operation. This includes the limited amount of trees that would be permanently removed at the proposed Farmington CS. However, impacts resulting from most vegetation clearing in the Project areas (32.9 acres) is expected to be short-term because vegetation within these areas would likely return to their preconstruction conditions within 1 to 5 years. Empire anticipates starting construction in early 2019, therefore clearing activities could occur during the general breeding season for migratory birds (generally April 1-August 15). However, clearing would not occur June 1 – July 31 for the protection of federally listed bats. To minimize impacts, Empire proposed Project components in previously disturbed or developed land, which generally provides limited habitat for wildlife, including migratory birds. Further, migratory birds not already nesting would be able to avoid these activities and move to abundant habitat adjacent to Project workspaces.

Implementation of the construction and restoration measures in Empire's ESCAMP would reduce the extent and duration of impacts on migratory bird habitat by restoring most of the areas disturbed during construction to preconstruction conditions. While some vegetation would be permanently lost, and noise and lighting impacts would persist during Project operation, there is abundant similar habitats in the surrounding area. Habitat loss could have a greater impact on Birds of Conservation Concern species due to their limited populations in the area and more restrictive habitat needs. However, with the implementation of the measures mentioned previously, we conclude that impacts on migratory birds from construction and operation of the Project would not be significant.

B.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 are federally listed species that are protected under the ESA and their designated critical habitat, species considered as candidates for such listing by the FWS, those species that are state-listed as threatened or endangered, and state species of special concern.

Federally Listed Species

Empire, acting as a non-federal representative for FERC, in accordance with Section 7(a)(2) of the ESA, initiated informal consultation with the FWS to identify federally listed threatened and endangered species that may occur in the Project area.

The Pennsylvania Natural Diversity Inventory (PNDI) tool was used to assess the potential for federal or state-listed species to occur at the proposed Jackson CS and the existing Jackson M&R Station. The PNDI tool includes potential impacts on species under jurisdiction of the FWS, as well as the Pennsylvania Game Commission, Pennsylvania Department of Conservation and Natural Resources, and Pennsylvania Fish and Boat Commission. The PNDI search results dated September 12, 2017 indicated that the Project would have *no effect* on threatened and endangered species and/or special concern species as a result of the Project, and no further coordination is required with these agencies. We agree.

The FWS' Information for Planning and Consultation tool was used to assess the presence of federally listed species in the Project area in New York. The FWS identified the New Victor Regulator Station and the proposed Farmington CS as being within the range of the federally threatened northern long-eared bat. Project activities at the existing New Victor Regulator Station would occur on an existing access road, along an existing pipeline right-of-way, and within an existing facility that is completely enclosed by fencing and no tree clearing would be necessary. However, a limited amount of trees (about 1.4 acres) within an agricultural field would cleared at the proposed Farmington CS. Empire has committed to clear these trees outside of the pup rearing season (June 1-July 31). For these reasons, we conclude that the Project *is not likely to adversely affect* the northern long-eared bat.

While we have determined that the Project is not likely to adversely affect the northern long-eared bat, incidental take of northern long-eared bats as a result of Project tree clearing is not prohibited under Section 9 of the ESA because the Project design meets the conservation requirements of the final rule under Section 4(d) of ESA for the species (81 FR 1900). Specifically, the Project is not within 150 feet of any known, occupied maternity roosts or within 0.25-mile of any known, occupied hibernacula. In a letter dated December 14, 2017, the FWS confirmed that the Project meets these conservation requirements and that no further coordination or consultation under the ESA is required at this time. We agree.

State-listed Species

As described above, a PNDI search indicated that no impacts on state-listed species are expected at the proposed Jackson CS or the existing Jackson Meter and Regulator Station.

According to the New York Natural Heritage Program's (NYNHP) Environmental Resource Mapper, there are no records of rare plants or animals in the vicinity of the existing New Victor Regulator Station and, therefore, impacts on state-listed species are not anticipated at this location. A letter dated September 12, 2017 was submitted to the NYNHP requesting information regarding threatened and endangered species, critical habitats and any protected buffer zones for the species or habitats that may be present proximate to the proposed Farmington CS. In a letter dated, September 13, 2017 the NYNHP responded stating that it has no records of rare or state-listed animals or plants, or significant natural communities at the proposed Farmington CS site or in its immediate vicinity. For the reasons discussed above, we conclude that the Project would not affect state-listed species.

B.4 Land Use, Recreation, and Visual Resources

B.4.1 Land Use

Land use in the Project area consists primarily of the following:

a. open space (non-forested upland fallow fields or previously-disturbed open lands associated with existing natural gas pipeline rights-of-way or aboveground facilities);

b. developed (existing natural gas aboveground facilities and preexisting access roads/driveways); and

c. agricultural (cultivated and/or rotated croplands).

Wetlands, rangelands, residential lands, open water, or other (special use, public or recreational) lands would not be affected by the Project.

The Project would affect a total of 50.4 acres of land (aggregate among the four facilities' locations) during construction and permanently affect 17.5 acres of land during operation. A summary of land requirements by site is presented in Table 6.

Table 6. Land Affected by the Proposed Project

Facility	Land Affected by Construction (acres)			Land Affected by Operation (acres)		
	Agricultural	Open Space	Developed	Agricultural	Open Space	Developed
Farmington CS	17.8	5.4	3.7	5.9	2.7	1.3
Jackson CS	20.2	0.3	0.0	4.8	0.0	0.0
New Victor Regulating Station	0.0	0.0	1.4	0.0	0.0	1.2
Jackson M&R Station	0.0	0.0	1.6	0.0	0.0	1.6
TOTALS	**37.0**	**5.7**	**6.7**	**10.7**	**2.7**	**4.1**

B.4.2 Planned Development

There are no known planned residential or commercial projects occurring within 0.25 mile of the proposed Project facilities.

B.4.3 Residences and Existing Structures

There are no residences within 50 feet of the Project at the existing or proposed station locations. The only buildings within 50 feet of the proposed Project area are associated with Empire's operations (at the existing Jackson Meter Station). The closest residence to a Project facility is approximately 240 feet to the west of the temporary disturbance areas associated with the proposed Jackson CS. This residence is separated from the proposed Project by a wooded area, which would not be disturbed during construction or operation.

Additional buildings within proximity to the Project construction work areas include:

- a Town of Farmington Highway Department facility, approximately 95 feet south of the existing access road/entry for the proposed Farmington CS facility;
- a storage barn, approximately 85 feet west of the construction work areas at the proposed Farmington CS facility; and
- a storage barn, approximately 125 feet north of the construction work areas at the proposed Jackson CS facility.

These three nearby structures are not residences. Empire will continue to work with the landowners of nearby structures to minimize construction impacts from the Project. As described in Resource Report 1, Empire owns the land for the Jackson M&R Station, plans to purchase lands for the proposed Farmington CS and Jackson CS and maintains the existing easement with the landowner at the New Victor Regulator Station.

B.4.4 Public Land, Recreation, and Special Interest Areas

Based on available aerial imagery and geographic information system data sources, no state or local designated trails, nature preserves, game management areas, national or state forests, national or state parks, golf courses, public or private hunting areas, designated recreational areas, or lands included in or designated for study for inclusion in the National Trails System would be within 0.25 mile of the Project. Therefore, we conclude that the Project would not have any impacts on these resources.

B.4.5 Visual Resources

The proposed Project would alter existing visual resources from the presence of equipment and activities in the viewshed during construction or from aboveground facilities that would represent permanent alterations to the viewshed. The significance of these visual impacts would depend primarily on the quality of the viewshed, the degree of alteration of that view, the sensitivity or concern of potential viewers, and the perspective of the viewer.

The proposed Jackson CS is proposed in a relatively rural area and would be on a property already containing existing natural gas facility infrastructure (two M&R stations and several pipelines). The existing M&R facility structures to the north and west, and undisturbed tree cover to the south and east will also serve to visually screen the proposed facility.

The proposed Farmington CS is proposed in an area of existing industrial development, with an adjacent highway (I-90, New York State Thruway) to the north, nearby local railroad line to the south and existing infrastructure (pipeline, two overhead 115 kilovolt electric transmission lines, and adjacent parcel developed with substation electric facilities) to the northwest. The surrounding topography, with higher elevations to the north and east, along with existing tree cover (generally to the east and northwest) would further visually screen the proposed facility.

The modifications to the existing New Victor Regulator Station and Jackson M&R Station would not significantly change the visual impacts associated with these facilities.

The closest public resources to the proposed Project facilities include the Farmington Town Park and the Cobblestone Creek Country Club. The Farmington Town Park is approximately 0.4 mile to the east-southeast of the proposed Farmington CS, along County Route 8 in the Town of Farmington, New York. There are various park/recreational facilities at this location including hiking trails, tennis courts, baseball fields, picnic areas, and playground areas. Lands owned by the Cobblestone Creek Country Club used as a golf course are approximately 0.15 mile to the south of the existing New Victor Regulator Station. Both of these recreational areas are screened from the proposed Project facilities by areas of woodland growth and/or topography which precludes line-of-sight.

Construction activities would be visible temporarily within the site; however, both compressor station sites would be shielded by forested buffers and other existing industrial development, which would minimize any potential visual impacts on residents or motorists traveling by the sites. Therefore, we conclude that impacts on visual resources would not be significant.

B.4.6 Land Use, Recreation, and Visual Resources Conclusions

No developments are planned within 0.25 mile of the Project. Because Empire would restore disturbed areas not needed for operations, and would not disturb recreational or special interest lands, we conclude that the Project would not have significant impacts on land use.

Both CS stations exist in areas of existing industrial development with some tree cover. Given these considerations, we conclude that the Project would not result in significant visual impacts.

B.5 Socioeconomics

The potential socioeconomic effects of construction and operation of the Project include changes in local population levels or demographics, increased job opportunities, increased demand for housing and public services, increased tax revenue associated with sales, payroll, and property taxes, and environmental justice conerns.

B.5.1 Employment

The proposed Farmington and Jackson CS construction would each span up to eight months and require approximately 75 construction workers during installation. Empire would construct the Jackson M&R Station and New Victor Regulator Station modifications in four months, and each would require approximately 15 construction workers during installation.

Empire would create one to two new permanent employee positions for operation of the proposed Farmington CS. Otherwise, Empire would utilize existing personnel to operate and maintain all proposed and existing facilities. Overall, the Project would result in a very small increase in the local population during the construction phase and virtually no change during the operational phase. Given the relatively short construction period (12 months or less), most nonlocal workers would not be accompanied by their families. The temporary influx of construction workers would also generate indirect and induced impacts on the local economy in the form of additional revenues for businesses. Overall, based on the number of workers who might relocate to the Project area, we conclude the Project would not result in a significant increase in population or the labor force.

B.5.2 Environmental Justice

For projects with major aboveground facilities, FERC regulations (18 CFR 380.12(g)(1)) direct us to consider the impacts on human health or the environment. We include in this analysis impacts that would be disproportionately high and adverse for minority and low-income populations. Additionally, during project scoping, we received comments raising concerns about the impacts of the Project on minority and low-income populations from the EPA.

The EPA's Environmental Justice Policies (which are directed, in part, by Executive Order 12898: *Federal Action to Address Environmental Justice in Minority Populations and Low-Income Populations*) focus on enhancing opportunities for residents to participate in decision making. The EPA (2011) states that Environmental Justice involves meaningful involvement so that: "(1) potentially affected community residents have an appropriate opportunity to participate in decisions about a proposed activity that would affect their environment and/or health; (2) the public's contributions can influence the regulatory agency's decision; (3) the concerns of all participants involved would be considered in the decision-making process; and (4) the decision-makers seek out and facilitate the involvement of those potentially affected." CEQ also has called on federal agencies to actively scrutinize a number of important issues with respect to environmental justice (CEQ, 1997a).

As part of our NEPA review, we have evaluated potential environmental justice impacts related to the Project. Table 7 provides recent data on minority populations and income at the

county and state levels, for comparison purposes at each of the compressor station sites. Based on data provided by the U.S. Census Bureau, the counties in the Project area are predominantly white non-Hispanic and have a relatively low population density (167.6 persons per square mile in Ontario County, 37.0 persons per square mile in Tioga County). The Project areas are not considered minority and low-income communities when compared to the per capita income and unemployment rates (Table 7) of their respective states. As such, we conclude that the Project would not disproportionately affect minority or low-income populations.

Table 7. Race/Ethnicity and Income Statistics (2013)

Area (State/County)	Black/African American (%)	Native American (%)	Hispanic (%)	Asian (%)	Native Hawaiian (%)	Below Poverty Level (%)[b]
New York	**17.0**	**1.0**	**18.4**	**8.8**	**0.1**	**15.7**
Ontario County	3.2	0.9	4.1	1.5	0.1	10.4
Pennsylvania	**12.2**	**0.7**	**6.4**	**3.6**	**0.1**	**13.5**
Jackson Township	1.4	0.6	1.3	0.7	0.1	9.6

Source: 2011-2015 American Community Survey 5-Year Estimates

B.6 Cultural Resources

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

B.6.1 Consultations

We sent copies of our NOI for the Project to a wide range of stakeholders, including the Advisory Council on Historic Preservation, U.S. Department of the Interior's National Park Service, Pennsylvania State Historic Preservation Officer (SHPO), New York SHPO, and federally recognized Indian tribes (tribes) that may have an interest in the Project area. The NOI contained a paragraph about Section 106 of the NHPA, and stated that we use the NOI to initiate consultations with SHPOs and solicit their views and those of other government agencies, interested tribes, and the public on the Project's potential effects on historic properties

Empire consulted with the New York SHPO on September 13, 2017, October 12, 2017, and December 28, 2017, to provide Project and cultural resources survey information. In a letter dated January 2, 2018 the New York SHPO concurred with the recommendations of Empire.

Empire consulted with the Pennsylvania SHPO on September 13, 2017 and December 28, 2017 to provide Project and cultural resources survey information. In a letter dated January 17, 2018 the Pennsylvania SHPO concurred with the recommendations of Empire. Additional information regarding aboveground historic resources were provided to the Pennsylvania SHPO on June 1, 2018. The Pennsylvania SHPO responded in a letter dated July 2, 2018, concurring with the recommendations of Empire.

Empire contacted 15 federally recognized tribes with historic ties to the Project area providing Project information and requesting any information or concerns regarding places of traditional or cultural significance. Tribes contacted included the Absentee-Shawnee Tribe of Indians of Oklahoma, Cayuga Nation, Delaware Nation, Delaware Tribe of Indians, Eastern Shawnee Tribe of Oklahoma, Oneida Indian Nation, Oneida Nation of Wisconsin, Onondaga Nation, Seneca-Cayuga Tribe of Oklahoma, Seneca Nation of Indians, Shawnee Tribe of Oklahoma, Stockbridge-Munsee Band of the Mohicans, St. Regis Mohawk Tribe, Tonawanda Seneca Nation, Tuscarora Nation. We sent our NOI to these same 15 tribes.

Responses were received by the Shawnee Tribe of Oklahoma, Delaware Nation, and Absentee-Shawnee Tribe of Indians of Oklahoma noting to be contacted in the event of an unanticipated discovery of cultural resources.

B.6.2 Survey Results

Empire conducted the cultural resources investigation within 80.9 acres (46.5 acres in New York and 34.4 acres in Pennsylvania) in September 2017 and November 2017. The investigation assessed the Project's potential impacts on archaeological resources and historical resources within the area of potential effects (APE). The direct APE encompasses facility enhancements at the existing Jackson M&R Station, the proposed Jackson CS site, the proposed Farmington CS site, and facility modifications at the existing New Victor Regulator Station. The approximate 1.4-acre APE at the existing New Victor Regulator Station and the 1.5-acre APE at the existing Jackson M&R Station have been previously disturbed by existing facilities. No archaeological resources have been identified within the direct APE for any of the proposed facilities.

The indirect APE is considered to be a 0.5 mile area surrounding the proposed aboveground facilities where historic properties may be affected by visual, auditory, and vibration impacts. In New York, no specific viewshed analysis within the indirect APE was completed. However, Empire submitted additional information regarding aboveground historic resources in a supplemental filing. There were seven historic resources identified within the 0.5 mile of the Farmington CS. The period of construction of these structures ranged in age from the mid-1800s to 1960. There are existing infrastructure elements that have severely altered the landscape such as: New York State Thruway, electric substation, and electric transmission Lines. The New York SHPO concurred that no historic properties would be affected by the Project. We agree.

In Pennsylvania, the indirect APE was reviewed and there were eight historic resources identified and four resources that age could not be determined. The area has been visually impacted by natural gas and electrical transmission facilities. The four undetermined age resources are current residences and the eight historic resources are mostly associated with farmsteads from the late 1800s to mid-1900s. The 11176 State Line Road and 1154 State Line Road resources are associated with an historic farmhouse complex dating from the 1880s and associated 160-acre agricultural property. The farmhouse is largely intact and retains most of its original stylistic details. However, its historical agricultural setting has changed due to the loss of farm buildings and orchards. All of the farm buildings south of the farmhouse and northernmost barn are no longer extant. The farm equipment shed on the west side of the house has been converted into living quarters. The southwest quadrant of the parcel remains an active agricultural field. The 160-acre farm retains its historic use as active farmland, though there are no original farm buildings

remaining on the property. At present, the property's setting and use has been modified by the addition of two existing pipelines and the Empire M&R station (once part of the 160-acre farm land tract). The Pennsylvania SHPO concurred that no historic properties would be affected by the Project. We agree.

B.6.3 Unanticipated Discoveries Plan

Empire provided an unanticipated discovery plan to address the unanticipated discovery of cultural resources and human remains during construction in New York and Pennsylvania. The plan describes the process of notifying interested parties in the event of any discovery. We have reviewed the plan and find it acceptable.

B.6.4 Compliance with the National Historic Preservation Act

Empire consulted with the New York and Pennsylvania SHPOs regarding the potential effects on cultural resources. The New York and Pennsylvania SHPOs did not object to the APE and stated that the Project would have no effects on historic properties. Additionally, no traditional cultural properties or properties of religious or cultural importance to tribes have been identified by Empire, its consultants, the SHPO, or tribes. The FERC staff and the New York and Pennsylvania SHPOs agree that the Project would have no effects on historic properties.

B.7 Air Quality

B.7.1 Existing Air Quality

Construction and operation of the Project could have an effect on local and regional air quality. Federal and state air quality standards have been designed to protect people and the environment from airborne pollutants. The EPA has established National Ambient Air Quality Standards (NAAQS) for nitrogen oxides (NO_x), carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), lead (Pb), and inhalable particulate matter (PM_{10} and $PM_{2.5}$). PM_{10} and $PM_{2.5}$ include particles with aerodynamic diameters of 10 microns or less and 2.5 microns or less, respectively. The NAAQS are listed in Table 8.

Greenhouse gases (GHG) are most commonly composed of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), O_3, water vapor, hydrofluorocarbons, and perfluorocarbons and result from human activities, such as burning fossil fuels, as well as occurring naturally. Combustion of fossil fuels emits CO_2, CH_4, and N_2O, which are reported in terms of CO_2 equivalents (CO_2e) calculated based on the global warming potential of each gas.

The proposed Jackson CS would include two new 10,534 HP natural-gas-fired turbine driven centrifugal compressors and would therefore result in both construction and operational emissions. The Farmington CS would include two new electric motor-driven compressors. Operational emissions from this compressor station would be minor; therefore, our analysis for this portion of the Project considers construction emissions. Likewise, the minor modifications to the New Victor Regulator Station and the Jackson M&R Station would result in minor operational emissions. The uprating of the Empire Connector Pipeline would not result in an increase in construction or operational emissions.

Table 8. National Ambient Air Quality Standards

Pollutant	Averaging Period	Primary Standards (ppm)	Primary Standards ($\mu g/m^3$)	Secondary Standards (ppm)	Secondary Standards ($\mu g/m^3$)	Form of Standard
O_3	8-hour	0.075	n/a	0.075	n/a	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
CO	1-hour	35	40,000	n/a	n/a	Not to be exceeded more than once per year
	8-hour	9	10,000	n/a	n/a	
NO_2	1-hour	0.1	188	n/a	n/a	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	Annual	0.053	100	0.053	100	Annual mean
SO_2	1-hour	0.075	196	n/a	n/a	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
	3-hour	n/a	n/a	0.5	1,300	Not to be exceeded more than once per year
$PM_{2.5}$	24-hour	n/a	35	n/a	35	98th percentile averaged over 3 years
	Annual	n/a	12	n/a	15	Annual mean averaged over 3 years
PM_{10}	24-hour	n/a	150	n/a	150	Not to be exceeded more than once per year on average over 3 years
Pb	Rolling 3-month	n/a	0.15	n/a	0.15	Not to be exceeded

Source: EPA (2014e)
$\mu g/m^3$ = micrograms per cubic meter of air
NO_2 = nitrogen dioxide
ppm = parts per million

B.7.2 Climate

The Project is proposed in south-central New York State and north-central Pennsylvania. The climate is primarily humid continental in character with cold winter temperatures, hot summers, and moderate precipitation throughout the year.

B.7.3 Existing Ambient Air Quality and Attainment Status

Measured ambient air pollutant concentration levels are used to determine the status of air quality for a given area. Areas that are at or below the NAAQS are designated as "attainment areas," whereas those areas that are above the NAAQS are designated "nonattainment areas." Those areas lacking data to determine attainment status are referred to as "unclassified areas." Attainment areas that were once in nonattainment of the NAAQS for a given pollutant are referred to as "maintenance areas" for that pollutant.

Air Quality Control Regions (AQCR) have been established by the EPA in accordance with Section 107 of the Clean Air Act of 1970 (CAA). The AQCRs are defined as contiguous areas considered to have relatively uniform ambient air quality and are treated as single geographical units. The ACQRs in Ontario County and Tioga County are classified as attainment

and/or unclassifiable for each NAAQS. However, both areas are in an Ozone Transport Region (OTR) and therefore classified as moderate nonattainment for ozone.

Based on ambient air monitoring data in the Project area from the EPA AirData Database, all monitored pollutant values are below the respective NAAQS for each pollutant and averaging period given for each of the sites. Background ambient air quality values near each of the compressor station sites are provided in **Table 9**.

Table 9. Background Ambient Air Quality Near Proposed Compressor Stations

Pollutant	Averaging Period	Background Concentration ($\mu g/m^3$)
Farmington CS		
SO_2	1-Hour	56.9
$PM_{2.5}$	Annual	7.1
	24-Hour	16.8
NO_2	Annual	19
	1-Hour	70
CO	8-Hour	1031
O_3	8-Hour	124.34
Jackson CS		
SO_2	1-Hour	21
$PM_{2.5}$	Annual	5.8
	24-Hour	13.4
NO_2	Annual	4.8
	1-Hour	23.8
CO	8-Hour	343.7
O_3	8-Hour	117.1

Source: EPA
NO_2 = nitrogen dioxide
$\mu g/m^3$ = micrograms per cubic meter of air

B.7.4 Federal Air Quality Regulations

Operation of the Project would emit air pollutants that are regulated by federal and state rules that are driven by the CAA. At the federal level, the EPA is responsible for regulating air quality emissions from the Project. At the state level, the NYSDEC would regulate air quality emissions from the Farmington CS. For the Jackson CS, the PADEP would be responsible for regulating air quality emissions.

Title V Operating Permit Program

The Title V Major Source Operating Permit Program (40 CFR 70) is administered by the state or local jurisdiction where the source is located, and the permits are often referred to as Title 70 permits. Facilities with the potential to emit (PTE) greater than 100 tons per year (tpy) for criteria pollutants, 10 tpy for any single hazardous air pollutant (HAP), or 25 tpy for total combined

HAPs are subject to the Title V program. Maximum potential emissions for criteria pollutants and HAP from the proposed Farmington CS would not exceed the major source thresholds for the Title V permit program. Similarly, maximum potential emissions from the proposed Jackson CS would not exceed the major source threshold for the Title V permit program.

Prevention of Significant Deterioration Requirements

The New Source Review federal regulatory program includes the PSD regulations, which are intended to protect national public health and welfare while preserving the existing air quality in areas of special national or regional scenic, natural, recreational, or historic value where regulated pollutant levels are in compliance with the NAAQS (i.e., attainment areas). For existing major PSD sources, modifications that exceed the PSD significant emissions increase rates are subject to the PSD regulations. For sources like the Project's compressor stations, a PSD major source is one that emits or has the potential to emit any PSD-regulated pollutant equal to or greater than 250 tpy. The potential to emit of criteria pollutants at the Jackson CS are below the threshold of 250 tpy (see Table 12) and therefore PSD regulations would not apply. The other Project components would result in minimal operational emissions and would also not trigger PSD regulations.

New Source Performance Standards Requirements

The New Source Performance Standards are set forth by the EPA at 40 CFR 60, Subparts A through OOOO and each applies to specific sources of air pollution. The relevant subparts are described below.

- Subpart JJJJ – Applies to stationary spark-ignition internal combustion engines installed or modified after June 12, 2006, such as the emergency generators for the Project.
- Subpart KKKK – Applies to stationary combustion turbines with peak loads equal to or greater than 10 million British Thermal Units, such as the new turbines at the proposed Jackson CS.
- Subpart OOOOa includes Leak Detection and Repair (LDAR) requirements for new or modified compressor stations in the transmission segment. As such, the fugitive emissions components at both the proposed Jackson CS and Farmington CS would be subject to the LDAR requirements of Subpart OOOOa.

Empire would procure, install, maintain, and operate the equipment at each of the compressor stations such that compliance with these requirements is met. Empire would monitor all fugitive emission components (e.g., connectors, flanges, etc.) with an optical gas imaging device or USEPA Method 21 on a quarterly basis and repair all sources of fugitive emissions within 30 days in accordance with the Subpart OOOOa.

National Emissions Standards for Hazardous Air Pollutants

The National Emission Standards for Hazardous Air Pollutants regulations established in 40 CFR Parts 61 and 63 regulate emission of air toxics. Part 63 of the National Emission Standards for Hazardous Air Pollutants standards primarily applies to major sources of HAPs, though some

subparts of Part 63 include non-major area sources. Subpart ZZZZ of 40 CFR 63 applies to reciprocating internal combustion engines, such as the Project's emergency generators. The proposed emergency generators for the Project would comply with Subpart ZZZZ by complying with 40 CFR 63, Subpart JJJJ.

Greenhouse Gas Reporting Rule

Petroleum and natural gas facilities with GHG emissions equal to or greater than 25,000 metric tons of CO_2e are required to report GHGs from various processes within the facility per 40 CFR 98, Subpart W. Because the Jackson CS would potentially emit CO_2e in excess of 25,000 metric tons, it may be subject to this rule.

General Conformity

Federal actions are subject to the thresholds provided in Subpart B of 40 CFR 63 for determining conformity of these actions to state or federal Implementation Plans. The assessment of General Conformity includes emissions of air pollutants associated with the Project that would be released during construction and operation. Emissions that would occur during operation of the CS facilities would be subject to the air permitting programs and air quality rules and standards administered by Pennsylvania and New York. The emissions from operation of the stations would conform to the SIPs and are therefore exempted from the General Conformity rule. However, construction emissions from the Project are not subject to state air quality permitting and must be assessed against the applicability criteria in the General Conformity rule.

For the purposes of General Conformity, both Tioga County, Pennsylvania, and Ontario County, New York, are considered as being in nonattainment for ozone because they are part of the Ozone Transport Region. The counties are classified as attainment areas for all other pollutants. The General Conformity thresholds are provided in Table 10. Due to their locations within the Ozone Transport Region, the *de minimis* thresholds for pollutants for Tioga County and Ontario County are 100 tons per year of NO_x and 50 tons per year of VOC. As shown in Table 11, the total annual emissions are under the *de minimis* thresholds for each pollutant. Therefore, the Project would be exempt from the requirements of the General Conformity rule.

Table 10. General Conformity Thresholds

Pollutant/Nonattainment area	Tons/Year
O_3 (VOCs or NO_x)	
Serious NAAs	50
Severe NAAs	25
Extreme NAAs	10
Other O_3 NAAs outside an Ozone Transport Region	100
Other O_3 NAAs inside an Ozone Transport Region	
VOC	50
NO_x	100
Carbon monoxide: All NAAs	100
SO_2 or NO_2: All NAAs	100
PM_{10}	
Moderate NAAs	100

Table 10. General Conformity Thresholds	
Pollutant/Nonattainment area	**Tons/Year**
Serious NAAs	70
$PM_{2.5}$	
Direct emissions	100
SO_2	100
NO_x (unless determined not to be a significant precursor)	100
VOC or ammonia (if determined to be significant precursors)	100
Pb: All NAAs	25

NO_2 = nitrogen dioxide
Source: EPA (2004)

B.7.5 Air Quality Impacts

Construction Emissions and Impacts

A temporary impact on ambient air quality from construction emissions and fugitive dust may result from the Project. Emissions and fugitive dust would result from use of fossil-fueled construction equipment. In general, these emissions would be temporary, localized, and insignificant. Emissions of PM_{10} and $PM_{2.5}$ would represent the majority of air emissions during construction, primarily in the form of fugitive dust. Fugitive dust would be generated from land clearing, grading, excavation, concrete work, and vehicle traffic on paved and unpaved roads. Emissions would be variable but would be greater during dry periods and in areas of fine-textured soils subject to surface activity.

Table 11 provides the construction emissions estimates for the Project by facility and county.

Table 11. Project Emissions from Construction by County							
Facility (County, State)	**Total Site Emissions (tons/year)**						
	NO_x	**VOC**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**	**GHGs**
Total 2019 Project Emissions (Ontario County, NY)	5.81	0.87	4.36	0.17	6.47	1.45	2,063.54
Total 2019 Project Emissions (Tioga County, PA)	5.73	0.85	4.37	0.46	7.15	1.81	2,002.29
Total Project Emissions	**11.55**	**1.72**	**8.72**	**0.63**	**13.62**	**3.26**	**4,065.84**

Operation Emissions and Impacts

Operational emissions would permanently affect ambient air quality as a result of the Project. Generally, operational Project air quality emissions would result from new natural gas fired reciprocating engines, emergency generators, and fugitive emissions. Operational emissions from operation of the Project at the Farmington CS, the New Victor Regulator Station, and the

Jackson M&R Station would be minor. The Project emissions, including fugitive emissions, during operation of the Jackson Compressor Station are given in Table 12. Dispersion modeling, using the EPA's AERMOD model, was conducted for the Jackson CS. A summary of the maximum, or worst case, modeled impacts for nitrogen dioxide (NO_2), $PM_{2.5}$, PM_{10}, SO_2 and CO is shown in Table 13. As Table 13 shows, operational emissions from the Project would be well below the NAAQS.

Table 12. Project Emissions from Operation of the Jackson Compressor Station

Total Site Emissions (tons/year)						
NO_x	VOC	CO	SO_2	PM_{10} / $PM_{2.5}$	GHGs	HAPs
26.63	2.30	16.87	2.35	6.94	91,488	0.45

Table 13. Summary of Proposed Jackson CS Air Dispersion Modeling Results

Total Site Emissions (tons/year)					
Pollutant	Averaging Period	Modeled NAAQS Impact (µg/m³)	Background Monitor Concentration (µg/m³)	Total (µg/m³)	NAAQS (µg/m³)
NO_2	1-Hour	11.0	23.8	34.8	188
	Annual	0.2	4.8	5.0	100
$PM_{2.5}$	24-Hour	0.6	13.4	14.0	35
	Annual	0.05	5.8	5.85	12
PM_{10}	24-Hour	1.5	27.0	28.5	150
CO	1-Hour	1.3	343.7	345.0	40,000
	8-Hour	1.0	343.7	344.7	10,000
SO_2	1-Hour	1.3	21.0	22.3	196
	3-Hour	1.3	23.6	24.9	1,300

B.7.6 Air Quality Conclusion

Potential impacts on air quality associated with construction and operation of the Project would be minimized by adherence to all applicable federal and state regulations. Based on the analysis presented above, we believe that the Project would not have a significant impact on regional air quality.

B.8 Noise

Federal regulatory agencies typically assess noise impacts using two sound metrics: the equivalent sound level (L_{eq}) and the day-night sound level (L_{dn}). The energy of noise is measured in decibels (dB). The units presented for all sound levels in this section are dBA, which filters noise frequencies to characterize the human ear's response to sound. Human hearing can detect a 3 dBA change with a 5 dBA change being readily noticeable. Humans perceive a 10 dBA change in noise level as a doubling or halving of noise. The L_{eq} is the energy averaged sound level for a given period of time, for example hourly or a 24-hour period. An L_{dn} is also time averaged, but sound levels occurring during nighttime hours (that is, 10:00 PM to 7:00 AM) incur a penalization of an additional 10 dBA to account for greater sensitivity, such as sleep disturbance, during these times. Table 14 provides sound pressure levels and relative loudness of typical noise sources.

Table 14. Sound Pressure Levels and Relative Loudness of Typical Noise Sources

Noise Source or Activity	Sound Level (dBA)	Subjective Impression	Relative Loudness (perception of different sound levels)
Jet aircraft takeoff from carrier (50 ft)	140	Threshold of pain	64 times as loud
50 HP siren (100 ft)	130		32 times as loud
Loud rock concert near stage or Jet takeoff (200 ft)	120	Uncomfortably loud	16 times as loud
Float plane takeoff (100 ft)	110		8 times as loud
Jet takeoff (2,000 ft)	100	Very loud	4 times as loud
Heavy truck or motorcycle (25 ft)	90		2 times as loud
Garbage disposal, food blender (2 ft), or Pneumatic drill (50 ft)	80	Loud	Reference loudness
Vacuum cleaner (10 ft)	70	Moderate	1/2 as loud
Passenger car at 65 mph (25 ft)	65		
Large store air-conditioning unit (20 ft)	60		1/4 as loud
Light auto traffic (100 ft)	50	Quiet	1/8 as loud
Quiet rural residential area with no activity	45		
Bedroom or quiet living room or bird calls	40	Faint	1/16 as loud
Typical wilderness area	35		
Quiet library, soft whisper (15 ft)	30	Very quiet	1/32 as loud
Wilderness with no wind or animal activity	25	Extremely quiet	
High-quality recording studio	20		1/64 as loud
Acoustic test chamber	10	Just audible	
	0	Threshold of hearing	

Adapted from Beranek (1988) and EPA (1971).

B.8.1 Regulatory Requirements

In 1974, the EPA published *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (EPA, 1974). This publication evaluates the effects of environmental noise with respect to health and safety. The document provides information for state and local governments to use in developing their own ambient noise standards. The EPA has determined that in order to protect the public from activity interference and annoyance outdoors in residential areas, noise levels should not exceed an L_{dn} of 55 dBA. An L_{dn} of 55 dBA is equivalent to a continuous L_{eq} noise level of 48.6 dBA. We have adopted this criterion for the operational modifications to existing compressor stations and new compressor stations proposed for the Project. General construction is not evaluated against the 55 dBA L_{dn} criterion. There are no state noise regulations that would apply to the Project.

B.8.2 Construction Noise

Construction of the Project would result in temporary, localized elevated noise levels from the use of heavy construction equipment. Empire estimated the following peak noise level of construction activities, at the closest NSAs for the project facilities:

- Proposed Farmington CS: 48 dBA L_{dn}

- Proposed Jackson CS: 58 dBA L_{dn}
- Existing New Victor Regulator Station: 58 dBA L_{dn}

Temporary increases in noise levels due to construction are predicted to be perceptible at nearby NSAs (e.g., residences). However, because construction noise is temporary, localized, and would cease once the Project is constructed, we conclude that no significant impacts would result from construction noise associated with the Project.

B.8.3 Operation Noise Impacts

Significant noise sources at the compressor stations would include turbine-compressor casing noise that penetrates the compressor building, turbine exhaust and air intake systems, lube oil coolers, a gas aftercooler, and aboveground piping and components. Acoustic modeling was used to determine the sound impacts at the proposed Farmington CS, Jackson CS, and modifications to equipment at the existing New Victor Regulating Station at the nearest NSAs. Table 15 shows the expected increase in noise levels from the proposed new compressor stations. The modifications to the New Victor Regulating Station, which includes additional acoustical insulation, would result in decreases in noise levels at the nearest NSAs of 2.2 to 2.6 dBA.

Table 15. Location of Nearest Noise Sensitive Areas and Estimated Noise Levels from Operation of the Project

Compressor Station	Distance and Direction of NSA to Site Center (feet)	Ambient L_{dn} (dBA) [a]	Compressor Station Operating L_{dn} (dBA)	Compressor Station Operating plus Ambient L_{dn} (dBA) [b]	Increase in Ambient Noise Level (dB)
Farmington CS	2,000 W	58.1	42.9	58.2	0.1
	2,300 NW	57.7	41.4	57.8	0.1
	2,900 NE	57.1	38.9	57.2	0.1
	2,800 SE	56.7	39.3	56.8	0.1
	2,150 S	51.7	37.8	51.9	0.2
	2,750 SW	52.9	35.2	53.0	0.1
Jackson CS and Existing Jackson M&R Station	1,400 WSW	50.1	39.1	46.3	-3.8
	1,050 NW	44.7	42.4	45.3	0.6
	1,850 NE	41.5	35.9	42.3	0.8
	1,800 S	42.0	36.1	42.5	0.5
	700 NE	42.7	45.5	47.0	4.3

Based on the noise analysis above, noise levels attributable to operation of the Project would be less than 55 dBA L_{dn} at all of the NSAs. To ensure that the noise from the compressor stations does not exceed an L_{dn} of 55 dBA at the nearest NSAs, **we recommend that:**

- **Empire should file a noise survey with the Secretary of the Commission (Secretary) no later than 60 days after placing each compressor station into service. If a full power load condition noise survey is not possible, Empire should provide an interim survey at the maximum possible power load and provide a full power load survey within 6 months. If the noise attributable to**

the operation of the Project equipment under interim or full power load exceeds an L_{dn} of 55 dBA at any nearby NSA, Empire should:

a. file a report on what changes are needed;

b. install additional noise controls to meet the level within 1 year of the in-service date; and

c. confirm compliance with this requirement by filing a second full power noise survey with the Secretary no later than 60 days after it installs the additional noise controls.

Based on the noise analyses above and our recommendation, we conclude that operation of the Project would not have a significant impact on the noise environment in the vicinity of the compressor stations.

B.9 Reliability and Safety

The pressurization of natural gas at a compressor station 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 leak or rupture at the facility. 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 compressor stations must be designed, constructed, operated, and maintained in accordance with the DOT Minimum Federal Safety Standards in 49 CFR 192. The regulations are intended to ensure adequate protection for the public and to prevent facility accidents and failures.

Part 192.163–192.173 of 49 CFR specifically addresses design criteria for compressor stations, 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 an emergency.

Additionally, the operator must establish a continuing education program to enable the public, government officials, and others to recognize an emergency at the facility and report it to appropriate public officials. Empire would provide the appropriate training to local emergency service personnel before the facilities are placed in service.

Natural gas pipelines must be operated and maintained in accordance with the DOT Minimum Federal Safety Standards in 49 CFR 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures. The DOT specifies material selection and qualification; minimum design requirements; and protection from internal, external, and atmospheric corrosion. Any natural gas facility has some degree of risk and, although any structure will eventually degrade, the DOT rules require regular inspection and maintenance, including repairs, as necessary, to ensure the pipeline has adequate strength to transport the natural gas safely.

Empire's construction and operation of the proposed Project would represent a minimum increase in risk to the nearby public, and we are confident that with implementation of the required

design criteria for these compressor stations, Empire would construct and operate the facilities safely.

B.10 Cumulative Impacts

In accordance with NEPA and with FERC policy, we evaluated the potential for cumulative effects of the Project. Cumulative impacts represent the incremental effects of a proposed action when added to other past, present, or reasonably foreseeable future actions, regardless of the agency or party undertaking such other actions. Cumulative impacts can result from individually minor, but collectively significant actions, taking place over time.

This cumulative effects analysis generally follows a method set forth in relevant Council on Environmental Quality and EPA guidance and focuses on potential impacts from the proposed Project on resource areas or issues where the incremental contribution would be potentially significant when added to the potential impacts of other actions. To avoid unnecessary discussions of insignificant impacts and projects and to adequately address and accomplish the purposes of this analysis, an action must first meet the following three criteria to be included in the cumulative analysis:

- affect a resource potentially affected by the Project;
- cause this impact within all, or part of, the Project area; and
- cause this impact within all, or part of, the time span for the potential impact from the Project.

Our cumulative impacts analysis considers actions that impact environmental resources affected by the proposed action, within all or part of the Project area affected by the proposed action (i.e., geographic scope), and within all or part of the time span of the impacts.

The EA analyzed the Project's impacts on geology and soils; groundwater; surface water and wetlands; vegetation and wildlife; cultural resources; socioeconomics; land use and visual resources; and air quality and noise. We determined there would be no impacts on cultural resources; therefore, this resource is not discussed further in this cumulative impact analysis. Similarly, we determined that Project impacts on soils, geology, groundwater, surface water and wetlands, vegetation and wildlife, and general land use would not be sufficient to cause cumulative impacts. Therefore, the potential for the proposed Project to result in cumulative impacts is limited to operational air quality and noise. For air quality impacts, we considered an area which extends from the Jackson CS to a 30-mile radius. Operational impacts from the Farmington CS would be minor and would not result in any cumulative impacts. For noise impacts, we considered a 0.5 mile radius from the new compressor stations.

An evaluation was performed to identify past, present, and reasonably foreseeable future projects within the resource-specific geographic scope. We did not identify any projects within 0.5 mile that could potentially contribute noise impacts. Projects that could possibly have cumulative effects on local air quality during operation of the Jackson CS are given in Table 16. These projects have received or are seeking applicable air permits from the PADEP which would satisfy the requirements of the Clean Air Act (CAA) and Pennsylvania's State Implementation Plan. Furthermore, the project closest to the Jackson CS with emission sources is SWEPI, LP's

natural gas compression and processing facilities located 8.8 miles from the Jackson CS. Given this distance, no cumulative emissions would be expected to result in an exceedance of the NAAQS in the local vicinity of the Jackson CS. Therefore, we conclude that there would not be any significant regional or local air quality impacts as a result of operation of the Project and other projects in the area of our analysis.

Table 16. Project Identified for Cumulative Air Impacts

Project / Project Proponent	Brief Project Description	Location	Distance from Empire North Project	Estimated Timeframe
Empire Pipeline, Inc. & National Fuel Gas Supply Corporation / Tuscarora Lateral Project (Docket CP14-112)	FERC 7(c) – Empire completed construction of 17.12 miles of natural gas pipeline and interconnection facilities (the Tuscarora Lateral Pipeline). National Fuel Gas Supply Corporation completed construction (through modification and expansion) of approximately 1,384 HP of compression and related equipment upgrades within its existing Tuscarora Compressor Station.	Empire's Tuscarora Lateral pipeline and NFGSC's Tuscarora Compressor Station are in Steuben County, New York with the terminus of the proposed pipeline extending into Tioga County, Pennsylvania.	Terminus of pipeline within proposed construction work limits for Jackson CS.	PAST (In Service November 2015)
Natural Gas Compression and/or Processing Facilities	On March 24, 2016, a general permit was issued for construction and operation of the following sources: one 2,370 HP Caterpillar natural gas-fired compressor engine, equipped with 2-way oxidation catalyst; one 4,200-gallon storage tank; various fugitive emissions pursuant to the General Plan Approval and/or General Operating Permit for Natural Gas Compression and/or Processing Facilities (BAQ-GPA/GP-5) at the Empire Booster Compressor Station.	Rutland Township, Tioga County, Pennsylvania	Approx. 8.8 miles SSE of Jackson CS/M&R	PRESENT
Clark Compressor Station Construction / SWEPI LP	On June 5, 2017, a general permit was authorized for the construction and operation of the Clark Compressor Station pursuant to the General Plan Approval and/or General Operating Permit for Natural Gas Compression and/or Processing Facilities (BAQ-GPA/GP5) (BAQ-GPA/GP5).	Sullivan Township, Tioga County	15 Miles SSE of the Jackson CS/M&R	FUTURE (Unknown)

Table 16. Project Identified for Cumulative Air Impacts				
Project / Project Proponent	**Brief Project Description**	**Location**	**Distance from Empire North Project**	**Estimated Timeframe**
Susquehanna West Project / Tennessee Gas Pipeline Company, L.L.C. (Docket CP15-148-000)	Modifications to Existing Wellsboro Compressor Station 315, Construction of two new loops that total 8.1 miles (36-inch- pipeline) adjacent to TGP's existing 300 Line. The Western Loop is approximately 6.2 miles in length and west of TGP's Compressor Station (CS) 315. The Eastern Loop is approximately 1.9 miles in length and east of CS 315; Project also involves modifying two existing compressor stations, CS 317 and CS 319.	Tioga and Bradford Counties, Pennsylvania	16.5 miles SW of the Jackson CS/M&R.	PRESENT (Project In Service date anticipated November 2017)
Armenia Pumped Storage Hydro Project / Merchant Hydro Developers, LLC. / (Docket P-14821)	On January 18, 2017, Merchant Hydro Developers, LLC, filed an application for a preliminary permit, pursuant to section 4(f) of the Federal Power Act. The proposed project would have an annual generation of 148,121 megawatt-hours.	Sullivan Township in Tioga County, Pennsylvania	Approx. 17 Miles SSE of Jackson CS/M&R	FUTURE (Unknown); Applicant filed January 18, 2017
Covington Compressor Station Modifications / Seneca Resources Corporation	On May 16, 2017 a general permit was authorized for the construction and operation of two (2) 1,380 HP Caterpillar G3516BLE four stroke, lean burn, natural gas-fired compressor engines at the Covington Compressor Station.	Covington Township, Tioga County	Approx. 19 miles SSW of Jackson CS/M&R	FUTURE (Unknown)
Unnamed Gas-fired Power Project / Niles Valley Energy, LLC	On September 20, 2017, Niles submitted plans to construct five 6,023 HP GE Jenbacher model J624 GS-H01, 4 stroke, lean burn, natural gas-fired engine/generator sets, and three 9,708 HP (7.2 MWs) 4 stroke, lean burn Rolls Royce Bergen B-35:40-V16AG-2 natural gas-fired engine/generator sets	Charleston Township, Tioga County	Approx. 20.5 miles SW of Jackson CS/M&R	FUTURE
TI-46 Bliss Pad, TI-07 Cupper Pad, and Water Line Installation; SWN Production Company, LLC	Construction of two Marcellus gas well pads, each with a consumptive use of water of up to 5 million gallons per day, and installation of a 12-inch-diameter waterline for Marcellus well development.	Liberty and Hamilton Townships, Tioga County, Pennsylvania	Approx. 23 miles S of Jackson CS/M&R	FUTURE (Unknown)

Table 16. Project Identified for Cumulative Air Impacts				
Project / Project Proponent	**Brief Project Description**	**Location**	**Distance from Empire North Project**	**Estimated Timeframe**
Sabinsville Station Modifications / Dominion Transmission, Inc.	On August 11, 2017, Dominion filed for an extension of the authorization for the construction of a 2,370 HP, natural gas fired reciprocating internal combustion compressor engine, the construction of a 5,810 HP natural-gas fired compressor turbine, and the construction of eight 65 kilowatt model C65 NG Low NOx Capstone Microturbines, at the Sabinsville Station.	Clymer Township, Tioga County	Approx. 27 miles WSW of Jackson CS/M&R	FUTURE (Spring 2018 construction)
Tioga Gathering LLC	Howard Energy Partners plans to design, construct and operate a new natural gas gathering system for Southwestern Energy Company. Once fully operational, the new system is expected to add up to 380 million cubic feet per day of capacity in the area.	Morris and Liberty Townships, Tioga County, Pennsylvania	Approx. 30 Miles S of Jackson CS/M&R	FUTURE (Unknown)

B.10.1 Climate Change

The EPA filed comments recommending a summary discussion of climate change relevant to the Project and project study area. Climate change is the change in climate over time, and cannot be represented by single annual events or individual weather anomalies. While a single large flood event; a particularly cold summer; or warm winter are not necessarily strong indications of climate change; a series of floods or warm years that statistically change the average precipitation or temperature over years or decades may indicate climate change. However, recent research has begun to attribute certain extreme weather events to climate change.[8]

Climate Change has already resulted in a wide range of impacts across every region of the United States and those impacts extend beyond atmospheric climate change alone and include changes to water resources, agriculture, ecosystems, and human health. As climate change is currently happening, the United States and the world are warming; global sea level is rising and acidifying; and certain extreme weather events are becoming more frequent and more severe. These changes are driven by accumulation of GHG in the atmosphere primarily through combustion of fossil fuels (coal, petroleum, and natural gas), combined with agricultural emissions and clearing of forests. These impacts have accelerated throughout the end of the 20th, and into

[8] USGCRP, 2017: *Climate Science Special Report: Fourth National Climate Assessment, Volume I, Chapter 3 Detection and Attribution of Climate Change* [Wuebbles, D.J., D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock (eds.)]. U.S. Global Change
Research Program, Washington, DC, USA, 470 pp., doi: 10.7930/J0J964J6.

the 21st century. Climate change is a global concern, however for this analysis, we will focus on the potential cumulative climate change impacts on the Project areas.

The construction and operation, as well as downstream emissions, would increase the atmospheric concentration of GHGs, in combination with past and future emissions from all other sources, and contribute incrementally to future climate change impacts. There is no generally accepted methodology to estimate what extent, a project's incremental contribution to greenhouse gas emissions would result in physical effects on the environment for the purposes of evaluating the project's impacts on climate change, either locally or nationally. The PADEP's *Climate Change Action Plan* identifies methane leak detection and prevention as a goal for reducing climate change impacts from natural gas transmission infrastructure; however, the state of Pennsylvania does not currently mandate through any of its existing authorities methane monitoring, leak detection, or measures to control or prevent fugitive emissions from gathering, transmission or distribution pipelines. As noted in section B.7, the Project would be subject to 40 CFR 60, Subpart OOOOa which requires Empire to monitor all fugitive emission components on a quarterly basis and repair all sources of fugitive emissions within 30 days. Table 17 shows the GHG emission attributed to natural gas production, transmission, and distribution, and oil production in Pennsylvania.[9] Because we cannot determine the Project's incremental physical impacts due to climate change on the environment, we cannot determine whether the Project's contribution to cumulative impacts on climate change would be significant.

Table 17. Natural Gas Production Process Emissions (in $MMTCO_2e$)*

	1990	1995	2000	2005	2010	2011	2012
Natural Gas Production	3.05	3.15	3.67	4.78	4.56	5.57	5.65
Natural Gas Transmission	-	-	-	1.92	1.97	1.89	1.94
Natural Gas Distribution	-	-	3.16	3.01	2.92	2.92	2.91
Oil Production	0.04	0.03	0.03	0.04	0.06	0.06	0.07
Total	**3.09**	**3.18**	**6.86**	**9.75**	**9.50**	**10.43**	**10.57**

$MMTCO_2e$ = million tons of CO_2 equivalent

[9] Pennsylvania Department of Environmental Protection. "Pennsylvania Climate Change Action Plan." Aug. 2016, www.depgreenport.state.pa.us/elibrary/GetDocument?docId=5342&DocName=2015%2BCLIMATE%2BCHANGE%2BACTION%2BPLAN%2BUPDATE.PDF%2B#.

C. ALTERNATIVES

In accordance with NEPA and Commission policy, we evaluated several alternatives to the Project to determine whether they would be reasonable and environmentally preferable to the proposed action. These alternatives included the no action alternative, system alternatives, site alternatives, and compressor unit alternatives. Our evaluation criteria for developing and reviewing alternatives were:

- ability to meet the Project's stated objective;
- technical and economic feasibility and practicality; and
- significant environmental advantage over the proposed action.

Through environmental comparison and application of our professional judgment, each alternative is considered to a point where it becomes clear if the alternative could or could not meet the three evaluation criteria. The alternatives were reviewed against the evaluation criteria in the sequence presented above. The first consideration for including an alternative in our analysis is whether it could satisfy the stated purpose of the Project. An alternative that cannot achieve the purpose of the Project cannot be considered as an acceptable replacement for the Project. The second evaluation criteria is feasibility and practicality. Many alternatives are technically and economically feasible. Technically practical alternatives, with exceptions, would generally require the use of common construction methods. An alternative that would require the use of a new, unique, or experimental construction method may not be technically practical because the required technology is not available or is unproven. Economically practical alternatives would result in an action that generally maintains the price competitive nature of the proposed action. Generally we do not consider the cost of an alternative as a critical factor unless the added cost to design, permit, and construct the alternative would render the project economically impractical.

Alternatives that would not meet the Project's objective or were not feasible were not brought forward to the next level of review (i.e., significant environmental advantage over the proposed Project). Determining if an alternative provides a significant environmental advantage requires a comparison of the impacts on each resource as well as an analysis of impacts on resources that are not common to the alternatives being considered. The determination must then balance the overall impacts with all other relevant considerations. In comparing the impacts between resources, we also considered the degree of impact anticipated on each resource. Ultimately, an alternative that results in equal or minor advantages in terms of environmental impact would not compel us to shift the impacts to another location, potentially affecting a new set of landowners.

C.1 No Action Alternative

Under the no-action alternative, Empire would not construct the proposed Project and none of the adverse or beneficial impacts of the Project (as described in section B) would occur.

At this time, no alternative projects have been planned that could meet the purpose and need of the proposed Project. Thus it is impossible to say with certainty what other facilities might be built in lieu of the proposed Project. Assuming the demand for service in the northeastern United States continues, it is likely that other natural gas projects would be proposed. Such actions could result in impacts similar to or greater than the proposed Project, and might not meet the Project's purpose and need within the proposed timeframes. Based on the minimal impact of the Project, we have dismissed this alternative as a reasonable alternative to meet the Project objectives.

C.2 System Alternatives

System alternatives would use other existing, modified, or proposed facilities to meet the objectives of the proposed Project. A system alternative would make it unnecessary to construct all or part of the Project, although modifications or expansion of existing or proposed pipeline systems may be required. These modifications or additions could result in environmental impacts that are less than, similar to, or greater than those associated with construction and operation of the Project. The purpose of identifying and evaluating system alternatives is to determine whether the environmental impacts associated with construction and operation of the Project could be avoided or reduced by using another pipeline system, while still meeting the objectives of the Project.

C.2.1 Other Pipeline Systems

Although other existing natural gas pipeline systems are in the region, in order to meet the purpose and need of the Project, those existing pipeline companies would need to build new pipeline facilities and compression on their existing systems to connect to the proposed receipt and delivery points and to deliver the additional capacity. Construction of these facilities would likely result in impacts similar to the Project and would not provide a significant environmental advantage over the proposed action. For these reasons, we have eliminated these pipeline system alternatives from further consideration. Additionally, these significant modifications would not meet the schedule of the proposed Project or Empire's contractual commitments.

C.2.2 Pipeline Only Alternative

We examined a system alternative in which Empire would expand its pipeline system by constructing new looping pipeline in place of constructing new compressor stations. Assuming that neither of the proposed compressor stations are constructed, Empire would need to loop a total of 180.5 miles of 24-inch-diameter pipe. This would require approximately 2,188 acres of ground disturbance. The required pipeline looping would require crossing more densely urbanized areas surrounding the cities of Buffalo and Rochester, New York. Construction and operation of these pipeline facilities would result in lower impacts on air and noise during operation than the proposed action, but would result in more land disturbance, more impacts on waterbodies and wetlands, more construction air emissions and would affect a greater number of landowners. Therefore, this alternative would not provide a significant environmental advantage over the proposed action and we eliminated this alternative from further consideration.

C.3 Alternative Compressor Station Locations

Empire conducted hydraulic modeling and field surveys to determine the sites for the new compressor stations that would meet the Project's objectives. This modeling was based on Empire's existing facilities and considered topography and geologic hazards, proximity to residential areas, existing road accessibility, the presence of sensitive environmental resources, vegetated buffers that would reduce visual and noise impacts, and the willingness of landowners to negotiate easement rights. The New York State Thruway Authority filed comments requesting that alternatives for the Farmington Compressor Station located further from I-90 be evaluated. We evaluated alternative locations for the two new compressor stations based on a number of environmental factors. In some cases, there were tradeoffs between environmental resources identified during the alternatives analysis, as minimization of impacts on one set of resources had to be compared to increased impacts on a different set of resources.

There were no viable alternatives to the proposed Project at the New Victor Regulator Station and the Jackson Meter and Regulator Station as these are existing facilities to which modifications are proposed.

C.3.1 Farmington Compressor Station

We evaluated three alternative sites for the Farmington CS, identified as the West, East, and South Sites.

The West Site is an inactive, former sand and gravel yard. This parcel is 32.8 acres, approximately one third of the size of the proposed Farmington CS site. The West Site is directly adjacent to a hotel, however, which would result in noise impacts and require significant site development plans for screening to minimize visual impacts.

The East Site is an agricultural property adjacent to the south side of I-90. This parcel is 54.0 acres, approximately half the size of the proposed Farmington CS site. The site likely has wetlands and streams which may not be avoidable during site development planning, and would also require tree clearing, especially in its eastern portion. Furthermore, because it is not proximate to electrical transmission lines or an existing substation, substantial transmission facilities would be required to maintain an electric compressor design, or else would require natural gas fired compression with greater air quality impacts at the site.

The South Site consists of agricultural lands with portions of forested cover, but is zoned partially as residential and partially as industrial. The availability of this land for acquisition or control is unknown. This site is significantly closer to additional NSAs, including a large residential development (approximately 1,500 feet to the east). This site is also crossed by a freshwater wetland, and would require a longer access road crossing a railroad on the northern portion of the property or crossing an additional landowner to the east. Furthermore, the environmental impacts associated with installation of additional electric transmission facilities could preclude use of electric motor driven compression, resulting in greater air quality impacts at the site than the proposed Project.

Based on our review of the compressor station site alternatives, we conclude that none of the alternatives offer significant environmental advantages over the proposed site for the Farmington CS.

C.3.2 Jackson Compressor Station

The proposed Jackson CS site is immediately adjacent to the Empire owned property where the existing Jackson M&R Station is located and contiguous to the Empire Tioga County Extension pipeline. Furthermore, the current landowners of the proposed site (one of which was the former owner of the existing Jackson M&R Station parcel) expressed interest in selling the property. Any other alternative site would likely require more piping and auxiliary equipment than the proposed site. Therefore, any alternative would not provide a significant environmental advantage to the proposed Jackson CS site.

C.4 Compressor Unit Alternatives

Empire proposes to use natural gas-fired compressor units for the Jackson CS. We evaluated the alternative of using electric motor-driven compressor units. Electric-motor driven compression is generally used at locations where low-cost, high voltage electric power is available nearby. Empire stated that there is not adequate power supply locally-available to support Project site development at the proposed Jackson CS site for electric drive compressor units and that substantial additional transmission and substation infrastructure would be impracticable for this site. Furthermore, construction of the high voltage power lines needed to deliver electricity to the compressor station sites would have environmental impacts on resources that could include vegetation, soils, wetlands, cultural resources, wildlife, and surface water. For these reasons, we conclude that use of electric motor-driven compressor units would not provide a significant environmental advantage over using natural gas-fired compressor units for this compressor station.

In conclusion, our review identified no alternatives that satisfied our evaluation criteria. Further, we received no requests from stakeholders identifying an alternative location that would provide a significant environmental advantage. Therefore, we conclude that the proposed action is the preferred alternative that can meet the Project objectives.

D. STAFF'S CONCLUSIONS AND RECOMMENDATIONS

We conclude that approval of the Empire North Project would not constitute a major federal action significantly affecting the quality of the human environment. This finding is based on the above environmental analysis, Empire's application and supplements, and implementation of Empire's proposed and our recommended mitigation measures. We recommend that the Commission's Order contain a finding of no significant impact and that the following mitigation measures be included as conditions of any Certificate the Commission may issue.

1. Empire 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. Empire must:

    a. request any modification to these procedures, measures, or conditions in a filing with the 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 measure; 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. This authority shall allow:

    a. the modification of 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**, Empire shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, EIs, and contractor personnel will be informed of the EI's authority and have been or will 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 soon as they are available, and before the start of construction**, Empire shall file with the Secretary any revised detailed survey 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 maps/sheets.

Empire'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. Empire's right of eminent domain granted under NGA Section 7(h) does not authorize it to increase the size of its natural gas pipelines or aboveground facilities to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

5. Empire shall file with the Secretary detailed maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all facility relocations, staging areas, warehouse/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 workspace 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 the Certificate and before construction begins**, Empire shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP. Empire must file revisions to the plan as schedules change. The plan shall identify:

   a. how Empire will 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 Empire will 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 will ensure that sufficient personnel are available to implement the environmental mitigation;

d. company personnel, including EIs and contractors, who will receive copies of the appropriate material;

e. the location and dates of the environmental compliance training and instructions Empire will give to all personnel involved with construction and restoration (initial and refresher training as the Project progresses and personnel change);

f. the company personnel and specific portion of Empire's organization having responsibility for compliance;

g. the procedures (including use of contract penalties) Empire will follow if noncompliance occurs; and

h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:

(1) the completion of all required surveys and reports;

(2) the environmental compliance training of onsite personnel;

(3) the start of construction; and

(4) the start and completion of restoration.

7. Empire shall employ at least one EI per compressor station, one of whom would be responsible for other areas of the Project as well. The EIs 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, Empire shall file updated status reports with the Secretary on a **monthly basis until all construction and restoration activities are complete**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:

a. an update on Empire'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 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;

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 Empire from other federal, state, or local permitting agencies concerning instances of noncompliance, and Empire's response.

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

10. Empire must receive written authorization from the Director of OEP **before placing the Project facilities into service**. Such authorization will only be granted following a determination that rehabilitation and restoration of the Project sites and other areas affected by the Project are proceeding satisfactorily.

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

a. that the facilities have been constructed and installed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or

b. identifying which of the Certificate conditions Empire has complied with or will 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.

12. Empire shall file a noise survey with the Secretary **no later than 60 days** after placing each compressor station into service. If a full power load condition noise survey is not possible, Empire shall provide an interim survey at the maximum possible power load and provide a full power load survey **within 6 months**. If the noise attributable to the operation of the Project equipment under interim or full power load exceeds an L_{dn} of 55 dBA at any nearby NSA, Empire shall:

a. file a report on what changes are needed;

b. install additional noise controls to meet the level **within 1 year** of the in-service date; and

c. confirm compliance with this requirement by filing a second full power noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls.

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