



**Office of  
Energy Projects**

**September 2020**

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**IROQUOIS GAS TRANSMISSION SYSTEM, L.P.**

**FERC Docket No. CP20-48-000**

# **ENHANCEMENT BY COMPRESSION PROJECT**

## **ENVIRONMENTAL ASSESSMENT**

**Washington, DC 20426**

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

In Reply Refer To:  
OEP/DG2E/Gas 1  
Iroquois Gas Transmission  
System, L.P.  
Enhancement by Compression  
Project  
Docket No. CP20-48-000

TO THE INTERESTED PARTY:

The staff of the Federal Energy Regulatory Commission (FERC or Commission) has prepared an environmental assessment (EA) for the Enhancement by Compression Project (Project), proposed by Iroquois Gas Transmission System, L.P. (Iroquois) in the above-referenced docket. Iroquois requests authorization to construct and operate natural gas transmission facilities in New York and Connecticut. The Project is designed to provide a total of 125,000 Dekatherms per day<sup>1</sup> of incremental firm transportation service to two existing customers of Iroquois, Consolidated Edison Company of New York, Inc. and KeySpan Gas East Corporation doing business as National Grid.

The EA assesses the potential environmental effects of the construction and operation of the Project in accordance with the requirements of the National Environmental Policy Act. 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 proposed Project includes the following facilities:

- Athens Compressor Station – installation of one new 12,000 horsepower (hp) turbine (Unit A2) in a new building with associated cooling, filter separators, and other appurtenant facilities, within the existing fenced boundary (Greene County, New York).
- Dover Compressor Station – installation of one new 12,000 hp turbine (Unit A2) in a new building with associated cooling, filter separators, appurtenant facilities, and expansion of the existing fenceline within the property boundary (Dutchess County, New York).

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<sup>1</sup> 1 dekatherm is approximately 1,000 cubic feet.

- Brookfield Compressor Station – construction of a control/office building, and addition of two new 12,000 hp turbines (Unit B1 and Unit B2) in a new building with associated cooling, filter separators, and other appurtenant facilities. Additionally, Iroquois would install incremental cooling at Plant 2-A to allow natural gas to be cooled, prior to being compressed at the proposed downstream compressors (Units B1 and B2). Iroquois would also replace turbine stacks on the existing compressor units (Unit-A1 and Unit-A2) and add other noise reduction measures (e.g., louvers, seals) to minimize existing noise at the site. Modifications at this site would require expansion of the existing fenceline within the property boundary (Fairfield County, Connecticut).
- Milford Compressor Station – addition of gas cooling to existing compressor units and associated piping, within the existing fenced boundary (New Haven County, Connecticut).

The Commission mailed a copy of the *Notice of Availability* to federal, state, and local government representatives and agencies; elected officials; environmental and public interest groups; Native American tribes; potentially affected landowners and other interested individuals and groups; and newspapers and libraries in the Project area. The EA is only available in electronic format. It may be viewed and downloaded from the FERC's website ([www.ferc.gov](http://www.ferc.gov)), on the natural gas environmental documents page (<https://www.ferc.gov/industries-data/natural-gas/environment/environmental-documents>). In addition, the EA may be accessed by using the eLibrary link on the FERC's website. Click on the eLibrary link (<https://elibrary.ferc.gov/eLibrary/search>), select "General Search" and enter the docket number in the "Docket Number" field, excluding the last three digits (i.e. CP20-48). Be sure you have selected an appropriate date range. For assistance, please contact FERC Online Support at [FercOnlineSupport@ferc.gov](mailto:FercOnlineSupport@ferc.gov) or toll free at (866) 208-3676, or for TTY, contact (202) 502-8659.

The EA is not a decision document. It presents Commission staff's independent analysis of the environmental issues for the Commission to consider when addressing the merits of all issues in this proceeding. 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 **October 30, 2020**.

For your convenience, there are three methods you can use to file your comments with the Commission. The Commission encourages electronic filing of comments and has staff available to assist you at (866) 208-3676 or [FercOnlineSupport@ferc.gov](mailto: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](http://www.ferc.gov)) under the link to [FERC Online](#). 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](http://www.ferc.gov)) under the link to [FERC Online](#). 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 Commission. Be sure to reference the Project docket number (CP20-48-000) on your letter. Submissions sent via the U.S. Postal Service must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street NE, Room 1A, Washington, DC 20426. Submissions sent via any other carrier must be addressed to: Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 12225 Wilkins Avenue, Rockville, Maryland 20852.

Filing environmental comments will not give you intervenor status, but you do not need intervenor status to have your comments considered. Only intervenors have the right to seek rehearing or judicial review of the Commission's decision. At this point in this proceeding, the timeframe for filing timely intervention requests has expired. Any person seeking to become a party to the proceeding must file a motion to intervene out-of-time pursuant to Rule 214(b)(3) and (d) of the Commission's Rules of Practice and Procedures (18 CFR 385.214(b)(3) and (d)) and show good cause why the time limitation should be waived. Motions to intervene are more fully described at <https://www.ferc.gov/ferc-online/ferc-online/how-guides>.

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](http://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 <https://www.ferc.gov/ferc-online/overview> to register for eSubscription.

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## TECHNICAL ABBREVIATIONS AND ACRONYMS

$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
$^{\circ}\text{F}$	degrees Fahrenheit
ATWS	additional temporary workspace
BCC	birds of conservation concern
bgs	below ground surface
CAA	Clean Air Act
CEQ	Council on Environmental Quality
Certificate	Certificate of Public Convenience and Necessity
CFR	Code of Federal Regulations
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2e</sub>	CO <sub>2</sub> equivalents
Commission	Federal Energy Regulatory Commission
Con Edison	Consolidated Edison Company of New York, Inc.
CTDEEP	Connecticut Department of Energy and Environmental Protection
CZMA	Coastal Zone Management Act
dB	decibel
dBA	decibel on the A-weighted scale
Dth/d	dekatherms per day
E&SCP	Erosion and Sediment Control Plan
EA	environmental assessment
EI	environmental inspector
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
ft-amsl	feet above mean sea level
g	gravity
GHG	greenhouse gas
gpm	gallons per minute

GWP	global warming potential
HAP	hazardous air pollutants
hp	horsepower
HUC	hydrologic unit code
Iroquois	Iroquois Gas Transmission System, L.P.
L <sub>dn</sub>	day-night sound level
L <sub>eq</sub>	24-hour equivalent sound level
MAOP	maximum allowable operating pressure
MOU	Memorandum of Understanding
MP	milepost
NAAQS	National Ambient Air Quality Standards
National Grid	KeySpan Gas East Corporation doing business as National Grid
HCA	high consequence area
NEPA	National Environmental Policy Act of 1969
NESHAP	National Emission Standards for Hazardous Air Pollutants
NGA	Natural Gas Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NNSR	Nonattainment New Source Review
NO <sub>2</sub>	nitrogen dioxide
NOI	<i>Notice of Intent to Prepare an Environmental Assessment for the Proposed Enhancement by Compression Project and Request for Comments on Environmental Issues</i>
NO <sub>x</sub>	oxides of nitrogen
Noxious Weed Plan	Noxious Weed Control Plan
NSA	noise sensitive area
NSPS	New Source Performance Standards
NSR	New Source Review
NYCRR	New York Codes, Rules, and Regulations
NYNHP	New York Natural Heritage Program

NYSDAM	New York State Department of Agriculture and Markets
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
OEP	Office of Energy Projects
OTR	Ozone Transport Region
ozone	ground-level ozone
PCB	polychlorinated biphenyl
PGA	peak ground acceleration
Plan	FERC's <i>Upland Erosion Control, Revegetation, and Maintenance Plan</i>
PM <sub>10</sub>	particulate matter with an aerodynamic diameter less than or equal to 10 microns
PM <sub>2.5</sub>	particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
Procedures	FERC's <i>Wetland and Waterbody Construction and Mitigation Procedures</i>
Project	Enhancement by Compression Project
PSD	Prevention of Significant Deterioration
PTE	potential to emit
RCSA	Regulations of Connecticut State Agencies
risk assessment	human health risk assessment
SCC	Social Cost of Carbon
Secretary	Secretary of the Commission
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
SPCC Plan	Spill Prevention, Control, and Countermeasures Plan
SWAP	Source Water Assessment Program
SWPPP	Stormwater Pollution Prevention Plans
tpy	tons per year
Transco	Transcontinental Gas Pipe Line

USDA-NRCS	U.S. Department of Agriculture – Natural Resources Conservation Service
USDOT-PHMSA	U.S. Department of Transportation – Pipeline and Hazardous Materials Safety Administration
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGCRP	U.S. Global Change Research Program
VOC	volatile organic compounds

## A. PROPOSED ACTION

### 1. Introduction

On February 3, 2020, Iroquois Gas Transmission System, L.P. (Iroquois) filed an application with the Federal Energy Regulatory Commission (FERC or Commission) in Docket No. CP20-48-000. Iroquois is seeking a Certificate of Public Convenience and Necessity (Certificate) under Section 7(c) of the Natural Gas Act (NGA) to construct and operate natural gas transmission facilities in New York and Connecticut as part of its existing system. Iroquois' proposed facilities, referred to as the Enhancement by Compression Project (Project), would include one new 12,000 horsepower (hp) compressor unit, cooling equipment, and associated facilities at each of its existing Athens (Greene County, New York) and Dover Compressor Stations (Dutchess County, New York) and two new 12,000 hp compressor units, cooling equipment, and associated facilities at its existing Brookfield Compressor Station (Fairfield County, Connecticut). Iroquois also proposes to add gas cooling and related equipment at its existing Milford Compressor Station (New Haven County, Connecticut). The Project is designed to provide a total of 125 million cubic feet per day<sup>1</sup> of incremental firm transportation service to two existing Iroquois customers: Consolidated Edison Company of New York, Inc. (Con Edison) and KeySpan Gas East Corporation doing business as National Grid (National Grid).

We<sup>2</sup> prepared this environmental assessment (EA) in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) regulations for implementing NEPA (Title 40 of the Code of Federal Regulations [CFR], Parts 1500-1508),<sup>3</sup> and the Commission's implementing regulations under 18 CFR 380.

The FERC is the lead federal agency for authorizing interstate natural gas transmission facilities under the NGA, and the lead federal agency for preparation of this EA, in accordance with NEPA (40 CFR 1501) and the Energy Policy Act of 2005.

The assessment of environmental impacts is an integral part of FERC's decision on whether to issue Iroquois a Certificate to construct and operate the proposed facilities. Our principal purposes in preparing this EA are to:

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<sup>1</sup> This equates to about 125,000 dekatherms per day.

<sup>2</sup> "We," "us," and "our" refer to the environmental staff of the Office of Energy Projects (OEP).

<sup>3</sup> On July 16, 2020, CEQ issued a final rule, *Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act* (Final Rule, 85 Fed. Reg. 43,304), which was effective as of September 14, 2020; however, the NEPA review of this project was in process at that time and was prepared pursuant to the 1978 regulations.

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

## **2. Purpose and Need**

Iroquois states that the purpose of its proposed Project is to provide firm transportation of 62,500 dekatherms per day (Dth/d) from Waddington, New York to Hunts Point, New York for Con Edison and 62,500 Dth/d from Waddington, New York to South Commack, New York for National Grid. Iroquois states that both Con Edison and National Grid have experienced demand growth on their distribution systems due to new construction in the commercial and multi-family sectors, and to meet requests for lower emitting fuels to replace heating oil, necessitating additional supply to adequately provide natural gas service. Iroquois proposes to place the Project into service in the fourth quarter of 2023.

Under Section 7(c) of the NGA, the Commission determines whether interstate natural gas transportation facilities are in the public convenience and necessity and, if so, grants a Certificate to construct and operate them. The Commission bases its decision on both economic issues, including need, and environmental impacts. Approval would be granted if, after consideration of both environmental and non-environmental issues, the Commission finds that the Project is in the public interest.

## **3. Scope of the Environmental Assessment**

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

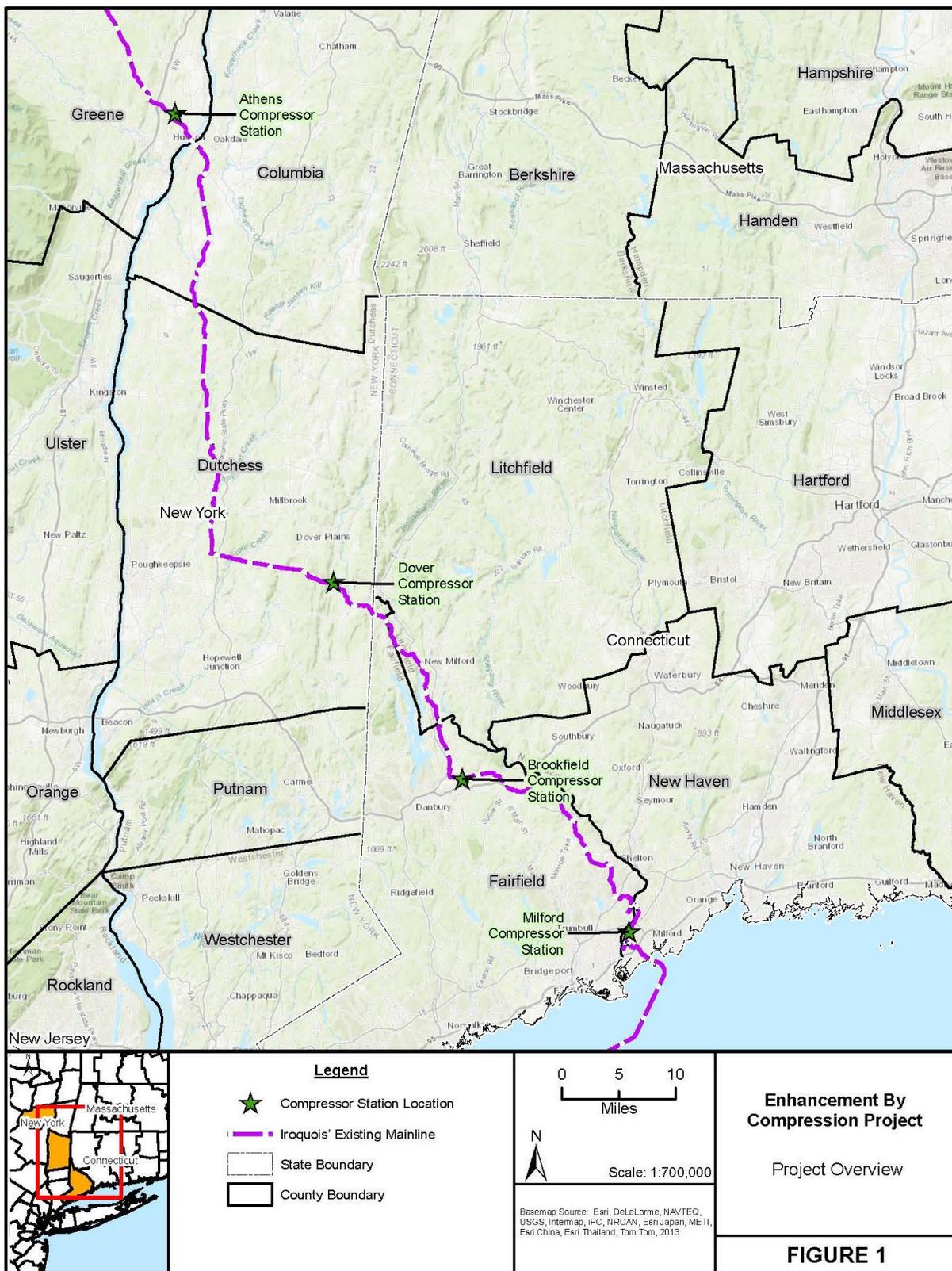
## **4. Proposed Facilities**

The proposed Project, summarized below, consists of new proposed facilities to be installed at existing facility sites owned by Iroquois in New York and Connecticut:

- Athens Compressor Station – installation of one new, natural gas turbine (Unit A2) in a new building that would be about 12,000 hp with associated cooling, filter separators, and other facilities connecting to Iroquois’ existing 24-inch-diameter mainline within the existing fenced boundary (Greene County, New York).
- Dover Compressor Station – installation of one new, natural gas turbine (Unit A2) in a new building that would be about 12,000 hp with associated cooling, filter separators, and other facilities connecting to Iroquois’ existing 24-inch-diameter mainline and expansion of the existing fenceline within the property boundary (Dutchess County, New York).
- Brookfield Compressor Station – construction of a control/office building, addition of two new, natural gas 12,000 hp turbines (Unit B1 and Unit B2) in a new building with associated cooling, filter separators, and other typical facilities connecting to Iroquois’ existing 24-inch-diameter mainline. Additionally, Iroquois would install incremental cooling at Plant 2-A to allow for compressed discharge gas to be cooled, prior to being compressed at the proposed downstream compressors (Units B1 and B2). Iroquois would also replace existing turbine stacks on the existing compressor units (Unit-A1 and Unit-A2) and add other noise reduction measures (e.g., louvers, seals) to minimize existing noise at the site. Modifications at this site would require expansion of the existing fenceline within the property boundary (Fairfield County, Connecticut).
- Milford Compressor Station – addition of gas cooling to existing compressor units and associated piping to allow for compressed discharge gas to be cooled within the current fenced boundaries of the existing station, where no gas cooling facilities currently exist (New Haven County, Connecticut).

To support construction of these facilities, Iroquois proposes to use additional temporary workspace (ATWS), 13 access roads during construction, 7 of which would be maintained for operation of the Project (further detailed below in table A-3), and 7 contractor staging areas. The general location of the Project is shown in figure 1 below, and detailed maps for each compressor station are included in appendix A.

Iroquois does not propose any new pipeline beyond the compressor station footprints, and the Project would not result in any increase in the maximum allowable operating pressure (MAOP) of Iroquois’ existing system. The existing Iroquois pipeline and system would continue to operate at the authorized pressures between 600 to 1,440 pounds per square in gauge, depending on the location within Iroquois’ system.



## 5. Land Requirements

Construction of the Project would affect 45.5 acres of land, including ATWS, contractor staging areas, access roads, and the new aboveground facilities at the existing compressor stations. Following construction, about 30.5 acres of temporary workspace would be restored to pre-construction conditions and uses. The remaining 15 acres would be retained for operation of the Project. These facilities are discussed further below and listed in table A-1.

Iroquois would lease off-site parcels for use as contractor staging areas. All other work would occur on lands owned by Iroquois for operation of its existing system.

### 5.1 Aboveground Facilities

Iroquois would modify four existing compressor stations along its existing system. Construction workspace and ATWS required for modifications at each of the facilities would occur within the existing compressor stations parcels more fully described below.

The existing Athens Compressor Station is at milepost (MP) 228.3 of Iroquois' existing system in Athens, New York. Operation of this existing compressor station occurs within a 4-acre fenced area that is part of a larger 66.3-acre parcel owned by Iroquois. Modifications at this site would include a new building to house a new compressor unit along with cooling and associated facilities. Construction of these modifications, including temporary workspace, would require a total of 5.1 acres within and outside of the fenced area but within the larger 66.3-acre parcel. Iroquois also proposes to remove small portions of the existing fence and install new fencing within the same footprint, such that the acreage of the fenced area would not change. Operations would occur on 3.0 acres within the fenceline and the remaining 1.0 acre within the fenceline would remain as maintained lawn, on Iroquois' property.<sup>4</sup>

The existing Dover Compressor Station is at MP 282.2 of Iroquois' existing system in Dover, New York. Operation of this existing compressor station occurs entirely within a 4-acre fenced area that is part of a larger 45.8-acre parcel owned by Iroquois. Modifications at this site would including a new building to house a new compressor unit along with cooling and associated facilities. Construction of these modifications, including temporary workspace, would require a total of 16.2 acres within and outside of the fenced area but within the larger 45.8-acre parcel. Iroquois also proposes to expand the existing fenceline by about 0.5 acre. Operations would require 4.7 acres, of which 3.1 acres would be within the expanded fenced area. The remaining 1.6 acres would be outside the fenceline but within the current property boundary owned

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<sup>4</sup> Iroquois' drawings showing modification or expansion of the existing fencelines are available on the FERC's eLibrary website, located at <https://elibrary.ferc.gov/idmws/search/fercgensearch.asp>, by searching Docket Number CP20-48 and/or the applicable accession no. 20200519-5095.

by Iroquois and would generally be associated with facility access and maintained lawn. The remaining 0.9 acre within the fenceline would remain as maintained lawn.

<b>Table A-1 Proposed Facilities for the Project</b>				
<b>Facility</b>	<b>Approximate Milepost or City</b>	<b>Size of Property Owned by Iroquois</b>	<b>Land Affected During Construction (acres)</b>	<b>Land Affected During Operation (acres)</b>
<b>Aboveground Facilities<sup>a</sup></b>				
Athens	228.3	66.3	3.9	3.0
Dover	282.2	45.8	5.3	4.7
Brookfield	307.6	68.3	3.4	3.2
Milford	334.7	4.8	3.6	2.3
<i>Aboveground Facilities Subtotal</i>			<i>16.1</i>	<i>13.1</i>
ATWS	Athens	66.3	1.2	0.0
	Dover	45.8	10.9	0.0
	Brookfield	68.3	0.6	0.0
	Milford	4.8	0.0	0.0
<i>ATWS Subtotal</i>			<i>12.8</i>	<i>0.0</i>
Access Roads <sup>b</sup>	Athens	N/A	1.3	0.9
	Dover	N/A	0.6	0.6
	Brookfield	N/A	1.0	0.3
	Milford	N/A	0.1	<0.1
<i>Access Roads Subtotal</i>			<i>3.0</i>	<i>1.9</i>
Contractor Staging Areas	Athens	N/A	6.3	0.0
	Dover	N/A	0.0	0.0
	Brookfield	N/A	6.7	0.0
	Milford	N/A	0.7	0.0
<i>Contractor Staging Areas Subtotal</i>			<i>13.6</i>	<i>0.0</i>
<b>Compressor Station Subtotals</b>				
<i>Athens Compressor Station</i>			<i>12.8</i>	<i>3.9</i>
<i>Dover Compressor Station</i>			<i>16.8</i>	<i>5.3</i>
<i>Brookfield Compressor Station</i>			<i>11.7</i>	<i>3.5</i>
<i>Milford Compressor Station</i>			<i>4.3</i>	<i>2.3</i>
<b>Project Total</b>			<b>45.5</b>	<b>15.0</b>
Note: The numbers in this table have been rounded for presentation purposes. As a result, the total impacts reported throughout this EA may not reflect the sum of the addends.				
<sup>a</sup> Operational impacts reflect the area required to operate the existing and modified facilities, which may occur within and outside of the facility fenceline for a given station.				
<sup>b</sup> All proposed access roads are existing and no modifications would be required for construction or operation of the Project.				

The existing Brookfield Compressor Station is at MP 307.6 of Iroquois' existing system in Brookfield, Connecticut. Operation of this existing compressor station occurs within two fenced areas totaling about 2 acres that are part of a larger 68.3-acre parcel owned by Iroquois. Modifications at this site would include a new building to house two new compressor units along with cooling and associated facilities, incremental cooling at existing compressor units, replacement of existing stacks, and a new control/office building. Construction of these modifications, including temporary workspace, would require a total of 4.1 acres within and outside of the fenced area but within the larger 68.3-acre parcel. Iroquois also proposes to expand one of the existing fencelines by about 1.5 acres. Operations would require 3.2 acres, of which about 3.0 acres would be within the expanded fenceline area and the other 0.2 acre would be outside the fenceline but within the current property boundary owned by Iroquois and would generally be associated facility access and maintained lawn.

The existing Milford Compressor Station is on a 4.8-acre site at MP 334.7 of Iroquois' system in Milford, Connecticut. Modifications at this site, including installation of additional cooling and related equipment, would require a total of 3.6 acres, all of which would occur within the existing facility fenceline. Operation of the existing and modified facilities would occur on 2.3 acres within the existing fenceline.

Overall construction of these facilities would require a total of 28.9 acres of land, including ATWS, 13.1 acres of which would be used permanently during operation (see table A-1 and appendix A). All of these impacts would occur on lands currently in industrial/commercial land use, and all new facilities would be on sites that have existing natural gas infrastructure in place.

## **5.2 Contractor Staging Areas**

Iroquois has proposed seven contractor staging areas to support construction of the Project (see table A-2 and appendix A) for parking, the storage of pipe and contractor materials, and a contractor office. All contractor staging areas are existing sites classified as industrial/commercial land use, with the exception of two residential parcels (BRD-CY-001 and BRD-CY-002), which are properties across the street from the existing Brookfield Compressor Station that were recently purchased by Iroquois. These residences are discussed further in section B.5.2.

Iroquois would not require any improvements to these contractor staging areas, with the exception of removing the houses from and plugging the wells at the two residential properties and minor grading at contractor staging area ATS-CY-001.

<b>Table A-2 Contractor Staging Areas for the Project</b>				
<b>Facility</b>	<b>Location</b>	<b>Size (acres)</b>	<b>Current Land Use</b>	<b>Proposed Modifications</b>
<b>Contractor Staging Areas</b>				
ATS-CY-001	0.3 mile northwest of the Athens Compressor Station	6.3	Industrial/Commercial	Minor grading
BRD-CY-001	<0.1 mile east of the Brookfield Compressor Station	0.5	Residential	Demolition of house and plugging of well <sup>a</sup>
BRD-CY-002	<0.1 mile east of the Brookfield Compressor Station	0.7	Residential	Demolition of house and plugging of well <sup>a</sup>
BRD-CY-003	1.4 miles northwest of the Brookfield Compressor Station	5.3	Industrial/Commercial	None
BRD-CY-004	1.4 miles northwest of the Brookfield Compressor Station	0.2	Industrial/Commercial	None
MID-CY-001	<0.1 mile northeast of the Milford Compressor Station	0.3	Industrial/Commercial	None
MID-CY-002	0.1 mile northeast of the Milford Compressor Station	0.3	Industrial/Commercial	None
<p>Note: The numbers in this table have been rounded for presentation purposes. As a result, the total impacts reported throughout this EA may not reflect the sum of the addends.</p> <p><sup>a</sup> Iroquois would utilize one of the houses as a contractor office during construction; however, neither property would be used for operation of the Project and both houses would be demolished. The drinking wells present at these sites would be plugged in accordance with state regulations as discussed in section B.2.1.</p>				

### **5.3 Access Roads**

Iroquois has identified 13 existing access roads that would provide access to the aboveground facilities and associated contractor staging areas during construction of the Project. Iroquois owns all but three of the access roads (ATS-TAR-002, BRD-TAR-003, and MID-TAR-001) which provide access to contractor staging areas that would be leased for use during construction of the Project. Of the 13 access roads, 7 are existing access roads would be maintained for operation of the Project (see table A-3 and appendix A). No modifications to these existing access roads would be required for construction or operation of the Project.

Table A-3 Access Roads Proposed for the Project						
Access Road	Project Facility	Status <sup>a</sup>	Road Surface Type	Existing Width (feet)	Length (feet)	Area (acres)
ATS-PAR-001	Athens Compressor Station	Perm	Paved	16	2,271	0.9
ATS-PAR-002	Athens Compressor Station	Perm	Paved	22	53	0.0
ATS-TAR-001	Athens Compressor Station	Temp	Paved	22	106	0.1
ATS-TAR-002	ATS-CY-001	Temp	Gravel / dirt	46	317	0.4
DOR-PAR-001	Dover Compressor Station	Perm	Paved	20	686	0.3
DOR-PAR-002	Dover Compressor Station	Perm	Gravel / dirt	12	1,109	0.3
BRD-PAR-001	Brookfield Compressor Station	Perm	Paved	22	211	0.1
BRD-PAR-002	Brookfield Compressor Station	Perm	Paved	18	422	0.2
BRD-TAR-001	BRD-CY-002	Temp	Paved	12	317	0.1
BRD-TAR-002	BRD-CY-001	Temp	Paved	12	211	0.1
BRD-TAR-003	BRD-CY-003 & BRD-CY-004	Temp	Paved	24	316	0.4
MID-PAR-001	Milford Compressor Station	Perm	Paved	24	53	<0.1
MID-TAR-001	MID-CY-001 & MID-CY-002	Temp	Paved	24	53	<0.1
<p>Note: All proposed access roads are existing and thus are currently in industrial/commercial land use. All permanent access roads are currently in use as part of Iroquois' ongoing operation of the existing compressor stations.</p> <p><sup>a</sup> Perm = access roads that would be used during both construction and operation of the Project; Temp = access roads that would be used only during construction of the Project.</p>						

## 6. Construction Schedule and Workforce

Iroquois anticipates that construction of the Project would commence in late 2022, but could start as soon as all permits and approvals for the Project are received. Construction would occur over 9 concurrent months at each facility site. Iroquois would conduct general construction activities Monday to Saturday, during daylight hours or from 7:00 a.m. until 7:00 p.m., whichever is less; minor exceptions to these work hours are discussed in section B.8.2. Iroquois' shippers requested a service commencement date of November 1, 2023.

According to Iroquois, construction of all facilities would require the following workforce:

- 90 to 125 workers at the Athens Compressor Station;
- 90 to 125 workers at the Dover Compressor Station;
- 100 to 160 workers at the Brookfield Compressor Station; and
- 40 to 75 workers at the Milford Compressor Station.

Construction of the Project would require an estimated average and peak temporary workforce of about 325 and 400 people; no new operational staff would be required.

## 7. Construction, Operations, and Maintenance Procedures

Iroquois would construct, operate, and maintain the Project in accordance with applicable requirements defined by the U.S. Department of Transportation – Pipeline and Hazardous Material Safety Administration (USDOT-PHMSA) regulations in 49 CFR 192, *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards*; the Commission’s Siting and Maintenance Requirements at 18 CFR 380.15; and other applicable federal and state safety regulations. Among other design standards, 49 CFR 192 specifies pipeline material and qualification, minimum design requirements, and protection from internal, external, and atmospheric corrosion.

Iroquois has committed to implement the measures outlined in FERC’s *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan)<sup>5</sup> and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures),<sup>6</sup> without modifications. FERC’s Plan and Procedures are baseline construction and mitigation measures developed in consultation with resource agencies to minimize the potential environmental impacts of construction on upland areas, wetlands, and waterbodies.

In addition, Iroquois developed and would implement additional construction, restoration, and mitigation plans, including the following:

- Erosion and Sediment Control Plan (E&SCP);
- Dust Control Plan;
- Noxious Weed Control Plan (Noxious Weed Plan);
- Residential Access and Traffic Management Plan;
- Spill Prevention, Control, and Countermeasures Plan (SPCC Plan);

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<sup>5</sup> A copy of FERC’s Plan is available at <https://www.ferc.gov/sites/default/files/2020-04/upland-erosion-control-revegetation-maintenance-plan.pdf>.

<sup>6</sup> A copy of FERC’s Procedures is available at <https://www.ferc.gov/sites/default/files/2020-04/wetland-waterbody-construction-mitigation-procedures.pdf>.

- Unanticipated Discovery of Contaminated Materials Plan;
- Unanticipated Discovery Plan (for cultural resources and human remains); and
- Winter Construction Plan.

We have reviewed these plans and have found them acceptable.<sup>7</sup>

No blasting would be required for Project activities and the Project would not require crossings of, or work within, agricultural land, surface waters, or wetlands. Therefore, special construction methods for these resources are not required. Waterbodies and wetlands are discussed further in section B.2.2.

No inhabited residences occur within 50 feet of planned construction work areas as construction of the Project would occur on lands owned or leased by Iroquois (see section B.5.2); however, construction equipment and crews would travel through residential areas to access construction work areas. Potential impacts on roadways are assessed in section B.6.2, visual impacts are addressed in section B.5.5, and noise impacts are discussed in section B.8.2.

No pipeline facilities are proposed as part of the Project, so the remainder of this section focuses on construction and operation of aboveground facilities at discrete locations.

## **7.1 Aboveground Facility Construction Procedures**

Iroquois would construct aboveground facilities in accordance with all applicable federal and state regulations (including 49 CFR 192). Generally, construction of aboveground facilities would begin with clearing and grading of the construction workspace, and excavation would be conducted where necessary to accommodate new foundations. Iroquois estimates that the maximum depth of excavation would range from 12.2 to 15.0 feet, plus or minus 4 feet, as discussed further in section B.1.1. Subsequent activities include preparing foundations, installing underground piping, installing aboveground piping and machinery, testing the piping and control equipment, and cleaning and stabilizing the work area. At the Athens Compressor Station, Iroquois is proposing to remove portions of the existing fence and replace it with new fencing within the same footprint. Minor adjustments to the existing fencelines at the Brookfield and Dover Compressor Stations would be required to accommodate the new facilities at these sites. Iroquois would cover areas around buildings, meters, piping, and associated equipment with gravel or would seed with a compatible grass and maintained as herbaceous cover.

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<sup>7</sup> These plans were filed on February 3, April 14, May 19, and June 15, 2020, and are available for review on eLibrary under accession nos. 20200203-5224, 20200414-5080, 20200519-5095, and 20200515-5263.

## **7.2 Special Construction Procedures**

### **Existing Utilities**

Below grade utilities within the existing station sites may include electrical cables and conduit. No foreign pipelines are known to occur within the fencelines of the existing compressor stations; however, the compressor stations are along Iroquois' existing system. Prior to construction, Iroquois would utilize the state One-Call systems in New York and Connecticut to locate known utilities and ensure no other existing pipelines or utilities are buried at the site. In the event that an existing utility is damaged during construction, Iroquois would notify the owner of the utility and stop work, if necessary due to safety concerns, in the vicinity of the utility until the facility is repaired.

### **Winter Construction**

Based on Iroquois' anticipated schedule, construction of the Project could occur during the winter season. Iroquois has developed a Winter Construction Plan which includes specialized methods and procedures to protect resources during the winter season in accordance with FERC's Plan and Procedures. These measures would include methods of snow handling, which would be limited to construction work areas, and snow removal. Iroquois would establish gaps in topsoil piles to facilitate drainage of melting snow. If inclement weather prohibits replacement of topsoil immediately following construction, Iroquois would stabilize topsoil piles (e.g., mulching and erosion controls) until weather conditions improve. As discussed in section B.1.2, when final cleanup would be prevented by winter snowfall, Iroquois would implement measures to temporarily stabilize work areas and avoid erosion until spring thaw conditions. In addition, Iroquois has developed Stormwater Pollution Prevention Plans (SWPPP) for modifications at each of the existing compressor stations. These plans would be reviewed by the New York State Department of Environmental Conservation (NYSDEC) or Connecticut Department of Energy and Environmental Protection (CTDEEP) as part of the respective state's permitting for stormwater discharge (see table A-5).

## **7.3 Environmental Compliance Inspection and Monitoring**

Prior to construction, Iroquois would conduct environmental training for the construction personnel. Construction contractors would receive environmental training applicable to their job duties, and construction management and environmental inspectors (EI) would receive all Project-specific information. The training program would focus on FERC's Plan and Procedures and Iroquois' E&SCP; the Project-specific Certificate and other permit conditions; regulatory requirements, such as those pertaining to endangered species or cultural resources; and other Project-specific plans. Iroquois has committed to employing at least two EIs during construction and restoration; all EIs generally report to Iroquois' Chief Inspector. EIs would have the authority to stop activities that violate the Project's environmental conditions and to order appropriate corrective action.

Iroquois would conduct post-construction monitoring to document restoration and revegetation within all construction workspaces and in accordance with FERC's Plan and Procedures, as well as any state or local permit requirements. Revegetation would be considered successful if the density and cover of non-nuisance vegetation were similar in density and cover to adjacent, undisturbed land. Iroquois would also submit quarterly monitoring reports to FERC to document the status of revegetation in disturbed areas. These reports would describe the results of post-construction inspections, any problem areas, landowner/agency concerns, and corrective actions taken.

Monitoring would cease if an area meets performance standards at the end of the second year (or in any subsequent year). In addition, FERC staff would monitor Project compliance throughout construction and may periodically inspect to independently audit the EIs to ensure compliance with the Commission's Order. FERC staff would continue to monitor the Project area until restoration and revegetation are deemed successful.

#### **7.4 Operations and Maintenance**

Iroquois' personnel would perform regular operation and maintenance activities on equipment at the compressor stations. These activities would include calibration, inspection, and scheduled routine maintenance. Operational testing would be performed on safety equipment to ensure it is functioning properly, and any problems would be corrected, as further detailed in section B.9.

### **8. Non-jurisdictional Facilities**

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

While the new compressor units proposed for the Project would be natural gas-fired units, Iroquois anticipates that electrical power upgrades would be required at the Dover and Brookfield Compressor Stations for the controls and other ancillary facilities. Based on the current electric lines at these facilities, Iroquois estimates that about 750 and 650 feet of new power lines are required, respectively. It is likely that the new power lines would be routed from existing power poles nearby, and would not require large tracts of land or routing of new transmissions lines. Electrical power upgrades would be under the jurisdiction of the respective power company, New York State Electric and Gas and Eversource, who would be required to obtain all necessary permits and authorizations. These facilities are discussed further in section B.10.

## 9. Public Review and Comment

On March 25, 2020, the Commission issued a *Notice of Intent to Prepare an Environmental Assessment for the Proposed Enhancement by Compression Project and Request for Comments on Environmental Issues* (NOI). The NOI was published in the Federal Register and was mailed to about 770 interested parties, including federal, state, and local government representatives and agencies; elected officials; affected landowners; environmental and public interest groups; Native American tribes; other interested parties; and local libraries. The NOI also established a scoping period and requested that the public provide comments on specific concerns about the Project or issues that should be considered during the preparation of the EA.

In total, the Commission received 160 comments on the Project. The environmental comments received are summarized below and addressed, as applicable, in relevant sections of this EA, as shown in table A-4.

Several commentors requested that the scoping period be extended due to the novel coronavirus pandemic. Stakeholders were provided an opportunity to submit comments on the Project either online or through the mail, and stakeholders were successfully able to do so, as evidenced by the filings on the docket for this proceeding. We have reviewed all comments submitted on or prior to September 25, 2020 and they are considered in this EA. Because stakeholders were provided appropriate means to participate in the NEPA process for this proceeding, we conclude that it was not necessary to extend the scoping deadline.

Numerous commentors requested that an environmental impact statement, rather than an EA, be prepared to address concerns with the issues raised. The EA appropriately considers and discloses the environmental impacts of the Project, and supports a finding of no significant impact. Therefore, an environmental impact statement is not required for this Project.<sup>8</sup>

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<sup>8</sup> The CEQ regulations state, where an EA concludes in a finding of no significant impact, an agency may proceed without preparing an Environmental Impact Statement. See 40 CFR Parts 1501.4(e) and 1508.13 (2011).

<b>Table A-4 Environmental Issues Identified During the Public Scoping Process</b>	
<b>Issue</b>	<b>EA Section Addressing Issue</b>
Air quality, health impacts, greenhouse gases, and climate change (including methane and fugitive emissions)	Sections B.8.1, B.10.6, and B.10.7
Alternatives (including use of electric-driven compression and heat pumps)	Section C
Aquatic resources	Section B.3.2
Cumulative impacts (including cumulative impacts on air quality)	Section B.10
Land use, and visual impacts (including impacts on schools)	Section B.5
Noise (including vibration)	Section B.8.2
Safety of new and existing natural gas infrastructure (including high consequence areas)	Section B.9
Strain on local public and emergency services	Section B.6.3
Socioeconomic impacts (including impacts on property values and environmental justice communities)	Section B.5
Soils	Section B.1.2
Groundwater and surface water and wetlands (including the Great Swamp Wetlands)	Section B.2
Vegetation and wildlife (including eagles)	Section B.3
Threatened and endangered species (including bats)	Section B.4

Many of the comments received are in opposition to the Project, including numerous commentors that question the need for the Project, expressing opposition to fossil fuels in favor of renewable energy, questioning if the natural gas would be exported, and raising concerns regarding health risks associated with natural gas sourced from hydraulic fracturing. Commentors also raised concerns with Project emissions and impacts on air quality and health. The need for the Project will be determined by the Commission in the Order. The extraction of natural gas in shale formations by hydraulic fracturing is not the subject of this EA, nor is the issue directly related to the Project; however, health impacts due to Project emissions are reviewed in section B.8.1. Commentors also raise concerns regarding safety and cumulative impacts of the modifications at the Athens Compressor Station relative to its proximity to the Athens Generating Plant, the Peckham's asphalt plant, Northeast Treaters lumber facility, Sunoco Gas Station, and other natural gas infrastructure, as well transport of oil on a nearby railroad. As discussed further in section B.10, these facilitates are all in operation

and, as such, are captured in the analysis presented in section B as baseline conditions. Commentors also express concerns regarding the use of natural gas from the Project to power electric generation facilities like the Cricket Valley Energy Power Plant, which is currently under construction; as described further in section A.2, natural gas transported by the Project would supply local distribution systems and would not go to the power plant. A commentor raised similar concerns for the modifications at the Dover Compressor Station in proximity to the Cricket Valley Energy Power Plant; this project is discussed in section B.10 (Cumulative Impacts).

One commentor asks that FERC consider violations issued to Iroquois during construction of its mainline and subsequently during operation of its existing system. The scope of this EA is focused on those facilities that would be newly constructed to meet the Project purpose and need. Therefore, a review and assessment of any historic violations issued to Iroquois are beyond the scope of this EA.

One commentor expressed concern for the use of ammonia as part of the proposed modifications; in its response to scoping comments, Iroquois confirmed that ammonia would not be required for the Project.<sup>9</sup> All remaining comments are specifically addressed in the sections below, as identified in table A-4 above.

## **10. Permits and Approvals**

Table A-5 provides a list of federal and state permits related to construction and operation of the Project.

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<sup>9</sup> Iroquois' responses are available via eLibrary under accession no. 20200403-5200.

**Table A-5  
Environmental Permits, Approvals, and Consultations for the Project**

Agency	Permit / Approval / Consultation	Status
<b>Federal</b>		
FERC	Certificate of Public Convenience and Necessity	Application submitted February 2020.
U.S. Army Corps of Engineers, New York District	Clean Water Act Section 404/10/401	Consultation initiated October 18, 2019. Determination that a permit is not required on February 18 and 25, 2020.
U.S. Army Corps of Engineers, New England District	Clean Water Act Section 404/10/401	Consultation initiated October 18, 2019. Determination that a permit is not required on December 29, 2019.
U.S. Fish and Wildlife Service (USFWS)	Endangered Species Act (ESA), Section 7 consultation	Iroquois initiated informal consultation October 2019. March 24, 2020, ESA consultation complete with New York Field Office. January 22, 2020, ESA consultation complete with New England Field Office.
	Migratory Bird Treaty Act / Bald & Golden Eagle Protection Act / Fish and Wildlife Coordination Act Consultation	
National Oceanographic and Atmospheric Administration, National Marine Fisheries Service	ESA, Section 7 consultation	Consultation initiated October 18, 2019. Consultation complete on July 29, 2020.
<b>State of New York</b>		
NYSDEC Regions 3 and 4	General Permit for Stormwater Discharge	Project introduction letter sent in October 2019. Iroquois will submit its Notice of Intent closer to the indicated construction period.
	Water Withdrawal Permit, if necessary	Consultation is ongoing.
	Minor New Source Air Permits	Air permits submitted February 28, 2020. Issuance of permits expected in 2 <sup>nd</sup> quarter of 2021.
	New York State Freshwater Wetland Permit	Consultation is ongoing to determine applicability.
NYSDEC - Division of Fish and Wildlife Natural Heritage Program Conservation	Threatened and endangered species consultation and clearance	Initiated consultation on September 19, 2019. Consultation is ongoing.
New York State Office of Parks, Recreation, and Historic Preservation (SHPO)	Section 106, National Historic Preservation Act (NHPA) consultation	Initiated consultation in October 2019. Submitted Phase I Archaeological Report, and Phase I Architectural Assessment on January 29, 2020. Received letters of concurrence from SHPO on March 12 and 26, 2020 with finding of No Adverse Effect on Historic/Cultural Resources. Consultation complete.
New York State Department of Agriculture & Markets – Division of Agricultural Development	Agricultural land consultation	Project introduction letter sent in October 2019. Supplemental Project details provided in December 2019. Consultation completed in February 2020.

**Table A-5 (continued)**  
**Environmental Permits, Approvals, and Consultations for the Project**

<b>Agency</b>	<b>Permit / Approval / Consultation</b>	<b>Status</b>
<b>State of Connecticut</b>		
CTDEEP, Bureau of Materials Management and Compliance Assurance, Water Permitting and Enforcement Division	General Permit for Stormwater Discharge and Dewatering of Wastewaters	Project introduction letter sent in October 2019. Consultation is ongoing. Issuance of permits expected 4 <sup>th</sup> quarter 2022.
CTDEEP, Bureau of Air Management, Engineering and Enforcement Division	Minor New Source Air Permits (Brookfield Compressor Station Only)	Air permit submitted February 28, 2020. Issuance of permit expected in 3 <sup>rd</sup> quarter of 2021.
	Modifications to existing Major Source Title V Permit	Application for 5-year renewal of existing Title V permit submitted May 5, 2020; application to be amended or the Title V permit to be revised pending approval of the Minor New Source Air Permits
Connecticut SHPO	Section 106, NHPA consultation	Initiated consultation in October 2019. Submitted Phase I Archaeological Report, and Phase I Architectural Assessment on January 22, 2020. Received letter of concurrence from SHPO on March 27, 2020. Consultation complete.
Connecticut Siting Council	Declaratory Ruling of Lack of Jurisdiction	Project introduction letter sent in October 2019. In a public meeting held on May 21, 2020, the council ruled that FERC has exclusive jurisdiction. Consultation complete.
CTDEEP, Bureau of Natural Resources, Wildlife Division, Natural Diversity Database	Threatened and endangered species consultation and clearance	Initiated consultation in October 2019. November 20, 2019, CTDEEP issues letter of No Conflict for the Milford Compressor Station. March 26, 2020, CTDEEP issues Natural Diversity Database determination for Brookfield Compressor Station. Consultation complete.
City of Milford (New Haven County) – Planning/Zoning Department	Coastal Site Plan Review, Connecticut Coastal Management Act	Project introduction letter sent in November 2019. Submitted application on January 23, 2020. Iroquois received conditional approval on February 4, 2020.

## **B. ENVIRONMENTAL ANALYSIS**

The following sections discuss the Project's potential direct and indirect impacts on environmental resources. When considering the environmental consequences of the proposed Project, the duration and significance of any potential impacts are described below according to four levels. Construction and operation of the Project would have temporary, short-term, long-term, and permanent impacts. As discussed throughout this EA, temporary impacts are defined as occurring only during the construction phase. Short-term impacts are defined as lasting up to 3 years. Long-term impacts would eventually recover, but require more than 3 years. Permanent impacts are defined as lasting throughout the life of the Project, such as with the construction of an aboveground facility. An impact would be considered significant if it would result in a substantial adverse change in the physical environment.

### **1. Geology and Soils**

#### **1.1 Geology**

Elevations associated with the Project range from 132 to 148 feet above mean sea level (ft-amsl) at the Athens Compressor Station; 430 to 456 ft-amsl at the Dover Compressor Station; 380 to 440 ft-amsl at the Brookfield Compressor Station; and 35 to 50 ft-amsl at the Milford Compressor Station (USGS 2018a,b; USGS 2019a,b).

Iroquois conducted geotechnical investigations at each compressor station, and filed the resulting boring logs and recommendation reports. Based on these filings, surficial geology at the Athens Compressor Station consists of hard clays underlain by dense gravel, with graywacke shale bedrock encountered at depths of 20 to 40 feet below the ground surface (bgs). The Dover Compressor Station was found to be underlain by layers of sand, silty sand, and silt; the geotechnical investigation extended to 52 feet bgs and did not encounter bedrock. At the Brookfield Compressor Station, dense, coarse to fine sand was observed in all borings and underlain by granofels (metamorphic) and fine-grained, highly weathered sedimentary bedrock at depths of 40 to 45 feet bgs. The Milford Compressor Station overlies surficial geology of dense, coarse to fine sand, and schist bedrock, encountered at a depth of 20 feet bgs.

#### **Paleontological Resources**

Paleontological resources are the fossilized remains of prehistoric plants and animals, as well as the impressions left in rock or other materials. Common fossils in New York typically found in shale, sandstone, and limestone include marine fauna such as coral reefs and sea lilies (NYSDEC 2013). In Connecticut, sedimentary rock underlying the Connecticut River Valley has been found to contain dinosaur tracks, invertebrates, and plants; however, these resources are not found in the metamorphic rock underlying the Project area (The Paleontology Portal 2020). There are no federal laws or

regulations that protect paleontological resources on private lands. Further, the Project involves modifications that would occur at existing compressor stations within mostly previously disturbed areas, and bedrock was not encountered within anticipated maximum excavation depths for any Project area during Iroquois' site-specific geotechnical investigations. Therefore, we conclude that construction of the Project is unlikely to encounter significant fossils. In the event that unique or significant (vertebrate) fossils are discovered during Project activities, Iroquois would stop work where the resource was found and would notify the appropriate state agency to initiate consultation on the find. Based on this assessment and Iroquois' proposed measures, we conclude the Project would not significantly affect paleontological resources.

### **Mineral Resources**

The primary mineral resources in New York include salt, crushed stone, and construction sand and gravel (NYSDEC 2020a). In Connecticut, the primary mineral resources include crushed stone and construction sand and gravel (USGS 2020a).

Information regarding coal mining, oil and gas extraction, and industrial mining in the Project vicinity was obtained from the Empire State Organized Geologic Information System in New York and the U.S. Energy Mapping System in Connecticut, as well as the USGS Mineral Resources Data System (USGS 2020b). No active or inactive oil and gas wells were identified within 0.25 mile of the Project facilities. Additionally, no active, inactive, abandoned, or reclaimed surface or subsurface coal mines were identified within 0.25 mile of the Project (NYSDEC 2020b, EIA 2020a).

A total of five current or historic surface mining operations were identified within 0.25 mile of the Project, and all are in proximity to the Dover Compressor Station which includes four reclaimed sand and gravel mines and one active sand and gravel mine (see table B-1; NYSDEC 2020b, EIA 2020a). Iroquois has also indicated that, prior to installation of the existing Brookfield Compressor Station, the site was used for gravel processing. The nearest active industrial mineral resource operation to any Project area is the Dover Furnace Road Pit sand and gravel mine (about 1,000 feet from the Dover Compressor Station).

The existing Dover Compressor Station site is a reclaimed gravel mine. Modifications at this site would occur on land owned by Iroquois, and operation of the new facilities would be consistent with current operations. Therefore, based on the distance to active mineral extraction sites, we conclude that availability of, and access to, mineral resources would not be impacted as a result of the Project.

<b>Table B-1 Mineral Resources within 0.25 mile of the Project Facilities</b>			
<b>Name</b>	<b>Distance (miles) and Direction from Construction Workspaces</b>	<b>Description</b>	<b>Status</b>
<b>Dover Compressor Station</b>			
Unknown <sup>a</sup>	At the Dover Compressor Station	Gravel Mine	Reclaimed
Tanner Pit	0.1 North	Unconsolidated Sand and Gravel Mine	Reclaimed
Hauff Pit	0.1 North	Unconsolidated Sand and Gravel Mine	Reclaimed
Vincent Sand & Gravel Mine	0.2 West	Unconsolidated Sand and Gravel Mine	Reclaimed
Dover Furnace Road Pit	0.2 Northwest	Unconsolidated Sand and Gravel Mine	Active
<b>Brookfield Compressor Station</b>			
Central Pit	At the Brookfield Compressor Station	Sand and Gravel Mining and Processing Facility	Reclaimed
Sources: NYSDEC 2020b, EIA 2020a, USGS 2020b			
<sup>a</sup> The reclaimed mine at the Dover Compressor Station site is not identified in databases assessed for the Project; however, at the time the existing Dover Compressor Station was constructed, an active gravel mine was present on-site (see the Environmental Impact Statement issued under CP00-232 for the Eastchester Project).			

## **Geologic Hazards**

Geologic hazards are natural, physical conditions that can result in damage to land and/or structures and injury to people. Such hazards typically are seismic-related, including earthquakes, surface faulting, and soil liquefaction. Other potential hazards include landslides, flooding, and ground subsidence (including karst terrain). These hazards are discussed below.

### **Seismic Hazards**

Earthquake severity can be expressed in terms of intensity and magnitude. Intensity is based on observed effects of ground shaking, while magnitude describes seismic energy released at the earthquake source. Additionally, peak horizontal ground acceleration (PGA; expressed in terms of acceleration as a percent of gravity [g]) is a measure of the effect of an earthquake at a certain distance from the source and based on geological conditions. Based on USGS seismic hazard probability mapping, there is a 2 percent probability of an earthquake with an effective PGA of between 8 and 10 percent g being exceeded in 50 years at the Athens Compressor Station. Modifications at the other compressor stations are proposed in areas where maximum PGAs of 10 to 14 percent g have a 2 percent chance of being exceeded in 50 years (USGS 2018c). For reference, a PGA of 10 percent g is generally considered the minimum threshold for damage to older structures or structures not constructed to withstand earthquakes.

Within the last 50 years, 27 earthquakes with Richter scale magnitudes of 2.0 or greater have occurred within 30 miles of the Project (10 events within 30 miles of the Athens Compressor Station; 3 events within 30 miles of the Dover Compressor Station; 9 events within 30 miles of the Brookfield Compressor Station; and 5 events within 30 miles of the Milford Compressor Station; USGS 2020c). These earthquakes each measured at a Richter scale magnitude of 3.8 or less. More specifically, the closest recorded earthquakes to each facility include a 2.6 magnitude event about 23.8 miles from the Athens Compressor Station; a 3.0 magnitude earthquake about 9.9 miles from the Dover Compressor Station; a 2.6 magnitude event about 13.4 miles from the Brookfield Compressor Station; and a 3.0 magnitude event about 13.1 miles from the Milford Compressor Station. This magnitude would correlate with an approximate intensity of III on the Modified Mercalli Intensity scale, described as weak observed ground shaking, felt by persons indoors, and with vibrations similar to the passing of a truck (USGS 2020d). Even under much higher ground vibrations, the main risk to aboveground facilities would be a fault that displaces laterally during an earthquake. According to the USGS Quaternary Fold and Fault Database, the Project would not overlie any Quaternary-age faults (USGS 2020e). As such, we conclude the risk of a significant earthquake damaging any Project facility is low and the risk of seismic ground faulting to occur is also low.

Soil liquefaction is a phenomenon often associated with seismic activity in which saturated, non-cohesive soils temporarily lose their strength and liquefy (i.e., behave like viscous liquid) when subjected to forces such as intense and prolonged ground shaking. All three of these conditions (non-cohesive soils, near-surface saturation, and seismicity) are necessary for soil liquefaction to occur.

Based on the results of Iroquois' geotechnical investigations, subsurface conditions at the Athens and the Milford Compressor Stations are not susceptible to soil liquefaction. Subsurface geology at the Dover Compressor Station includes loose sands, coupled with a shallow groundwater table; however, from depths of 4 feet bgs to as deep as 27 feet bgs, fine-grained content of subsurface soils is no less than about 10 percent. The presence of fine-grained material limits the ability of pore water pressure to build during a seismic event given the reduced permeability of the soil matrix. Surficial geology at the Brookfield Compressor Station consists of unconsolidated sands, and groundwater was encountered as shallow as 10 feet bgs. However, the density of the sands (very dense) limits susceptibility to soil liquefaction (NYSDOT 2015).

Iroquois would install foundations at the Dover and Brookfield Compressor Stations consistent with the recommendations resulting from its geotechnical investigations, including: designing for a low allowable bearing pressure for foundations with large structural loads (such as the compressor units) and installation of shallow foundations consisting of square footings, and drilled shaft footings to prevent impacts on localized aquifers beneath the facilities.

Given the absence of soil conditions susceptible to liquefaction at the Athens and Milford Compressor Stations, and because Iroquois would install foundations that minimize the potential for risk from soil liquefaction at the Dover and Brookfield Compressor Stations, we conclude that risks from soil liquefaction are low.

### **Landslides**

Landslides involve the downslope mass movement of soil, rock, or a combination of materials on an unstable slope. Most Project activities would occur on previously disturbed lands. In addition, based on a review of topographic maps and available elevation data for each facility, none of the workspaces would contain steep slopes. As such, we conclude the potential for landslides to occur during construction or operation of the Project is negligible.

### **Subsidence**

Ground subsidence is a lowering of the land-surface elevation that results from changes that take place underground. Subsidence can range from small, localized areas of collapse to a broad, regional lowering of the ground surface. Common causes of land subsidence include karst formation due to carbonate-rock dissolution (limestone, dolomite, or gypsum) and the collapse of underground mines. Subsidence can also be caused by sediment compaction due to pumping groundwater, oil, and gas from underground reservoirs. As noted above, there are no oil and/or gas wells or subsurface mines within 0.25 mile of the Project. Further, the Project components do not overlie major unconsolidated aquifer systems susceptible to subsidence from excessive groundwater pumping (USGS 2000).

Carbonate-rock formations are present within about 1.3 miles of the Athens and Brookfield Compressor Stations; however, these formations are not mapped as underlying the facility sites (USGS 2014). No bedrock susceptible to karst formation is mapped in the vicinity of the Milford Compressor Station. Further, geotechnical investigations conducted at the Athens, Brookfield, and Milford Compressor Stations encountered graywacke shale (Athens Compressor Station), granofels and fine-grained, highly weathered sedimentary bedrock (Brookfield Compressor Station), and schist (Milford Compressor Station) bedrock, which would not be soluble or susceptible to karst formation.

The dolomitic Stockbridge Marble bedrock formation is mapped as underlying the Dover Compressor Station. Bedrock was not encountered within the depth of geotechnical investigation at the Dover Compressor Station (52 feet bgs). The formation of karst is less likely if soluble bedrock is not near (within 50 feet) the ground surface (USGS 2014). No surface depressions or sinkholes were observed during field surveys at any of the Project facilities.

Iroquois would install foundations to support the Project facilities in accordance with the recommendations resulting from its geotechnical investigations of the compressor station sites. Iroquois would routinely monitor conditions at the compressor stations, including monitoring for signs of subsidence, and would mitigate any subsidence through implementation of corrective measures to maintain facility integrity. Given the absence of known karst features in the Project area and the mitigation measures identified by Iroquois, we conclude there would be no significant impacts on the Project due to the potential for subsidence in the Project area.

### **Flash Flooding**

According to available data from the Federal Emergency Management Agency (FEMA), the proposed modification sites are not within designated 100- or 500-year floodplains (FEMA 2008, 2010, 2012, 2013); however, portions of the off-site contractor staging areas (BRD-CY-003 and BRD-CY-004) associated with the Brookfield Compressor Station are within the 100-year and 500-year floodplains. No ground disturbing activities are proposed for these contractor staging areas, and their use would be temporary and limited to the 9-month construction period. No permanent aboveground facilities would be built or modified in designated floodplains. Therefore, we conclude that the Project facilities would not discernably alter the flood storage capacity of impacted floodplains.

### **Blasting**

Blasting is sometimes required in areas with shallow bedrock (bedrock less than 5 feet from the surface consistent with U.S. Department of Agriculture – Natural Resources Conservation Service [USDA-NCRS]); however, as discussed in section A.7, Iroquois is not proposing blasting as a construction method for the Project. USDA-NRCS regional soils data for the Project area indicated the potential presence for shallow bedrock at the Dover and Brookfield Compressor Stations (see table B-2); however, bedrock was not encountered within 20 feet of the ground surface during site-specific geotechnical investigations for these facilities. Further, this depth exceeds Iroquois' anticipated maximum excavation depth for the Project (estimated to be 15.0 feet, plus or minus 4 feet, based on preliminary engineering design; piles supporting the Athens Compressor Station foundation may be driven deeper). If encountered, Iroquois would avoid blasting by breaking apart large stones or bedrock using conventional rock-trenching methods or hammering using rock trenchers, hydraulic hoe hammers, and ripper teeth. If blasting becomes necessary, Iroquois would submit a blasting plan to FERC for review and obtain FERC's approval prior to beginning blasting activities. Therefore, blasting is not assessed further in this EA.

**Table B-2  
Soil Characteristics and Limitations for the Project Construction Areas<sup>a</sup>**

<b>Facility</b>	<b>Prime or Statewide Important Farmland<sup>b</sup></b>	<b>Compaction-Prone Soils<sup>c</sup></b>	<b>Highly Water Erodible<sup>d</sup></b>	<b>Low Revegetation Potential<sup>e</sup></b>	<b>Stony / Rocky Soils<sup>f</sup></b>	<b>Shallow Depth to Bedrock<sup>g</sup></b>
<b>Aboveground Facilities<sup>h</sup></b>						
Athens Compressor Station	3.9	3.9	--	--	--	--
Dover Compressor Station	0.4	--	--	--	4.9	4.9
Brookfield Compressor Station	--	--	3.4	3.4	--	--
Milford Compressor Station	--	--	--	3.6	--	--
<b>Access Roads</b>						
Athens Compressor Station	1.3	1.3	--	--	--	--
Dover Compressor Station	0.3	--	--	--	0.3	0.3
Brookfield Compressor Station	--	--	0.4	0.5	0.2	0.4
Milford Compressor Station	--	--	--	0.1	--	--
<b>Additional Temporary Workspace</b>						
Athens Compressor Station	1.2	1.2	--	--	--	--
Dover Compressor Station	9.5	--	--	--	1.4	1.4
Brookfield Compressor Station	--	--	0.6	0.6	--	--
<b>Contractor Staging Areas</b>						
Athens Compressor Station	6.3	6.3	--	--	--	--
Brookfield Compressor Station	0.6	--	1.2	2.5	1.2	4.7
Milford Compressor Station	--	--	--	0.7	--	--
<b>Project Total<sup>h</sup></b>	<b>23.5</b>	<b>12.8</b>	<b>5.7</b>	<b>11.3</b>	<b>8.0</b>	<b>11.7</b>
<b>Percent of Project Area<sup>i</sup></b>	<b>51.7</b>	<b>28.0</b>	<b>12.4</b>	<b>24.9</b>	<b>17.6</b>	<b>25.8</b>

**Table B-2 (continued)**  
**Soil Characteristics and Limitations for the Project Construction Areas<sup>a</sup>**

- <sup>a</sup> Numbers are reported in acres. Total acreage does not equal the total impact acreage for the Project as not all soils are classified with limitations and certain soils are classified as having multiple limitations.
- <sup>b</sup> As designated by the USDA-NRCS.
- <sup>c</sup> Compaction-prone soils include soils with drainage classification ratings of somewhat poor, poor, and very poor as designated by the USDA-NRCS, along with a soil clay content that is greater than 18 percent, which indicates high compaction potential.
- <sup>d</sup> Highly water erodible soils have an average slope greater than or equal to 9 percent, or a land capability classification 4E through 8E.
- <sup>e</sup> Includes coarse-textured (sandy loam and coarser) soils that are moderately to excessively well-drained, or soils with average slopes greater than or equal to 15 percent.
- <sup>f</sup> Includes soils that have a very gravelly, extremely gravelly, cobbly, stony, bouldery, flaggy, or channery modifier to the textural class.
- <sup>g</sup> Includes soils that have lithic bedrock or paralithic bedrock within 60 inches of the soil surface according to regional desktop data available from the USDA-NRCS.
- <sup>h</sup> The numbers in this table have been rounded for presentation purposes; the totals may not reflect the sum of the addends.
- <sup>i</sup> Totals do not equal 100 percent as not all soils are classified with limitations and certain soils are classified as having multiple limitations.

Ground disturbance would be generally limited to grading, excavation, and installation of facility modifications during construction; no additional ground would be disturbed during operation of the Project. Therefore, we conclude that no operational impacts on geologic resources would occur.

With adherence to the mitigation measures identified, we conclude that impacts on geologic resources, including impacts from geologic hazards, are not anticipated to be significant.

## **1.2 Soils**

Soil characteristics were assessed using the USDA-NRCS Web Soil Survey (USDA-NRCS 2019a, 2019b, 2019c). Dominant soil orders in the Project area in New York are poorly- to well-drained and range from clay loam to gravelly sand in texture. These soils are formed in depressions, plains, terraces, moraines, and valley sides (USDA-NRCS 1955, 2019a, 2019b). Soils in the Project area in Connecticut are moderately well-drained to well-drained and range from fine sandy loam to gravelly loam in texture (USDA-NRCS 2019c). These soils are formed on glacial landforms such as outwash terraces and moraines. In addition, the Project area includes soils classified as urban land or gravel pits where native soil has been disturbed or encumbered by development.

Soils were grouped and evaluated according to characteristics that could affect construction or increase the potential for operational impacts. These characteristics include: designated farmland, compaction-prone soils, highly erodible soils, the presence of stones and shallow bedrock, and low revegetation potential (see table B-2).

### **Designated Farmland Soils**

The USDA-NRCS 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, other than prime farmland, that is used for production of specific high-value food and fiber crops. Soils that do not meet all of the requirements to be considered prime or unique farmland may be considered farmland of statewide or local importance if soils are capable of producing a high yield of crops when treated or managed according to accepted farming methods (7 CFR 657.5). The Project would not impact soils designated as unique farmland.

About 23.5 acres (51.7 percent) of land affected by the proposed Project are classified as prime farmland or farmland of statewide importance (see table B-2). About 0.7 acre of farmland of statewide importance and 0.4 acre of prime farmland would be newly encumbered by the proposed modifications at the Athens and Dover Compressor Stations, respectively. As such, operation of the Project would permanently convert about 1.1 acres of prime farmland or farmland of statewide importance to developed land;

however, these areas are on land owned by Iroquois, and are unlikely to be cultivated in the foreseeable future.

The New York State Department of Agriculture and Markets (NYSDAM) recommends a minimum of 12 inches of topsoil be segregated in deep soils and the entire topsoil layer be segregated in areas with less than 12 inches of topsoil. This recommendation is consistent with our Plan for agricultural and residential lands. Within contractor staging areas and construction workspaces that are not currently paved, graveled, or part of the operational footprint, Iroquois would segregate topsoil from subsoil prior to grading; soil would be replaced in the proper order during backfilling to help ensure post-construction revegetation success and to conserve topsoil for any future agricultural use in accordance with the NYSDAM recommendations and our Plan.

### **Soil Compaction**

Soil compaction modifies the structure of soil and, as a result, alters its strength and drainage properties. Soil compaction decreases pore space and water-retention capacity, which restricts the transport of air and water to plant roots. As a result, soil productivity and plant growth rates may be reduced, soils may become more susceptible to erosion, and natural drainage patterns may be altered. Consequently, soil compaction is of particular concern in agricultural areas. The susceptibility of soils to compaction varies based on moisture content, composition, grain size, and density.

Soils with high compaction potential make up about 28 percent of the Project footprint, as shown in table B-2. Grading, spoil storage, and equipment traffic can compact soil. To minimize compaction, Iroquois would segregate topsoil at the contractor staging area for the Athens Compressor Station and other construction workspaces that would be revegetated following construction, in accordance with NYSDAM recommendations and our Plan to conserve topsoil for potential future agricultural use. Iroquois would mitigate soil compaction by ripping and breaking up the soil once construction is complete, if necessary, in Project workspaces that would be revegetated following construction. Topsoil and subsoil would be tested for compaction following construction using a penetrometer or other similar device. Large stones unearthed during the decompaction process would be removed from the area prior to replacing topsoil. If post-construction monitoring and inspection determines additional measures are warranted, Iroquois would employ mechanical methods to break up the soil to restore affected areas to pre-construction conditions. Where topsoil is segregated during construction, and if decompaction is deemed necessary in those areas, Iroquois would decompact subsoil prior to replacing topsoil in accordance with our Plan and to ensure subsoil and topsoil do not mix.

The Project has been designed to avoid wetland impacts; however, saturated soil conditions could occur during construction. Where soils are saturated, Iroquois may temporarily suspend construction until soils are dry enough to work. During spring thaw,

Iroquois would adhere to its Winter Construction Plan which specifies the use of equipment suited to the site conditions (such as low ground pressure equipment). Where soils are excessively wet, Iroquois would use equipment mats, to minimize rutting and mixing of topsoil and subsoil, and postpone construction activities until early morning or evening when the ground is frozen.

Soils underlying permanent aboveground facility foundations and gravel would be permanently affected by compaction; however, these effects would be highly localized and minor.

### **Soil Erosion**

Soil erosion potential is dependent on inherent soil characteristics such as texture, grain size, organic content, slope of the land, and the type and density of vegetative cover. Soils most susceptible to erosion by water typically have bare or sparse vegetative cover, non-cohesive soil particles with low infiltration rates, and are on moderate to steep slopes. Soils with a lighter texture (i.e., sandy, loamy) occurring in areas of bare or sparse vegetative cover are typically more susceptible to erosion by wind. About 12.4 percent of Project area soils are classified as highly susceptible to erosion by water; none are highly susceptible to wind erosion.

Clearing the construction workspaces would remove protective vegetative cover and expose the soil to the effects of wind, rain, and runoff, which increases the potential for soil erosion and sedimentation in sensitive areas. Iroquois would minimize the potential for erosion and off-site migration of soil by installing temporary erosion control devices, such as silt fencing, filter socks, and hay or straw bales, immediately following initial soil disturbance in accordance with our Plan and Procedures and Iroquois' E&SCP. Iroquois would inspect these devices on a regular basis (daily or weekly) and after each rainfall event of 0.5 inch or greater in accordance with our Plan to ensure proper function. In addition, Iroquois would implement its Dust Control Plan which includes using water or other dust suppressants (such as magnesium chloride, polyvinyl acetate, and organic dust suppressants such as mulch, straw, or wood chips) to reduce soil loss due to wind erosion. Where mulch, straw, or wood chips would be used as dust suppressants, they would be applied in accordance with the measures in the FERC Plan; the use of wood chips would be limited to areas that would eventually be maintained as permanent facilities that would not be revegetated.

After construction, Iroquois would monitor and maintain erosion control devices until the area is stabilized or until permanent controls can be installed. Iroquois would complete final grading, topsoil replacement, and installation of permanent erosion controls within 20 days of rough-grading the construction workspaces. If seasonal or other weather conditions prevent compliance with these time frames, temporary erosion controls (i.e., sediment barriers and mulch) would be maintained until conditions allow for completion.

### **Shallow Depth to Bedrock and Stony/Rocky Soils**

Construction within stony/rocky soils or soils with shallow bedrock (bedrock less than 5 feet from the surface consistent with USDA-NRCS soil classifications) could result in the incorporation of stones or bedrock fragments into surface soils, which could inhibit revegetation efforts. Stony/rocky soils are anticipated to occur within 17.6 percent of the Project workspaces and shallow bedrock is anticipated to occur within 25.8 percent of the Project workspaces based on a review of available USDA-NRCS soil series descriptions (see table B-2). However, site-specific geotechnical investigations indicated bedrock was not encountered within 20 feet bgs within any of the Project work areas. As previously discussed, Iroquois is not proposing blasting for the Project and if shallow bedrock is encountered, would use conventional rock-trenching methods to the extent practicable (see section B.1.1). Excess rock generated during excavation activities would be crushed and reused by the contractor, or would be disposed of via burial in excavated areas, on Iroquois' property as natural barriers (e.g., to manage traffic flow), or off-site at an approved landfill. In accordance with the FERC Plan, Iroquois has committed to burying any rock only to the top of the existing bedrock profile.

### **Low Revegetation Potential**

About 24.9 percent of soils within the Project area were determined to have a low revegetation potential (see table B-2). However, those soils occur within the existing Brookfield and Milford Compressor Station sites and associated contractor staging areas, which are currently in industrial/commercial use or are residential lands recently purchased by Iroquois, as discussed in section B.5.1.

Workspaces not covered with gravel or asphalt would be graded, restored, and reseeded in accordance with our Plan, and Iroquois' E&SCP, which includes measures to seed construction workspaces using state-recommended seed mixes. Iroquois would verify that any soils imported for the Project are certified weed and contaminant free. Further, Iroquois would implement its Noxious Weed Plan to minimize the establishment and spread of noxious and invasive weeds during construction and restoration activities.<sup>10</sup> Following construction, Iroquois would monitor revegetation success within all construction workspaces for a minimum of two growing seasons. Revegetation would be considered successful if the density and cover of non-nuisance vegetation were similar in density and cover to adjacent, undisturbed land, or in accordance with any state or local permit requirements.

### **Inadvertent Spills or Discovery of Contaminants**

Other potential impacts during construction could include the accidental release of petroleum hydrocarbons or other materials during construction, as well as the discovery

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<sup>10</sup> Iroquois' Noxious Weed Plan is available on eLibrary under accession no. 20200203-5224.

of contaminated soils during excavation and grading activities. We reviewed the U.S. Environmental Protection Agency's (USEPA) Cleanups in My Community website, as well as NYSDEC and CTDEEP databases for spill incidents and contaminated sites within 0.25 mile of the Project areas. The results of this review are described in more detail below.

One remediated toxic release was identified within 0.25 mile of the Athens Compressor Station and associated workspaces (USEPA 2020a). Specifically, the Northeast Treaters of New York LLC wood treatment facility, which has reported releases of heavy metals, is about 0.2 mile west of ATS-ATWS-003 and 0.4 mile southwest of the Athens Compressor Station. This wood treatment facility has been remediated under the Brownfield Cleanup Program and no ground disturbing activities are proposed at ATS-ATWS-003. Therefore, based on the closest distance to the areas where ground disturbance would occur (0.4 mile southwest), the Project is not expected to encounter contamination associated with the wood treatment facility.

A total of four spills of hazardous materials have been reported on the Dover Compressor Station site. Three were spills of 2 gallons or less and occurred in 2002. The fourth spill occurred in July of 2019. The volume released from that spill is not known, but the spill occurred on pavement and therefore was not likely to result in soil contamination (NYSDEC 2020c). Each of these incident records have been closed by NYSDEC, indicating that further remedial action is not required.

Historic soil contamination was also identified at the Brookfield Compressor Station site. Beginning in 1991, five investigations were conducted at the site, which identified leaking underground storage tanks that resulted in total petroleum hydrocarbon, lead, cadmium, and chromium contamination. Iroquois implemented measures to remediate contaminated soils and hazardous waste at the site by removal. On November 13, 2014, the Connecticut Bureau of Water Protection and Land Reuse, Remediation Division issued a Letter of No Audit which closed its review of the site and did not issue any conditions (such as monitoring requirements) for closure. Groundwater monitoring wells related to historic contamination remain at the Brookfield Compressor Station site; however, the wells are outside of the proposed workspaces. The closest well is about 10 feet from access road BRD-PAR-002; Iroquois would install safety fencing around this well and silt fencing along the access road to ensure the well is avoided by Project construction. Also, one site documented by CTDEEP with historic contamination due to leaking underground storage tanks (the Hlavac Residence) is about 0.2 mile northeast of the Brookfield Compressor Station workspace. Given the distance to the Hlavac Residence, and CTDEEP's documentation that remediation at the Brookfield Compressor Station site is complete, modifications at this compressor station are not expected to encounter contaminated soils or result in the spread of contaminated media if present.

In addition, contractor staging area BRD-CY-003 is listed by CTDEEP as a hazardous waste facility that has been historically contaminated by spills of petroleum

and other chemicals, including polychlorinated biphenyls (PCB). Each of six areas of known PCB contamination is currently identified with temporary fencing and warning signage; of those, two are within the area proposed for use by Iroquois. The contractor staging area is an existing, industrial site, and would not require ground disturbance for its use during construction of the Project. Iroquois would avoid areas of documented PCB contamination within the site, and Iroquois would install exclusion fencing to prevent construction personnel or equipment from entering the area. In addition, Project personnel would only access paved surfaces and the existing warehouse at BRD-CY-003. Therefore, Iroquois is not expected to encounter contaminated media during construction, and use of this contractor staging area is not expected to affect contaminated soils or result in the spread of contaminated media.

No known, contaminated sites were identified within 0.25 mile of the Milford Compressor Station site.

If contaminated soils are identified during construction, Iroquois would stop work in the area until the applicable agencies are notified and the extent of contamination is determined. In the event of an inadvertent leak or spill of petroleum products or hazardous material, which could adversely affect soils, Iroquois would implement its SPCC Plan, which specifies clean-up procedures. Based on the above analysis, and that Iroquois would implement its Unanticipated Discovery of Contaminated Materials Plan in the event of discovery of unknown contamination, and implement its SPCC Plan in the event of a spill, the Project is not expected to encounter contaminated soils or result in the spread of contaminated media.

## **2. Water Resources and Wetlands**

### **2.1 Groundwater Resources**

#### **Existing Groundwater Resources**

Groundwater resources in the Project area include unconsolidated glacial deposits generally overlying consolidated bedrock aquifer systems. Fine-grained unstratified glacial deposits and coarse-grained stratified outwash and ice-contact deposits host surficial aquifers, which are more productive than bedrock aquifers and have common water depths as shallow as 10 to 35 feet bgs. The consolidated bedrock aquifers are comprised of carbonate (limestone, dolomite, and marble) or crystalline (igneous and metamorphic) rock, with water depths as shallow as 20 feet bgs (Olcott 1995). Carbonate-rock aquifers are characterized by dissolution from slightly acidic groundwater that enlarges pre-existing openings such as pores, joints, and fractures (Miller 1999). Water from these aquifers is generally very hard and slightly alkaline (Olcott 1995). Wells in carbonate-rock aquifers generally yield 10 to 30 gallons per minute (gpm) but can exceed 1,000 gpm (Olcott 1995). Crystalline-rock aquifers contain

water that is generally suitable for most uses. Wells in crystalline aquifers generally yield from 2 to 10 gpm, with the potential to exceed 500 gpm (Olcott 1995).

Iroquois conducted geotechnical investigations at each of the existing compressor stations. Shallow groundwater was encountered at the Athens Compressor Station (depths as shallow as 5 feet bgs), the Dover Compressor Station (depths between 6.2 and 8.2 feet bgs), and the Brookfield Compressor Station (depths between 10 and 13 feet bgs). Groundwater was not encountered during geotechnical investigations at the Milford Compressor Station (geotechnical boring was completed to 32 feet bgs).

### **Sole Source Aquifers**

The USEPA defines a sole source aquifer as one that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer and for which there are no reasonably available alternative drinking water sources should the aquifer become contaminated. The Project facilities do not overlie sole source aquifers (USEPA 2020b).

### **State-Designated Aquifers and Aquifer Protection Areas**

Individual states may enact regulations protecting significant aquifer recharge areas, critical areas where excessive use of groundwater poses a threat to the long-term integrity of a water supply source, or preservation areas to protect natural resources including public water supply sources.

The Wellhead Protection Program in New York is administered by the New York State Department of Health (NYSDOH) as part of the Source Water Assessment Program (SWAP). The SWAP provides information on potential threat of contamination to both groundwater and surface water sources that supply New York's public drinking water systems (NYSDOH 2002). NYSDOH, in its consultation with Iroquois, indicated that the Dover Compressor Station is within SWAP boundaries for multiple groundwater systems and recommended that Iroquois coordinate with the Dutchess County Health Department regarding construction activities; Iroquois has reached out to the health department and will file copies of this consultation with the FERC when responses are received.

Connecticut designates Aquifer Protection Areas (also referred to as Wellhead Protection Areas), which protect major public water supply wells in sand and gravel aquifers to ensure a plentiful supply of public drinking water for present and future generations. The Aquifer Protection Area Program responsibilities are shared by CTDEEP, the municipalities, and the water companies (CTDEEP 2020a). The Town of Brookfield has one designated Aquifer Protection Area that is over 1 mile north of the off-site contractor staging areas (BRD-CY-003 and BRD-CY-004; CTDEEP 2020b). The City of Milford has not established any Aquifer Protection Areas. Given the distance to

the nearest Aquifer Protection Area, we conclude that the Project would not impact any Aquifer Protection Areas in Connecticut.

### **Water Supply Wells and Springs**

Iroquois assessed publicly available data and conducted site surveys to determine if public or private groundwater wells or springs were within 150 feet of Project workspaces, including the off-site contractor staging areas. No wells were identified during database searches of the Project areas (GIS.NY.GOV 2020, USEPA 2020c). However, Iroquois did identify three private wells within Project workspaces during site surveys. The existing Dover Compressor Station includes a private groundwater well for personnel use during operations, which Iroquois would fence off during construction to avoid damage. In addition, Iroquois recently purchased two residential parcels adjacent to the Brookfield Compressor Station (see section B.5.1), each of which contains a private, residential well; one residence (and its well) would be used as a contractor office during construction. Iroquois would also fence off the two residential wells to avoid damage during construction, and Iroquois would plug and abandon the wells after construction is complete, in accordance with state regulations. Prior to construction, Iroquois plans to coordinate with adjacent landowners to identify any additional wells that may be present within 150 feet of Project workspaces; the results of this coordination will be filed with the FERC.

### **Water Usage**

Iroquois would hydrostatically test the piping at each compressor station using municipal water, which could be sourced from either groundwater or surface waters, depending on the Project areas. No chemicals would be added to treat the water. In addition, Iroquois would use municipal water for fugitive dust suppression. Table B-3 presents the sources and estimated quantities of water used for hydrostatic testing and dust suppression for the Project.

Hydrostatic test water would be filtered and reused for additional hydrostatic testing. After use, the test water would be discharged on-site in a vegetated upland area in accordance with the FERC Plan and Procedures, or hauled to an off-site disposal facility after all testing is complete. Because this is a one-time use of moderate water volumes, municipal sources in the region are expected to have ample supplies to accommodate this volume in addition to the existing withdrawals, and Iroquois would dispose of hydrostatic test water at an approved location, we conclude impacts from water use during construction would be temporary, minor, and not significant.

<b>Table B-3</b>		
<b>Water Use for Project Construction Activities</b>		
<b>Facility</b>	<b>Water Needed (gallons)</b>	<b>Water Source</b>
<b>Hydrostatic Testing</b>		
Athens Compressor Station	22,000	Municipal
Dover Compressor Station	30,000	Municipal
Brookfield Compressor Station	15,000	Municipal
Milford Compressor Station	17,000	Municipal
<i>Subtotal</i>	<i>84,000</i>	--
<b>Dust Suppression</b>		
Athens Compressor Station	264,000	Municipal
Dover Compressor Station	211,200	Municipal
Brookfield Compressor Station	308,000	Municipal
Milford Compressor Station	132,000	Municipal
<i>Subtotal</i>	<i>915,200</i>	--
<b>Total</b>	<b>999,200</b>	--

Operational water use for each compressor station is municipal (either trucked in or from on-site systems), except for the Dover Compressor Station which has an on-site groundwater well. Operational increases in water use at each facility would be incremental, requiring a combined total of about 4,175 gallons per year, and associated with turbine water washes and gas cooler cleaning for the additional units. As this additional water would be trucked in from municipal sources and would result in minimal increases in daily usage volumes, no impacts on groundwater supply or quality, nor municipal water supply, are expected.

### **Groundwater Impacts and Mitigation Measures**

Surface drainage and groundwater recharge patterns can be temporarily altered by clearing, grading, and soil stock-piling activities, potentially causing minor fluctuations in groundwater levels and/or increased turbidity, particularly in shallow surficial aquifers. We expect that the resulting changes in water levels and/or turbidity in groundwater would be localized and temporary because water levels quickly re-establish equilibrium, and turbidity levels rapidly subside. Soil compaction from construction could reduce the ability of the soil to absorb water, thereby reducing groundwater recharge.

Based on geotechnical investigations conducted at the existing compressor station sites, groundwater was encountered at depths between 5 and 13 feet at the Athens, Dover, and Brookfield Compressor Stations. Groundwater was not encountered at the Milford Compressor Station. Iroquois has indicated that the depth of excavation at each of the

compressor stations with shallow groundwater would exceed 14.0 feet. To minimize the potential for impacts on shallow groundwater during modifications at these facilities, Iroquois would dewater excavated areas by routing water through filter bags placed in vegetated uplands. The filter bags would be regularly changed and additional mitigation (such as hay bales) would be placed around the filter bags if silt-laden discharge is observed.

An inadvertent spill of fuel or hazardous materials during refueling or maintenance of construction equipment could also affect groundwater if not contained and cleaned up appropriately. Contaminated soils could continue to leach contaminants into groundwater long after a spill has occurred. To minimize the risk of potential fuel or hazardous materials spills, Iroquois would implement its SPCC Plan during construction. The SPCC Plan includes spill prevention, and, should a spill occur, containment, and clean-up measures to reduce potential impacts. In addition, Iroquois' SPCC Plan prohibits refueling and storage of hazardous materials within 200 feet of private wells and 400 feet of municipal wells, if determined to be present during ongoing county coordination. Further, Iroquois would implement its facility-specific SWPPPs to minimize the potential for soil erosion and downgradient sedimentation from stormwater runoff.

Aside from the three wells identified on Iroquois' properties, no other drinking water wells or springs have been identified within 150 feet of any construction activities. If drinking water wells or springs are identified within 150 feet of any construction workspace, Iroquois would offer pre-construction and post-construction evaluations of water quality and yield to affected landowners. In the event of damage to wells or well supply during construction, Iroquois would provide a temporary source of potable water to landowners, determine the necessary repairs to restore water quality and/or well yield, or repair or replace the well as appropriate. We do not anticipate any impacts on water wells outside of 150 feet of construction.

As discussed in section B.1.2, contaminated soils or groundwater were identified within 0.25 mile of three of the four existing compressor station sites (Athens, Dover, and Brookfield). Further, the Dover and Brookfield Compressor Station sites have had historic contamination on-site, including groundwater contamination at the Brookfield Compressor Station site. All known contaminated sites within 0.25 mile have been remediated, and the state's oversight of remediation activities at the existing Brookfield Compressor Station site concluded in 2014 (see section B.1.2).

If Iroquois encounters contaminated groundwater during construction, it would follow the procedures in its Unanticipated Discovery of Contaminated Materials Plan. Work in the area of contamination would be halted until the appropriate remedial activities have been completed. Iroquois would notify federal and state agencies of potential or confirmed contamination in accordance with applicable regulations.

With implementation of the mitigation measures described above, and adherence to our Plan and Procedures and Iroquois' SPCC Plan and SWPPP, we conclude that the Project would not result in significant impacts on groundwater resources including State-Designated Aquifers and Aquifer Protection Areas in the Project area.

## 2.2 Surface Water and Wetland Resources

### Existing Surface Water and Wetland Resources

Watersheds are classified by regions that drain into the same river system, which can be defined by topography. Rainfall drains from land into tributaries, which in turn drain into streams, rivers, and eventually the ocean. Many smaller watersheds (also known as sub-basins and sub-watersheds) are contained within larger watersheds. All Project construction activity would occur within the larger Housatonic watershed, with the exception of work at the Athens Compressor Station, which would occur in the Middle Hudson watershed. Within these larger watersheds, the Project would be in five hydrologic unit code (HUC) 12 sub-watersheds; the sub-watersheds and approximate drainage areas are provided in table B-4.

<b>Table B-4 Watersheds Crossed by the Project</b>		
<b>Sub-watershed (HUC 12)</b>	<b>Drainage Area (acres)</b>	<b>Facilities</b>
Murderers Creek-Hudson River (020200061101)	26,438.9	Athens Compressor Station and contractor staging areas
Swamp River (011000050505)	30,591.3	Dover Compressor Station
Outlet Still River (011000050803)	29,267.1	Brookfield Compressor Station and adjacent contractor staging areas
Limekiln Brook-Still River (011000050802)	20,327.2	Brookfield off-site contractor staging areas
Housatonic River-Frontal Long Island Sound (011000051302)	19,965.2	Milford Compressor Station and contractor staging areas
Source: USEPA 2020d.		

In summer and fall 2019, Iroquois completed field surveys of the Project area to identify waterbodies and wetlands within Project construction workspaces. No waterbodies were identified within the boundaries of the Project facilities. Two existing, rock-lined detention swales are present at the existing Athens and Dover Compressor Station sites; however, these swales do not have off-site outlets and would not be affected by construction or operation of the new facilities. One herbaceous wetland exists within the fenceline of the existing Athens Compressor Station at the outlet of an on-site drainage ditch; however, it also would not be affected by construction or operation of the new facilities. Additionally, Iroquois would protect these streams and wetland by

installing silt fence and erosion control devices to prevent sedimentation. Finally, at the request of NYSDEC, Iroquois conducted additional wetland delineations at the Athens Compressor Station in August 2020 and identified new wetlands adjacent to workspaces, including at the associated contractor staging area. Iroquois would implement best management practices to protect these wetlands, including the implementation of our Procedures, as applicable. As such, waterbodies and wetlands at and adjacent to the Project workspaces are not discussed further.

### **Surface Water Intakes**

Although no surface water supply withdrawals were identified within 2 miles of any Project facility in New York (NYSDEC 2020d) or Connecticut (Regional Water Authority 2019), the NYSDOH indicated that modifications at the existing Athens Compressor Station would occur within the SWAP boundaries for a surface water intake and recommended that Iroquois consult with the Oneonta District Health Department to discuss construction in this area; Iroquois has reached out to the health department and will file results of this consultation with the FERC when available.

### **Surface Water and Wetland Resources Impacts and Mitigation Measures**

Construction and operation of the Project facilities are not anticipated to impact surface waters or wetlands. Iroquois would install erosion and sediment control devices in accordance with our Plan and Procedures and its E&SCP to prevent sediment from migrating off-site during construction. Further, construction workspaces would be revegetated in accordance with Iroquois' E&SCP and our Plan and Procedures to prevent the migration of sediment off-site during operations. Iroquois would also implement its SPCC Plan and our Procedures to reduce the potential for spills or leaks of hazardous liquids during construction. Therefore, we conclude that the Project would not have a significant impact on surface waters or wetlands.

## **3. Vegetation, Fisheries, and Wildlife**

### **3.1 Vegetation**

#### **Existing Vegetation Resources**

The existing Dover Compressor Station is in the Northeastern Highlands, an area with predominantly hardwood forests and nutrient-poor soils, much of which has been converted to agricultural use. The other compressor stations are in the Northeastern Coastal Zone Ecoregion, which includes oak and oak-pine forests, much of which remains today (USEPA 2013). However, the Project workspaces would occur on Iroquois-owned lands or lands that are highly developed (see section B.5). Vegetated land types affected by the Project would include maintained and non-maintained upland herbaceous land, as well as upland forested vegetation (see table B-5). No actively

cultivated land (e.g., agricultural land) would be affected by the Project. Acreage impacts on each vegetation classification are included in table B-5.

Table B-5 Construction and Operation Impacts on Vegetation Cover Types in the Project Area								
Facility	Upland Herbaceous Land (Maintained)		Upland Herbaceous Land (Non-maintained)		Upland Forest		Total	
	Cons.	Ops.	Cons.	Ops.	Cons.	Ops.	Cons.	Ops.
<b>Aboveground Facilities</b>								
Athens Compressor Station	0.4	0.1	0.0	0.0	0.0	0.0	0.4	0.1
Dover Compressor Station	1.6	1.3	0.3	0.3	0.1 <sup>a</sup>	0.1 <sup>a</sup>	2.0	1.7
Brookfield Compressor Station	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Milford Compressor Station	0.8	<0.1	0.0	0.0	0.0	0.0	0.8	<0.1
<b>Access Roads</b>								
Athens Compressor Station	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dover Compressor Station	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brookfield Compressor Station	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Milford Compressor Station	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Additional Temporary Workspace</b>								
Athens Compressor Station	<0.1	0.0	0.0	0.0	0.0	0.0	<0.1	0.0
Dover Compressor Station	6.9	0.0	3.8	0.0	0.0	0.0	10.7	0.0
Brookfield Compressor Station	0.0	0.0	0.0	0.0	0.4	0.0	0.4	0.0
Milford Compressor Station	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Contractor Staging Areas</b>								
Athens Compressor Station	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dover Compressor Station	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brookfield Compressor Station	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Milford Compressor Station	0.7	0.0	0.0	0.0	0.0	0.0	0.7	0.0
<b>Total<sup>b</sup></b>	<b>10.4</b>	<b>1.4</b>	<b>4.1</b>	<b>0.3</b>	<b>0.6</b>	<b>0.1</b>	<b>15.0</b>	<b>1.8</b>
Notes: Cons. = Construction; Ops. = Operation								
<sup>a</sup> Although present within the Project footprint, Iroquois would not clear or trim these trees during construction and operation.								
<sup>b</sup> The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends. All numbers are reported in acreages. Construction impact acreages are based on the anticipated workspaces required to construct the Project, including operational acreage. Operational impact acreages are the operational footprint for the Project.								

Upland herbaceous land is the predominate vegetation category in the Project area and includes non-forested lands, maintained open space (including mowed turf grass

areas), fallow fields, and road rights-of-way characterized by herbaceous plant species interspersed with shrubs. The majority of herbaceous upland affected by the Project is maintained or mowed (10.4 acres). The remaining 4.1 acres of upland herbaceous land, all of which occurs at the Dover Compressor Station, is non-maintained. Dominant herbaceous species identified during Iroquois' field surveys included upland grasses, white clover, red clover, goldenrod, ragweed, pokeweed, and ox-eye daisy. Sumac, a shrub species, was also typically observed during surveys.

About 0.6 acre of upland forested vegetation would be within construction workspaces for the Dover and Brookfield Compressor Stations; however, the 0.1 acre of trees within workspaces at the Dover Compressor Station would not be cleared. About 0.4 acre of trees would be cleared at the Brookfield Compressor Station.

Tree species documented during field surveys at the Dover Compressor Station site included white pine, spruce trees, and river birch around the perimeter of the facility, and mature (40- to 50-foot-high) locust, sycamore, and white pine adjacent to the eastern facility boundaries. Poplar trees were documented during field surveys at the Brookfield Compressor Station site. Although forested areas are present in the vicinity of the Athens and Milford Compressor Stations, no trees would be cleared during modifications of these facilities.

### **Vegetation Communities of Special Concern**

Iroquois consulted with the U.S. Fish and Wildlife Service (USFWS), CTDEEP, and NYSDEC to determine the presence of sensitive or protected vegetation within the Project area. State-listed threatened and endangered plant species identified by the NYSDEC are discussed in section B.4.2. Two natural communities of significance were identified during consultation with NYSDEC, including red maple-hardwood swamp and floodplain forest, both of which were identified within 0.5 mile of the existing Dover Compressor Station and are considered part of the Great Swamp. The Great Swamp, which was identified in public comments as a resource of concern, is a large freshwater wetland complex that covers 6,000 acres in Putnam and Dutchess Counties in New York (NYSDEC 2019, FROGS 2020). Iroquois conducted surveys of the construction areas between August and October 2019 and determined that neither community of significance was present within or immediately adjacent to Project workspaces.

### **Noxious and Invasive Weeds**

Noxious or invasive plant species can out-compete and displace native plant species, thereby negatively altering the appearance, composition, and habitat value of affected areas. No significant stands of noxious or invasive weeds were identified by Iroquois during its surveys. However, plant species identified as noxious and invasive in New York during Project surveys at the Athens and Dover Compressor Station sites include Japanese stiltgrass, reed canary grass, and autumn olive. Noxious and invasive

plant species identified in Connecticut during Project surveys at the Brookfield Compressor Station site include Asiatic bittersweet, autumn olive, common reed, garlic mustard, Japanese barberry, and multiflora rose. No invasive species were identified at the Milford Compressor Station site.

### **Vegetation Impacts and Mitigation Measures**

Impacts on upland herbaceous lands would generally be temporary to short-term. Maintained turf grass areas would generally return to pre-construction cover within a few months to a year of seeding. Herbaceous areas that are currently not maintained would take slightly longer to return to their vegetative cover, but would recover within 1 to 3 years post-construction.

Impacts on upland forest vegetation from construction of the Project would be long-term. Regrowth of trees to pre-construction conditions would likely take 10 to 20 years for the relatively fast-growing poplar species present at the Brookfield Compressor Station site (The Tree Center 2020). The limited tree clearing proposed for the Project would be adjacent to existing cleared areas, on lands currently in industrial/commercial use, and would therefore not cause forest fragmentation. No trees would be cleared within the permanent footprint of the proposed facilities, and therefore no permanent conversion of forested lands would occur.

Iroquois would limit impacts on vegetation by using previously cleared areas and existing access roads for construction and operation activities to the extent practicable. To further minimize impacts on vegetative communities from construction and operation of the Project, Iroquois would implement measures described in our Plan, including:

- installing temporary erosion control measures, such as sediment barriers and mulch;
- seeding construction workspaces in accordance with our Plan and state-recommended seed mixes; and
- conducting annual monitoring and reporting to FERC to document the status of revegetation until deemed successful (see section A.7.3).

Iroquois would implement its Noxious Weed Plan to prevent and control the spread of noxious weeds and invasive plant species. Measures include stock-piling soil adjacent to the stripped area, cleaning equipment prior to arrival at construction sites, and cleaning equipment prior to leaving a noxious weed site, if applicable. Iroquois would treat identified noxious weeds by mechanical means (no chemicals would be used), and in accordance with agency regulations.

In accordance with our Plan, Iroquois would implement measures that ensure that the Project workspaces are restored to pre-construction conditions or better, and that they

do not contain a greater proportion of weed species than adjacent areas. Based on the types and amounts of vegetation affected by the Project and Iroquois' proposed avoidance, minimization, and mitigation measures to limit Project impacts, we conclude that impacts on vegetation from the Project would mostly be temporary and would not be significant.

### 3.2 Fisheries

#### Existing Aquatic Resources

As discussed in section B.2.2, no waterbodies supporting aquatic life are within the boundaries of the proposed Project workspaces. Therefore, no fisheries or fisheries of special concern would be affected.

### 3.3 Wildlife Resources

#### Existing Wildlife Resources

Wildlife habitats are based on the vegetative cover types within the Project area and include upland herbaceous land and upland forested vegetation. General vegetation cover types are addressed in section B.3.1. Each of the vegetation communities provides foraging, cover, and nesting habitat for a variety of wildlife species, as described in table B-6. Wildlife adapted to managed environments, such as small rodents, may be present within developed portions of the Project areas. However, these areas are not expected to provide substantive habitat for wildlife.

<b>Table B-6 Common Wildlife Species in the Project Area</b>	
<b>Vegetative Cover Type</b>	<b>Common Wildlife Species</b>
Upland herbaceous <sup>a</sup>	Opossum, racoon, white-tailed deer, skunk, mice, squirrels, field sparrow, prairie warbler, horned lark, eastern wild turkey, eastern racer, and eastern ribbon snake.
Upland forest	Blue jay, American robin, European starling, red-winged blackbird, brown-headed cowbird, wild turkey, Cooper's hawk, red-tailed hawk, white-tailed deer, eastern cottontail, red fox, striped skunk, eastern chipmunk, eastern gray squirrel, groundhog, and woodland vole.
<sup>a</sup> As identified in table B-5, upland herbaceous land includes both maintained and non-maintained cover; non-maintained cover would likely have higher habitat value to these species.	

#### Managed and Sensitive Wildlife Areas

Iroquois consulted with the USFWS, NYSDEC, and CTDEEP to identify managed or sensitive wildlife habitats in the vicinity of the Project. Agency consultation and review of state databases indicated that no state wildlife management areas or existing or

proposed wildlife refuges would be crossed by the Project. In addition, no federal or state-owned lands (parks, forests, or wildlife management areas) are within 2.0 miles of the Project facilities (NPS 2020, USFWS 2020a, USFS 2020, NYSDEC 2020e, CTDEEP 2020c, d).

### **Wildlife Resources Impacts and Mitigation Measures**

Construction and operation of the Project would result in short- and long-term impacts on wildlife. Impacts would vary depending on the specific habitat requirements of the species in the area and the vegetative land cover affected by the Project. A total of 45.5 acres of land would be disturbed for construction of the Project; however, as shown in table B-5, only 15.0 acres of vegetated land conducive for wildlife habitat would be disturbed. The remaining 30.5 acres (67.0 percent) of land that would be disturbed by construction includes previously disturbed lands that are paved, graveled, or otherwise void of vegetation. Potential short-term impacts on wildlife include the displacement of individuals from construction areas (including pollinator species such as bees and butterflies) and the direct mortality of small, less mobile mammals, reptiles, and amphibians that are unable to vacate the construction area. Long-term impacts would occur in ATWS within forested areas as the forested habitat would take decades to re-establish. Iroquois is proposing to replace small portions of the existing fence and install new fencing within the same footprint at the Athens Compressor Station and expand the existing fencelines at the Dover and Brookfield Compressor Stations. However, modifications to these fencelines would remain on Iroquois-owned property and would not require additional tree clearing, such that new permanent impacts on wildlife or wildlife habitat would be negligible.<sup>11</sup>

About 0.6 acre of forested land would be affected by construction of the Project, predominantly for modifications at the Brookfield Compressor Station where trees would be cleared; however, the area to be cleared is relatively small (about 0.4 acre) and is adjacent to cleared areas currently in industrial/commercial land use. Although the tree clearing may cause changes in the understory of immediately adjacent forest, no forest fragmentation would occur. Further, Iroquois recently purchased two residential parcels (about 1.2 acres total) adjacent to the Brookfield Compressor Station, which would be used as contractor staging areas during construction (see section B.5). Following construction, Iroquois would demolish the remaining residential structures and restore the parcels per our Plan and its E&SCP; however, the parcels would not be maintained and would be allowed to naturally revegetate such that the forested land would return over time.

We received several comments from individuals concerned with the effects of increased air emissions and noise impacts on local wildlife (including bald and golden

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<sup>11</sup> Figures showing the proposed adjustments to the existing fencelines are available on eLibrary under accession no. 20200519-5095.

eagles) and wildlife habitat. As discussed in section B.8.1, air emissions associated with the proposed modifications would not result in significant impacts on air quality and would therefore not be expected to result in significant impacts on local wildlife and habitat. Noise would temporarily increase during the concurrent 9-month construction period at each compressor station site. Operational noise would increase slightly at the Athens, Dover, and Milford Compressor Stations, but would decrease at the Brookfield Compressor Station due to Iroquois' proposed implementation of additional noise mitigation at that site. Increased noise at the compressor station sites could result in wildlife impacts such as displacement, abandoned reproductive efforts, and disruption of daily routines. These impacts are anticipated to be temporary (during construction) or permanent (during operations), but minor given the limited increases (no more than 3.0 decibels [dB]) or decreases (no more than -3.2 dB) in noise at the existing compressor station sites. Additionally, wildlife at these sites are likely acclimated to operational compressor station noise, as these would be expansions of existing facilities.

Iroquois proposes to use 13 existing roads for construction of the Project (see table A-3). Seven of these access roads would be maintained for operation of the Project. No modifications to these existing roads would be required for construction or operation of the Project. As such, no wildlife habitat is anticipated to be affected by the use of access roads.

Iroquois would implement impact minimization measures as described in our Plan and Procedures to reduce wildlife impacts, which would include:

- revegetating workspaces, where applicable, with seed mixes approved by state permits;
- maintaining a 50-foot-wide buffer from wetlands and waterbodies, unless the adjacent upland is disturbed; and
- restoring construction work areas to pre-construction conditions and monitoring for successful revegetation, as applicable.

Although mortality of individual animals could occur as a result of the Project, the effects of these individual losses on wildlife populations would primarily be temporary and minor. Based on Iroquois' proposed modification of existing facilities, use of developed lands for construction workspace where practicable, limited overall disturbance, and implementation of its proposed impact avoidance and minimization measures, we conclude that construction and operation of the Project would not have population-level impacts or significantly measurable negative impacts on wildlife.

### **3.4 Migratory Birds**

On March 30, 2011, the USFWS and the Commission entered into a Memorandum of Understanding (MOU) that focuses on avoiding, minimizing, or mitigating adverse

impacts on migratory birds and strengthening migratory bird conservation through enhanced collaboration between the Commission and the USFWS. The existing Athens Compressor Station is in Bird Conservation Region 13 (Lower Great Lakes/St. Lawrence Plain), the existing Dover Compressor Station is in Region 23 (Appalachian Mountains), and the existing Brookfield and Milford Compressor Stations are in Region 30 (New England/Mid-Atlantic Coast) of the North American Bird Conservation Initiative (Bird Studies Canada and North American Bird Conservation Initiative 2014). The Project facilities would not be within designated Important Bird Areas (Audubon 2020). Review of the USFWS IPaC system indicates that multiple birds of conservation concern (BCC) occur in the vicinity of the Project, including 5 BCCs at the Athens Compressor Station, 7 BCCs at the Dover Compressor Station, 3 BCCs at the Brookfield Compressor Station, and 25 BCCs at the Milford Compressor Station (see table B-7).

The primary concern for impacts on migratory birds, including bald eagles, is mortality of eggs and/or young because immature birds could not avoid active construction. Tree clearing and ground disturbing activities could cause disturbance during critical breeding and nesting periods, potentially resulting in the loss of nests, eggs, or young. Iroquois would minimize impacts on migratory birds by avoiding forested habitat where practicable, such that only about 0.4 acre of upland forested vegetation would be cleared, all of which would occur adjacent to the existing Brookfield Compressor Station site. In addition, the construction footprint of the Athens Compressor Station avoids the adjacent habitat for grassland birds that was identified by the NYSDEC during consultation. No bald eagle nests were identified by the USFWS or state resource agencies and no raptor nests were identified during habitat surveys at the Project facilities. Field surveys extended variable distances from Project workspaces (between 0 and 250 feet) and included assessment of trees and powerlines for potential raptor nests.

Based on the characteristics and habitat requirements of migratory birds known to occur in the Project workspaces, the amount of similar habitat adjacent to and in the vicinity of the Project, Iroquois' implementation of the measures in our Plan and Procedures, including revegetation of disturbed areas after construction and conducting vegetation maintenance outside of the typical migratory bird nesting season, we conclude that construction and operation of the Project would not have significant impacts on migratory bird populations.

To further minimize impacts on migratory birds, Iroquois has committed to clearing vegetation outside of the peak migratory bird nesting period (April 1 [in New York] or April 15 [in Connecticut] to August 1). If construction activities were to begin during these peak periods, Iroquois would consult with USFWS to determine appropriate mitigation. This may include pre-construction nest surveys. In addition, Iroquois would conduct migratory bird awareness training with construction crews.

**Table B-7**  
**Birds of Conservation Concern Potentially Occurring in the Vicinity of the Project**

Common Name	Scientific Name	Period of Breeding in Region	Nesting Habitat	Compressor Station <sup>a</sup>			
				Athens	Dover	Brookfield	Milford
American oystercatcher	<i>Haematopus palliatus</i>	May 15-August 31	Ground <sup>b</sup>	--	--	--	x
Black skimmer	<i>Rynchops niger</i>	May 20-September 15	Ground <sup>b</sup>	--	--	--	x
Black-billed cuckoo	<i>Coccyzus erythrophthalmus</i>	May 15-October 10	Tree	--	--	--	x
Black-capped chickadee	<i>Poecile atricapillus praticus</i>	May 10-July 31	Tree	--	x	--	--
Bobolink	<i>Dolichonyx oryzivorus</i>	May 20-July 31	Ground	x	x	x	x
Canada warbler	<i>Cardellina canadensis</i>	May 20-August 10	Ground	--	x	x	x
Cerulean warbler	<i>Dendroica cerulea</i>	May 20-July 20	Tree	x	--	--	--
Clapper rail	<i>Rallus crepitans</i>	May 10-October 31	Ground	--	--	--	x
Dunlin	<i>Calidris alpina arctica</i>	N/A	--	--	--	--	x
Eastern whip-poor-will	<i>Antrostomus vociferus</i>	May 1-August 20	Ground	--	x	--	--
Evening grosbeak	<i>Coccothraustes vespertinus</i>	N/A	--	--	--	--	x
Hudsonian godwit	<i>Limosa haemastica</i>	N/A	--	--	--	--	x
Least tern	<i>Sternula antillarum</i>	May 20-September 10	Ground <sup>b</sup>	--	--	--	x
Lesser yellowlegs	<i>Tringa flavipes</i>	N/A	--	x	--	--	x
Long-eared owl	<i>Asio otus</i>	N/A	--	--	--	x	x
Nelson's sparrow	<i>Ammodramus nelsoni</i>	May 15-September 5	Ground <sup>b</sup>	--	--	--	x
Prairie warbler	<i>Dendroica discolor</i>	May 1-July 31	Shrub	--	x	x	x
Red-headed woodpecker	<i>Melanerpes erythrocephalus</i>	May 10-September 10	Tree	--	--	--	x
Red-throated loon	<i>Gavia stellata</i>	N/A	--	--	--	--	x
Ruddy turnstone	<i>Arenaria interpres morinella</i>	N/A	--	--	--	--	x
Rusty blackbird	<i>Euphagus carolinus</i>	N/A	--	--	--	--	x

**Table B-7 (continued)**  
**Birds of Conservation Concern Potentially Occurring in the Vicinity of the Project**

Common Name	Scientific Name	Period of Breeding in Region	Nesting Habitat	Compressor Station <sup>a</sup>			
				Athens	Dover	Brookfield	Milford
Seaside sparrow	<i>Ammodramus maritimus</i>	May 10-August 20	Shrub	--	--	--	x
Semipalmated sandpiper	<i>Calidris pusilla</i>	N/A	--	--	--	--	x
Short-billed dowitcher	<i>Limnodromus griseus</i>	N/A	--	--	--	--	x
Snowy owl	<i>Bubo scandiacus</i>	N/A	--	x	--	--	x
Whimbrel	<i>Numenius phaeopus</i>	N/A	--	--	--	--	x
Willet	<i>Tringa semipalmata</i>	May 20-August 5	Ground <sup>b</sup>	--	--	--	x
Wood thrush	<i>Hylocichla mustelina</i>	May 10-August 31	Tree	x	x	x	x
Yellow-bellied sapsucker	<i>Sphyrapicus varius</i>	May 10-July 15	Tree	--	x	--	--

N/A = Not applicable; this species does not breed in the Project vicinity.

<sup>a</sup> Species noted for each compressor station include those species that may occur at the associated contractor staging area.

<sup>b</sup> These species nest on the ground, but generally along beaches, dunes, and marsh.

#### **4. Special Status Species**

Special status species are those species for which federal or state agencies afford an additional level of protection by law, regulation, or policy. Special status species include federally listed species protected under the Endangered Species Act (ESA), species proposed for listing by the USFWS, and those species that are state-listed as threatened or endangered, or other special status. Section 7(a)(2) of the ESA requires the Commission to ensure that any action it authorizes, funds, or carries out would not jeopardize the continued existence of federally listed or proposed listed species, or result in the adverse modification or destruction of critical habitat for federally listed and proposed species.

As the lead federal agency for the Project, FERC is responsible for the ESA Section 7 consultation process with the USFWS. Species classified as candidates for listing under the ESA and/or state regulation do not currently carry regulatory protection but, if applicable, are typically considered during our assessment as they may be listed in the future. Similarly, species protected under state statutes do not carry regulatory protection under the ESA, but impacts are reviewed if the applicable agency indicates potential presence in the Project area during consultation.

Informal consultations were conducted by Iroquois, as our non-federal representative, with the USFWS – New York and New England Field Offices, and with the National Marine Fisheries Service (NMFS), to determine whether any federally listed threatened or endangered species, federal species of concern, or designated critical habitats occur in the Project area. Iroquois also consulted with NYSDEC and CTDEEP regarding state-listed species and habitats, as discussed in section B.4.2.

Table B-8 describes the federally and state-listed species with the potential to occur in the Project area, as identified during consultation with USFWS and the state agencies, their preferred habitat, and our determination of effect. Federally listed species with a determination of “no effect,” as documented in table B-8, are not discussed further unless additional mitigation or consideration was needed (such as for the bog turtle) to obtain this determination. No designated critical habitat occurs within the Project workspaces, although critical habitat for the Atlantic sturgeon is in proximity to the Milford Compressor Station (see table B-8).

**Table B-8  
Federal and State-Listed Threatened and Endangered Species Potentially Occurring in the Project Area**

<b>Species</b>	<b>Federal Status<sup>a</sup></b>	<b>State Status (NY/CT)</b>	<b>Potential Facilities</b>	<b>Habitat Description</b>	<b>Effect Determination</b>
<b>Reptiles</b>					
Bog turtle ( <i>Clemmys muhlenbergii</i> )	T	E/E	Dover, Brookfield	Lives in open, sunny, spring-fed wetland areas with scattered dry areas. Active from April through October. Nests are built during summer, in moss or sedges above the water level adjacent to the wetlands (USFWS 2010). NYNHP noted species occurrence in the vicinity of the Dover Compressor Station.	<i>No effect.</i> Project area surveys did not identify suitable wetland habitat at or immediately adjacent to the Dover or Brookfield Compressor Stations and Iroquois has identified measures to stop work if transient individuals are identified in workspaces at the Dover Compressor Station.
Eastern box turtle ( <i>Terrapene c. Carolina</i> )	--	--/SC	Brookfield	Inhabits old fields and deciduous forests, often near small streams and ponds. Adults are completely terrestrial but the young may be semiaquatic. Hibernate in the soil from October to April (CTDEEP 2020e).	<i>No significant impact.</i> Although present in the area of the Brookfield Compressor Station, Iroquois would implement its Turtle Avoidance Plan during construction, which was developed in consideration of State of Connecticut-recommended mitigation measures.
Timber rattlesnake ( <i>Crotalus horridus</i> )	--	T/E	Dover	Inhabits mountainous or hilly deciduous or mixed deciduous-coniferous forests, often with rocky outcroppings, steep ledges, and rock slides. Dens in rocky areas with crevices. Uses open canopy and rocky areas for basking, shedding, gestating, and birthing. Foraging areas are generally within forested habitat surrounding the den (NYNHP 2020a). NYNHP noted species occurrence in the vicinity of the Dover Compressor Station.	<i>No significant impact.</i> Although present in the area of the Dover Compressor Station, no forested areas would be cleared and no outcrops were observed during surveys. Further, Iroquois will develop measures, in coordination with the NYSDEC, to avoid take of any transient individuals in the Dover Compressor Station workspaces.
Wood turtle ( <i>Glyptemys insculpta</i> )	--	--/SC	Brookfield	Found within forested areas, preferentially in areas that do not have a fully closed canopy cover (CTDEEP 2020e).	<i>No significant impact.</i> Although present in the area of the Brookfield Compressor Station, Iroquois would implement its Turtle Avoidance Plan during construction, which was developed in consideration of State of Connecticut-recommended mitigation measures.

**Table B-8 (continued)**  
**Federal and State-Listed Threatened and Endangered Species Potentially Occurring in the Project Area**

Species	Federal Status <sup>a</sup>	State Status (NY/CT)	Potential Facilities	Habitat Description	Effect Determination
<b>Fish</b>					
Atlantic sturgeon ( <i>Acipenser oxyrinchus oxyrinchus</i> )	E	--/E	Milford	Live in rivers and coastal waters from Canada to Florida. Hatch in the freshwater of rivers and head out to sea as juveniles, returning to their birthplace to spawn when they reach adulthood (NMFS 2020a). Federally designated critical habitat for the species is present in the Housatonic River.	<i>No effect.</i> The Milford Compressor Station is an existing facility about 600 feet east of the Housatonic River. Construction activities would not affect waterbodies.
<b>Mammals</b>					
Indiana bat ( <i>Myotis sodalis</i> )	E	E/E	Athens, Dover	Hibernates in caves and abandoned mines during the winter. Roosts in maternity colonies in spring, summer, and fall under the exfoliating bark of dead trees in riparian zones, bottomland and floodplain habitats, wooded wetlands, and upland communities. Forages in forested areas, cleared areas adjacent to forests, and over ponded areas that support abundant flying insects (USFWS 2007).	<i>No effect.</i> There are no known hibernacula or maternity roosts in the Project area. No tree clearing would occur at the Athens or Dover Compressor Stations or associated contractor staging area.
Northern long-eared bat ( <i>Myotis septentrionalis</i> )	T	T/E	Athens, Brookfield, Milford	Hibernates in caves and abandoned mines during the winter. Roosts singly or in colonies underneath exfoliating bark of dead trees, in cavities, or in crevices of both living and dead trees. Occasionally found using structures as roost sites (e.g., barns and sheds). Forages within the understories of forested habitat (USFWS 2020b).	<i>May affect;</i> however, any take that may occur as a result of the Project is not prohibited under the ESA Section 4(d) rule adopted for this species. NYSDEC and CTDEEP did not identify any known roosting sites within 150 feet or known hibernaculum within 0.25 mile of the Project. Impacts on forested habitat would be minimal (only occurring at the Brookfield Compressor Station ATWS) as the Project is primarily situated in developed areas, and trees would not be cleared during the pup season.

**Table B-8 (continued)**  
**Federal and State-Listed Threatened and Endangered Species Potentially Occurring in the Project Area**

Species	Federal Status <sup>a</sup>	State Status (NY/CT)	Potential Facilities	Habitat Description	Effect Determination
<b>Plants</b>					
Carolina whitlow grass <i>(Tomostima reptans)</i>	--	T/--	Dover	Open sites with exposed limestone bedrock or limey sand, often at cedar glades, and associated with a mixture of calciphilic species and weeds; dry, sterile, or sandy soil; sandy banks; and fields (NYNHP 2020b). NYNHP noted species occurrence in the vicinity of the Dover Compressor Station.	<i>No impact.</i> Species were not identified during field surveys.
Green milkweed <i>(Asclepias viridiflora)</i>	--	T/E	Dover	Open or rocky areas on serpentine, calcareous, sandstone, or diabase bedrock; open areas or dunes with sandy soil; golf courses or recently burned slopes on serpentine bedrock; serpentine or maritime grasslands; cedar glades; old pastures with alkaline soils; dry shaley slopes; and dry fields and woods (NYNHP 2020c). NYNHP noted species occurrence in the vicinity of the Dover Compressor Station.	<i>No impact.</i> Species were not identified during field surveys.
Stiff flat-topped Goldenrod <i>(Solidago rigida var. rigida)</i>	--	T/--	Athens	Open areas on dry shaley slopes, on limestone bedrock, and among shrubby thickets over shallow, dry, sandy, clayey, and rocky soils on limestone; dry post-agricultural successional habitats, usually on alkaline soils; rocky summit grasslands on alkaline and circum-neutral soils; woodland edges between calcareous woodlands and successional old fields (NYHP 2020d). NYNHP noted species occurrence in the vicinity the Athens Compressor Station.	<i>No impact.</i> Species were not identified during field surveys.

**Table B-8 (continued)**  
**Federal and State-Listed Threatened and Endangered Species Potentially Occurring in the Project Area**

Species	Federal Status <sup>a</sup>	State Status (NY/CT)	Potential Facilities	Habitat Description	Effect Determination
Yellow wild flax ( <i>Linum sulcatum</i> )	--	T/E	Dover	Open sites, such as rocky ridges, power lines, and old fields, typically with limestone bedrock. Often associated with red cedar. Dry, often sandy soil, prairies, open ground, and upland woods (NYNHP 2020e). NYNHP noted species occurrence in the vicinity of the Dover Compressor Station.	<i>No impact.</i> Species were not identified during field surveys.
NMFS = National Marine Fisheries Service NYNHP = New York Natural Heritage Program <sup>a</sup> E = endangered; T = threatened; SC = special concern.					

The USFWS acknowledged the no effect determination for the Indiana bat and bog turtle on March 24, 2020 (New York Field Office) and January 22, 2020 (New England Field Office) and indicated in both cases that no further consultation or coordination under the ESA was required (USFWS 2020c,d). On July 29, 2020, the NMFS, in correspondence with Iroquois, indicated that there did not appear to be any potential effects to federally listed species (or critical habitat) under their purview (NMFS 2020b).

#### **4.1 Federally Listed Species**

##### **Bog Turtle**

Although no wetlands are present within the proposed construction workspaces for the Project, and suitable bog turtle habitat was not identified in the survey area for these sites, bog turtles are known to occur near the Dover Compressor Station and the New York Natural Heritage Program (NYNHP) indicates that the species may travel up to 1 mile from documented locations. Because there is a small potential for bog turtles to travel through the Dover Compressor Station workspaces during construction, Iroquois would educate construction workers on the identification and avoidance of special status turtles (including the bog turtle) and would cease work if such turtles were identified in construction workspaces. If a bog turtle were observed, Iroquois would call USFWS to determine the proper steps. Further, in response to correspondence from the NYSDEC, Iroquois has committed to the preparation of a Bog Turtle Education and Encounter Plan to address appropriate worker education and mitigation to avoid impacts on bog turtles at the Dover Compressor Station; this plan will be developed in consultation with the NYSDEC and filed with the FERC when completed.

Given the absence of suitable habitat in and immediately adjacent to Project workspaces, as well as Iroquois' intent to train construction workers in the identification of bog turtles and stop work if one is identified during construction, we find that construction and operation of the Project would have *no effect* on the bog turtle.

##### **Northern Long-Eared Bat**

The northern long-eared bat is federally and state-listed as threatened due to population declines related to white-nose syndrome (USFWS 2020e). The USFWS has also established a final rule (81 FR 1900-1922) under Section 4(d) of the ESA that targets the prohibition of incidental take in those areas affected by white-nose-syndrome (e.g., within 150 miles of confirmed white-nose syndrome). Within affected areas, incidental take is prohibited if: it occurs within 0.25 mile of a known hibernaculum; it results from removal of a known, occupied maternity roost; or it results from removal of trees within 150 feet of a maternity roost during the pup season, June 1 through July 31. Iroquois consulted with the NYNHP and CTDEEP and determined that there are no known

roosting sites within 150 feet of the Project, or known hibernaculum within 0.25 mile of the Project.

The USFWS indicated that the northern long-eared bat should be considered for potential impacts at each compressor station, except for the Dover Compressor Station, but confirmed during consultation that Section 4(d) of the ESA would be applicable to the incidental take of northern long-eared bats for the three compressor stations. Appendix B includes Iroquois' determination key results for the three applicable compressor stations, as well as the USFWS' verification that the proposed activities are in accordance with the USFWS' January 5, 2016 IntraService Programmatic Biological Opinion on the final 4(d) rule for the northern long-eared bat.

Project-related impacts on the northern long-eared bat could include temporary impacts due to habitat disturbance during construction activities. Long-term impacts could occur due to permanent loss of forested habitat during vegetation clearing for construction. The Project would result in impacts on 0.4 acre of forested habitat at the Brookfield Compressor Station, but habitat surveys at the site did not identify suitable habitat for the species. Further, Iroquois has indicated that it would not clear trees during the pup season (June 1 through July 31) without prior coordination with USFWS, FERC, and the applicable state agency.

Because Iroquois would minimize impacts on forested habitat by constructing in predominantly developed areas, and would avoid clearing trees during the pup season, we have determined that construction and operation of the Project *may affect* the northern long-eared bat; however, any take that may occur as a result of the Project is not prohibited under the ESA Section 4(d) rule adopted for this species. Further, as identified in appendix B, the USFWS has determined that the Project is compliant with the 4(d) rule; we concur.

## **4.2 State-Listed Species**

Iroquois' initial consultation with the NYSDEC identified potential and known occurrences of five state-listed threatened and endangered species in the Project area in New York, including the timber rattlesnake and four plant species (see table B-8). Although the NYSDEC acknowledged that basking and denning habitat for the timber rattlesnake is likely not present at the Dover Compressor Station (an area the species is known to occur), it recommended that mitigation measures be adopted to avoid potential take of individuals that may travel through or forage within the construction workspace (NYSDEC 2020f). In response to these recommendations, Iroquois has committed to develop a Timber Rattlesnake Education and Encounter Plan to address appropriate worker education and mitigation to avoid impacts on timber rattlesnakes at the Dover Compressor Station. This plan will be developed in consultation with the NYSDEC and filed with the FERC when completed; preliminary recommendations from the NYSDEC include stopping work if a timber rattlesnake is encountered and development of

procedures for moving any timber rattlesnakes to avoid the need for an incidental take permit. Given Iroquois' ongoing coordination with the NYSDEC to avoid impacts on transient individuals, no significant impacts on the timber rattlesnake are anticipated.

As noted in table B-8, we have determined that there would be no impact on the plant species and the NYSDEC did not indicate concern for these species based on its review of Iroquois' habitat assessment.

CTDEEP recommended the use of mitigation measures to minimize the potential for impacts on the eastern box turtle and wood turtle (species of special concern) during construction, which are known to be present in areas near the existing Brookfield Compressor Station (CTDEEP 2020e). Iroquois has developed a Turtle Avoidance Plan<sup>12</sup> for use during construction at the Brookfield Compressor Station based on CTDEEP's recommendation. The plan includes training protocols, pre-construction clearance surveys, placement of exclusion fencing, and turtle relocation in the event a turtle is identified within Project workspace. Given Iroquois' implementation of its Turtle Avoidance Plan, we conclude no significant impacts on the eastern box or wood turtles would occur as a result of the Project. CTDEEP has indicated that no negative impacts on state-listed species are anticipated from the modifications to, and continued operations of, the Milford Compressor Station (CTDEEP 2019); therefore, no impact on state-listed species at this Project site are anticipated.

## **5. Land Use and Visual Resources**

Iroquois is proposing to construct new facilities as described in section A.4 in Greene and Dutchess Counties, New York, and in Fairfield and New Haven Counties, Connecticut. Most (70.8 percent) of the land required for construction of the Project is land owned by Iroquois, including two residential parcels that were recently purchased for use during construction of the Project. Section B.3.1 provides a discussion of the vegetation types that occur on these lands.

In total, the Project would affect 45.5 acres of land during construction, including the compressor stations, ATWS, contractor staging areas, and access roads. Of the 45.5 acres that would be affected during construction, about 30.5 acres would be restored to pre-construction uses. The remaining 15.0 acres would be maintained for operation of the Project. Table B-9 summarizes the Project's temporary (construction) and permanent (operational) land use impacts.

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<sup>12</sup> Iroquois' Turtle Avoidance Plan is available on eLibrary under accession no. 20200615-5263.

**Table B-9  
Land Use Affected by Construction and Operation of the Project**

Facility	Industrial / Commercial		Residential Land		Total	
	Cons.	Ops.	Cons.	Ops.	Cons.	Ops.
<b>Aboveground Facilities<sup>a</sup></b>						
Athens Compressor Station	3.9	3.0	0.0	0.0	3.9	3.0
Dover Compressor Station	5.3	4.7	0.0	0.0	5.3	4.7
Brookfield Compressor Station	3.4	3.2	0.0	0.0	3.4	3.2
Milford Compressor Station	3.6	2.3	0.0	0.0	3.6	2.3
<b>Access Roads</b>						
Athens Compressor Station	1.3	0.9	0.0	0.0	1.3	0.9
Dover Compressor Station	0.6	0.6	0.0	0.0	0.6	0.6
Brookfield Compressor Station	1.0	0.3	0.0	0.0	1.0	0.3
Milford Compressor Station	0.1	<0.1	0.0	0.0	0.1	<0.1
<b>Additional Temporary Workspace</b>						
Athens Compressor Station	1.2	0.0	0.0	0.0	1.2	0.0
Dover Compressor Station	10.9	0.0	0.0	0.0	10.9	0.0
Brookfield Compressor Station	0.6	0.0	0.0	0.0	0.6	0.0
Milford Compressor Station	0.0	0.0	0.0	0.0	0.0	0.0
<b>Contractor Staging Areas</b>						
Athens Compressor Station	6.3	0.0	0.0	0.0	6.3	0.0
Dover Compressor Station	0.0	0.0	0.0	0.0	0.0	0.0
Brookfield Compressor Station	5.5	0.0	1.2	0.0	6.7	0.0
Milford Compressor Station	0.7	0.0	0.0	0.0	0.7	0.0
<b>Compressor Station Subtotals</b>						
<i>Athens Compressor Station</i>					12.8	3.9
<i>Dover Compressor Station</i>					16.8	5.3
<i>Brookfield Compressor Station</i>					11.7	3.5
<i>Milford Compressor Station</i>					4.3	2.3
<b>Total<sup>b</sup></b>	<b>44.3</b>	<b>15.0</b>	<b>1.2</b>	<b>0.0</b>	<b>45.5</b>	<b>15.0</b>
Notes: Cons. = Construction; Ops. = Operation. All numbers are reported in acreages.						
<sup>a</sup> Impacts associated with temporary workspace are included in impact totals for the corresponding aboveground facility.						
<sup>b</sup> The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends.						

## 5.1 Land Use

### **Industrial/Commercial Land Use**

Industrial/commercial land uses include existing industrial and commercial facilities and existing roads and railroads. As presented in table B-9, most of the affected land during construction of the Project is currently in industrial/commercial land use (97.4 percent or 44.3 acres). About 70.8 percent (32.2 acres) are lands owned by Iroquois for operation of its existing system. Another 26.6 percent (12.1 acres) are comprised of existing industrial/commercial sites that would be leased by Iroquois for use as contractor staging areas during construction. Proposed temporary workspaces would be returned to pre-construction conditions after construction. The new aboveground facilities would permanently encumber 13.1 acres of land at Iroquois' existing facilities that are currently in operation.

Iroquois would use existing roads to access work areas during construction totaling 3.0 acres, of which 1.9 acres would be maintained during operation of the Project.

Given most impacts would occur on lands currently in industrial/commercial use, impacts on land use would be mostly temporary and minor; therefore, we conclude that impacts on these lands would not be significant.

### **Residential Land Use**

Iroquois recently purchased two residential properties totaling 1.2 acres across the street from the existing Brookfield Compressor Station. Iroquois would use these properties as contractor staging areas during construction. Each parcel currently contains one residence; one of the houses would be used as a contractor's office while the other home would be demolished upon commencement of construction. Following construction, Iroquois would demolish the house used during construction as a contractor's office. Neither property would be used during operation of the Project and Iroquois would not maintain the land, but would allow it to revegetate naturally. The purchase of these residential properties for the Project reflects a permanent conversion of 1.2 acres from residential land use to industrial/commercial land use. Additional detail on residential areas is provided below.

## 5.2 Residential Areas and Planned Developments

Iroquois consulted with planning departments for each county in the Project area and reviewed public records to identify planned residential or industrial/commercial developments. Iroquois identified one planned residential subdivision within 0.25 mile of the Brookfield Compressor Station. The Hunting Ridge Subdivision, which received approval from the Town of Brookfield on January 2, 2020, would be 0.1 mile east of the

compressor station at the end of Huntingridge Road, which is a dead-end road (Town of Brookfield 2020). The 12-acre lot, which is proposed to be subdivided into nine residential sites, is predominately forested. Vegetation on the two, adjacent residential properties purchased by Iroquois, which would not be disturbed for use during construction, would serve as visual buffers and may mitigate noise and visual impacts for some future residents depending on the final configuration of the subdivision. Because the subdivision has not been constructed, the project proponent could configure the project to maintain the natural buffers along the western boundary to further mitigate noise and visual impacts on future residents. Finally, as discussed in section B.8.2, Iroquois would add noise mitigation to the Brookfield Compressor Station during construction, which would result in the existing and modified compressor stations producing less noise during operations of the compressor stations.

Iroquois did not identify any structures within 50 feet of construction workspaces, aside for those recently purchased by Iroquois and which are no longer inhabited. However, Iroquois has committed to several mitigation measures to minimize impacts on nearby residences, as discussed below. Temporary construction impacts on residences and businesses in proximity to construction work areas may include noise and dust, as well as increased traffic on roadways.

Iroquois would minimize construction-related impacts on all residences through landowner notification of approximate timelines of active construction, limiting construction to daylight hours (generally anticipated to be 7:00 a.m. to 7:00 p.m.), and mitigation of fugitive dust (see section B.8.1). While all work would occur on lands owned or leased by Iroquois, which limits access to work areas to authorized personnel, safety fencing may be installed as needed. In addition to keeping community leaders informed of the Project and its anticipated scheduled, Iroquois also developed an Environmental Complaint Resolution Procedure document<sup>13</sup> that outlines the notification procedures it would implement prior to and during construction to address concerns raised by landowners. We have reviewed these procedures and find them acceptable, and we also encourage the owners of residences in proximity to the proposed modifications to review these procedures for potential future use.

As discussed in sections A.7.2 and B.6.2, Iroquois developed a Residential Access and Traffic Management Plan to minimize impacts from the movement of construction equipment and construction crews through residential areas to access construction work areas.

Based on Iroquois' proposed mitigation measures to minimize impacts on existing residences, and its commitment to consult with community leaders, we find that impacts

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<sup>13</sup> Available on eLibrary under accession no. 20200203-5224.

on nearby residences and the proposed Hunting Ridge Subdivision would not be significant. This subdivision is discussed further in section B.10 (Cumulative Impacts).

### **5.3 Public Land, Recreation, and Special Interest Areas**

The Project would not be within 0.25 mile of any national parks, forests, wildlife refuges, or trails; state parks or forests; or federally designated wilderness areas. In addition, Iroquois conducted a search of the USDA-NRCS portal which contains data on various easements including: Emergency Watershed Protection Program – Floodplain Protection Easement, Farm and Ranch Lands Protection Program, Grassland Reserve Program, Healthy Forest Reserve Program, and Wetland Reserve Program.<sup>14</sup>

Iroquois identified one religious retreat in proximity to the Dover Compressor Station. The World Olivet Assembly Center, which was established in 2000, is about 0.1 mile south of the existing compressor station. Potential impacts on the retreat would be similar to those discussed above for residential areas and planned developments. Visual impacts associated with the Project are discussed below, and this retreat is also discussed further in section B.10 (Cumulative Impacts).

### **5.4 Coastal Zone Consistency**

The Coastal Zone Management Act (CZMA) calls for the “effective management, beneficial use, protection, and development” of the nation’s coastal zone and promotes active state involvement in achieving those goals. As a means to reach those goals, the CZMA requires participating states to develop management programs that demonstrate how those states will meet their obligations and responsibilities in managing their coastal areas. In Connecticut, the CZMA is administered by the CTDEEP through the Coastal Management Program. Activities or development affecting land within Connecticut’s coastal zone are evaluated by the CTDEEP for compliance with the CZMA through a process called “federal consistency.” Section 22a-94 of the state’s general statutes identify the boundaries that trigger review by the corresponding city (City of Milford 2020). The existing Milford Compressor Station and contractor staging areas are within the City of Milford’s Coastal Zone Boundary. Iroquois received approval of its Coastal Site Plan from the City of Milford on February 11, 2020.

No other proposed Project facilities would be within the coastal zone for New York or Connecticut.

### **5.5 Visual Resources**

The Project could alter existing visual resources in two ways: (1) construction activity and equipment may temporarily alter the viewshed; and (2) lingering impacts

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<sup>14</sup> Available at:  
<https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/technical/nra/dma/?cid=stelprdb1043925>.

where clearing during construction could alter existing vegetation patterns. The significance of these visual impacts would primarily depend on the quality of the viewshed, the degree of alteration of that viewshed, the sensitivity or concern of potential viewers, and the perspective of the viewer.

### **Athens Compressor Station**

Modifications at the Athens Compressor Station and associated ATWS, access roads and contractor staging areas would require a total of 12.8 acres, of which 5.1 acres would occur on the compressor station property owned by Iroquois. Iroquois would also replace portions of the existing fence within the current footprint. Following construction, about 3.9 acres within the existing fenceline would be maintained for operation of and access to the new facilities.

Visual receptors in the vicinity of this site would include current workers at the existing Athens Compressor Station, workers and visitors to nearby commercial businesses, and motorists on Schoharie Turnpike, as well as the residents across the street from and adjacent to the existing compressor station site. The closest residences to workspaces for this facility are about 290 feet east of workspace ATS-ATWS-003 (at the entrance to the existing compressor station site), and 186 feet northwest of the corresponding contractor staging area.

In addition to the existing facilities at the site, the parcel includes paved and graveled areas, maintained grass, and vegetated areas frame most of the property. The existing station and proposed modifications are on the southern end of the parcel, about 2,200 feet from the turnpike, which limits the number of visual receptors. However, Iroquois is proposing to use about 1.2 acres of the property at the entrance to the site for parking and staging of equipment. Construction activities at these work areas would be immediately visible to motorists on Schoharie Turnpike and nearby residents. Following construction, these temporary work areas would be restored to pre-construction conditions. As a result, there would be no permanent impacts on visual resources from these work areas.

The most prominent feature at the existing station is a cold storage building that is at the entrance to the existing facility off Schoharie Turnpike. The fenced area, which includes the existing compressor unit, control buildings, and other ancillary facilities sets back off the roadway about 2,200 feet. Given this distance to the roadway, the roof of an existing storage building is visible, while the existing turbine exhaust stack, which is 62.4 feet in height, is not visible. Following construction, the most prominent feature in the viewshed would be a storage shed that Iroquois would relocate to the facility entrance, near to the existing cold storage building. The new compressor building to accommodate Unit A2 would be built at the site of the relocated storage building so its roof would be visible from the roadway. The new turbine exhaust stack, which would be 69.2 feet in height and about 370 feet closer to the turnpike than the existing stack, may be visible

from the road. The distance to the compressor station and its position within the parcel, would minimize visibility during operation. Further, modifications at this station would not require any tree clearing or disturbance of vegetation beyond that which is currently maintained as part of the existing facility site. While the new facilities would be visible as new features in the viewshed, most notably the relocated storage building, they would be similar to components at the existing facility site; therefore, we conclude that no significant permanent visual impacts would occur from construction or operation of the Athens Compressor Station.

### **Dover Compressor Station**

Modifications at the Dover Compressor Station and associated ATWS and access roads would require a total of 16.8 acres during construction. To accommodate operation of the new facilities, Iroquois is proposing to expand the existing fence line by about 0.5 acre. Following construction, about 5.3 acres would be maintained for operation of and access to the new facilities.

Visual receptors in the vicinity of this site would include current workers at the existing Dover Compressor Station, workers and visitors to World Olivet Assembly Center, motorists on County Route 26 (Dover Furnace Road), as well as the residents across the street from and adjacent to the existing compressor station site. The closest residences from workspaces for this facility are about 480 feet west of workspace DOR-ATWS-003 at the existing compressor station site. The Dover Middle and High Schools are about 3,300 feet east of the existing station. We received several comments raising concerns for impacts on school age children from Project air emissions, noise (including vibration), and safety. These comments are addressed in sections B.8.1, B.8.2, and B.9, respectively.

In addition to the existing facilities at the site, the parcel includes paved and graveled areas, maintained grass, sporadic trees within the parcel, and forested areas generally along the boundaries of the property. The existing station is toward the back of the parcel, about 700 feet off County Route 26, and existing vegetation limits the visibility of the existing compressor station to motorists on the roadway and is not visible from the World Olivet Assembly Center. Iroquois has designed the modifications at this facility, including the expansion of the existing fence line, to also be toward the back of the parcel and behind an existing compressor building, which further minimizes the number of visual receptors for this Project. Iroquois is proposing to use about 10.9 acres of the property adjacent to the existing compressor station for parking and staging of equipment. Construction activities at these work areas may be visible to motorists on County Route 26 and nearby residents; however, there is some vegetation (low shrubs interspersed with trees) along the roadside that would minimize the duration of visibility of these activities to passing motorists. Based on the location of construction activities within the property and the roadside vegetation, these activities are not expected to be visible from the World Olivet Assembly Center. Following construction, Iroquois would

restore these temporary work areas to pre-construction conditions. As a result, there would be no permanent impacts on visual resources from these work areas.

The most prominent feature at the existing station is the existing turbine exhaust stack, which is 49.7 feet in height; however, given the topography and vegetation buffers the existing facility is only visible at certain vantage points along County Road 26. Following construction, the most prominent features in the viewshed would include the existing turbine exhaust stack and the new turbine exhaust stack, which would be 69.2 feet in height. As previously discussed, the compressor station's location toward the back of the parcel minimizes its visibility during operation for passing motorists, while the new facilities are not expected to be visible from the World Olivet Assembly Center. While modifications at this station would disturb a limited amount of upland herbaceous land (4.1 acres) that is not currently maintained (see table B-5), no tree clearing would be required. Therefore, we conclude that no significant permanent visual impacts would occur from construction or operation of the Dover Compressor Station.

### **Brookfield Compressor Station**

Modifications at the Brookfield Compressor Station and associated ATWS, access roads, and contractor staging areas would require a total of 11.7 acres during construction. To accommodate the new facilities, Iroquois is proposing to expand the existing fenceline by about 1.5 acre. Following construction, about 3.5 acres would be maintained for operation of and access to the new facilities.

Visual receptors in the vicinity of this site are limited as the existing compressor station is on a dead-end road (High Meadow Lane) and is generally surrounded by vegetation, including mature trees. Further, Iroquois purchased the residential properties across the street from the existing facility; therefore, traffic on High Meadow Lane in proximity to the site would generally be limited to authorized personnel associated with construction and operation of the Project. The closest residences from workspaces for this facility are about 855 feet northeast of workspace BRD-CY-002 immediately adjacent to the existing compressor station site and 340 feet southwest of the corresponding off-site contractor staging area (BRD-CY-003). Two schools, the Whisconier Middle School and Montessori Community School, are about 2,100 feet northwest of the existing station on adjoining properties. We received several comments raising concerns for impacts on school age children from Project air emissions, noise (including vibration), and safety. These comments are addressed in sections B.8.1, B.8.2, and B.9, respectively.

As discussed above in section 5.2, the proposed Hunting Ridge Subdivision would be about 0.1 mile east of the existing Brookfield Compressor Station on a dead-end road. Although there are natural vegetation buffers between the compressor station site and the proposed development, depending on the project's final design, future residents of and

visitors to this development would also be potential visual receptors in vicinity of the Brookfield Compressor Station.

In addition to the existing facilities at the site, land within the fenceline includes paved and graveled areas, as well as maintained grass, while outside of the fenceline the parcel is predominately forested. As described above, the site is isolated with natural vegetation buffers and its location on a dead-end road provides limited opportunity for visual receptors to observe the facility. Visual impacts associated with construction activities for the Brookfield Compressor Station would be limited to the movement of equipment and construction personnel through nearby residential neighborhoods, as discussed in section B.6.2. Following construction, Iroquois would restore temporary work areas to pre-construction conditions. The exception would be the demolition of the houses recently acquired by Iroquois. Like the existing facility itself, these parcels are isolated; however, the removal of the houses, as well as the expansion of the existing fenceline, would result in a permanent change in the viewshed. Iroquois would not use either property during operation of the Project and Iroquois would not maintain the land so that it would be allowed to revegetate naturally. These properties and the associated vegetation would provide a buffer between the new facility and the planned development, such that operational impacts on the development would not be significant.

The most prominent features at the existing station are the existing turbine exhaust stacks, which are 54.8 and 52.6 feet in height; however, Iroquois is proposing to retrofit these existing stacks. Modifications at this station would require limited tree clearing (0.4 acre) on the Iroquois-owned parcel that accommodates the existing facility but which is not currently maintained (see table B-5). Following construction, the most prominent features in the viewshed would be the retrofitted (2) and new (2) turbine exhaust stacks, which would each be 69.2 feet in height. As previously discussed, the compressor station's location on a dead-end road, surrounded by forest land, minimizes visibility during operation. Because the modifications would be within the existing compressor station property, on a dead-end road with existing vegetation buffers, and the nearest residence is about 925 feet southeast, we conclude that no significant permanent visual impacts would occur from construction or operation of the Brookfield Compressor Station.

### **Milford Compressor Station**

Modifications at the Milford Compressor Station and associated ATWS, access roads and contractor staging areas would require a total of 4.3 acres, of which 3.6 acres would occur on the compressor station property owned by Iroquois. Following construction, about 2.3 acres within the existing fenceline would be maintained for operation of and access to the new facilities.

Visual receptors in the vicinity of this site would include current workers at the existing Milford Compressor Station, workers and visitors to nearby commercial

businesses, and motorists on Oronoque Road. The closest residences from workspaces for this facility are 1,550 feet southeast of the existing compressor station site and 728 feet northwest of the corresponding contractor staging area (MID-CY-002). In addition to the existing facilities at the site, the parcel includes paved and graveled areas, maintained grass, and some trees along the western, northern, and eastern boundaries of the property.

The existing station and proposed modifications are in an area characterized by existing industrial and commercial facilities. Iroquois is proposing use of two contractor staging areas (MID-CY-001 & MID-CY-002) along Oronoque Road, just north of the existing facility. Construction activities in these areas would be visible to motorists on Oronoque Road. Following construction, these temporary work areas would be restored to pre-construction conditions. As a result, there would be no permanent impacts on visual resources from these work areas.

The most prominent features at the existing station are the existing turbine exhaust stacks (2), which are each 52.1 feet in height. Modifications at this station would not require any tree clearing or disturbance of vegetation beyond that which is currently maintained as part of the existing facility site (see table B-5). Following construction, the most prominent feature in the viewshed would still be the existing turbine exhaust stacks, as the proposed gas coolers would only be about 16.5 feet in height. While the new facilities would be visible as new features in the viewshed, they would be smaller components within an existing facility site. Therefore, we conclude that no significant permanent visual impacts would occur from construction or operation of the Milford Compressor Station.

### **Contractor Staging Areas**

Iroquois is proposing use of seven contractor staging areas during construction of the Project; five of which are existing and the other two are recently purchased residential parcels (BRD-CY-001 and BRD-CY-002). No tree clearing or other ground disturbance would occur for use of these areas, except for ATS-CY-001, where Iroquois is proposing minor grading activities to stabilize the site for safe movement of vehicles and equipment. Following construction, Iroquois would restore the contractor staging areas to pre-construction conditions, except for BRD-CY-001 and BRD-CY-002, which would be allowed to revegetate naturally after initial seeding. As a result, there would be no permanent impacts on visual resources from these areas. The only impacts at these areas would be temporary during construction, when trailers, vehicles, pipe, and other construction-related material would be stored at these sites.

### **Access Roads**

To the extent feasible, existing public and private roads would be used as the primary means of accessing the aboveground facilities. In addition to existing public

roads, Iroquois has identified 13 existing access roads for use during construction of the Project. Use of existing access roads for construction and operation of the Project would not result in significant impacts on visual resources.

## **6. Socioeconomics**

The proposed Project would impact areas within Greene and Dutchess Counties in New York, and Fairfield and New Haven Counties in Connecticut with a combined population of 2.1 million people (U.S. Census Bureau 2020a). The Project includes modifications at existing facilities owned and operated by Iroquois; no pipeline facilities are proposed as part of the Project. Construction and operation of the Project would have minimal impacts on population, employment, transportation, and the local economy.

### **6.1 Employment and Tax Revenue**

Based on the U.S. Bureau of Labor Statistics, the average unemployment rate in 2019 for New York was 3.6 percent, with unemployment rates of 4.5 and 3.6 percent in Greene and Dutchess Counties, respectively. The average unemployment rate in 2019 for Connecticut was 3.7 percent, with an unemployment rate of 3.6 and 3.9 percent in Fairfield and New Haven Counties, respectively (U.S. Bureau of Labor Statistics 2020). Project construction would require estimated average and peak workforces of 325 and 400 workers, respectively, dispersed across the four compressor station sites. Due to the relatively short duration of construction, it is anticipated that most non-local workers would not be accompanied by their families. The influx of any non-local workers would be temporary and limited to the concurrent 9-month period of construction at each compressor station site. The increase in employment for local workers would result in a temporary and negligible impact on unemployment rates in the Project area and a negligible impact on the population and services of the local municipalities.

Given Iroquois owns the properties where the new facilities would be installed, we conclude it would not result in a significant, direct increase in tax revenues. The predominant source of tax revenue flowing into the Project area would therefore result from sales tax from the purchase of construction-related expenses and from the fuel, lodging, and food purchased by non-local construction workers during construction.

Iroquois does not anticipate hiring new staff to operate the new facilities; existing Iroquois' staff members would fill this role. Therefore, no long-term increase in population and employment or additional tax revenue within the counties crossed by the Project would be expected.

### **6.2 Transportation**

Construction of the Project may result in minor, temporary impacts on roadways due to construction and the movement of workers and heavy equipment. In addition to

the 13 existing access roads that Iroquois has identified for use during construction of the Project, Iroquois would access its existing facilities and contractor staging areas via existing public roads. These roads are listed in table 5A-1 of Iroquois' Residential Access and Traffic Management Plan.<sup>15</sup> The Project modifications would not involve the crossing of any railroads or public roads, and construction workspace would not impede roadways.

Motorists and bicyclists on roadways in the Project area may experience increased traffic due to the movement of heavy equipment and personnel. Impacts on residents from Project-related traffic would be mitigated by measures described in Iroquois' Residential Access and Traffic Management Plan. For example, Iroquois has committed to limiting the speed of construction vehicles in residential neighborhoods and scheduling delivery equipment outside of peak commute times, avoiding time periods associated with school related traffic, or from 6:45 to 7:45 am and 2:30 to 3:30 pm. Iroquois would establish temporary detours in consultation with transportation authorities, and in accordance with applicable permits. These impacts would be short-term, over the 9-month construction period, and dispersed throughout the Project area.

With Iroquois' implementation of its Residential Access and Traffic Management Plan, limited duration of construction activity, and adherence to applicable permits, we conclude impacts on transportation would be temporary, minor, and not significant. No new workers would be required for operation of the new facilities; therefore, we conclude no impacts on traffic patterns would occur for the operation of the Project.

### **6.3 Public Services**

During the concurrent 9-month construction period, the Project could result in an increased demand for public services; however, all work would occur at existing facility sites and the non-local workforce would be small relative to current population. The workforce anticipated for construction of the Project would average between 40 and 100 workers at a given facility, of which Iroquois anticipates less than 25 percent of the workforce would be hired locally. The existing inventory of schools (592), hospitals (7), fire departments (5), and police departments (4) in the Project area is sufficient to accommodate the influx of these workers across the Project area; therefore, we conclude that impacts on public services during construction of the Project would be temporary and minor. Iroquois would develop an incident planning program as part of its Emergency Response Plan, which would include measures for coordination with local emergency responders (see section B.9.1). Given the lack of new operational workforce, we conclude no impacts on public services would occur during operation of the Project.

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<sup>15</sup> Available on eLibrary under accession no. 20200203-5224.

## 6.4 Property Values

We received comments regarding the potential adverse effects of the Project on property values. FERC staff identified two recent studies that assessed the effects of natural gas pipeline compressor stations on property values. The first study was prepared for the National Fuel Gas Supply Corporation and assesses the impacts on property values in neighborhoods surrounding compressor stations in seven locations in New York. Sales data over the previous 15 years was evaluated and assessors from six of the seven areas were interviewed. The study found no quantifiable evidence of a discernable effect on property values or appreciation rates of properties within 0.5 mile of compressor stations. The study, which notes the general lack of sales data for analysis, identified the following commonalities among the seven areas: the compressor stations were sited on large land parcels and set back from the road, natural and constructed buffers were utilized, and compressor station sites were generally in rural areas removed from higher density development (Griebner 2015). These characteristics are generally consistent with the sites of the proposed modifications.

The second study, “A Study of Natural Gas Compressor Stations and Residential Property Values,” prepared for Tennessee Pipeline Company LLC, was based on four case studies in New Hampshire and Massachusetts, and compared the value of properties close to compressor stations to properties farther away. The study relied on available market data and interviews with town assessors, building department representatives, and other government representatives. The study concluded that the presence of a compressor station did not generally affect property values in the area. The study indicated a higher confidence in this conclusion for properties more than 0.5 mile from compressor stations. The reason for this is that the areas surrounding the compressor stations in each of the case studies were more rural in nature, and therefore there was a comparative lack of sales data in the immediate vicinity of the compressor stations as compared to the area 0.5 mile away. Overall, the study concluded that “well designed and operated compressor stations on larger sites with adequate buffers should have minimal impact on surrounding land uses and residential property values” (Foster 2016).

We recognize that the studies cited above do not necessarily have a one to one applicability to all areas affected by Project. However, the studies considered compressor stations that are generally in rural areas with a mix of residential and industrial/commercial uses similar to the proposed locations of modifications for the Project. The new facilities would be installed at existing compressor station sites on relatively large parcels (over 40 acres) owned by Iroquois, which serve as natural barriers to noise and visibility, except for the Milford Compressor Station, which is on a 4.8-acre parcel; however, modifications at this site would be limited to additional cooling facilities. Further, as discussed in section B.8.2, each facility would meet our noise requirements at noise sensitive areas (NSA). As discussed in section B.5, modifications at the existing Athens, Dover, and Brookfield Compressor Stations are proposed such that

they are not readily visible from nearby residences or roadways; however the relocated storage shed would be a new feature in the viewshed at the Athens Compressor Station. Modifications at the Milford Compressor Station include new facilities that are substantially smaller than the existing facility components.

We acknowledge that it is reasonable to expect that property values may be impacted differently based on the setting and inherent characteristics of each property. Based on the research we have reviewed; however, we find no conclusive evidence indicating that compressor stations would have a significant negative impact on property values. This is not to say that any one property may or may not experience an impact on property value for either the short or long-term.

## **6.5 Environmental Justice**

Environmental justice considers disproportionately high and adverse impacts on minority or low-income populations in the surrounding community resulting from the programs, policies, or activities of federal agencies. Items considered in the evaluation of environmental justice include human health or environmental hazards the natural physical environment; and associated social, economic, and cultural factors.

According to the CEQ environmental justice guidance under NEPA (CEQ 1997) and *Promising Practices for EJ Methodologies in NEPA Reviews* (USEPA 2016), minorities are those groups that include American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. For this analysis, minority populations at the block group level are defined where either (a) the minority population of the affected area exceeds 50 percent, or (b) the minority population of the affected area is meaningfully greater (10 percent greater) than the minority population percentage in the county or state. The guidance also directs low-income populations to be identified based on the annual statistical poverty thresholds from the U.S. Census Bureau. If the percent of low-income populations in the identified block group is equal to or greater than that of the county, then an environmental justice community is present. Table B-10 provides a summary of the minority or low-income percentage of populations crossed by the Project.

**Table B-10  
Minority Populations and Poverty Levels in the Vicinity of the Proposed Modifications**

<b>State/County/ Block Group/Tract</b>	<b>White, not Hispanic or Latino</b>	<b>African- American</b>	<b>Hispanic or Latino</b>	<b>Asian</b>	<b>American Indian and Alaskan Native</b>	<b>Native Hawaiian and Pacific Islander</b>	<b>Two or More Races</b>	<b>Minority Populations</b>	<b>Population Below Poverty<sup>a</sup></b>
<b>NEW YORK</b>	63.8%	15.6%	18.9%	8.3%	0.4%	0.0%	3.1%	36.2%	14.3%
<b>Athens Compressor Station</b>									
<i>Greene County</i>	89.7%	6.2%	5.8%	1.1%	0.6%	0.0%	1.4%	10.3%	12.7%
<i>Block Group 2</i>									
Tract 809	99.6%	0.4%	0.5%	0.0%	0.0%	0.0%	0.0%	0.4%	0.0%
<i>Block Group 3</i>									
Tract 809	88.2%	6.1%	16.6%	4.2%	0.0%	0.0%	0.4%	11.8%	<b>13.2%</b>
<b>Dover Compressor Station</b>									
<i>Dutchess County</i>	78.3%	10.5%	11.9%	3.6%	0.4%	0.0%	3.2%	21.7%	9.1%
<i>Block Group 1</i>									
Tract 400.01	100.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tract 400.03	86.3%	6.6%	23.6%	2.4%	0.0%	0.0%	3.3%	13.7%	<b>14.1%</b>
<i>Block Group 2</i>									
Tract 400.01	93.7%	1.5%	13.8%	3.1%	0.0%	0.0%	0.0%	6.3%	6.5%
<b>CONNECTICUT</b>	76.4%	10.6%	15.7%	4.4%	0.3%	0.0%	3.2%	23.6%	10.0%
<b>Brookfield Compressor Station</b>									
<i>Fairfield County</i>	73.2%	11.4%	19.3%	5.3%	0.2%	0.1%	2.9%	26.8%	8.9%
<i>Block Group 1</i>									
Tract 2003.01	78.1%	0.6%	6.8%	12.4%	0.0%	0.0%	5.7%	21.9%	1.8%
Tract 2053	93.4%	0.8%	1.2%	0.8%	0.0%	0.0%	5.0%	6.6%	4.2%

**Table B-10 (continued)**  
**Minority Populations and Poverty Levels in the Vicinity of the Proposed Modifications**

<b>State/County/ Block Group/Tract</b>	<b>White, not Hispanic or Latino</b>	<b>African- American</b>	<b>Hispanic or Latino</b>	<b>Asian</b>	<b>American Indian and Alaskan Native</b>	<b>Native Hawaiian and Pacific Islander</b>	<b>Two or More Races</b>	<b>Minority Populations</b>	<b>Population Below Poverty<sup>a</sup></b>
<i>Block Group 2</i>									
Tract 2052	94.4%	0.4%	7.8%	1.6%	0.0%	0.0%	2.0%	5.6%	0.6%
Tract 2053	79.5%	2.3%	14.3%	9.1%	0.0%	0.0%	9.1%	20.5%	8.3%
<i>Block Group 3</i>									
Tract 2301	94.1%	0.1%	3.0%	4.9%	0.0%	0.0%	0.9%	5.9%	2.3%
<b>Milford Compressor Station</b>									
<b><i>New Haven County</i></b>	73.8%	13.2%	17.6%	4.0%	0.2%	0.0%	3.2%	26.2%	11.7%
<i>Block Group 1</i>									
Tract 1506	94.5%	0.0%	0.0%	0.0%	0.0%	0.0%	5.5%	5.5%	9.8%
<i>Block Group 2</i>									
Tract 1506	97.4%	0.0%	9.8%	2.6%	0.0%	0.0%	0.0%	2.6%	<b>27.7%</b>
<i>Block Group 3</i>									
Tract 1507	87.5%	0.7%	0.7%	11.0%	0.0%	0.0%	0.7%	12.5%	0.0%
<i>Block Group 5</i>									
Tract 1506	90.7%	0.5%	9.7%	7.0%	0.0%	0.0%	0.9%	9.3%	8.8%
<b><i>Fairfield County</i></b>	73.2%	11.4%	19.3%	5.3%	0.2%	0.1%	2.9%	26.8%	8.9%
<i>Block Group 1</i>									
Tract 808	82.8%	14.1%	5.9%	1.3%	0.0%	0.0%	1.9%	17.2%	0.0%
Tract 812	81.6%	9.8%	6.2%	2.8%	0.0%	0.0%	5.8%	18.4%	5.9%
<i>Block Group 3</i>									
Tract 813	97.4%	0.0%	6.9%	0.0%	0.0%	0.0%	2.4%	2.6%	<b>13.3%</b>

**Table B-10 (continued)**  
**Minority Populations and Poverty Levels in the Vicinity of the Proposed Modifications**

<b>State/County/ Block Group/Tract</b>	<b>White, not Hispanic or Latino</b>	<b>African- American</b>	<b>Hispanic or Latino</b>	<b>Asian</b>	<b>American Indian and Alaskan Native</b>	<b>Native Hawaiian and Pacific Islander</b>	<b>Two or More Races</b>	<b>Minority Populations</b>	<b>Population Below Poverty<sup>a</sup></b>
<i>Block Group 4</i>									
Tract 813	65.6%	0.0%	19.9%	31.9%	0.0%	0.0%	0.0%	<b>34.4%</b>	0.0%

Source: U.S. Census Bureau 2020 b,c,d

<sup>a</sup> Gray fill cells with **bold font** indicate a statistic that exceeds the defined threshold and thus indicates the presence of a low-income population.

We received comments expressing concern for impacts on minority and low-income populations and school age children; therefore, our analysis which is based on block groups within 1.0 mile of the proposed aboveground facilities also includes the percentage of the total populations that are children under the age of 18 years. In Greene and Dutchess Counties, New York, minorities comprise 10.3 and 21.7 percent of the total population, respectively, which is less than the state (36.2 percent). In Fairfield and New Haven Counties, Connecticut, minorities comprise 26.8 and 26.2 percent of the total population, respectively, which is slightly higher than the state (23.6 percent). None of the block groups within 1.0 mile of the proposed modifications in New York or Connecticut have minority populations that are higher than 50 percent of the population. Only one block group in Fairfield County, Connecticut (Census Tract 813, Block Group 4) has a minority population (34.4) that is meaningfully greater than that of state's minority population (23.6) but not as compared to the county (26.8).

The percentage of low-income individuals living in block groups within 1.0 mile of the Athens and Dover Compressor Stations range from 0.0 to 14.1. Five of the seven block groups within 1.0 mile of the Athens and Dover Compressor Stations are comparable to the respective county (12.7 percent in Greene County and 9.1 percent in Dutchess County) and all are below the State of New York's percentage of low-income individuals (14.3 percent). Census Tract 809, Block Group 3 and Census Tract 400.03, Block Group 1 each have slightly higher percentages of low-income individuals (13.2 and 14.1 percent, respectively) as compared to the respective county; however, they are comparable to the state (14.3 percent).

The percentage of low-income individuals living in block groups within 1.0 mile of the Brookfield Compressor Station range from 0.6 to 8.3, which are below both the county (8.9 percent) and the state (10.0 percent). Similarly, six of the eight block groups within 1.0 mile of the Milford Compressor Station are below to the county and state; however, Census Tract 813, Block Group 3's percentage of low-income individuals (13.3) is higher than Fairfield County (8.9 percent). Census Tract 1506, Block Group's percentage of low-income individuals (27.7) is higher than both the state and New Haven County (11.7 percent). Based on our analysis above, and per USEPA guidelines stated above, environmental justice populations exist within the study area.

The percentage of children 17 years of age or younger ranges from 15.0 to 22.2 percent in census tracts<sup>16</sup> within 1.0 mile of the compressor stations in Greene and Dutchess Counties, New York, with an average across the census tracts of 18.8 percent (U.S. Census 2020e). These percentages are comparable with the State of New York (19.4 percent) and applicable counties (16.9 and 19.4 percent, respectively). The percentage of children 17 years of age or younger in census tracts within 1.0 mile of the compressor stations in Connecticut ranges between 11.0 and 23.8 percent in Fairfield and New Haven Counties, Connecticut, with an average across the census tracts of 20.2

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<sup>16</sup> This data is not available at the block group level.

percent. These percentages are comparable with the State of Connecticut (21.0 percent) and applicable counties (23.0 and 20.6 percent, respectively). As discussed in section B.5.5, two schools are within 1.0 mile each of the Dover and Brookfield Compressor Stations.

As described in section A.9, we have made several documents and notices about the Project available to the public (including mailing them to the individual landowners). Overall, the Project would result in negligible to minor negative impacts and negligible to minor positive impacts on socioeconomic characteristics and economies in the Project area. As discussed throughout this EA, potentially adverse environmental effects associated with the Project would be minimized or mitigated, as applicable.

As discussed in section B.5.5, the Project aboveground facilities would be constructed within existing facility sites that contain similar infrastructure, and on land classified as industrial/commercial land use. As stated above, except for the Milford Compressor Station, the modifications would occur at existing compressor stations that are not readily visible from nearby residences or roadways. While the Milford Compressor Station may be immediately visible, the proposed modifications would occur in an area characterized by existing industrial and commercial facilities, would be smaller than the components at existing facility, and the closest residences to the facility are over 1,500 feet from the existing station. Further, the identified environmental justice populations are sufficiently removed from the existing station (over 0.7 mile) such that the modified facilities would not be visible to visual receptors in these block groups. Therefore, while the new facilities, most notably the new turbine exhaust stacks, would be visible as new features in the viewshed, they would be similar to the existing facilities at these sites and would not have a significant impact on environmental justice populations.

Area residents may be affected by traffic delays (as discussed above) during construction of the Project. However, with Iroquois' commitment to implementing mitigation measures to alleviate potential road congestion during construction through avoidance of peak commute times, periods associated with school related traffic, and in consultation with transportation authorities, we conclude impacts on the population, including environmental justice populations, would be minor and short-term.

Potential pollution emissions from the Project, when considered with background concentrations, would be below standards which are designated to protect public health as discussed in section B.8.1. Further, Iroquois is proposing to install oxidation catalysts to the existing and new turbines which would reduce emissions. Therefore, the Project would not have significant adverse air quality impacts on the low-income or minority populations in the Project area. Iroquois conducted a human health risk assessment (risk assessment) for the Project which concluded that current and projected emissions at the compressor station sites are and will be well below a level of health concern and do not

pose an unacceptable chronic or acute risk to human health. This risk assessment and air quality impacts from the Project are discussed in more detail within section B.8.1.

Temporary construction impacts on residences and businesses in proximity to construction work areas could include noise. As discussed in section B.8.2, noise levels resulting from construction would vary over time and would depend upon the number and type of equipment operating, the level of operation, and the distance between sources and receptors. Operational noise associated with the new compressor stations and cooling equipment would be persistent; however, Iroquois would be required to meet FERC's sound level requirements, which are discussed in detail in section B.8.2. The environmental justice populations identified above are 0.7 mile or further from the existing stations, except for at the Dover Compressor Station, where the environmental justice population occurs immediately adjacent, on the west side of County Road 26, and the closet residence is about 480 feet west of the proposed workspace for modifications at this station. As discussed in section B.8.2, noise from construction and operation of the Project would attenuate over distance and estimated increases in noise for the nearest residences, from distances ranging between 1,550 to 2,000 feet, would be below the threshold for human perception. With Iroquois' proposed mitigation measures and our recommendations in section B.8.2, the Project would not result in significant noise impacts on local residents and the surrounding communities.

In conclusion, as highlighted in table B-10, five block groups within 1.0 mile of the Project contain environmental justice populations. Potentially adverse environmental effects associated with the Project on surrounding communities, including environmental justice populations, would be minimized and/or mitigated, as applicable, below a level of significance. As discussed in section B.8.1, potential pollution emissions from the Project, when considered with background concentrations, would be below the National Ambient Air Quality Standards (NAAQS), which are designated to protect public health, including sensitive populations such as children. Therefore, based on our analysis we conclude that the Project would not result in disproportionately high and adverse impacts on environmental justice populations within the study area.

## **7. Cultural Resources**

Section 106 of the NHPA, as amended, requires the FERC to take into account the effects of its undertakings on properties listed in, or eligible for listing in, the National Register of Historic Places, and to afford the Advisory Council on Historic Preservation an opportunity to comment on the undertaking. Iroquois, as a non-federal party, is assisting the Commission in meeting our obligations under Section 106 and the implementing regulations by preparing the necessary information, analyses, and recommendations, as authorized by 36 CFR 800.2(a)(3).

## 7.1 Cultural Resources Investigations

### New York

In September of 2019, an archaeological field survey was completed for the Dover Compressor Station, and a Phase I Cultural Resources Survey report was submitted to the New York State Historic Preservation Office (SHPO) and the FERC. The survey included subsurface investigation by shovel testing. All eight excavated tests were negative and Iroquois recommended no further work at the Dover Compressor Station. No survey was recommended for the Athens Compressor Station or contractor staging area due to previous disturbance. In a March 12, 2020 letter, the SHPO concurred with the findings and recommendations. We also concur.

Iroquois also completed a survey for aboveground historic architectural resources and provided an Architectural Reconnaissance Report to the New York SHPO and the FERC. The study area consisted of the limits of disturbance for the existing Athens and Dover Compressor Stations, as well as areas of indirect impact which took into account potential visual effects, defined as an area within 0.5 mile of the new proposed facilities. The survey resulted in the identification of 13 architectural resources around the Athens Compressor Station, and 14 architectural resources around the Dover Compressor Station, that were 50 years of age or older. Of these, two and eight properties in the vicinity of the Athens and Dover Compressor Stations, respectively, were recommended as National Register of Historic Places-eligible. For each of the eligible properties, a recommendation was made to the SHPO to review Project plans to adequately assess the potential for adverse effects. In a March 26, 2020 letter, the SHPO indicated that based on its review, the Project would “have no adverse effect to historic and cultural resources.” We agree with the SHPO.

### Connecticut

In September and December of 2019, Iroquois completed an archaeological survey at the Brookfield Compressor Station, and on the recently purchased properties across the street from the existing station,<sup>17</sup> and submitted a Phase I Cultural Resources Survey report to the Connecticut SHPO and the FERC. The survey included subsurface investigation by shovel testing. All eight excavated tests were negative and no further work was recommended. No survey was recommended at the off-site contractor staging areas for the Brookfield Compressor Station (BRD-CY-003 and BRD-CY-004), the Milford Compressor Station site, or the associated contractor staging areas (MID-CY-001 and MID-CY-002) due to previous disturbance and previous survey coverage. In a

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<sup>17</sup> As discussed in sections A.5.2 and B.5.1, Iroquois is proposing to use these properties as contractor staging areas during construction.

March 27, 2020 letter, the SHPO concurred with the findings and recommendations. We also concur.

Iroquois also completed a survey for aboveground historic architectural resources and provided an Architectural Survey report to the Connecticut SHPO and the FERC. The study area consisted of the limits of disturbance for the existing Brookfield Compressor Station, as well as areas of indirect impact which took into account potential visual effects, defined as an area within 0.5 mile of the new proposed facilities. The proposed modifications to the Milford Compressor Station site would be low to the ground and are not expected to change the facility's visual impact; therefore, no architectural investigations were recommended. The survey resulted in the identification of 51 extant structures that were 50 years of age or older within the 0.5-mile study area, including 4 eligible properties on Whisconier Road. In its March 27, 2020 letter, the SHPO indicated that no historic properties would be affected by the Project. We agree with the SHPO.

## **7.2 Native American Consultation**

On October 21, 2019, Iroquois sent initial consultation letters to nine federally recognized Native American tribes including the Delaware Nation, Delaware Tribe of Indians, Mashantucket (Western) Pequot Tribal Nation, Mohican Tribe of Indians of Connecticut, Narragansett Indian Tribe, Onondaga Indian Nation, Saint Regis Mohawk Tribe of Indians, the Seneca Nation, and the Stockbridge-Munsee Band of Mohican Indians of Wisconsin. In December 2019, Iroquois made follow-up phone calls to each of the tribes that had not responded. On December 9, 2019, the Delaware Nation requested to be included in the Section 106 consultation process. On February 26, 2020, Iroquois sent electronic copies of the draft cultural resources survey reports to the Delaware Nation. No further comments from the Delaware Nation have been received. To date, no responses from the other contacted tribes have been received. We sent our NOI to these same nine tribes. No responses to our NOI have been received.

## **7.3 Unanticipated Discovery Plan**

Iroquois has provided an Unanticipated Discovery Plan that it would implement in the event that previously unreported archeological sites or human remains were encountered during construction. The plan provides for the notification of interested parties, including the appropriate Native American tribes, in the event of any discovery. We requested revisions to the plan, which Iroquois incorporated in a revised plan. We have reviewed the revised plan and find it acceptable.

## **7.4 Compliance with the National Historic Preservation Act**

Cultural resources surveys and consultation with the New York and Connecticut SHPOs is complete. Therefore, the process of complying with Section 106 of the NHPA is complete.

## **8. Air and Noise**

### **8.1 Air Quality**

Local and regional air quality in the Project area would potentially be affected by construction and operation of the Project. This section summarizes federal and state air quality regulations that are applicable to the proposed facilities. This section also characterizes the existing air quality and describes potential impacts the facilities may have on air quality regionally and locally.

The term air quality refers to relative concentrations of pollutants in the ambient air. Pollutants of concern are primarily ground-level ozone (ozone), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), and respirable and fine particulate matter (inhalable particulate matter with an aerodynamic diameter less than or equal to 10 microns [PM<sub>10</sub>] and less than or equal to 2.5 microns [PM<sub>2.5</sub>]). Ozone is not directly emitted into the atmosphere from an emissions source. Ozone develops as a result of a chemical reaction between NO<sub>x</sub> and volatile organic compounds (VOC) in the presence of sunlight.

As well as being the reactant to form ozone, VOCs are a subset of organic compounds that are emitted during fossil-fuel combustion and can cause a variety of health effects, from irritation to more serious health impacts. Fossil fuels would be used in construction equipment for the Project and during operation of the compressor stations. Hazardous air pollutants (HAP) are also emitted during fossil-fuel combustion and contain compounds that are known or suspected of causing cancer and other serious health effects.

Additionally, fugitive dust would be generated during Project construction from earth-moving, wind-blown dust from stockpiles, and road dust. The majority of fugitive dust would be particulate matter in excess of 10 microns, but a portion would be PM<sub>10</sub> and PM<sub>2.5</sub>.

The term “greenhouse gases” (GHG) refers to the gases and aerosols that occur in the atmosphere both naturally and as a result of human activities, such as the burning of fossil fuels. GHGs produced by fossil-fuel combustion are primarily carbon dioxide (CO<sub>2</sub>), methane, and nitrous oxide. GHGs’ status as a pollutant is not related to toxicity, as they are non-hazardous to health at normal ambient concentrations. GHGs absorb infrared radiation in the atmosphere, and an increase in emissions of these gases is the

primary cause of warming of the climatic system.<sup>18</sup> Construction and operation of the Project would result in GHG emissions.

### **Existing Air Quality**

The Project area for this air analysis includes Greene and Dutchess Counties, New York, and Fairfield and New Haven Counties, Connecticut. The climate of the Project area is primarily characterized as continental (Millison 2020), with short and moderately cold winters lasting from December into mid-March, warm summers with periods of substantially elevated temperatures and humidity, and mild autumns. Athens and Dover receive significant seasonal variation in monthly precipitation and are vulnerable to significant snowfall accumulations during the winter months. The maximum daily average temperatures peak at about 84.9 degrees Fahrenheit (°F) in July near Brookfield and minimum average daily temperatures are typically lowest in January at 14.5°F near the town of Athens. Precipitation in the Project area varies, with an average monthly high of 5.0 inches in July near Brookfield and an average monthly low of 2.2 inches in February near Athens (NOAA 2020, NOAA-NWS 2020 a-d).

Ambient air quality is protected by the Clean Air Act (CAA) of 1970, as amended in 1977 and 1990. The USEPA oversees the implementation of the CAA and establishes NAAQS to protect human health and welfare (USEPA 2020e).<sup>19</sup> NAAQS have been developed for seven “criteria air pollutants,” including nitrogen dioxide (NO<sub>2</sub>), CO, ozone, SO<sub>2</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, and lead, and include levels for short-term (acute) and long-term (chronic) exposures. The NAAQS include two standards, which are primary and secondary. Primary standards establish limits that are considered to be protective of human health and welfare, including sensitive populations such as children, the elderly, and those with compromised respiratory function, i.e. asthmatics. Secondary standards set limits to protect public welfare, including protection against reduced visibility and damage to crops, vegetation, animals, and buildings (USEPA 2020e).

Under the CAA, each state prepares a State Implementation Plan (SIP) to demonstrate the state’s air quality management program to attain or maintain the NAAQS. States must adopt standards that are at least as stringent as the NAAQS. At the state level, New York has adopted the NAAQS and state ambient air quality standards for sulfur dioxide, suspended particulates, settleable particulates (dustfall), fluorides, and hydrogen sulfide that are codified at Title 6, Chapter III, Subchapter B, Part 257 of the New York Codes, Rules, and Regulations (NYCRR). Connecticut has adopted the

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<sup>18</sup> Further information regarding GHGs and increasing levels of CO<sub>2</sub> can be found at <https://www.epa.gov/climate-indicators> and <https://archive.epa.gov/epa/climate-change-science/causes-climate-change.html#:~:text=Since%20the%20Industrial%20Revolution%20began,Earth's%20surface%20temperature%20to%20rise.>

<sup>19</sup> The current NAAQS are listed on the USEPA’s website at <https://www.epa.gov/criteria-air-pollutants/naaqs-table>.

NAAQS and state ambient air quality standards for 24-hour and annual sulfur dioxide codified at Regulations of Connecticut State Agencies (RCSA) Section 22a-174-24.

The USEPA, and state and local agencies have established a network of ambient air quality monitoring stations to measure concentrations of criteria pollutants across the United States. The data are then averaged over a specific time period and used by regulatory agencies to determine compliance with the NAAQS and to determine if an area is in attainment (criteria pollutant concentrations are below the NAAQS), nonattainment (criteria pollutant concentrations exceed the NAAQS), or maintenance (area was formerly nonattainment and is currently in attainment). Fairfield and New Haven Counties in Connecticut are designated as serious and moderate nonattainment for the 2008 and the 2015 ozone standards, respectively. All counties in the Project area are in attainment for all other criteria pollutants.

In addition, New York and Connecticut are within the Ozone Transport Region (OTR), which includes 11 states in the Northeast and the Mid-Atlantic, the District of Columbia, and parts of northern Virginia. Ozone transport from states in the OTR contributes to ozone NAAQS violations in one or more other states. Stationary sources in these states are subject to more stringent permitting requirements, and various regulatory thresholds are lower for the pollutants that form ozone, even if they meet the ozone NAAQS. Each state in the OTR is required to submit a SIP and enact measures to limit emissions of ozone precursors.

The USEPA defines air pollution to include GHGs, finding that the presence of GHGs in the atmosphere may endanger public health and welfare through climate change. GHGs occur in the atmosphere both naturally and as a result of fossil-fuel combustion and land use change. The primary GHGs that would be emitted by the Project are CO<sub>2</sub>, methane, and nitrous oxide. Emissions of GHGs are typically quantified and regulated in units of CO<sub>2</sub> equivalents (CO<sub>2</sub>e). The CO<sub>2</sub>e takes into account the global warming potential (GWP) of each GHG. The GWP is the measure of a particular GHG's ability to absorb solar radiation as well as its residence time within the atmosphere. The GWP allows comparison of global warming impacts between different gases; the higher the GWP, the more that gas contributes to climate change in comparison to CO<sub>2</sub>. Thus, CO<sub>2</sub> has a GWP of 1, methane has a GWP of 25, and nitrous oxide has a GWP of 298.<sup>20</sup> There are no applicable ambient standards or emission limits for GHG under the CAA.

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<sup>20</sup> These GWPs are based on a 100-year time period. We have selected their use over other published GWPs for other timeframes because these are the GWPs the USEPA has established for reporting of GHG emissions and air permitting requirements. This allows for a consistent comparison with these regulatory requirements.

## **Federal Air Quality Requirements**

The provisions of the CAA that are applicable to the Project are discussed below. The estimated potential operational emissions for the Athens, Dover, Brookfield, and Milford Compressor Stations are presented in table B-13, below.

### **Prevention of Significant Deterioration and New Source Review**

Proposed new or modified air pollutant emission sources must undergo a New Source Review (NSR) prior to construction or operation. Through the NSR permitting process, federal and state regulatory agencies review and approve project emissions increases or changes, emissions controls, and various other details to ensure air quality does not deteriorate as a result of new or modified existing emission sources. The three basic categories of NSR permitting are Prevention of Significant Deterioration (PSD), Nonattainment New Source Review (NNSR), and minor source NSR. PSD, NNSR, and minor source NSR are applicable depending on the size of the proposed project, the projected emissions, and if the project is proposed in an attainment area or nonattainment/maintenance area. The NYSDEC administers the NSR and PSD program in New York; the CTDEEP administers the program in Connecticut.

PSD regulations define a major source as any source type belonging to a list of named source categories that have a potential to emit 100 tons per year (tpy) or more of any regulated pollutant or 250 tpy for sources not among the listed source categories. These are referred to as the PSD major source thresholds. Based on the estimated operating emissions presented in table B-13, major source NSR permits would not be required for the Project. The Athens and Dover Compressor Stations are existing minor PSD and NSR sources and Iroquois would be required to obtain minor modification air permits from NYSDEC for the Project. The Brookfield Compressor Station is an existing minor PSD source and major source of NO<sub>x</sub> emissions with respect to the NNSR program, and Iroquois would be required to obtain state NSR permits for each of the two new proposed compressor turbines and minor NSR permit modifications for each of the two existing turbines from CTDEEP. The Milford Compressor Station is an existing minor PSD source. The proposed modifications would not involve emission increases from current permitted levels; therefore, an air permit would not be required for the Milford Compressor Station. Permit applications are currently under review with NYSDEC and CTDEEP.

### **Title V Permitting**

Title V is an operating air permit program run by each state for each facility that is considered a “major source.” The major source threshold for an air emission source is 100 tpy for criteria pollutants (or lower as defined by nonattainment status), 10 tpy for any single HAP, and 25 tpy for total HAPs. Based on the potential emission rates for each stationary source facility presented in table B-13, the modifications at the Athens,

Dover, and Milford Compressor Stations would not meet the definition of a major source and would therefore not be required to obtain Title V major source permits. Sources may not be required to obtain a Title V permit on the basis of GHG emissions alone, per the Supreme Court's ruling in *Utility Air Regulatory Group v. EPA*, and federal regulations that required a Title V permit have been vacated as a result of this and other legal proceedings in the D.C. Circuit Court of Appeals. The NYCRR regulations have not been updated, pending additional USEPA rulemaking regarding a proposed significant emissions rate for PSD permitting. GHG emissions at Dover Compressor Station would exceed the state major source limit of 100,000 tpy; however, NYSDEC has exerted their discretion to defer enforcement of Title V permitting requirements on sources that become major sources of only greenhouse gases until the state rules have been amended to be consistent with those established by the USEPA (NYSDEC 2016). The Brookfield Compressor Station is an existing Title V major source for NO<sub>x</sub> emissions, and Iroquois would be required to modify the existing Title V permit for this station, subsequent to NSR permit review.

### **New Source Performance Standards**

The USEPA promulgates New Source Performance Standards (NSPS) for new, modified, or reconstructed stationary sources to control emissions to the level achievable by the best-demonstrated technology for stationary source types or categories as specified in the applicable provisions. The NSPS also establish fuel, monitoring, notification, reporting, and recordkeeping requirements.

NSPS Subpart GG sets emission standards from existing stationary combustion turbines. NSPS Subpart GG will continue to apply to the existing Athens Compressor Station turbine. Turbines constructed or modified after February 18, 2005 are subject to Subpart KKKK, described below.

NSPS Subpart JJJJ sets emission standards for NO<sub>x</sub>, CO, and VOCs from new stationary spark ignition internal combustion engines. Subpart JJJJ would apply to the new emergency generator engines at the Brookfield and Dover Compressor Stations.

NSPS Subpart KKKK sets emission standards from new stationary combustion turbines. Subpart KKKK would apply to the new turbines at the Athens, Dover, and Brookfield Compressor Stations and would continue to apply to the existing turbine at the Dover Compressor Station.

Iroquois would be required to comply with all applicable requirements of these NSPS.

## **National Emission Standards for Hazardous Air Pollutants**

The 1990 CAA amendments established a list of 189 HAPs, resulting in the promulgation of National Emission Standards for Hazardous Air Pollutants (NESHAP). The NESHAPs regulate HAP emissions from specific source types at major or area sources of HAPs by setting emission limits, monitoring, testing, record keeping, and notification requirements.

None of the proposed modifications at Iroquois' compressor stations would be major sources of HAPs. The Brookfield and Dover Compressor Stations would include the addition of new emergency generator engines, which would require compliance with NESHAP Subpart ZZZZ. Iroquois would comply with Subpart ZZZZ by meeting the requirements of NSPS JJJJ.

### **General Conformity**

The General Conformity Rule was developed to ensure that federal actions in nonattainment and maintenance areas do not impede states' attainment of the NAAQS. The General Conformity Rule is codified in 40 CFR 51, Subpart W and 93 Subpart B, *Determining Conformity of General Federal Actions to State or Federal Implementation Plans*. A conformity determination must be conducted by the lead federal agency if a federal action's unpermitted construction and/or operational activities are likely to result in generating direct and indirect emissions that would exceed the conformity threshold (*de minimus*) levels of the pollutant(s) for which an area is in nonattainment or maintenance.

Conforming activities or actions should not, through additional air pollutant emissions:

- cause or contribute to new violations of the NAAQS in any area;
- increase the frequency or severity of any existing violation of any NAAQS; or
- delay timely attainment of any NAAQS or interim emission reductions.

The General Conformity Rule entails both an applicability analysis and a subsequent conformity determination, if applicable. A General Conformity Determination must be completed when the total direct and indirect emissions of a project would equal or exceed specified pollutant thresholds on a calendar year basis for each nonattainment or maintenance area.

Estimated emissions for the Project subject to review under the general conformity thresholds include construction emissions and operational emissions not subject to major or minor NSR permitting. Operational emissions from the modified Project facilities that are not subject to NSR permitting are limited to minor fugitive releases and

blowdown/vented emissions, and these emissions would not exceed general conformity applicability thresholds. Detailed construction emissions are presented in table B-11 and a comparison of the construction emissions to applicable general conformity thresholds are presented in table B-12, below.<sup>21</sup> Construction emission estimates for the Project would not exceed general conformity applicability thresholds; therefore, a General Conformity Determination is not required.

### **Greenhouse Gas Mandatory Reporting Rule**

The USEPA's Mandatory Reporting of Greenhouse Gases Rule requires reporting from applicable sources of GHG emissions if they emit greater than or equal to 25,000 metric tons of GHGs (as CO<sub>2</sub>e) in one year. The Mandatory Reporting Rule does not require emission control devices and is strictly a reporting requirement for stationary sources based on actual emissions. Although the rule does not apply to construction emissions, we have provided GHG construction emission estimates, as CO<sub>2</sub>e, for accounting and disclosure purposes in table B-11, below. Operational GHG emission estimates are presented, as CO<sub>2</sub>e, in table B-13, below. Based on the emission estimates presented, actual GHG emissions from operation of the modified Athens, Dover, and Brookfield Compressor Stations would likely exceed the 25,000-tpy reporting threshold at each station and reporting requirements for the Mandatory Reporting Rule would therefore be applicable to the Project.

### **State Regulations**

This section discusses the potentially applicable state air regulations for the Project. Emissions resulting from the Project are subject to New York air quality standards, codified in the NYCRR, and Connecticut air quality standards, codified in the RCSA. Specific regulations and their applicability are reviewed below. Iroquois submitted state permit applications addressing applicable federal and state requirements in 2020,<sup>22</sup> as further described below.

### **New York**

Air pollution control regulations are promulgated in Title 6, Chapter III of the NYCRR. Federal programs that are incorporated into New York's code include NESHAP, NSPS, and NSR. New York has full delegation from the USEPA for air permitting programs. State Air Facility Permit modifications from the NYSDEC are required prior to construction of the facilities at the Athens and Dover Compressor Stations, which are minor sources subject to NSR permitting review. Iroquois filed its

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<sup>21</sup> Detailed emissions calculations for the emission estimates identified in tables B-11 and B-12 were filed in Iroquois' May 19, 2020 submittal and are available for public review on eLibrary under accession no. 20200519-5095.

<sup>22</sup> Copies of state permit application packages are available for public review on eLibrary under accession no. 20200414-5080.

State Air Facility Permit modification applications on April 3, 2020 for the modifications at the Athens and Dover Compressor Stations. Final Air Facility Permit issuances are pending.

In addition to controls for combustion emission sources, the following state regulations are applicable to the Project in New York and Iroquois would be required to maintain compliance. Title 6 NYCRR Section 211.1 limits the emission of outdoor fugitive air contaminants which unreasonably interfere with the comfortable enjoyment of life or property including, but not limited to any particulate, fume, gas, mist, odor, smoke, vapor, pollen, toxic, or deleterious emission.

Title 6 NYCRR Section 211.1 prohibits fugitive particulate matter emissions into the outdoor atmosphere to the extent that the emissions have an opacity equal to or greater than 20 percent in a six-minute average except for one continuous six-minute period per hour of not more than 57 percent opacity.

Title 6 NYCRR Section 217-5 established a heavy-duty diesel emission program under Section 177 of the CAA designed to achieve emission reductions of the precursors of ozone, particulate matter, air toxics, and other air pollutants. Certain provisions of the California exhaust emission standards and test procedures were adopted for heavy-duty diesel vehicles.

### **Connecticut**

Air pollution control regulations are promulgated in Title 22a RCSA, Sections 174-1 through 174-200. Federal programs that are incorporated into Connecticut's code include NESHAP, NSPS, and NSR. Connecticut has full delegation from the USEPA for air permitting programs. New or modified sources of air emissions that will emit 15 tons per year or more of any individual air pollutant are required to obtain an NSR permit per RCSA 22a-174-3a prior to construction. Iroquois submitted its permit application to the CTDEEP on April 3, 2020 for the Brookfield Compressor Station. The proposed modifications at the Milford Compressor Station would not result in an increase in the station's existing emissions and would therefore not require changes to the current air permits. In addition to controls for combustion emission sources, Iroquois would be required to comply with RCSA 22a-174-18(c) which requires dust control measures to limit emissions of particulate matter from construction and materials handling. Iroquois has stated the measures it would implement to limit emissions of particulate matter in its Dust Control Plan.<sup>23</sup>

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<sup>23</sup> The Dust Control Plan is available for public review on eLibrary under accession no. 20200414-5080.

## **Air Quality Impacts and Mitigation Measures**

### **Construction**

Project construction would result in temporary, localized emissions that would last the duration of construction activities (i.e., up to 9 months at each site). Exhaust emissions would be generated by the use of heavy equipment and trucks powered by diesel or gasoline engines. Exhaust emissions would also be generated by delivery vehicles and construction workers commuting to and from work areas.

Construction activities would also result in the temporary generation of fugitive dust due to vegetation clearing and grading, ground excavation, and driving on unpaved roads. The amount of dust generated would be a function of construction activity, soil type, soil moisture content, wind speed, precipitation, vehicle traffic and types, and roadway characteristics. Emissions would be greater during dry periods and in areas of fine-textured soils subject to surface activity.

Construction emissions were estimated based on the fuel type and anticipated frequency, duration, capacity, and levels of use of various types of construction equipment. Construction emissions were calculated using emission factors provided in AP-42 data (USEPA 1998, USEPA 2006), Fugitive Dust Background and Technical Information Document (USEPA 1992), the WRAP Fugitive Dust Handbook (Countess 2006), and MOVES2014b models. Estimated construction emissions for the Project are summarized by Project facility for each county in table B-11. These estimated emissions include exhaust emissions and fugitive dust from on-road and off-road construction equipment and vehicles and exhaust emissions from construction worker commutes and vehicles used to deliver equipment/materials to the site (see appendix C for a detailed breakdown of emissions for these categories).

Table B-11 Summary of Estimated Emissions from Construction of the Project								
Source <sup>a</sup>	Criteria Pollutants (tpy)							CO <sub>2</sub> e (Metric Tonnes)
	NO <sub>x</sub>	CO	SO <sub>2</sub>	VOC	PM <sub>10</sub>	PM <sub>2.5</sub>	HAPs	
<b>Greene County, New York (Athens Compressor Station)</b>								
Year 2022	0.16	0.08	<0.01	0.01	15.22	1.56	<0.01	163.87
Year 2023	0.83	0.35	<0.01	0.02	18.76	1.97	0.01	576.88
<b>Dutchess County, New York (Dover Compressor Station)</b>								
Year 2022	0.22	0.06	<0.01	0.01	26.64	2.69	<0.01	177.82
Year 2023	0.75	0.26	<0.01	0.02	23.61	2.45	0.01	545.38
<b>Fairfield County, Connecticut (Brookfield Compressor Station)</b>								
Year 2022	0.57	0.21	<0.01	0.02	42.48	4.30	0.01	505.79
Year 2023	1.02	0.43	<0.01	0.03	17.54	1.87	0.02	581.22
<b>New Haven County, Connecticut (Milford Compressor Station)</b>								
Year 2022	0.05	0.06	<0.01	<0.01	8.24	0.85	<0.01	57.66
Year 2023	0.61	0.32	<0.01	0.01	13.92	1.46	0.01	397.37
<b>Project Total<sup>b</sup></b>	<b>4.21</b>	<b>1.77</b>	<b>&lt;0.01</b>	<b>0.12</b>	<b>166.41</b>	<b>17.15</b>	<b>0.06</b>	<b>3,005.99</b>
<sup>a</sup> Construction is anticipated to take 9 months for the Project. However, as a conservative measure, calculations assume 4 weeks of construction equipment use at each facility in 2022 for preparation of contractor staging areas and storage of material and 312 days (about 10 months) in 2023. <sup>b</sup> The numbers in this table have been rounded for presentation purposes; the totals may not reflect the sum of the addends.								

Construction emissions shown in table B-11 are not expected to result in a violation or degradation of ambient air quality standards and would not exceed applicable general conformity standards (see table B-12). Iroquois would minimize construction emissions by following federal, state, and local emission standards and air quality regulations, and by limiting vehicle and equipment idling. Iroquois would take measures in its Dust Control Plan to reduce fugitive emissions, including:

- application of dust suppressants (e.g., water from municipal sources, surfactants such as calcium chloride, or organic dust suppressants such as mulch, straw, or wood chips) to disturbed work areas and unpaved access roads;
- reducing vehicle speeds on unpaved roads;
- removal of spilled or tracked dirt and construction debris from paved streets;
- construction and maintenance of rock construction entrances to free debris from vehicle tires/tracks prior to egress to paved roads; and

- revegetation of areas that are not graveled or paved following completion of construction.

<b>Table B-12</b>					
<b>Comparison of Construction Emissions for the Project to General Conformity Thresholds<sup>a,b</sup></b>					
<b>Air Pollutant</b>	<b>Designated Area</b>	<b>Threshold (tpy)</b>	<b>Pollutant or Precursor</b>	<b>Construction Emissions (tpy)<sup>c</sup></b>	
				<b>2022</b>	<b>2023</b>
Ozone	Greene County, New York	50	VOC	0.01	0.02
		100	NO <sub>x</sub>	0.16	0.83
	Dutchess County, New York	50	VOC	0.01	0.02
		100	NO <sub>x</sub>	0.22	0.75
	Fairfield County, Connecticut	25 <sup>c</sup>	VOC	0.02	0.03
		100	NO <sub>x</sub>	0.57	1.02
	New Haven County, Connecticut	25 <sup>c</sup>	VOC	<0.01	0.01
		100	NO <sub>x</sub>	0.05	0.61

<sup>a</sup> General Conformity is only applicable to nonattainment or maintenance areas. Greene and Dutchess Counties, New York are not designated as nonattainment for the 2008 nor 2015 ozone standards, nor are they designated as maintenance areas. They are included in the OTR and as such are included in the SIP; therefore, they have been included, above. Thresholds for each pollutant are based on the severity of the nonattainment areas or maintenance area that would occur in proximity to the Project.

<sup>b</sup> Construction is anticipated to take 9 months for the Project. However, as a conservative measure, calculations assume 4 weeks of construction equipment use at each facility in 2022 for preparation of contractor staging areas and storage of material and 312 days (about 10 months) in 2023.

<sup>c</sup> While the county is designated as moderate nonattainment for the 2015 ozone standard, and this standard would apply to the General Conformity Determination of the Project, the area was previously designated as serious nonattainment. Therefore, as a conservative approach, the thresholds established for modifications in serious nonattainment areas is used for comparison with Project construction emissions.

Construction emissions would occur over the duration of construction and would be emitted at different times and locations throughout the Project area. Construction emissions would be minor and would result in short-term, localized impacts in the immediate vicinity of the Project facilities. With the mitigation measures proposed by Iroquois, we conclude that air quality impacts from construction would be temporary and not result in significant impacts on local or regional air quality.

## **Operations**

Project operation would result in air emissions due to combustion at the Athens, Dover, and Brookfield Compressor Stations, as well as emissions from storage tanks, fugitive emissions from piping and related components, and vented emissions. Fugitive emissions are minor leaks that would occur at valves, seals, and other piping components at the compressor stations. Proposed new combustion emission-generating equipment at the compressor stations are as follows:

#### Athens Compressor Station:

- one 12,000 hp simple-cycle natural gas-fueled dry low NO<sub>x</sub> combustion turbine with associated centrifugal compressor.

#### Dover Compressor Station:

- one 12,000 hp simple-cycle natural gas-fueled dry low NO<sub>x</sub> combustion turbine with associated centrifugal compressor; and
- one 1,000-kilowatt emergency generator with an oxidation catalyst.

#### Brookfield Compressor Station:

- two 12,000 hp simple-cycle natural gas-fueled dry low NO<sub>x</sub> combustion turbine with associated centrifugal compressor; and
- one 450 kilowatt emergency generator with an oxidation catalyst.

The following modifications would also be made to existing facilities at the compressor stations: oxidation catalysts would be installed on the existing emergency generator at the Athens and Brookfield Compressor Stations, gas cooling would be added to the Brookfield and Milford Compressor Stations, and the stacks would be replaced on the existing turbines at Brookfield Compressor Station.

The Project would not result in new combustion air emissions at Milford Compressor Station because it does not include any emission unit upgrades or the installation of any fuel-burning equipment. The addition of gas cooling at the Milford Compressor Station may include a negligible increase in fugitive emissions at new valves or flanges during Project operations, but these emissions would not be expected to significantly degrade local air quality. Table B-13 summarizes the existing station potential to emit (PTE), and proposed annual operational emissions, in tpy, by facility and emission sources for the Project. These estimated emissions are based on manufacturers' data and assumptions that the compressor station engines operate at full load for an entire year (8,760 hours). The compressor stations would not likely operate at capacity (i.e., full load) every day; therefore, table B-13 provides conservative, worst-case estimates of emissions. One commentor raised concern for emissions from blowdown events and questioned whether emissions from these events were included in the emissions data. Maintenance and emergency blowdowns<sup>24</sup> would occur at the

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<sup>24</sup> A blowdown event is a planned or unplanned venting of pressurized natural gas from pipelines or facilities to the atmosphere. Planned gas venting may be performed during operations and maintenance activities to ensure proper operation of safety systems as well as the equipment, or to release gas prior to performing work on the facilities. Unscheduled gas venting of the emergency shutdown system is an unplanned event and can occur at any time under an abnormal operating condition.

compressor stations; however, these releases would be infrequent and are not expected to significantly degrade local air quality. Estimates of the emissions from emergency blowdowns are included in the emissions estimates presented in table B-13.

<b>Table B-13 Summary of Annual Operational Emissions<sup>a</sup></b>								
<b>Facility</b>	<b>Criteria Pollutants (tpy)</b>							<b>CO<sub>2</sub>e (Metric Tonnes)<sup>b</sup></b>
	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>VOC</b>	<b>HAPs</b>	
<b>Athens Compressor Station</b>								
Existing Station PTE	43.30	48.70	0.30	16.83	16.83	1.40	0.90	43,572.05
Proposed Compressor Turbine	13.40	0.90	0.01	3.73	3.73	0.03	0.90	41,137.17
Proposed Storage Tank	--	--	--	--	--	1.00	--	--
Proposed Fugitive Emissions <sup>c</sup>	--	--	--	--	--	<0.01	--	4.09
Proposed Vented Blowdown Emissions <sup>d</sup>	--	--	--	--	--	0.03	--	60.78
<b>Athens Total<sup>e</sup></b>	<b>56.70</b>	<b>49.60</b>	<b>0.31</b>	<b>20.56</b>	<b>20.56</b>	<b>2.46</b>	<b>1.80</b>	<b>84,774.09</b>
<b>Dover Compressor Station</b>								
Existing Station PTE	50.98	13.61	6.59	26.77	26.77	1.57	0.66	67,262.25
Proposed Compressor Turbine	13.30	0.90	0.01	3.69	3.69	0.03	0.38	41,137.17
Proposed Emergency Generator	0.81	0.74	<0.01	0.02	0.02	0.21	0.18	262.18
Proposed Storage Tank	--	--	--	--	--	1.00	--	--
Proposed Fugitive Emissions <sup>c</sup>	--	--	--	--	--	<0.01	--	3.88
Proposed Vented Blowdown Emissions <sup>d</sup>	--	--	--	--	--	0.02	--	41.73
<b>Dover Total<sup>e</sup></b>	<b>65.09</b>	<b>15.25</b>	<b>6.60</b>	<b>30.48</b>	<b>30.48</b>	<b>2.83</b>	<b>1.22</b>	<b>108,707.21</b>

**Table B-13 (continued)  
Summary of Annual Operational Emissions<sup>a</sup>**

Facility	Criteria Pollutants (tpy)							CO <sub>2</sub> e (Metric Tonnes) <sup>b</sup>
	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	VOC	HAPs	
<b>Brookfield Compressor Station</b>								
Existing Station PTE	39.30	1.75	0.50	8.80	8.80	2.80	0.70	74,681.20
Proposed Compressor Turbine	24.50	1.65	0.01	6.80	6.80	0.02	0.70	80,973.43
Proposed Emergency Generator	0.02	0.03	<0.01	0.01	0.01	<0.01	0.02	75.48
Proposed Storage Tank	--	--	--	--	--	1.00	--	--
Proposed Fugitive Emissions <sup>c</sup>	--	--	--	--	--	0.10	--	276.69
Proposed Vented Blowdown Emissions <sup>d</sup>	--	--	--	--	--	0.06	--	166.92
<b>Brookfield Total<sup>e</sup></b>	<b>63.82</b>	<b>3.43</b>	<b>0.51</b>	<b>15.61</b>	<b>15.61</b>	<b>3.98</b>	<b>1.42</b>	<b>156,173.72</b>
<b>Milford Compressor Station<sup>f</sup></b>								
Existing Station PTE	<b>48.9</b>	<b>47.6</b>	<b>0.6</b>	<b>32.6</b>	<b>32.6</b>	<b>14.1</b>	<b>1.0</b>	<b>74,258.33</b>
<b>TOTAL<sup>e</sup></b>	<b>234.51</b>	<b>115.88</b>	<b>8.02</b>	<b>99.25</b>	<b>99.25</b>	<b>23.37</b>	<b>5.44</b>	<b>423,913.34</b>
<p><sup>a</sup> The Project would not result in new combustion air emissions at Milford Compressor Station.</p> <p><sup>b</sup> Total CO<sub>2</sub>e emissions are presented in metric tonnes per year for comparison with the GHG reporting rule requirements. Emissions are estimated to be 423,913.34 metric tonnes per year or 384,567.71 tpy.</p> <p><sup>c</sup> Fugitive emissions include those associated with piping components such as valves, flanges, connectors, pressure relief devices, and meters.</p> <p><sup>d</sup> Vented blowdown emissions include both regular and emergency station blowdowns. Blowdown volumes were estimated based on a three-year average of the blowdown emissions from the operating stations, adjusted for the emissions controls that would be installed for the Project. Emergency blowdown emissions were calculated similarly but not adjusted for controls.</p> <p><sup>e</sup> The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends.</p> <p><sup>f</sup> Operational emissions presented for the Milford Compressor Station are based on data presented in the original EA associated with Certification of this station and is available on eLibrary under accession no. 20080104-4000. CO<sub>2</sub>e emissions were not listed in the emissions table at that time. The turbine emissions reported in the original EA for this facility are consistent with detail reflected in current CTDEEP permit (numbers 105-0102 and 105-0103). CO<sub>2</sub>e emissions are estimated based on the equipment specifications for the existing gas turbines and available USEPA emissions factors (USEPA 2000); emissions from other sources at the compressor station are not known, but are expected to be negligible relative to emissions from the turbines.</p>								

Iroquois would implement measures to reduce fugitive emissions, including implementing operation and preventative maintenance practices consistent with

manufacturer recommendations. Iroquois has stated that it intends to participate in the USEPA Natural Gas STAR Program. Iroquois is currently evaluating the scope of its participation in program components, but typically implements the following measures across its system:

- directly inspects meter stations, valve sites, and compressor stations;
- installs turbines with electric starters instead of reciprocating engines;
- uses dry compressor seals rather than wet seals;
- installs low-bleed or no-bleed pneumatic devices to minimize fugitive methane emissions while regulating gas flow and pressure;
- uses isolation valves to allow blowdowns on sections of the station;
- recaptures and recycles gas normally vented at compressor stations through the use of recovery piping;
- reduces pressure before conducting blowdowns to decrease the amount of gas released; and
- installs valves using the hot tap method to allow the remaining section of pipe to be in service.

Iroquois also states that it is in the process of developing an Implementation Plan for the Methane Challenge Program and intends to commit to a 50 percent reduction of pipeline venting by 2025. In addition, vent gas would be recovered from planned blowdowns and normal compressor dry seal gas leakage through a vent gas recovery system.

We received comments that question why new technology to control emissions at the Dover Compressor Station would not be installed at other compressor stations. Iroquois would implement emissions controls in accordance with permit requirements to minimize air quality impacts from the Project. These measures include using natural gas as the fuel for all combustion devices; using dry low NO<sub>x</sub> combustion technology to control NO<sub>x</sub> and CO emissions from the new turbines at the Athens, Dover, and Brookfield Stations; adding an oxidation catalyst to further reduce CO emissions from the existing Brookfield Station and new turbines at the Athens, Dover, and Brookfield Stations; adding oxidation catalysts to existing generators at the Athens and Brookfield Stations and to the new emergency generators at Dover and Brookfield Stations to reduce CO, VOC, and HAP emissions.

#### *Air Quality Modeling*

To assess air quality impacts from modifications to the Athens, Dover, and Brookfield Compressor Stations on regional air quality, Iroquois conducted an ambient

air quality analysis for NO<sub>2</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, CO, and SO<sub>2</sub> using the USEPA's AERMOD program. The model, developed in consultation with the NYSDEC or CTDEEP, estimates the predicted concentrations of criteria pollutants emitted from the compressor stations using conservative assumptions consistent with USEPA guidelines. Background concentrations from representative air monitors were then added to the predicted concentrations from the AERMOD analysis and the total was compared to the NAAQS. The results of the air quality modeling analysis are presented in table B-14. The results of Iroquois' modeling analysis indicate that the combined total of background and emissions from the new and existing compressor units would not exceed the NAAQS, which are established to be protective of human health, including sensitive populations such as children, the elderly, and those with compromised respiratory function, i.e. asthmatics.

Based on the estimated emissions from operation of the proposed Project facilities and review of the modeling analyses, we find that the Project would not cause or contribute to a violation of the NAAQS. While the Project would have minor impacts on local air quality during operation, we have determined that the Project would not result in significant impacts on air quality.

#### *Impacts on Human Health*

We received several comments from individuals and organizations concerned with air quality in the vicinity of the Project (including nearby schools) and the health effects associated with Project-related emissions. Generally, natural gas is composed of about 90 percent methane. When combusted, methane forms CO<sub>2</sub> and water vapor, comprising the majority of compressor station emissions. The CO<sub>2</sub> emissions, combustion-related emissions, including NO<sub>x</sub> and CO, and the emissions associated with the majority of the remaining 10 percent of natural gas composition are shown in table B-13. With the exception of CO<sub>2</sub>e, all of the compounds identified in table B-13 have known health impacts, and are therefore regulated by the USEPA through various components of the CAA. As described above, under the CAA, the USEPA established the NAAQS to protect human health (including sensitive subpopulations such as children or those with chronic illnesses) and public welfare. The air quality modeling completed by Iroquois indicates that the modified compressor stations would not result in emissions that exceed the NAAQS or significantly contribute to a degradation of ambient air quality. The air quality model evaluates pollutant concentrations from the facility fenceline to a 5-kilometer (3.1-mile) radius from the emissions source, where impacts from the Project are no longer expected to be measurable.

**Table B-14  
Predicted Air Quality Impacts for the Project<sup>a</sup>**

<b>Facility / Pollutant</b>	<b>Average Period</b>	<b>NAAQS (µg/m<sup>3</sup>)</b>	<b>Facility Impact (µg/m<sup>3</sup>)</b>	<b>Background Concentration (µg/m<sup>3</sup>)</b>	<b>Facility Impact + Background (µg/m<sup>3</sup>)<sup>b</sup></b>
<b>Athens Compressor Station</b>					
NO <sub>2</sub>	1-hour	188	10.4	48.5	58.9
	Annual	100	12.5	6.6	19.1
CO	1-hour	40,000	490	1,375	1,864
	8-hour	10,000	194	916	1,110
PM <sub>10</sub>	24-hour	150	2.1	30	32.1
PM <sub>2.5</sub>	24-hour	35	1.2	16.6	17.8
	Annual	12	0.2	6.4	6.6
SO <sub>2</sub>	1-hour	196	0.1	8.7	8.8
	3-hour	1,300	0.5	8.7	9.2
<b>Dover Compressor Station</b>					
NO <sub>2</sub>	1-hour	188	14.6	48.5	63.1
	Annual	100	2.9	6.6	9.5
CO	1-hour	40,000	105	460	565
	8-hour	10,000	71	345	416
PM <sub>10</sub>	24-hour	150	1.5	30	31.5
PM <sub>2.5</sub>	24-hour	35	0.7	13	13.7
	Annual	12	0.1	4.2	4.3
SO <sub>2</sub>	1-hour	196	1.3	6.2	7.5
	3-hour	1,300	1	6.2	7.2
<b>Brookfield Compressor Station</b>					
NO <sub>2</sub>	1-hour	188	32.97	103.5	136.47
	Annual	100	17.97	22.6	40.57
CO	1-hour	40,000	132	2,760	2,892
	8-hour	10,000	112	1,610	1,722
PM <sub>10</sub>	24-hour	150	6.05	30	36.05
PM <sub>2.5</sub>	24-hour	35	3.86	21	24.90
	Annual	12	0.85	7.7	8.55
SO <sub>2</sub>	1-hour	196	0.32	10.5	10.82
	3-hour	1,300	1.85	10.5	12.35

Note: µg/m<sup>3</sup> = micrograms per cubic meter

<sup>a</sup> The Project would not result in new combustion air emissions at Milford Compressor Station.

<sup>b</sup> The total may not equal the sum of the addends due to rounding.

In addition to the air quality analysis, Iroquois conducted a risk assessment for the Project.<sup>25</sup> The risk assessment evaluated potential exposure through inhalation and human health risks associated with current and future operational HAP emissions at each of the four Project compressor stations. The risk assessment used conservative assumptions to assess health risks to sensitive subpopulations of residents such as children. The risk assessment is designed to be highly conservative by assuming chronic exposure to maximum 5-year average concentrations of HAPs at each compressor station fence line. The risk assessment also evaluates acute exposure and risk associated with short-term maximum emissions at the compressor station fence line. The risk assessment was developed using standardized USEPA risk assessment guidance and was designed to overstate what any individual was likely to experience. The risk assessment concluded that current HAP emissions and those projected under the proposed Project are well below a level of health concern and do not pose an unacceptable chronic or acute risk to human health.

We received comments regarding susceptibility to air pollution, and specifically PM<sub>2.5</sub>, to increased death rates due to the coronavirus disease (COVID-19; Friedman, 2020). In an analysis of 3,080 counties in the United States, researchers at the Harvard University T.H. Chan School of Public Health found that higher levels of PM<sub>2.5</sub> were associated with higher death rates from the disease. The report indicates that individuals who experience long-term exposure to air pollution may experience the most severe COVID-19 outcomes. However, the information does not address the extent to which those exposed to an incremental increase in emissions, such as those from the modified compressor stations, would experience those same increased effects. Nor does the information establish for how long or at what level emissions would need to occur for the increased effects to be experienced. Therefore, while we are sensitive to the impacts of COVID-19, the information does not provide parameters from which we can do additional analyses beyond the Project-specific air modeling and risk assessment that were discussed above. Additionally, per table B-14 above, the modified facilities would result in between a 2 to 18 percent increase in 24-hour or annual PM<sub>2.5</sub> compared to existing background concentrations (which include the existing station emissions and therefore represent a conservative assessment of impact). This would represent a minimal increase in PM<sub>2.5</sub> concentrations in ambient air.

We also received a comment regarding concern for health effects associated with emissions of radioactive radon gas. Although radon can be entrained in fossil fuels, including natural gas reserves, natural gas processing helps reduce radon concentrations in pipeline-quality natural gas. The upstream processing that removes liquefied petroleum gas from the natural gas stream also removes radon. This is because radon and the two major components of liquefied petroleum gas, namely propane and ethane, have similar boiling points. Processing can remove an estimated 30 to 75 percent of the radon

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<sup>25</sup> Iroquois' risk assessment is available for public review on eLibrary under accession no. 20200414-5080.

from natural gas (Johnson *et al.* 1973). The Project would use transmission-quality natural gas, which has already been processed and has had impurities (including radon) removed. Additionally, radon has a half-life, defined as the time it takes for the compound to decay to half its initial concentration, of only 3.8 days. The time needed to gather, process, store and deliver natural gas allows a portion of the radon, if present in small quantities after processing, to decay, thereby decreasing the amount of radon in the gas before being combusted in a compressor station or used in a residence. Therefore, we conclude that radon would not be present in the pipeline-quality gas in significant quantities that would result in health impacts.

Lastly, in order to ensure compliance with the CAA, Iroquois must obtain air quality permits through the NYSDEC and CTDEEP, as described above. Based on our analysis above, we conclude that construction and operation of the Project would not have a significant impact on air quality or human health and would not exceed the NAAQS, which are established to be protective of human health, including sensitive populations such as infants children, pregnant women, the elderly, and those with compromised respiratory function, i.e. asthmatics.

## **8.2 Noise and Vibration**

Noise is generally defined as sound with intensity greater than the ambient or background sound pressure level. Construction and operation of the Project would affect overall noise levels in the Project area. The magnitude and frequency of environmental noise may vary considerably over the course of the day, throughout the week, and across seasons, in part due to changing weather conditions and the effects of seasonal vegetative cover. Two measures that relate the time-varying quality of environmental noise to its known effect on people are the 24-hour equivalent sound level ( $L_{eq}$ ) and day-night sound level ( $L_{dn}$ ). The  $L_{eq}$  is an A-weighted sound level containing the same energy as the instantaneous sound levels measured over a specific time period. Noise levels are perceived differently, depending on length of exposure and time of day. The  $L_{dn}$  takes into account the duration and time the noise is encountered. Specifically, the  $L_{dn}$  is the  $L_{eq}$  plus a 10 decibel (dB) on the A-weighted scale (dBA) penalty added to account for people's greater sensitivity to nighttime sound levels (typically considered between the hours of 10:00 p.m. and 7:00 a.m.). The A-weighted scale is used to assess noise impacts because human hearing is less sensitive to low and high frequencies than mid-range frequencies. The human ear's threshold of perception for noise change is considered to be 3 dBA; 5 dBA is clearly noticeable to the human ear, and 10 dBA is perceived as a doubling of noise (Bies and Hansen 1988).

### **Regulatory Noise Requirements**

In 1974, the USEPA published *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (USEPA 1974). This document provides information for state and local regulators to use

in developing their own ambient noise standards. The USEPA has indicated that an  $L_{dn}$  of 55 dBA protects the public from indoor and outdoor activity interference. We have adopted this criterion and use it to evaluate the potential noise impacts from the proposed Project at NSAs. NSAs are defined as homes, schools, churches, or any location where people reside or gather. FERC does not have noise requirements relevant to typical facility construction, but does require that the noise attributable to any new compressor engine or station modifications during full-load operation not exceed an  $L_{dn}$  of 55 dBA at any NSAs. Due to the 10 dBA nighttime penalty added prior to the logarithmic calculation of the  $L_{dn}$ , for a facility to meet the 55 dBA  $L_{dn}$  limit, it must be designed such that actual constant noise levels on a 24-hour basis do not exceed 48.6 dBA  $L_{eq}$  at any NSA. This noise requirement is also applied to modified compressor stations, where the total noise attributable to the modified compressor station (including existing and proposed new units) must meet the 55 dBA  $L_{dn}$  limit.

In addition to FERC's requirements, described above, state and local noise ordinances are relevant to construction and operation of the Project. The Athens and Dover Compressor Stations are in the State of New York, and no applicable state noise regulations have been identified. The Athens Compressor Station is in Greene County near the town of Athens, New York, which has a noise ordinance applicable to station operations codified in Athens Town Code Section 180-24(c)(2) requiring that the addition of any noise source not raise the ambient noise level above 65 dBA in a nonindustrial setting, or 79 dBA in an industrial or commercial area. FERC's regulatory requirements are more stringent than the Athens Town Code noise ordinance, and compliance with the local regulations is not assessed further.

The Dover Compressor Station is in Dutchess County and the Town of Dover, New York. The Dover Town Code Section 107 (Noise) prohibits nighttime building construction (between 9:00 pm and 7:00 am) and excessive vehicle noise; these ordinances may be applicable to construction of the Project. In addition, the town has a noise ordinance, Dover Town Code Section 145-140, based upon zoning districts. As applicable to the Project, sound levels must not exceed 60 dBA when measured at the property line during the day (7:00 am through 8:00 pm), or 50 dBA during the night (8:00 pm through 7:00 am). As part of its noise evaluation, described further below, Iroquois determined that the noise level associated with full-load operation of the modified compressor station would be 46.6 dBA at the nearest property line, and would therefore not exceed the limits in the Town of Dover noise ordinance during operations.

The Brookfield and Milford Compressor Stations are in the State of Connecticut which has noise standards codified in Section 22a-69-1 of the RCSA based upon land use category and receptor class. Construction noise is exempted from these regulations. Permissible sound levels in the most stringent land use and receptor combination must not exceed 55 dBA during the day and 45 dBA at night. Permissible sound levels for other land use and receptor combinations are higher. Sources with background noise not

subject to the regulations (such as traffic noise) are considered to cause excessive noise if the noise emitted by the source exceeds the background noise level by 5 dBA.

The Brookfield Compressor Station is in Fairfield County and the Town of Brookfield, and no applicable county noise regulation or ordinance has been identified. The Town of Brookfield's noise ordinance is codified in Chapter 159 of the Code of the Town of Brookfield, and is generally similar to the Connecticut state standard. At the nearest residential property line adjacent to the Brookfield Compressor Station property line, the Connecticut standard and Town of Brookfield ordinance could require that construction and operation of the station not exceed a sound level of 55 dBA during the day and 45 dBA at night. Iroquois would be required to comply with applicable local noise ordinances during Project construction. As part of its noise evaluation, described further below, Iroquois determined that the noise level associated with full-load operation of the modified compressor station would be 42.2 dBA, and would therefore not exceed the limits in the State of Connecticut noise standard or the Town of Brookfield noise ordinance.

The Milford Compressor Station is in New Haven County and the City of Milford, Connecticut, which do not have noise ordinances in place. With respect to the State of Connecticut standard, based on the applicable land use and receptor combination, sound levels must not exceed 70 dBA. FERC's regulatory requirements are more stringent than the state noise standard, and compliance with the local regulations is not assessed further.

Operation of the Project would comply with applicable noise ordinances as described above. FERC's noise requirements are specific to individual NSAs, which are described below.

### **Ambient Noise Conditions**

Generally, land in the Project area is currently in industrial/commercial use, as the Project involves modification of existing compressor stations; however, the Project would also affect residential land. Ambient sound levels were collected by Iroquois at the NSAs nearest to, or representative of, the facilities on November 13 and 14, 2019 during operation of the existing compressor units at the Athens, Dover, and Milford Compressor Stations. Sound levels were collected during less than full-load operating conditions at each station; therefore, to assess ambient sound levels under full-load conditions, Iroquois applied an adjustment factor to account for the difference in horsepower. The horsepower adjustment ultimately did not change the existing compressor station sound levels, as reported in Iroquois' application, due to the projected sound attenuation over the distance to the nearest NSAs.

Ambient sound levels were collected at the NSAs nearest to the Brookfield Compressor Station in October 2019; however, additional noise controls were installed

during February 2020 (including additional insulation on high pressure gas piping/pipe clamps, and blanket insulation on exterior air inlet ducting) to reduce noise levels at the operating facility, and sound levels were subsequently collected again on February 28 and 29, 2020. During the ambient sound surveys conducted in February 2020, Iroquois attempted to measure the lowest sound levels at each NSA (e.g., during times of low highway traffic). Due to the additional noise controls, as well as Iroquois' measurement methodology, the sound levels measured in February 2020 are lower than the October 2019 measurements. Because the February 2020 conditions are representative of current compressor station operating conditions, and because, by presenting lower ambient sound levels they present a more conservative assessment of the impact of compressor station modifications, the February 2020 sound levels have been used in this analysis. Sound levels were collected during full-load operating conditions for each existing compressor unit, to establish ambient conditions under full-load operation of the entire, existing compressor station. The distances and directions to the nearest NSAs from the compressor stations are presented in table B-15 and shown in appendix D. The results of the noise surveys (including adjustments for full-load station operation or all existing facilities) for all NSAs assessed are presented in table B-15, below, as the estimated ambient  $L_{dn}$ , including the existing facility under full-load operating conditions.

## **Noise and Vibration Impacts and Mitigation Measures**

### **Construction**

Noise would be generated during construction of the Project. Construction activities would be concurrent over a 9-month period at each compressor station site and would result in an increase in ambient noise. Construction noise is highly variable as equipment operates intermittently. The type of equipment operating at any location changes with each construction phase. The noise level impacts on NSAs near each aboveground facility or construction workspace due to typical construction activities would depend on the type of equipment used, the duration of use for each piece of equipment, the number of construction vehicles and equipment used simultaneously, and the distance between the source and receptor. While individuals in the immediate vicinity of the construction activities would experience an increase in noise, this impact would be temporary and local.

**Table B-15  
Acoustical Analysis of the Modified Compressor Stations**

NSAs	Distance (feet) and Direction to Center of Existing Unit(s)	Distance (feet) and Direction to Center of Proposed Facilities	Assessment of Existing and Modified Compressor Station Noise				Assessment of Existing and Modified Compressor Station Noise, Including Ambient Sound		
			Estimated L <sub>dn</sub> of Existing Facility at Full-Load Operation (dBA)	Estimated L <sub>dn</sub> of Proposed Facility Modifications (dBA)	Estimated Total L <sub>dn</sub> of Modified Station (Existing Facility and Proposed Modifications) at Full-Load Operation (dBA)	Potential Increase Above Existing Station Sound Level (dB)	Estimated Ambient L <sub>dn</sub> , including Existing Facility during Full-Load Operation (dBA)	Estimated Ambient L <sub>dn</sub> including Modified Facility during Full-Load Operation (dBA)	Estimated Increase Above Adjusted Background L <sub>dn</sub> (dB)
<b>Athens Compressor Station<sup>a</sup></b>									
NSA #1 (Houses)	2,550 North	2,100 North	33.9	33.5	36.7	2.8	44.6	44.9	0.3
NSA #2 (Houses)	2,725 East-Southeast	2,850 East-Southeast	33.2	30.7	35.1	1.9	43.5	43.7	0.2
NSA #3 (Houses)	2,150 Southwest to Northwest	2,200 Southwest to Northwest	35.6	33.0	37.5	1.9	44.8	45.1	0.3
<b>Dover Compressor Station<sup>a</sup></b>									
NSA #1 (Houses)	925 West-Northwest	1,150 West-Northwest	47.1	40.8	48.0	0.9	45.4	46.7	1.3
NSA #2 (Houses)	1,450 Northwest	1,600 Northwest	40.8	35.4	41.9	1.1	52.0	52.1	0.1
NSA #3 (Olivet Assembly)	825 South-Southwest	925 South-Southwest	49.4	44.4	50.6	1.2	44.4	47.4	3.0
NSA #4 (Houses)	1,825 Southeast	1,700 Southeast	39.2	33.7	40.3	1.1	52.0	52.1	0.1

**Table B-15 (continued)**  
**Acoustical Analysis of the Modified Compressor Stations**

NSAs	Distance (feet) and Direction to Center of Existing Unit(s)	Distance (feet) and Direction to Center of Proposed Facilities	Assessment of Existing and Modified Compressor Station Noise				Assessment of Existing and Modified Compressor Station Noise, Including Ambient Sound		
			Estimated L <sub>dn</sub> of Existing Facility at Full-Load Operation (dBA)	Estimated L <sub>dn</sub> of Proposed Facility Modifications (dBA)	Estimated Total L <sub>dn</sub> of Modified Station (Existing Facility and Proposed Modifications) at Full-Load Operation (dBA)	Potential Increase Above Existing Station Sound Level (dB)	Estimated Ambient L <sub>dn</sub> , including Existing Facility during Full-Load Operation (dBA)	Estimated Ambient L <sub>dn</sub> of Modified Facility during Full-Load Operation (dBA)	Estimated Increase Above Adjusted Background L <sub>dn</sub> (dB)
NSA #5 (School)	3,300 East	3,050 East	32.1	27.5	33.4	1.3	55.3	55.3	0.0
NSA #6 (Houses)	2,800 Northeast	2,550 Northeast	33.8	28.8	35.0	1.2	55.3	55.3	0.0
<b>Brookfield Compressor Station<sup>b,c</sup></b>									
NSA #2 (Houses)	1,050 Southeast	1,050 Southeast	49.6	44.4 / 41.5 <sup>d</sup>	46.2	-3.4	50.1	47.2	-2.9
NSA #3 (Houses)	1,000 South	1,125 South	49.7	44.3 / 41.3 <sup>d</sup>	46.0	-3.7	50.9	48.4	-2.5
NSA #4 (Houses)	1,200 Southwest	1,325 Southwest	47.8	42.1 / 38.3 <sup>d</sup>	43.6	-4.2	49.0	46.2	-2.8
NSA #5 (Houses)	1,575 Northwest	1,600 Northwest	43.8	37.7 / 35.9 <sup>d</sup>	39.9	-3.9	47.6	46.3	-1.2
NSA #6 (Houses)	1,225 North	1,150 North	46.3	40.5 / 39.5 <sup>d</sup>	42.8	-3.5	47.7	45.5	-2.2
NSA #7 (Houses)	1,100 Northeast	925 Northeast	49.8	44.6 / 41.2 <sup>d</sup>	46.2	-3.6	50.1	46.9	-3.2
NSA #8 (Houses)	1,500 South-Southwest	1,700 South-Southeast	44.1	37.9 / 36.1 <sup>d</sup>	40.1	-4.0	46.3	44.3	-2.0

**Table B-15 (continued)**  
**Acoustical Analysis of the Modified Compressor Stations**

NSAs	Distance (feet) and Direction to Center of Existing Unit(s)	Distance (feet) and Direction to Center of Proposed Facilities	Assessment of Existing and Modified Compressor Station Noise				Assessment of Existing and Modified Compressor Station Noise, Including Ambient Sound		
			Estimated L <sub>dn</sub> of Existing Facility at Full-Load Operation (dBA)	Estimated L <sub>dn</sub> of Proposed Facility Modifications (dBA)	Estimated Total L <sub>dn</sub> of Modified Station (Existing Facility and Proposed Modifications) at Full-Load Operation (dBA)	Potential Increase Above Existing Station Sound Level (dB)	Estimated Ambient L <sub>dn</sub> , including Existing Facility during Full-Load Operation (dBA)	Estimated Ambient L <sub>dn</sub> of Modified Facility during Full-Load Operation (dBA)	Estimated Increase Above Adjusted Background L <sub>dn</sub> (dB)
<b>Milford Compressor Station<sup>a</sup></b>									
NSA #1 (House)	1,550 North	1,700 North	50.9	42.6	51.5	0.6	57.2	57.3	0.1
NSA #2 (Houses)	2,000 Northeast	2,150 Northeast	47.8	39.6	48.5	0.7	56.3	56.4	0.1
NSA #3 (Houses)	1,700 East-Southeast	1,650 East-Southeast	52.6	42.9	53.0	0.4	54.9	55.2	0.3
NSA #4 (Houses)	2,050 Southeast	2,000 Southeast	50.2	40.6	50.7	0.5	52.2	52.5	0.3
<sup>a</sup> The facility was not operating under full-load conditions during the ambient sound level surveys. Therefore, an adjustment factor was used to extrapolate the estimated sound level under full-load conditions. <sup>b</sup> Estimates of existing station sound levels and ambient conditions include February 2020 noise mitigation (additional insulation on high pressure gas piping / pipe clamps and blanket insulation on exterior air inlet ducts). <sup>c</sup> Estimates of modified station sound levels include the proposed equipment as well as replacement of exhaust silencers on existing compressor units. <sup>d</sup> Modified existing compressor units / proposed new compressor units.									

Iroquois anticipates that the majority of typical Project construction would occur during daylight hours, generally between the hours of 7:00 a.m. to 7:00 p.m. However, Iroquois states that certain construction activities, including x-ray testing, hydrostatic testing, inside electrical work, and other work related to commissioning may occur at night. These activities typically generate little noise and do not result in significant noise impacts and are not expected to exceed a nighttime noise level of 48.6 dBA (equivalent to 55 dBA  $L_{dn}$ ). Further, Iroquois would submit a nighttime noise management plan to FERC for review and approval prior to any nighttime construction activities that differ from those identified above. The plan would be required to document the measures that Iroquois would implement to ensure nighttime noise does not exceed 48.6 dBA. Further, Iroquois would be required to comply with local noise ordinances applicable to Project construction, as described above.

Therefore, while residents in the Project area would be impacted by noise from Project construction, based on our analyses, the mitigation measures proposed (including primarily constructing the Project during daytime hours and ensuring that nighttime construction does not exceed 48.6 dBA), and the short-term nature of construction, we conclude that construction of the Project would result in temporary and not significant noise impacts on local residents and the surrounding communities.

## **Operations**

The modified compressor stations would continue to generate sound on a continuous basis (i.e., up to 24 hours per day) when operating. Noise impacts associated with the operation of these aboveground facilities would be limited to the vicinity of the facilities. The specific operational noise sources associated with these facilities and their estimated impact at the nearest NSAs are described below. At the Athens, Dover, and Milford Compressor Stations, Iroquois calculated the sound level contribution of full-load operation of each modified compressor station (including existing and proposed equipment), and found that sound levels from station operation alone are not expected to exceed 55 dBA  $L_{dn}$  at any NSA. In addition, we used the estimated sound levels at existing NSAs during full-load operations of the existing facilities to estimate the cumulative sound level (including background noise, operation of the existing facilities, and operation of the proposed new equipment) to estimate the increase in noise during operation of the modified compressor stations. As presented in table B-15, operation of the modified compressor stations is not predicted to exceed 55 dBA  $L_{dn}$  at any nearby NSA, and would result in an increased sound level of 3 dB (the threshold for human perception of a change in sound) or less at all NSAs.

Modifications to the Brookfield Compressor Station would include installation of two new compressor units, as well as replacement of the existing compressor unit turbine stacks to include the installation of two-stage exhaust systems. Iroquois calculated the sound level contribution of full-load operation of the modified compressor station (including the existing and proposed compressor units and noise controls), and found that

sound levels from station operation alone are expected to be lower than current levels and are not expected to exceed 55 dBA  $L_{dn}$  at any NSA. In addition, we used the estimated sound levels at existing NSAs during full-load operations of the existing compressor units to estimate the cumulative sound level (including background noise, operation of both existing compressor units, and operation of the proposed new and modified equipment) to estimate the reduction in noise during operation of the modified facility (see table B-15).

We received comments expressing concern regarding noise impacts at residences in the vicinity of the proposed modifications. The noise analysis above, as summarized in table B-15, addresses impacts at the NSAs nearest to each compressor station; therefore, residences in the immediate vicinity of the Project facilities are included in this assessment. We also received comments expressing concern for impacts associated with vibration from operation of the proposed compressor station modifications. In addition to noise requirements, the Commission requires that applicants address vibration when proposing to construct or modify compressor stations.

Specifically, we received several comments expressing concern regarding the noise and vibration associated with the existing Brookfield Compressor Station, identified by some commentors as “flutter” (localized vibration impacts) and “hum” (low frequency noise and associated structural vibration induced by pipelines). The compressor station was placed into service in 2007, and a second compressor unit was installed in 2009. Following installation of the second unit, nearby residences expressed concerns about noise and vibration. FERC has previously evaluated these concerns, and, in an Order dated September 7, 2016, the Commission found Iroquois to be in compliance with regulatory requirements for noise and vibration at the Brookfield Compressor Station.<sup>26</sup> Iroquois proposes to replace existing exhaust silencers as part of the Project. Given that the Project is expected to result in a reduction in noise levels at NSAs in the vicinity of the Brookfield Compressor Station, and our recommendation for post-construction surveys to ensure that the FERC noise requirements are met, we anticipate the installation of additional noise controls associated with the Project could alleviate some of the ongoing concern with station operation noise. The mitigation measures that Iroquois would implement to reduce noise at the Brookfield Compressor Station and other stations proposed for modification would also serve to control potential sources of vibration at the compressor stations. For example, the two-stage exhaust system that would be installed on each compressor unit stack (including new units and replacement of the exhaust stacks on existing units) would include an acoustical vibration break, and acoustical insulation would also reduce vibration. Therefore, the compressor station modifications are not expected to increase vibration at the nearest NSAs and, where operational noise from the Brookfield Compressor Station is expected to decrease following construction of the Project, the potential for vibration would also decrease.

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<sup>26</sup> Available on eLibrary under accession no. 20160907-3043, reference Docket no. CP02-31-004, CP07-457-002, CP06-76-006.

Commentors also request that FERC implement new regulations to address the vibration concerns noted above. While the issuance of FERC regulations is outside the scope of this EA, we note that FERC regulations already require applicants to address vibration when proposing to construct or modify compressor stations.

Iroquois has committed to install noise control measures at the modified compressor stations based on its noise consultant's recommendations.<sup>27</sup> These measures include:

- high-performance acoustically designed and insulated compressor buildings;
- low noise turbine air inlet and exhaust systems;
- low noise lube oil coolers and gas coolers;
- acoustical pipe lagging (insulation) for aboveground natural gas pipelines; and
- unit blowdown silencers.

Based on the results in table B-15, and the mitigation measures committed to by Iroquois, operation of each of the modified compressor stations would meet FERC's sound level requirements at the nearest NSAs. To ensure Project-related sound level impacts do not exceed our criterion, **we recommend that:**

- **Iroquois should file with the Secretary of the Commission (Secretary) noise surveys for the Athens, Dover, and Brookfield Compressor Stations no later than 60 days after placing each modified station into service. If full power load condition noise surveys are not possible, Iroquois should file an interim survey at the maximum possible power load within 60 days of placing the stations into service and file the full power load survey within 6 months. If the noise attributable to operation of all equipment at any modified station under interim or full power load conditions exceeds an  $L_{dn}$  of 55 dBA at any nearby NSA, Iroquois should:**
  - a. **file a report with the Secretary, for review and written approval by the Director of the Office of Energy Projects (OEP), or the Director's designee, on what changes are needed;**
  - b. **install additional noise controls to meet that level within 1 year of the in-service date; and**
  - c. **confirm compliance with this requirement by filing a second full power load noise survey with the Secretary no later than 60 days after it installs the additional noise controls.**

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<sup>27</sup> Available for on eLibrary under accession no. 20200414-5080.

In addition to the operational sound level impacts discussed above, there would also be blowdown events during which the compressor stations would generate additional sound for short periods of time.

Iroquois estimated the sound level at NSAs from a normal (routine) unit blowdown event at each compressor station. Projected sound levels at the NSA nearest to the new compressor units range from 33 dBA at the Athens Compressor Station to 40 dBA at the Dover and Brookfield Compressor Stations. Normal unit blowdowns may occur frequently (a few times per week during daytime hours) during commissioning and testing; however, during normal operation routine blowdown events would occur less frequently (up to four times per month). In addition, emergency blowdown events could occur during operation of the compressor stations. Noise impacts at the NSAs would be limited to the duration of the release relative to the specific emergency situation. Given the non-routine nature and short-term duration of these blowdown events, we do not believe that they would result in significant impacts on nearby residents or that they would be a significant contributor to operational sound levels from the Project.

Based on the analyses conducted, Iroquois' proposed mitigation measures, and our recommendation, we conclude that construction and operation of the Project would not result in significant noise or vibration impacts on residents or the surrounding communities. Additionally, operation of the compressor stations would be in compliance with local noise ordinances.

## **9. Reliability and Safety**

The pressurization of natural gas at a compressor station involves some incremental risk to the public due to the potential for accidental release of natural gas. The greatest hazard is a fire or explosion following a major pipeline rupture.

Methane, the primary component of natural gas, is colorless, odorless, and tasteless. It is not toxic, but is classified as a simple asphyxiate, possessing a slight inhalation hazard. If breathed in high concentration, oxygen deficiency can result in serious injury or death. Methane has an auto-ignition temperature of 1,000°F and is flammable at concentrations between 5.0 and 15.0 percent in air. An unconfined mixture of methane and air is not explosive; however, it may ignite and burn if there is an ignition source. A flammable concentration within an enclosed space in the presence of an ignition source can explode. It is buoyant at atmospheric temperatures and disperses rapidly in air.

### **9.1 Safety Standards**

The USDOT-PHMSA is mandated to prescribe minimum safety standards to protect against risks posed by natural gas facilities under Title 49 of the U.S. Code, Chapter 601. The USDOT-PHMSA administers the USDOT's national regulatory

program to ensure the safe transportation of natural gas and other hazardous materials by pipeline. It develops safety regulations and other approaches to risk management that ensure safety in the design, construction, testing, operation, maintenance, and emergency response of natural gas facilities. Many of the regulations are written as performance standards, which set the level of safety to be attained and allow the operator to use various technologies to achieve safety. USDOT-PHMSA ensures that people and the environment are protected from the risk of incidents. This work is shared with state agency partners and others at the federal, state, and local levels.

Section 5(a) of the Natural Gas Pipeline Safety Act provides for a state agency to assume all aspects of the safety program for intrastate facilities by adoption and enforcement of federal standards. A state may also act as USDOT-PHMSA's agent to inspect interstate facilities within its boundaries; however, the USDOT-PHMSA is responsible for enforcement actions. New York and Connecticut are authorized under Section 5(a) to assume all aspects of the safety program for intrastate, but not interstate facilities (USDOT-PHMSA 2020).

The USDOT-PHMSA pipeline standards are published in 49 CFR 190 through 199. Part 192 specifically addresses natural gas pipeline safety issues. Under a MOU with FERC on Natural Gas Transportation Facilities, dated January 15, 1993, the USDOT-PHMSA has the exclusive authority to promulgate federal safety standards in the transportation of natural gas. Section 157.12(a)(9)(vi) of FERC's regulations require that an applicant certify that it would design, install, inspect, test, construct, operate, replace, and maintain the facility for which a Certificate is requested in accordance with federal safety standards and plans for maintenance and inspection. Alternatively, an applicant must certify that it has been granted a waiver of the requirements of the safety standards by the USDOT-PHMSA in accordance with Section 3(e) of the Natural Gas Pipeline Safety Act. FERC accepts this certification and does not impose additional safety standards.

If FERC becomes aware of an existing or potential safety problem, there is a provision within the MOU to promptly alert the USDOT-PHMSA. The MOU also provides for referring complaints and inquiries made by state and local governments and the general public involving safety matters related to pipelines under FERC's jurisdiction. FERC also participates as a member of the USDOT-PHMSA's Technical Pipeline Safety Standards Committee, which determines if proposed safety regulations are reasonable, feasible, and practicable.

## **9.2 Station Design**

The piping and aboveground facilities associated with the Project would be designed, constructed, operated, and maintained in accordance with the USDOT-PHMSA *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 USDOT-PHMSA specifies material selection and qualification; minimum design requirements; and protection from internal, external, and atmospheric corrosion.

Part 192 of 49 CFR establishes safety guidelines for the design and construction of compressor stations in addition to pipeline safety standards. Part 192.163 requires the location of each main compressor building of a compressor station be on a property under the control of the operator. The station must also be far enough away from adjacent property, not under control of the operator, to minimize the possibility of fire spreading to the compressor building from structures on adjacent properties. Part 192.163 also requires each building on a compressor station site be made of specific building materials and to have at least two separate and unobstructed exits. The station must be in an enclosed fenced area and must have at least two gates to provide a safe exit during an emergency.

The compressor stations' safety systems would be engineered with automated control systems to ensure the station and pipeline pressures are maintained within safe limits and would include several additional over-pressure protection systems that provide an additional layer of safety to back-up the primary controls. The stations would also have an automated emergency system that would shut down the station to prevent an incident should an abnormal operating condition occur, and, if appropriate, Iroquois would evacuate the gas from the station piping at a safe location. To mitigate hazards from foreign direct and alternating currents, Iroquois has committed to design, construct, and operate the compressor stations to the National Association of Corrosion Engineers international standard practices (SPO0169 and SP0177). Additionally, Iroquois would construct the compressor stations from noncombustible materials and equip compressor buildings with compressor unit enclosure fire suppression systems, as well as fire and hazardous gas detection systems, which would mitigate fires within the facility, should an emergency occur.

Several commentors raised safety concerns for the modifications at the Athens Compressor Station in proximity to the Athens Generating Plant, Central Hudson's natural gas pipeline system, Peckham's asphalt plant, Sunoco Gas Station, Northeast Treaters lumber facility, as well as nearby rail operations, and the potential for explosions. Commentors also state that offsets have been established for proximity of compressor stations to power plants and rail lines; however, no specific regulations requiring an offset from compressor stations to power plants and/or railway tracks were referenced in these comments. Our staff conducted research to identify federal or state regulations that specify offsets between compressor stations and power plants or rail lines and found none that were applicable to the proposed Project. However, the USDOT Federal Railroad Administration regulates the safety of trains and continues to increase safety regulations as is evident in its recent ruling pertaining to spill response; see USDOT Final Rule, April 1, 2019 (84 FR 6910). Iroquois has proposed to site its new facilities at existing facilities already in operation on property owned by Iroquois. The

addition of new facilities at these sites would be of similar kind; Iroquois would construct and operate these facilities in compliance with USDOT-PHMSA safety standards. Additionally, Iroquois has sited the compressor stations in compliance with USDOT-PHMSA's regulations to minimize fire hazards being communicated from neighboring properties.

### **9.3 Pipeline Safety**

While the Project is only proposing changes in compression, it would have an effect on the pipeline system connected to the modified compressor stations. The existing Iroquois system is already designed to safely handle the additional gas volumes that would be transported through the system by the proposed Project, with no proposed increase in the MAOP. In addition to the requirements reviewed above, the USDOT-PHMSA also defines area classifications, based on population density near the pipeline and specifies more rigorous safety requirements for populated areas. The class location unit is an area that extends 220 yards on either side of the centerline of any continuous 1-mile-length of pipeline. The four area classifications are defined below:

- Class 1: Location with 10 or fewer buildings intended for human occupancy;
- Class 2: Location with more than 10 but less than 46 buildings intended for human occupancy;
- Class 3: Location with 46 or more buildings intended for human occupancy or where the pipeline lies within 100 yards of any building, or small well-defined outside area occupied by more than 20 or more people on at least 5 days a week for 10 weeks in any 12-month period; and
- Class 4: Location where buildings with four or more stories aboveground are prevalent.

Class locations representing more populated areas require higher safety factors in pipeline design, testing, and operations. For instance, pipelines constructed in Class I locations must be installed with a minimum depth cover of 18 inches in consolidated rock and 30 inches in normal soil. Class 2, 3, and 4 locations, as well as drainage ditches of public roads and railroad crossings require a minimum cover of 24 inches in consolidated rock and 36 inches in normal soil.

Class locations also specify the maximum distance to a sectionalizing block valve (i.e., 10.0 miles in Class 1, 7.5 miles in Class 2, 4.0 miles in Class 3, and 2.5 miles in Class 4). Pipe wall thickness and pipeline design pressures, hydrostatic test pressures, MAOP; inspection and testing of welds, and the frequency of pipeline patrols and leak surveys must also conform to higher standards in more populated areas.

The Project proposes to add compression. Iroquois would design, test, and operate its associated pipeline by the designated pipeline class locations, in accordance with 49

CFR 192, Subpart G. Additionally, in all Class 3 locations, Iroquois would odorize gas for additional leak detection and safety. Throughout the life of the pipeline, Iroquois would monitor population changes near the pipeline in accordance with 49 CFR 192, Subpart L (Section 192.609 and 192.611) to determine whether the pipeline requires upgrades to meet changes in population. If a subsequent increase in population density adjacent to the rights-of-way results in a change in class location for the pipeline, Iroquois would conduct a study to determine whether the segments should have a reduction in MAOP, a new hydrostatic test, or replacement of the segment with pipe of sufficient grade and wall thickness, if required, in order to comply with USDOT-PHMSA requirements for the new class location.

Comments were received regarding safety concerns with the proposed addition of compression at facilities that are in proximity of schools and residential neighborhoods. The Pipeline Safety Improvement Act of 2002 requires operators to develop and follow a written integrity management program that contains all of the elements described in 49 CFR 192.911, and addresses the risks on each transmission pipeline segment. More specifically, the law establishes an integrity management program that applies to all high consequence areas (HCAs), which are defined as areas where a gas pipeline accident could cause considerable harm to people and their property and that require an integrity management program to minimize the potential for an accident.

The HCAs may be defined in one of two ways. In the first method, an HCA includes:

- current Class 3 and 4 locations;
- any area in Class 1 or 2 locations where the potential impact radius is greater than 660 feet and there are 20 or more buildings intended for human occupancy within the potential impact circle; or
- any area in Class 1 or 2 locations where the potential impact circle includes an identified site (as described below).

An identified site is an outside area or open structure that is occupied by 20 or more persons on at least 50 days in any 12-month period; a building that is occupied by 20 or more persons on at least 5 days per week for any 10 weeks in any 12-month period; or a facility that is occupied by persons who are confined, are of impaired mobility, or would be difficult to evacuate.

In the second method, an HCA includes any area within a potential impact circle that contains:

- 20 or more buildings intended for human occupancy; or
- an identified site.

Modifications at the Milford Compressor Station would occur within an HCA. As required by Section 192.91, Iroquois would integrate the new facilities at the Milford Compressor Station into its Integrity Management Plan.

#### **9.4 Project Operations**

Parts 192.731 through 192.736 of 49 CFR establish safety guidelines for inspection, testing, and monitoring at compressor stations. Iroquois would inspect the fire detection, gas detection, and emergency shutdown systems quarterly and valves would be inspected annually. Inspections would ensure that the facilities and pipeline systems are in good mechanical condition, set to control or relieve at the correct pressure consistent with the pressure limits in Part 192.201(a), and are properly installed and protected from dirt, liquids, or other conditions that might prevent proper operation.

Part 192.163 of 49 CFR requires that each compressor station have an emergency shutdown system that meets several specifications, including:

- flame detection that uses ultraviolet sensors;
- gas detection for detecting low concentrations of natural gas;
- emergency shutdowns to isolate the gas piping, stop equipment, and safely vent station gas;
- individual unit shutdown systems in case of mechanical or electrical failure of a compressor unit system or component;
- automated control systems to maintain safe MAOPs (including over-pressure protection systems);
- automated emergency shut down systems to evacuate gas from the system at a safe location;
- compressor unit enclosure fire suppression systems; and
- hazardous gas and fire detection alarm systems.

During operation of the Project, Iroquois would utilize its Supervisory Control and Data Acquisition and Gas Control system which allows remote staff to monitor the stations 24 hours a day and shut down the units as needed.

Additionally, to confirm proper equipment function, Iroquois would conduct quarterly inspections of fire and gas detection systems as well as emergency shutdown systems; annual inspections of valves would also be conducted to confirm proper equipment function. Alternate power sources would also be implemented at each compressor station to maintain power to the facility systems should power be lost for any reason.

## 9.5 Emergencies

Several commentors expressed concern regarding emergency plans and concern with the plan's evacuation route, notification process, and public access to the plan. The USDOT-PHMSA prescribes the minimum standards for operating and maintaining pipeline and aboveground natural gas facilities, including the requirement to establish a written plan governing these activities. Each operator is required under 49 CFR 192.615 to establish an emergency plan that includes procedures to minimize the hazards of a natural gas emergency. Iroquois would integrate the new facilities into its existing facility Emergency Response Plan for the corresponding compressor station, in accordance with the regulation, which requires that a plan be prepared prior to commencing operations. Iroquois would make the plan available to emergency responders. Key elements of the plan include procedures for:

- receiving, identifying, and classifying emergency events, gas leakage, fires, explosions, and natural disasters;
- establishing and maintaining communications with local fire, police, and public officials, and coordinating emergency response;
- emergency system shutdown and safe restoration of service;
- making personnel, equipment, tools, and materials available at the scene of an emergency; and
- protecting people first and then property and making them safe from actual or potential hazards.

The USDOT-PHMSA requires that each operator establish and maintain liaison with appropriate fire, police, and public officials to learn the resources and responsibilities of each organization that may respond to a natural gas pipeline or facility emergency, and to coordinate mutual assistance. Iroquois must also establish a continuing education program to enable customers, the public, government officials, and those engaged in excavation activities to recognize a gas emergency and report it to the appropriate public officials. Iroquois would provide the appropriate training to local emergency service personnel before the Project is placed in service.

With continued compliance with USDOT-PHMSA safety standards, operation, and maintenance requirements, the Project would be constructed and operated safely.

## 10. Cumulative Impacts

European settlers reached New York and Connecticut in the early 17<sup>th</sup> century. Today, about 19.5 million people reside in New York and another 3.6 million in Connecticut (U.S. Census Bureau 2020a). This includes 2.1 million people in the counties where Iroquois is proposing to construct and operate the new proposed facilities

(U.S. Census Bureau 2020a). Previous activities in the vicinity of the Project have resulted in impacts on forest cover, fragmentation, and composition; however, the modifications proposed for the Project would occur predominately on land previously converted to commercial/industrial use (97.4 percent). The Project is in the Northeastern Highlands or Northeastern Coastal Zone Ecoregions. The Northeastern Highlands Ecoregion is in an area with generally hardwood forests and nutrient-poor soils, much of which has been converted to agricultural use. The Northeastern Coastal Zone Ecoregion includes oak and oak-pine forests, much of which remains today (USEPA 2013).

In accordance with NEPA and FERC policy, we identified other actions in the vicinity of the Project facilities and evaluated the potential for a cumulative impact on the environment. A cumulative effect is the impact on the environment from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant actions, taking place over time. In this analysis, we consider the impacts of past projects within the region as part of the affected environment (environmental baseline) which was described and evaluated in the preceding environmental analysis. However, present effects of past actions that are relevant and useful are also considered.

As described in the environmental analysis section of this EA, constructing and operating the Project would temporarily and permanently impact the environment. The Project would affect soils, vegetation, wildlife, visual resources, air quality, and noise. While the Project would be sited in an area subject to geologic hazards, the only other projects identified in table B-17 that would overlap with the Project footprint are the two non-jurisdictional, electrical power upgrades that would be required at the Dover and Brookfield Compressor Stations. Neither the Dover or Brookfield Compressor Station site is in an area of steep slopes (see table B-2) or on land susceptible to subsidence or other geologic hazards. Therefore, the potential for cumulative impacts on geologic resources associated with the Project would be negligible and not assessed further.

Given that the Project would include modifications at existing aboveground facilities on lands owned by Iroquois and would result in negligible tax benefits, as discussed in section B.6.5, it would have negligible effects on socioeconomic indicators, which are not discussed further. Because the Project would have no effect on water resources and wetlands, or cultural resources as discussed in sections B.2 and B.7, it would not contribute to cumulative effects and these resources are not discussed further. Also, because all work associated with the Project would occur on lands owned or leased by Iroquois that are currently in industrial/commercial use, it would not contribute to cumulative effects and land use is not discussed further.

## 10.1 Geographic Scope of Cumulative Impacts

Our cumulative impacts analysis considers actions that impact environmental resources 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 Project’s impacts. Actions outside the geographic scope are generally not evaluated because their potential to contribute to a cumulative impact diminishes with increasing distance from the Project. Based on the conclusions and determinations reached in section B, Iroquois’ implementation of impact avoidance, minimization, and mitigation measures as described in our Plan and Procedures and its E&SCP, and its adherence to our recommendations, we find that impacts of the Project would be largely limited to the existing compressor stations, although operational air emissions and noise would result in impacts further abroad, as discussed in section B.8.

Table B-16 presents resource-specific geographic scopes consistent with CEQ guidance, followed by justification for the geographic scopes selected in the bullets below.

<b>Table B-16</b>	
<b>Geographic Scope for Cumulative Impact Analysis</b>	
<b>Environmental Resource<sup>a</sup></b>	<b>Geographic Scope</b>
Geology	Not analyzed further as no impacts from the Project are anticipated
<b>Soils</b>	Limits of Project disturbance / construction workspaces
Ground and Surface Water and Wetlands	Not analyzed further as no impacts from the Project are anticipated
<b>Vegetation and Wildlife (Including Threatened and Endangered Species)</b>	Watershed boundary (HUC 12 watershed)
Land Use and Recreation	Not analyzed further as no impacts from the Project are anticipated
<b>Visual</b>	For aboveground facilities, distance that the tallest feature at the planned facility would be visible from neighboring communities
Socioeconomics, including Environmental Justice	Not analyzed further as no impacts from the Project are anticipated
Cultural Resources	Not analyzed further as no impacts from the Project are anticipated
<b>Air Quality – Construction</b>	0.25 mile from an aboveground facility
<b>Air Quality – Operation</b>	50 kilometers (31 miles) from the Project
<b>Noise – Operations</b>	1-mile radius from an aboveground facility
<b>Noise – Construction</b>	0.25 mile from an aboveground facility
<sup>a</sup> <b>Bold</b> items in this table were carried forward to the cumulative analysis.	

- Project construction and restoration measures, including erosion control devices, are designed to confine impacts on soil resources to the Project workspaces. Therefore, we evaluated potential cumulative impacts on soils within the same construction footprint as the Project.
- Impacts on vegetation and wildlife could extend outside of the workspaces to plant seed dispersion areas or individual home ranges for species with potential to occur in the Project area, but would generally be contained to a relatively small area. We believe the watershed scale is most appropriate to evaluate impacts as it provides a natural boundary and a geographic proxy to accommodate general wildlife habitat and ecology characteristics in the Project area. Therefore, we evaluated projects within the HUC-12 watersheds that would be crossed by the Project.
- Impacts on visual receptors associated with the new aboveground facilities would occur at the distance that the tallest feature at the existing facility would be visible from receptors in the Project area.
- Temporary impacts on air quality, including fugitive dust, would be largely limited to areas within 0.25 mile of active construction.
- For long-term impacts on air quality over the lifetime of the facilities due to Project operation, we adopted the distance used by the USEPA for cumulative modeling of large PSD sources during permitting (40 CFR 51, appendix W) which is a 31-mile, or 50-kilometer, radius from the Athens, Dover, and Brookfield Compressor Stations. We evaluated current and proposed sources that overlap in time and location with construction activities and those with potentially significant long-term stationary emission sources within the geographic scopes for all emissions other than CO<sub>2</sub>e. CO<sub>2</sub>e (or referred to as GHG) emissions from a local project do not result in direct local impacts; it is the cumulative concentration of CO<sub>2</sub>e in the atmosphere that causes climate impacts (see Climate Change section below) at the global level. Thus, for climate change, the geographic scope for cumulative analysis of GHG emissions is global rather than local or regional.
- Temporary noise from construction of the Project would overlap with noise from other construction projects, which would be limited to areas within 0.25 mile of Project construction. For long-term/operational impacts, we evaluated current and proposed sources within 1 mile of the compressor stations.

## **10.2 Projects Considered**

Several commentors raised concerns regarding cumulative impacts on nearby residences, businesses, and schools due to the proximity of proposed modifications to other existing facilities. Specifically, commentors raised air quality concerns for the modifications at the Athens Compressor Station in proximity to the Athens Generating

Plant, Central Hudson's natural gas pipeline system, Peckham's asphalt plant, Sunoco Gas Station, and Northeast Treaters lumber facility, as well as nearby rail operations.

All of the facilities described above are existing facilities that are currently in operation. The existing air emissions from these facilities were captured in the background air concentrations that were used in the air quality dispersion model (see section 8.1). In general, the affected environment (environmental baseline), which is described under the specific resources throughout section B, reflects the aggregate impact of all prior human actions and natural events that have affected the environment and might contribute to cumulative effects. Therefore, these facilities are not included in the analysis below.

One commentor raised concerns for the modifications at the Dover Compressor Station in proximity to the Cricket Valley Energy Power Plant, which is currently under construction about 0.4 mile southeast of the existing station site. As this facility is not yet in operation, this facility is included in the analysis that follows.

Potential cumulative impacts associated with recently completed, current, proposed, or reasonably foreseeable future actions within the Project area are described in table B-17. The projects identified include six utility projects, five industrial/commercial projects, two residential projects, two recreation projects, a bridge rehabilitation project, and a new elementary school within the geographic scope of the compressor stations and contractor staging areas.

As discussed in section B, the proposed Project would result in impacts on soils, vegetation, and wildlife (including federally and state-listed threatened and endangered species), visual resources, air quality, and noise.

### **10.3 Soils**

The assessment of cumulative impacts on soils considered projects which have a construction footprint that overlaps with the Project. Of the projects identified in table B-17, two projects (electrical upgrades at the Dover and Brookfield Compressor Stations) are within the geographic scope for the assessment of cumulative impacts on soils. Potential cumulative impacts on soil resources could include soil erosion and compaction.

Impacts from construction of the non-jurisdictional power lines are expected to be limited to small areas to install poles to support the new power lines, which would be entirely collocated with the workspaces for the corresponding compressor station. Iroquois would minimize impacts on soils by implementing the measures in our Plan and its E&SCP, and the electric company would also follow appropriate erosion and sediment controls in accordance with permits, if applicable. Therefore, these facilities are expected to contribute minimally to cumulative impacts on soils in the Project area.

**Table B-17**  
**Proposed Projects with Potential Cumulative Impacts in the Geographic Scope**

<b>Project and Proponent</b>	<b>Location in the Project Area</b>	<b>Anticipated Date of Construction / Operation</b>	<b>Project Size (Length or Area)</b>	<b>Closest Known Distance to Project</b>	<b>Description</b>	<b>Resource(s) Potentially Cumulatively Affected during Construction</b>	<b>Resource(s) Potentially Cumulatively Affected during Operation</b>
<b>Athens Compressor Station</b>							
Flint Solar Mine / Flint Mine Solar, LLC	Towns of Athens and Cossackie, Greene County, New York	2020 / Unknown	3,500 acres	0.3 mile north of Athens Compressor Station	Flint Mine Solar, LLC is proposing to construct a new solar photovoltaic (PV) facility in Athens, New York. Once complete the facility would include PV modules, electrical storage devices, inverters, and electrical collection lines.	Vegetation and Wildlife	Vegetation and Wildlife
Solid Waste Processing Facility / Rensselaer Resource Recovery, LLC	Town of Rensselaer, Rensselaer County, New York	Under construction / Unknown	30 acres	23.3 miles northeast of the Athens Compressor Station	Rensselaer Resource Recovery, LLC is proposing to construct a new municipal solid waste processing facility that will produce a substitute for coal in a process approved by the USEPA.	--	Air Quality
<b>Dover Compressor Station</b>							
Electrical Power Upgrades / New York State Electric and Gas	Town of Dover, Dutchess County, New York	Q3 2023 / Q4 2023	0.34 acre	At the existing Dover Compressor Station	New York State Electric and Gas is proposing an additional 750 feet of power line to support modifications at the existing Dover Compressor Station.	Soils, Vegetation and Wildlife, Air Quality and Noise	--
Cricket Valley Power Plant / Cricket Valley Energy Center, LLC	Town of Dover, Dutchess County, New York	Under construction / 2020	56 acres	0.4 mile southeast of the Dover Compressor Station	Cricket Valley Energy Center, LLC is constructing a new natural gas 1,100-megawatt natural gas-fired power plant.	Vegetation and Wildlife	Vegetation and Wildlife, Air Quality and Noise

**Table B-17 (continued)**  
**Proposed Projects with Potential Cumulative Impacts in the Geographic Scope**

<b>Project and Proponent</b>	<b>Location in the Project Area</b>	<b>Anticipated Date of Construction / Operation</b>	<b>Project Size (Length or Area)</b>	<b>Closest Known Distance to Project</b>	<b>Description</b>	<b>Resource(s) Potentially Cumulatively Affected during Construction</b>	<b>Resource(s) Potentially Cumulatively Affected during Operation</b>
Dover Solar, / Dover Solar, LLC	Town of Dover, Dutchess County, New York	Under construction / Unknown	62 acres	0.6 mile southeast of the Dover Compressor Station	Dover Solar, LLC is currently constructing a new 2-megawatt solar farm in Dover, New York.	Vegetation and Wildlife	Vegetation and Wildlife
World Olivet Assembly Center-Religious Retreat / World Olivet Assembly	Town of Dover, Dutchess County, New York	2020 / Unknown	35.7 acres	0.1 mile south of the Dover Compressor Station	World Olivet Assembly is proposing to construct additional facilities that include housing, parking, access roads, and any additional infrastructure needed.	Vegetation and Wildlife, Visual, Air Quality and Noise	Vegetation and Wildlife, Visual
Stonybrook Estates	Town of Dover, Dutchess County, New York	Under construction / Unknown	135 acres	0.8 mile southeast of the Dover Compressor Station	A new 28-unit condominium, Storybook Estates, is currently under constructing.	Vegetation and Wildlife	Vegetation and Wildlife
<b>Brookfield Compressor Station</b>							
Electrical Power Upgrades / Eversource	Town of Brookfield, Fairfield County, Connecticut	Q3 2023 / Q4 2023	0.3 acre	At the existing Brookfield Compressor Station	Eversource is proposing an additional 650 feet of distribution power line to support modifications at the existing Brookfield Compressor Station	Soils, Vegetation and Wildlife, Air Quality and Noise	--
Branson Ultrasonics Headquarters / Branson Ultrasonics	Town of Brookfield and Town of Bethel, Fairfield County, Connecticut	Under construction / Unknown	13 acres	0.9 mile south of the Brookfield Compressor Station	Branson Ultrasonics is constructing a new precision custom welding machine production headquarters.	Vegetation and Wildlife	Vegetation and Wildlife, Air Quality

**Table B-17 (continued)**  
**Proposed Projects with Potential Cumulative Impacts in the Geographic Scope**

<b>Project and Proponent</b>	<b>Location in the Project Area</b>	<b>Anticipated Date of Construction / Operation</b>	<b>Project Size (Length or Area)</b>	<b>Closest Known Distance to Project</b>	<b>Description</b>	<b>Resource(s) Potentially Cumulatively Affected during Construction</b>	<b>Resource(s) Potentially Cumulatively Affected during Operation</b>
Columbia Pacific Advisors Assisted Living and Memory Care Facility / Columbia Pacific Advisors	Town of Brookfield, Fairfield County, Connecticut	Under construction / Unknown	4 acres	0.3 mile northwest of Brookfield Compressor Station	Columbia Pacific Advisors is constructing a new 51,000-square-foot Alzheimer's facility.	Vegetation and Wildlife	Vegetation and Wildlife
Cascades Holding / Cascades Holding US, Inc.	Town of Newtown, Fairfield County, Connecticut	2020 / Unknown	11.5 acres	3.6 miles southeast of Brookfield Compressor Station	Cascades Holding US, Inc is proposing to add a flexographic printing line at an existing facility.	--	Air Quality
Huckleberry Hills Elementary School / Brookfield Public School District	Town of Brookfield, Fairfield County, Connecticut	2020 / Unknown	15 acres	2.5 miles west of the Brookfield Compressor Station	Brookfield Public School District is proposing a new elementary school.	Vegetation and Wildlife	Vegetation and Wildlife
Still River Greenway Expansion / Town of Brookfield	Town of Brookfield, Fairfield County, Connecticut	2020 / Unknown	3.1 acres	1.2 miles north of the Brookfield Compressor Station	The Town of Brookfield is proposing improvements of the Still River Greenway that include additional hiking trails and a parking lot.	Vegetation and Wildlife	Vegetation and Wildlife
Hunting Ridge Subdivision / Unknown	Town of Brookfield, Fairfield County, Connecticut	2020 / Unknown	12 acres	0.1 mile east of the Brookfield Compressor Station	A proposed project in Brookfield will subdivide a residential lot into 9 separate residential lots.	Vegetation and Wildlife, Visual, Air Quality and Noise	Vegetation and Wildlife, Visual

**Table B-17 (continued)**  
**Proposed Projects with Potential Cumulative Impacts in the Geographic Scope**

<b>Project and Proponent</b>	<b>Location in the Project Area</b>	<b>Anticipated Date of Construction / Operation</b>	<b>Project Size (Length or Area)</b>	<b>Closest Known Distance to Project</b>	<b>Description</b>	<b>Resource(s) Potentially Cumulatively Affected during Construction</b>	<b>Resource(s) Potentially Cumulatively Affected during Operation</b>
Rehabilitation of Bridge 01343-Route 133 / Connecticut Department of Transportation	Town of Brookfield and Town of Bridgewater, Fairfield County, Connecticut	2019/July 2020 <sup>28</sup>	0.9 acre	3.4 miles northeast of the Brookfield Compressor Station	The Connecticut Department of Transportation is proposing repairing a bridge (01343) that is over the Housatonic River.	Vegetation and Wildlife	Vegetation and Wildlife
<b>Milford Compressor Station</b>							
Boston Street Development / Metrostar Properties	Milford Township, New Haven County, Connecticut	Under construction / Unknown	21.6 acres	1.3 miles southeast of the Milford Compressor Station	Metrostar Properties is constructing a large development site that will include a hotel, apartments, commercial businesses, and a parking garage.	Vegetation and Wildlife	Vegetation and Wildlife
Silver Sands State Park Improvements / Silver Sands State Park	Milford Township, New Haven County, Connecticut	Under construction / Unknown	35 acres	2.3 miles southeast of the Milford Compressor Station	Silver Sands State Park is constructing a parking lot expansion and various infrastructure improvements.	Vegetation and Wildlife	Vegetation and Wildlife

<sup>28</sup> <https://portal.ct.gov/DOT/Construction-News-from-the-Connecticut-Department-of-Transportation/2019/Weekend-Road-Closures-on-Route-133-over-the-Housatonic-River-in-Bridgewater-and-Brookfield>.

## 10.1 Vegetation and Wildlife

Cumulative effects on vegetation and wildlife affected by the Project, including threatened and endangered species (specifically, the northern long-eared bat), could occur in the HUC-12 watersheds where Project modifications would occur (see table B-4). All but two of the projects in table B-17 are within the defined geographic scope for vegetation and wildlife. Projects that involve replacement of existing infrastructure or redevelopment of existing properties (e.g., Connecticut Department of Transportation's Rehabilitation of Bridge 01343 on Route 133 and Cascade Holding Inc's new printing line) generally have limited adjacent or on-site vegetation habitat; these sites would not be considered quality habitat and are not expected to contribute discernably to cumulative impacts on vegetation or wildlife. In addition, construction for at least one project, the Cricket Valley Power Plant, (and potentially many of the housing development projects) would be complete prior to the start of construction for the proposed Project, such that wildlife would not be affected by concurrent construction at the compressor stations.

The majority of land that would be affected by the Project has been previously developed, resulting in limited work in vegetated areas (15.0 acres), of which only 4.7 acres would be on land that is not maintained as mowed turf or grass areas. Of the projects in table B-17, the Flint Solar Mine project has the greatest potential to contribute to cumulative impacts on vegetation within the HUC-12 watersheds, with an estimated 2,550 acres of vegetation clearing, including grassland/herbaceous (1,500 acres), evergreen forest (800 acres), and pasture/hay (250 acres). The other projects within the HUC-12 watersheds would collectively impact about 394 acres of land (not all of which would be vegetated). The proposed Project and other projects in table B-17 would affect about 2.3 percent of the total drainage area of the collective HUC-12 watersheds (about 126,590 acres; see table B-4). Although impacts on vegetation from the Flint Solar Mine would account for about 9.6 percent of the drainage area of the affected HUC-12 watershed (Murderers Creek-Hudson River; 26,439 acres), the Athens Compressor Station would only contribute a negligible amount (0.4 acre or less than 0.1 percent) to the cumulative vegetation clearing in that HUC-12.

Iroquois would minimize impacts on vegetation and wildlife habitat by implementing the measures in our Plan and Procedures and its E&SCP, by locating the modifications at existing facilities, and by restoring vegetated areas within temporary workspace, such that these areas could continue to function as wildlife habitat. Although specific mitigation measures for the projects in table B-17 are not known, each would be required to adhere to applicable permit requirements and generally involve agency consultations to identify habitats and species of concern, and to avoid sensitive habitats as able. Cumulative impacts on federally and state-listed threatened and endangered species could occur if other federal, state, or private projects were to affect the same habitats as the Project. However, the ESA consultation process includes consideration of the current status of affected species and how cumulative impacts from future state or private

projects subject to Section 7 consultation would affect those species. We conclude that the Project's cumulative impacts, in addition to the other projects listed in table B-17, on vegetation and wildlife resources, including threatened and endangered species, would not be significant.

## **10.2 Visual Resources**

The geographic scope that was identified for cumulative impacts on visual resources is the distance at which the tallest feature would be visible from neighboring communities. In addition to the non-jurisdictional power lines, two of the projects identified in table B-17 (improvements at the World Olivet Assembly Center and the Hunting Ridge Subdivision) are within the geographic scope for the assessment of cumulative impacts on visual resources.

As discussed in section B.5, the existing Athens Compressor Station position within the parcel, would minimize visibility; however, an existing cold storage building and a storage building to be relocated as part of the Project are and would be visible to nearby residents and passing motorists. Similarly, the existing Dover and Brookfield Compressor Stations are positioned such that they are not readily visible from nearby residences and have limited visibility from the corresponding roadways. The modifications at the Milford Compressor Station include new facilities that would be consistent with the current industrial use of these facilities and are substantially smaller than the existing facility components. Therefore, impacts on existing viewsheds would be most notable at the Athens Compressor Station from the relocation of a storage building.

Temporary visual impacts would be evident during Project construction due to clearing, grading, and the presence of construction equipment and personnel. All of the construction workspace that would be disturbed by the Project would occur on lands that are currently used for industrial purposes with limited vegetation clearing, as discussed above. Further, the modifications to Iroquois' existing facilities would occur within or adjacent to the existing facility boundaries. As a result, the visual resources in the Project area have been previously affected by operation of the existing facilities such that the incremental contribution of the new facilities on cumulative visual resources during construction and operation would be negligible.

Improvements at the World Olivet Assembly Center would include new access roads, parking lots, and additional facilities, including housing. The religious retreat is 0.1 mile south of the existing Dover Compressor Station. Existing vegetation along County Route 26 (Dover Furnace Road) limits the visibility of the religious retreat to visual receptors on adjacent lands and motorists on County Road 26. Similarly, the Hunting Ridge Subdivision is about 0.1 mile east of the existing Brookfield Compressor Station, on a dead-end road with natural vegetation buffers, resulting in limited visual receptors in proximity to the proposed subdivision. Like these projects, natural

vegetation buffers at the Dover and Brookfield Compressor Stations would limit the visibility of Project modifications at these sites. Further the modifications would disturb only limited vegetation that is not currently maintained, including about 4.1 acres of upland herbaceous habitat at the Dover Compressor Station and 0.4 acre of forested land at the Brookfield Compressor Station, all of which are currently in industrial/commercial use. Following construction, the new turbine exhaust stacks would be the most prominent features in the viewshed, except at the Athens Compressor Station where a relocated storage shed would be most visible (see section B.5.5). At the Athens and Brookfield Compressor Stations, the new stacks would generally be similar in height to the current stacks, while the new stacks at the Dover Compressor Station would be about 20 feet taller than the existing stacks and the new stacks at the Milford Compressor Station would be more than 30 feet shorter than the existing stacks. As discussed in section B.5.5, the Athens, Dover, and Brookfield Compressor Stations are positioned with the respective parcels such that their visibility is limited. Further, due to vegetation buffers, neither the Dover or Brookfield Compressor Stations would be visible from the same vantage points as those providing views of the other projects within the geographic scope (improvements at the World Olivet Assembly Center and the Hunting Ridge Subdivision). Alternatively, the non-jurisdictional power lines would be constructed concurrent with and, in part, at the Dover and Brookfield Compressor Station sites. However, the cumulative impacts on visual resources from the Project and non-jurisdictional power lines would mostly be limited to the construction phase, and would be temporary. Further, the modifications at existing facilities would be consistent with the current viewshed; therefore, we conclude that the Project's overall contribution to cumulative effects on the existing viewshed would be negligible.

As the Project and other projects would not change the current use of the parcels, the impacts on vegetation would be negligible, and the visual receptors in proximity to these projects are limited, we conclude that cumulative impacts on these resources would not be significant.

### **10.3 Air Quality**

The proposed Project would result in short-term impacts on air quality as a result of construction in the vicinity of the Project, as discussed in section B.8.1. Specifically, use of heavy equipment would generate emissions of air pollutants and fugitive dust, which would result in short-term emissions that would be highly localized, temporary, and intermittent.

Construction of the projects listed in table B-17 that are within 0.25 mile of the Project and would have overlapping construction schedules could contribute to cumulative impacts on local air quality. Similar to the proposed Project, construction of projects that would involve the use of heavy equipment that would generate short-term emissions would be highly localized, temporary, and intermittent. Each project identified in table B-16 would be required to meet applicable federal and state air quality standards

to avoid significant impacts on air quality (including standards for fugitive dust and exhaust emissions standards). Table B-12, in section B.8.1, quantifies the estimated annual construction emissions for the Project compared with applicable general conformity thresholds. Electrical upgrades associated with the Project and construction at the World Olivet Assembly Center could be concurrent with modifications at the Dover Compressor Station; and electrical upgrades associated with the Project and construction of the Hunting Ridge Subdivision may overlap with modifications at the Brookfield Compressor Station. No projects were identified within the geographic scope for the Athens or Milford Compressor Stations.

Cumulative construction emissions from these projects and concurrent construction of the proposed Project facilities would not be expected to result in an exceedance of applicable general conformity thresholds in any county; however, concurrent construction would result in temporary, localized cumulative emissions from construction vehicles and equipment that would last for the duration of the construction period. As discussed in section B.8.1, construction of the Project would not result in any exceedance of applicable ambient air quality standards, and impacts from construction would be temporary.

During operations, emissions from the modified compressor stations would result in impacts on air quality. As discussed in section B.8.1, emissions from Project operation would not contribute to an exceedance of the NAAQS, and would not cause or significantly contribute to a degradation of ambient air quality. Several of the projects listed in table B-17 would result in ongoing, operational emissions of air pollutants. In addition, we received comments expressing concern regarding cumulative air quality impacts due to the Project's proximity to the Cricket Valley Power Plant. As further described in section B.8.1, Iroquois conducted air quality modeling for the Project that demonstrates the modifications at the Athens Compressor Station would not exceed applicable air quality standards during operations. The Cricket Valley Power Plant is under construction and would operate concurrently with the existing and modified facilities at the Dover Compressor Station. Therefore, as part of the State Air Facility Permit application, Iroquois conducted dispersion modeling to document the potential cumulative air quality impacts of the modified facilities at the Dover Compressor Station in addition to the Cricket Valley Power Plant. The cumulative analysis of air quality impacts was limited to an assessment of those pollutants which exceeded significant impact levels (defined concentrations of criteria pollutants that are considered inconsequential in comparison to the NAAQS); therefore, only 1-hour and annual NO<sub>2</sub> and 1-hour PM<sub>2.5</sub> are assessed.<sup>29</sup> Maximum modeled impacts for the Dover Compressor Station and Cricket Valley Power Plant were added to background concentrations. The results of the analysis are provided in table B-18 and indicate that concurrent operation of

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<sup>29</sup> Iroquois' cumulative modeling analysis is available on eLibrary under accession no. 20200626-5316.

these facilities would not result in an exceedance of the NAAQS, and therefore would not cause or significantly contribute to a degradation of ambient air quality.

<b>Table B-18 Predicted Cumulative Air Quality Impacts for the Dover Compressor Station and Cricket Valley Power Plant</b>					
<b>Facility / Pollutant</b>	<b>Average Period</b>	<b>NAAQS (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Cumulative Facility Impact (<math>\mu\text{g}/\text{m}^3</math>)<sup>a</sup></b>	<b>Background Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Project Impact + Background + Cricket Valley Power Plant (<math>\mu\text{g}/\text{m}^3</math>)<sup>b</sup></b>
NO <sub>2</sub>	1-hour	188	25.8	48.5	74.3
	Annual	100	2.9	6.6	9.5
PM <sub>2.5</sub>	24-hour	35	2.2	13	15.2

Note:  $\mu\text{g}/\text{m}^3$  = micrograms per cubic meter

<sup>a</sup> This estimate includes the Dover Compressor Station and the Cricket Valley Power Plant.

<sup>b</sup> The total may not equal the sum of the addends due to rounding.

Each of the projects identified in table B-17 would be required to meet all applicable federal and state air quality standards that are designed to avoid significant impacts on air quality. Therefore, we conclude that the Project would not result in significant cumulative impacts on regional air quality.

#### **10.4 Climate Change**

Several commentors raised concerns regarding Project emissions of GHGs and associated climate change impacts. Climate change is the change in climate over time and cannot be represented by single annual events or individual anomalies. While a single large flood event or particularly hot summer are not 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. Recent research has begun to attribute certain extreme weather events to climate change (U.S. Global Change Research Program [USGCRP] 2018).

The leading U.S. scientific body on climate change is the USGCRP, composed of representatives from 13 federal departments and agencies.<sup>30</sup> The Global Change Research Act of 1990 requires the USGCRP to submit a report to the President and Congress no less than every 4 years that “1) integrates, evaluates, and interprets the

<sup>30</sup> The USGCRP member agencies are: Department of Agriculture, Department of Commerce, Department of Defense, Department of Energy, Department of Health and Human Services, Department of the Interior, Department of State, Department of Transportation, Environmental Protection Agency, National Aeronautics and Space Administration, National Science Foundation, Smithsonian Institution, and U.S. Agency for International Development.

findings of the USGCRP; 2) analyzes the effects of global change on the natural environment, agriculture, energy production and use, land and water resources, transportation, human health and welfare, human social systems, and biological diversity; and 3) analyzes current trends in global change, both human-induced and natural, and projects major trends for the subsequent 25 to 100 years.” These reports describe the state of the science relating to climate change and the effects of climate change on different regions of the United States and on various societal and environmental sectors, such as water resources, agriculture, energy use, and human health.

In 2017 and 2018, the USGCRP issued its Climate Science Special Report: Fourth National Climate Assessment, Volumes I and II (Fourth Assessment Report; USGCRP 2017, and USGCRP 2018, respectively). The Fourth Assessment Report states that climate change has resulted in a wide range of impacts across every region of the country. Those impacts extend beyond atmospheric climate change alone and include changes to water resources, transportation, agriculture, ecosystems, and human health. The United States and the world are warming, global sea level is rising and acidifying, and certain weather events are becoming more frequent and more severe. These changes are driven by accumulation of GHG in the atmosphere through combustion of fossil fuels (coal, petroleum, and natural gas), combined with agriculture, clearing of forests, and other natural sources. These impacts have accelerated throughout the end of the 20th and into the 21st century (USGCRP 2018).

GHGs were identified by the USEPA as pollutants in the context of climate change. GHG emissions do not cause local impacts; it is the combined concentration in the atmosphere that causes global climate change, and these are fundamentally global impacts that feedback to localized climate change impacts. Thus, the geographic scope for cumulative analysis of GHG emissions is global, rather than local or regional. For example, a project 1 mile away emitting 1 ton of GHGs would contribute to climate change in a similar manner as a project 2,000 miles distant also emitting 1 ton of GHGs.

Climate change is a global concern; however, for this analysis, we focus on the potential cumulative climate change impacts on the general Project area. The USGCRP’s Fourth Assessment Report notes the following observations of environmental impacts are attributed to climate change in the Northeast region of the United States (USGCRP 2017, USGCRP 2018):

- annual average temperatures from 1901 to 2016 in the northeast increased about 3°F;
- from 1958 to 2016 the northeast experienced a 55 percent increase in the amount of precipitation falling in heavy events (the greatest increase in the nation) and 5 to 20 percent increase in average winter precipitation; and
- the global sea level has risen by about 7 to 8 inches since reliable record keeping began in 1880 and is projected to rise another 1 to 4 feet by 2100.

The USGCRP's Fourth Assessment Report notes the following projections of climate change impacts in the Northeast region with a high or very high level of confidence (USGCRP 2018):

- temperatures are projected to increase by 5.1°F by the 2090s under the worst-case scenario (continually increasing emissions) and would increase by 4.0°F if emissions were decreased;
- the number of days above 90°F are projected to increase, resulting in major human health implications;
- higher than average sea level rise along the Northeastern coast will occur due to land subsidence;
- severe flooding due to sea level rise and heavy downpours are likely to occur more frequently;
- increased fall and winter precipitation could damage crops, and wetter springs would result in delayed planting of grain and vegetables; and
- coastal water temperatures are likely to continue warming and, along with ocean acidification, will contribute to changes in the distribution and productivity of marine species.

It should be noted that while the impacts described above taken individually may be manageable for certain communities, the impacts of compound extreme events (such as simultaneous heat and drought, or flooding associated with high precipitation on top of saturated soils) can be greater than the sum of the parts (USGCRP, 2018).

The GHG emissions associated with construction and operation of the Project were identified and quantified in section B.8.1 of the EA. The construction and operation of the Project would increase the atmospheric concentration of GHGs, in combination with past and future emissions from all other sources and would contribute cumulatively to future climate change impacts. Currently, there is no universally accepted methodology to attribute discrete, quantifiable, physical effects on the environment to the Project's incremental contribution to GHGs. We have looked at atmospheric modeling used by the USEPA, National Aeronautics and Space Administration, the Intergovernmental Panel on Climate Change, and others, and we found that these models are not reasonable for Project-level analysis for a number of reasons. For example, these global models are not suited to determine the incremental impact of individual projects, due to both scale and overwhelming complexity. We also reviewed simpler models and mathematical techniques to determine global physical effects caused by GHG emissions, such as increases in global atmospheric CO<sub>2</sub> concentrations, atmospheric forcing, or ocean CO<sub>2</sub> absorption. We could not identify a reliable, less complex model for this task and we are not aware of a tool to meaningfully attribute specific increases in global CO<sub>2</sub> concentrations, heat forcing, or similar global impacts to Project-specific GHG

emissions. Absent such a method for relating GHG emissions to specific resource impacts, we are not able to assess potential GHG-related impacts attributable to this Project. Without the ability to determine discrete resource impacts, we are unable to determine the significance of the Project's contribution to climate change.

We received comments that the Commission should employ the Social Cost of Carbon (SCC) tool to inform its environmental review for the Project. We recognize that the SCC methodology does constitute a tool that can be used to estimate incremental physical climate change impacts, either on the national or global scale. The integrated assessment models underlying the SCC tool were developed to estimate certain global and regional physical climate change impacts due to incremental GHG emissions under specific socioeconomic scenarios. However, the Commission has previously indicated that it is not appropriate for use in our Project-specific analyses for the following reasons: 1) the incorporation of the SCC tool into our review under NEPA cannot meaningfully inform the Commission's decision whether and how to authorize a proposed project under the NGA; 2) the Commission does not use monetized cost-benefit analyses as part of the review under NEPA or the decision under the NGA; and 3) the SCC tool has methodological limitations (e.g., different discount rates introduce substantial variation in results and no basis exists to designate a particular monetized value as significant) that limit the tool's usefulness in the review under NEPA and the decision under the NGA.<sup>31</sup> As such, FERC staff did not use the SCC tool in this NEPA analysis.

Additionally, we have not been able to find any GHG emission reduction goals established at the federal level.<sup>32</sup> However, the 2015 New York State Energy Plan outlines measures to increase the state's use of renewable energy, increase energy efficiency of homes and buildings, and modernize the existing energy infrastructure. The plan also establishes the following targets to be met by 2030: 1) achieve a 40 percent reduction in GHGs from 1990 levels; 2) obtain 50 percent of electricity generation from renewable sources; and 3) achieve a 600 trillion British thermal unit increase in statewide energy efficiency (New York State 2015). Several commentors expressed concern that the Project is not consistent with the goals of the New York State Climate Leadership and Community Protection Act. The Act, assigned in July of 2019, established the New York State Climate Action Council, which will develop measures to reduce statewide GHG emissions to 60 percent of 1990 emissions by 2030 and 15 percent of 1990 emissions by 2050. As shown in table B-13 above, GHG emissions from the proposed facilities at the Athens and Dover Compressor Stations in New York would result in annual GHG

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<sup>31</sup> Order on Remand Reinstating Certificate and Abandonment Authorization, Southeast Market Pipelines Project (SMP Project) CP14-554-002, CP15-16-003, CP15-17-002, March 14, 2018.

<sup>32</sup> The national emissions reduction targets expressed in the USEPA's Clean Power Plan were repealed, Greenhouse Gas Emissions From Existing Electric Utility Generating Units; Revisions to Emissions Guidelines Implementing Regulations, 84 Fed. Reg. 32,250, 32,522-32, 532 (July 8, 2019). In November 2019, formal notification was sent to the United Nations of the United States' withdrawal from the Paris climate accord.

emissions of about 0.083 million metric tonnes of CO<sub>2</sub>e per year. This would represent 0.06 percent and 0.2 percent of New York’s 2030 and 2050 GHG goals, respectively (NYSERDA 2020).

The CTDEEP’s 2018 Comprehensive Energy Strategy, which supports state goals to bring more affordable, cleaner, and more reliable energy to Connecticut, includes specific recommendations for increasing the use of natural gas in Connecticut (CTDEEP 2018). Additionally, Connecticut has current statutory targets to reduce GHG emissions at least 10 percent below 1990 levels by 2020, 45 percent below 2001 levels by 2030, and 80 percent below 2001 levels by 2050. As shown in table B-13 above, total new GHG emissions from the Brookfield Compressor Station attributable to the Project would result in annual GHG emissions of about 0.081 million metric tonnes of CO<sub>2</sub>e per year. This would represent 0.3 percent and 0.9 percent of Connecticut’s 2030 and 2050 GHG goals, respectively (CTDEEP 2006).

Iroquois has stated that the Project would provide natural gas service to local distribution companies to “meet requests for lower emitting fuels to replace heating oil,” and that natural gas transported by the Project would support peak seasonal and daily demand. To support this statement, Iroquois evaluated the potential GHG emissions under six projection scenarios in the event the Project were not completed; each scenario was assessed under a different ratio of energy uses (space heating, water heating, and cooking energy), the amount of new-construction or end users that convert to natural gas, and the use of electric heat pumps or fuel oil in the event natural gas from the Project were not available. While the Iroquois analysis did not assume the maximum natural gas transportation capacity of the Project, the impacts assessed under these scenarios would be expected to scale with energy demand. With the exception of a scenario in which the Project is offset completely by use of electric heat pumps, which is projected to reduce GHG emissions by 164 percent when compared with the proposed Project, the downstream emissions associated with scenarios absent the Project are estimated to be greater (between 1.7 and 39.3 percent) than if the natural gas transported by the Project were replaced by other fuels. Iroquois has indicated that, while New York State and New York City have goals to increase the use of electric heat pumps, they are more expensive to purchase than oil heating systems and the scenario under which the entire Project capacity is replaced by heat pumps is not likely. Therefore, because the Project would provide natural gas to local distribution companies to replace fuel oil, which has higher GHG emissions, Iroquois expects the Project would result in a reduction of GHG emissions.<sup>33</sup>

## **10.5 Noise**

Noise impacts would occur during construction and operation of the proposed Project; however, noise impacts would be limited to the vicinity of the compressor

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<sup>33</sup> Iroquois’ assessment is available on eLibrary under accession no. 20200519-5095.

stations. Sound level impacts during construction would be highly localized and attenuate quickly as the distance from the sound source increases. Construction activities associated with the non-jurisdictional electric power lines, improvements at the World Olivet Assembly Center, and the Hunting Ridge Subdivision may overlap with the construction schedule for the proposed Project and could result in cumulative noise impacts on nearby residents. However, based on the short-term and temporary nature of construction-related activities, and Iroquois' commitment to construct primarily during the daytime hours, impacts from the Project are not expected to significantly contribute to cumulative impacts on noise levels during construction.

As discussed in section B.8.2, Project operation would result in noise impacts on nearby residents at the compressor stations. No projects were identified within the geographic scope of the Athens, Brookfield, and Milford Compressor Stations that would result in cumulative impacts on noise due to Project operation; therefore, these Project components are not discussed further. The Cricket Valley Power Plant would likely result in operational noise that, in addition to the proposed Project, may contribute cumulatively to noise impacts in the vicinity of the Dover Compressor Station. The World Olivet Assembly (NSA #3), the NSA identified nearest to the Dover Compressor Station, is between the compressor station and the Cricket Valley Power Plant, and therefore has the greatest potential for cumulative impacts due to concurrent operation of the facilities. However, noise from operation of the existing and new facilities at the Dover Compressor Station is not expected to result in more than a 3 dBA increase above current background levels at any NSA and facility operations are expected to be below 55 dBA  $L_{dn}$  (see table B-15). Based on Iroquois' commitment to install specific noise control measures, and our recommendation that would ensure that the FERC noise criterion of 55 dBA would not be exceeded, Project operation would contribute negligibly to cumulative impacts on noise levels.

## **10.6 Conclusions on Cumulative Impacts**

We conclude that impacts associated with the Project would be relatively minor, and we are recommending measures to ensure these environmental impacts would not be significant. The impacts from other existing and proposed projects or general activities within the geographic scope are also expected to be generally temporary and minor, with the exception of permanent removal of vegetation and wildlife habitat associated with new aboveground facility construction and noise and air impacts associated with operation of the Cricket Valley Power Plant. However, there is abundance of similar habitat adjacent to these areas, and the proposed Project and the Cricket Valley Power Plant would not contribute to an exceedance of the NAAQS and would be required to comply with applicable air quality permits. Further, the Project would comply with its E&SCP, FERC's Plan, and FERC requirements for operational noise impacts at nearby NSAs and would be in compliance with local noise ordinances. Therefore, we anticipate that the Project would contribute a negligible to minor cumulative impact when the

effects of the Project are added to past, present, and reasonably foreseeable projects within the geographic scope.

## **C. ALTERNATIVES**

In accordance with NEPA and Commission policy, we evaluated 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, fuel alternatives, and location alternatives for the proposed new facilities. The evaluation criteria used 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.

We received comments from stakeholders regarding the need to evaluate alternatives to the proposed Project, including alternatives not within the jurisdiction of FERC (e.g., use of renewable energy sources or heat pumps) and which would not meet the Project’s stated objective.

Commentors stated that residential owners in New York City and Long Island should use heat pumps as opposed to using home heating units or appliances that use natural gas. These stakeholders encouraging the use of heat pumps are opposed to the Project and raise concerns for the Project’s contribution to energy production through the transport of fossil fuels, namely natural gas. Heat pumps use the outside air to both heat and cool spaces, primarily residential, and utilize electricity to operate. Depending on the generation source of electricity, the use of the heat pump may not truly be from a non-fossil fuel source. The use of heat pumps is up to the individual and cannot be mandated by the Commission. Finally, as discussed in section A.2, the purpose of the Project is to allow Iroquois to provide additional natural gas supplies to its existing customers who are experiencing an increased demand for natural gas.

Our evaluation of alternatives is based on Project-specific information provided by the applicant, input from stakeholders, publicly available information, our consultations with federal and state resource agencies, and our expertise and experience regarding the siting, construction, and operation of natural gas transmission facilities and their potential impact on the environment.

### **1. Evaluation Process**

Through environmental comparison and application of our professional judgement, each alternative is considered to a point where it becomes clear if the alternative could or could not meet the three evaluation criteria. To ensure a consistent environmental comparison and to normalize the comparison factors, we generally use desktop sources of information (e.g. publicly available data, geographic information system data, aerial imagery) and assume the same general workspace requirements.

Where we have comparable data, we also use site-specific information (e.g. field surveys or detailed designs).

Our environmental analysis and this evaluation consider quantitative data (e.g., acreage or mileage) and uses common comparative factors such as total length and land requirements. Our evaluation also considers impacts on both the natural and human environments. These impacts were described in detail in section B of this EA. Because the alternatives represent mostly alternative locations for natural gas facilities, the specific nature of these impacts on the natural and human environments would generally be similar to the impacts described in section B. In recognition of the competing interests and the different nature of impacts resulting from an alternative that sometimes exist (i.e., impacts on the natural environment versus impacts on the human environment), we also consider other factors that are relevant to a particular alternative and discount or eliminate factors that are not relevant or may have less weight or significance.

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 or not 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. All of the alternatives considered here are able to meet the Project's purpose of providing 62,500 Dth/d per day of natural gas from Waddington, New York to Hunts Point, New York and 62,500 Dth/d of natural gas from Waddington, New York to South Commack, New York along the existing Iroquois system. As proposed, the Project would increase service to New York City and Long Island.

The second evaluation criteria are 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 new, unique, or experimental construction methods may not be technically practical because the required technology is not yet 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.

Lastly, 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 and all other relevant considerations. In comparing the impacts between resources, we also consider 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 from the current set of landowners to a new set of landowners.

One of the goals of an alternatives analysis is to identify alternatives that avoid significant impacts. In section B, we evaluated each environmental resource potentially affected by the Project and concluded that constructing and operating the Project would not significantly impact these resources. Consistent with our conclusions, the value gained by further reducing the (not significant) impacts of the Project when considered against the cost of relocating each proposed facility to a new set of landowners was also factored into our evaluation.

## **2. No-Action Alternative**

If the Commission were to deny Iroquois' application, the Project would not be built, and the environmental impacts identified in this EA would not occur. Under this alternative, Iroquois would not provide additional natural gas supplies to New York City and Long Island. If the no-action alternative is selected, other natural gas transmission companies could propose to construct similar facilities to meet the demand for the additional volume of natural gas. Such actions could result in impacts similar to or likely greater than the Project. For these reasons, we are not recommending the no-action alternative.

## **3. System Alternatives**

System alternatives would generally use existing, modified, or proposed pipeline systems to meet the purpose and need of the Project. Although modifications or additions to existing or proposed pipeline systems may be required, implementation of a system alternative would deem it unnecessary to construct all or part of the Project. 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.

In terms of an alternative specific to Iroquois' existing system, it does not operate any other natural gas transmission systems in the area that could achieve the stated purpose and need for the Project. During the engineering and design phase of planning, Iroquois analyzed its existing system and other ways to transport the additional natural gas to the market. Possible system modifications that could be used to transport the additional throughput include replacing the current pipeline with a larger diameter pipeline, looping the existing pipeline, adding compression, or some combination of looping and adding compression.

### **Pipeline Replacement**

Iroquois estimates that in order to meet the Project purpose and need without adding compression, the existing 24-inch-diameter pipeline between the Athens, Dover, and Brookfield Compressor Stations would need to be replaced with a 36-inch-diameter pipeline about 43.8 miles in length. Much of the existing operational right-of-way (50

feet wide) could be used for construction; however, at least an additional 25 to 50 feet of right-of-way would be required for construction, affecting a minimum of about 133 acres of land outside Iroquois' existing permanent easement. Additional contractor staging areas would be required to accommodate pipeline staging and construction parking. The total construction impacts associated with the pipeline replacement alternative would be greater and would impact additional resources and landowners, as compared to the proposed Project. Further, replacement of the existing pipeline with a larger diameter pipeline would require Iroquois to remove the existing pipeline from service during the time period required for construction and therefore prevent Iroquois from delivering natural gas to its customers as required by existing contracts. For these reasons, replacement of the existing pipeline with a larger diameter pipeline would result in greater environmental impacts and is not assessed further.

### **Looping Only Alternative**

A pipeline loop involves installing an additional segment of pipeline parallel and connecting it to the existing pipeline. This alternative would allow a larger volume of gas to be transported, which would eliminate the need for additional compression at the Athens, Dover, and Brookfield Compressor Stations. Additionally, this alternative would allow continued natural gas service to Iroquois existing customers. Iroquois estimates that three looped segments between the Athens, Dover, and Brookfield Compressor Stations would be needed and these would range in length from about 15 miles for the first two loops and 14 miles for the third loop.<sup>34</sup> Collectively, conservatively assuming a 75-foot-wide right-of-way, these looped segments would require a total of 398.6 acres to construct and 265.6 for operation, of which 132.7 acres would be new, permanent right-of-way. Table C-1 provides a comparison of environmental impacts of the proposed route and the pipe loop alternatives.

The total construction impacts associated with the looping alternative would be greater and would impact additional resources and landowners, as compared to the proposed Project. Therefore, we did not consider the looping alternative to be preferable to the Project. Likewise, no combination of pipeline replacement or looping and compression would result in fewer impacts than the proposed Project.

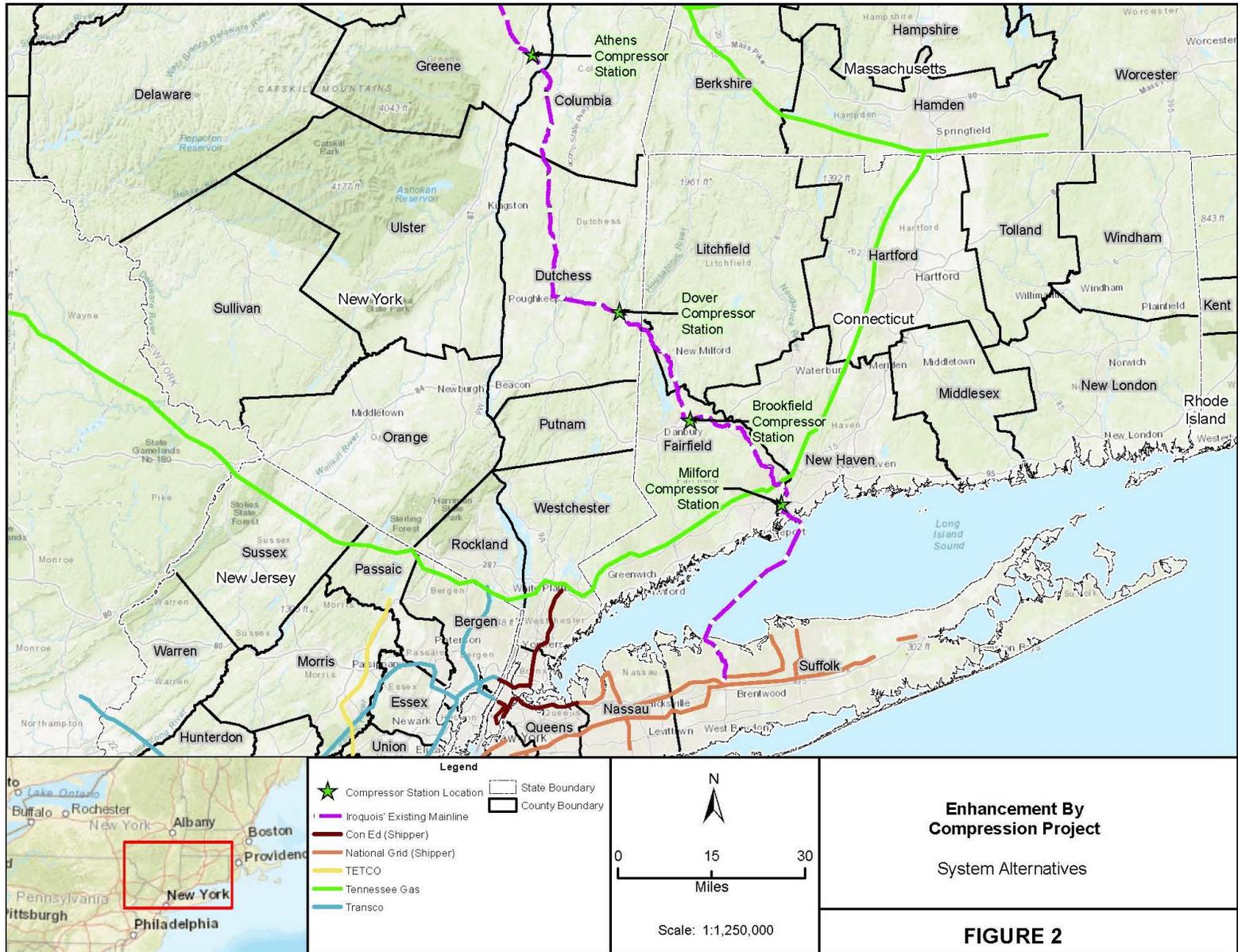
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<sup>34</sup> Iroquois' figure showing the looping alternative routes is available on eLibrary under accession no. 20200203-5224.

<b>Table C-1 Pipeline Looping Alternatives</b>				
<b>Resource</b>	<b>Proposed Project</b>	<b>Athens Loop Alternative</b>	<b>Dover Loop Alternative</b>	<b>Brookfield Loop Alternative</b>
New pipeline length (miles)	0	14.8	15.0	14.0
New compressor stations	0	0	0	0
Total new compression (horsepower)	48,000	0	0	0
Construction impacts (acres) <sup>a</sup>	45.7	134.6	136.5	127.4
Operational impacts (acres) <sup>b</sup>	15.0	89.7	91.0	84.9
Total wetlands affected (acres)	0.0	2.7	2.6	8.8
Palustrine forested wetlands (acres)	0.0	0.0	0.4	6.6
Total waterbodies crossed (number)	0	3	2	12
Agricultural land (acres)	0.0	3.5	6.6	0.0
Forested upland (acres)	0.0	106.9	79.4	81.6
Open land (acres) <sup>c</sup>	0.0	20.5	37.3	22.7
Open water (acres)	0.0	0.0	0.9	1.0
Industrial/Commercial land (acres)	27.3	3.2	3.2	4.7
Residential land (acres)	0.0	0.6	9.1	17.2
Existing residences within 50 feet of construction work area (number) <sup>d</sup>	0	10	20	83
<p>Note: The data provided is based on desktop data to allow for consistent comparison of data types between the proposed Project and the alternatives. As such, resources identified during field surveys and discussed in section B may not be included in this table.</p> <p><sup>a</sup> Construction impacts for the proposed Project are based on the areas of disturbance proposed at the Athens, Dover, Brookfield, and Milford Compressor Stations. The construction impacts for the Looping Alternatives are estimated based on a 75-foot-wide construction right-of-way.</p> <p><sup>b</sup> Operation acres for the proposed Project are based on the area maintained by Iroquois at the Athens, Dover, Brookfield, and Milford Compressor Stations. The operational impacts for the Looping Alternatives are estimated based on a 50-foot-wide permanent easement, of which 25 feet would be within Iroquois' existing permanent right-of-way.</p> <p><sup>c</sup> Open land generally includes maintained grasslands, or other open space areas not utilized for grazing, cultivation, or hay production.</p> <p><sup>d</sup> Iroquois purchased two residential properties across the street from the Brookfield Compressor Station as discussed in sections A.5.2 and B.5.1.</p>				

### **Other Interstate Natural Gas Alternatives**

We identified existing natural gas transmission pipelines in the Project area that could possibly be used as system alternatives that connect with the shippers in the region (Con Ed and National Grid). Tennessee Gas Transmission, Transcontinental Gas Pipe Line (Transco), and Texas Eastern Transmission operate natural gas transmission pipeline systems in the Project area that serve New York City and Long Island (see figure 2). None of these existing systems have existing capacity to deliver the volume of gas required to meet the Project purpose and need as discussed further below.



In May 2019, Transco received a Certificate from the Commission for its Northeast Supply Enhancement Project to deliver an incremental 400,000 Dth/d of natural gas to New York City.<sup>35</sup> Transco's project includes about 36.5 miles of pipeline construction (including a 23-mile crossing of Lower New York Bay) and a new compressor station in Pennsylvania, New Jersey, and New York. Transco has not begun construction of the project as it has not yet received all applicable permits.<sup>36</sup>

Iroquois' stated Project purpose is to deliver natural gas to the markets in the New York City metro area. The existing pipeline systems stated above are fully subscribed to existing contract commitments and cannot provide the additional capacity proposed by Iroquois' Project. Therefore, in order to use these existing systems to provide the additional natural gas proposed by the Project, each would require new compression, new pipeline construction, and/or pipeline looping to expand current capacity. Expansion of these systems would likely require similar or more ground disturbance than Iroquois' proposed Project, which is adding compression at existing stations. Therefore, none of these pipeline systems would offer a significant environmental advantage, and we do not consider them to be preferable alternatives to the Project.

#### **4. Compressor Station Alternatives**

As described in section A.4, Iroquois would add compression and/or gas cooling facilities at four compressor stations; all modifications would occur within properties owned and operated by Iroquois.

We did not identify any unresolved resource conflicts which would present a need to examine further alternative compressor station sites. In addition, we did not receive any comments identifying alternative site locations; however, we did receive comments regarding the siting of the new facilities near other industrial use facilities. In particular, we received several comments expressing that the facilities proposed for the Athens Compressor Station should be located elsewhere due to the proximity of the compressor station to the Athens Generating Plant, Peckham's asphalt plant, Northeast Treaters, Sunoco Gasoline Station, Central Hudson's natural gas pipeline system, nearby rail facilities, and the Iroquois' mainline. Iroquois has proposed to site its new facilities at existing facilities currently in operation on property owned by Iroquois. The addition of new facilities at Iroquois' existing sites would be of similar kind and would result in less overall impacts on the environment, compared to constructing the proposed Project at new locations, which would require construction of additional support buildings (e.g., control buildings), pipe to connect to Iroquois' mainline, and new electric service. Therefore, we have not evaluated alternatives for these sites. A discussion of the

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<sup>35</sup> FERC Docket No. CP17-101.

<sup>36</sup> Transco's Monthly Status Report dated June 2, 2020, available on eLibrary under accession no. 20200602-5128.

industrial facilities in proximity to the existing facilities is included in the cumulative impacts section (see section B.10).

## **5. Electric Compressors**

Based on stakeholder comments and in order to minimize air emissions, we evaluated the feasibility of using electric motor-driven compressor units in lieu of the proposed natural gas-fired compressor units at the Athens, Dover, and Brookfield Compressor Stations. Several factors were considered in evaluating the type of unit to install, including: proximity to existing electric power sources; the need for new or modified electric power sources or transmission facilities; the need for additional ancillary facilities, such as substations; the ability of power companies to design, permit, and construct new facilities in a timeframe reasonably close to the Project; additional environmental impacts associated with construction of new facilities; and the ability to comply with emissions standards during operations at each site.

Although technically feasible, use of electric-powered compressor units would increase the overall acreage of impacts to install new or to modify substations from the existing electric power lines and 2 miles (or more at the Brookfield Compressor Station) of additional dedicated service lines to be run from the respective substation or distribution line to each corresponding compressor station. Each new power line right-of-way is estimated to require about 50 feet of width to construct and operate (resulting in 12 acres of permanent right-of-way for each of the three compressor stations) and would require 140 new poles to support the new power lines. Additionally, new electric substations (0.5 to 1.0 acre each) would be required adjacent to each compressor station to contain the new electrical equipment and to accommodate two larger main transformers at each compressor station. Installing electric-driven compressors at the three compressor stations would result in at least 39 acres of environmental impacts (disturbance of soils, wetlands, waterbodies, land use, and visual) and would result in impacts on new landowners from construction and operation of the power lines.

Additionally, although local air emissions from electric-driven compressors would be lower than those from natural gas-driven compressors, use of electric-driven compressors would result in a higher load on the electric power grid. As discussed in section B.8.1, emissions from Project operation would not contribute to an exceedance of the NAAQS. For these reasons, we conclude that electric motor-driven compressor units would not offer a significant environmental advantage over the proposed gas-driven turbines.

## **6. Conclusion**

We reviewed alternatives to Iroquois' proposal based on our independent analysis. Although all of the system, variation, and aboveground facility alternatives we evaluated

appear to be technically feasible, none provide a significant environmental advantage over the Project design. Therefore, we conclude that the Project, as modified by our recommendations in section D of this EA, is the preferred alternative to meet Project objectives.

## D. STAFF CONCLUSIONS AND RECOMMENDATIONS

Based on the above environmental analysis, the staff have determined that approval of the Project would not constitute a major federal action significantly affecting the quality of the human environment. The staff recommends that the Commission Order contain a finding of no significant impact and include the mitigation measures listed below as conditions to the authorization the Commission may issue.

1. Iroquois 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. Iroquois 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 OEP, or the Director's designee, **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 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,** Iroquois 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 EIs' 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 supplemented by filed Project figures. **As soon as they are available, and before the start of construction,** Iroquois shall file with the Secretary any revised detailed survey

alignment maps/figures 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 Project figures.

Iroquois' 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. Iroquois' right of eminent domain granted under the NGA section 7(h) does not authorize it to increase the size of its natural gas pipeline 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. Iroquois shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally-sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/figures/aerial photographs. Each area must be approved in writing by the Director of OEP, or the Director's designee, **before construction in or near that area.**

This requirement does not apply to extra workspace allowed by the FERC 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**, Iroquois shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP, or the Director's designee. Iroquois must file revisions to its plan **as schedules change**. The plan shall identify:

- a. how Iroquois 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 Iroquois 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 on-site 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 Iroquois 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 (if known) and specific portion of the Iroquois' organization having responsibility for compliance;
  - g. the procedures (including use of contract penalties) Iroquois will follow if noncompliance occurs; and
  - h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
    - i. the completion of all required surveys and reports;
    - ii. the environmental compliance training of on-site personnel;
    - iii. the start of construction; and
    - iv. the start and completion of restoration.
7. Iroquois shall employ at least one EI for the Project. The EI 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, Iroquois 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 Iroquois' efforts to obtain the necessary federal authorizations;
  - b. the construction status of the Project, work planned for the following reporting period, and any scheduled changes for stream crossings or work in other environmentally-sensitive areas;
  - c. a listing of all problems encountered and each instance of noncompliance observed by the EI(s) during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
  - d. a description of the corrective actions implemented in response to all instances of noncompliance;
  - 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 Iroquois from other federal, state, or local permitting agencies concerning instances of noncompliance, and Iroquois' response.
9. Iroquois must receive written authorization from the Director of OEP, or the Director's designee, **before commencing construction of any Project facilities**. To obtain such authorization, Iroquois must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).
10. Iroquois must receive written authorization from the Director of OEP, or the Director's designee, **before placing the Project into service**. Such authorization will only be granted following a determination that rehabilitation and restoration of the areas affected by the Project are proceeding satisfactorily.
11. **Within 30 days of placing the authorized facilities in service**, Iroquois shall file an affirmative statement with the Secretary, certified by a senior company official:

- a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
  - b. identifying which of the conditions in the Order Iroquois 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. Iroquois shall file with the Secretary noise surveys for the Athens, Dover, and Brookfield Compressor Stations **no later than 60 days** after placing each modified station into service. If full power load condition noise surveys are not possible, Iroquois shall file an interim survey at the maximum possible power load **within 60 days** of placing the stations into service and file the full power load survey **within 6 months**. If the noise attributable to operation of all equipment at any modified station under interim or full power load conditions exceeds an  $L_{dn}$  of 55 dBA at any nearby NSA, Iroquois shall:
- a. file a report with the Secretary, for review and written approval by the Director of OEP, or the Director's designee, on what changes are needed;
  - b. install additional noise controls to meet that level **within 1 year** of the in-service date; and
  - c. confirm compliance with this requirement by filing a second full power load noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls.

## E. REFERENCES

- Audubon. 2020. Important Bird Areas. Available at: <https://www.audubon.org/important-bird-areas>. Accessed May 2020.
- Bies, David A. and Colin H. Hansen. 1988. Engineering Noise Control: Theory and Practice, Unwin Hyman, Boston.
- Bird Studies Canada and North American Bird Conservation Initiative. 2014. Bird Conservation Regions. Published by Bird Studies Canada on behalf of the North American Bird Conservation Initiative. Available at: <https://www.birdscanada.org/bird-science/nabci-bird-conservation-regions>. Accessed May 2020.
- City of Milford Connecticut. 2020. Zoning Regulations. Available at: <https://www.ci.milford.ct.us/planning-and-zoning/pages/zoning-regulations>. Accessed May 2020.
- Connecticut Department of Energy and Environmental Protection (CTDEEP). 2006. 2006 Connecticut Greenhouse Gas Inventory (1990 – 2001). Available online at: <https://portal.ct.gov/DEEP/Climate-Change/CT-Greenhouse-Gas-Inventory-Reports>. Accessed September 2020.
- Connecticut Department of Energy and Environmental Protection (CTDEEP). 2018. Comprehensive Energy Strategy. Available at: <https://portal.ct.gov/DEEP/Energy/Comprehensive-Energy-Plan/Comprehensive-Energy-Strategy>. Accessed June 2020.
- Connecticut Department of Energy and Environmental Protection (CTDEEP). 2019. Iroquois Expansion Compression Project at 840 Oronoque Road in Milford, Connecticut NDDB Determination No.: 201913530. November 2019.
- Connecticut Department of Energy and Environmental Protection (CTDEEP). 2020a. Aquifer Protection Area Program. Available at: <https://portal.ct.gov/DEEP/Aquifer-Protection-and-Groundwater/Aquifer-Protection/Aquifer-Protection-Program>. Accessed May 2020.
- Connecticut Department of Energy and Environmental Protection (CTDEEP). 2020b. Connecticut Aquifer Protection Areas. Available at: <https://ctdeep.maps.arcgis.com/apps/webappviewer/index.html?id=6b33fc05fccc4c5286fafae1b2cccbfb>. Accessed May 2020.
- Connecticut Department of Energy and Environmental Protection (CTDEEP). 2020c. Find a State Forest or Park: Online Mapper. Available at:

<https://ctdeep.maps.arcgis.com/apps/webappviewer/index.html?id=950da678b13b458ba4cbe5687e902c19&deepNav=1>. Accessed May 2020.

Connecticut Department of Energy and Environmental Protection (CTDEEP). 2020d. Directions to DEEP Facilities. Available at: <https://portal.ct.gov/DEEP/About/Contact-Us/Directions-to-DEEP-Facilities>. Accessed May 2020.

Connecticut Department of Energy and Environmental Protection (CTDEEP). 2020e. Iroquois Expansion Compression Project in Brookfield and Newtown, Connecticut NDDDB Determination No.: 201913527. March 2020.

Council on Environmental Quality. 1997. Environmental Justice: Guidance Under the National Environmental Policy Act. Available at: [https://www.epa.gov/sites/production/files/2015-02/documents/ej\\_guidance\\_nepa\\_ceq1297.pdf](https://www.epa.gov/sites/production/files/2015-02/documents/ej_guidance_nepa_ceq1297.pdf). Accessed June 2020.

Countess Environmental (Countess). 2006. WRAP Fugitive Dust Handbook. Available at: [https://www.wrapair.org/forums/dejf/fdh/content/FDHandbook\\_Rev\\_06.pdf](https://www.wrapair.org/forums/dejf/fdh/content/FDHandbook_Rev_06.pdf). Accessed September 2020.

Federal Emergency Management Agency (FEMA). 2008. FEMA Flood Map Service Center: Search By Address. Flood Panel 36039C0288F, dated May 6, 2008. Available at: <https://msc.fema.gov/portal/search>. Accessed March 2020.

Federal Emergency Management Agency (FEMA). 2010. FEMA Flood Map Service Center: Search By Address. Flood Panel 09001C0165F, dated June 18, 2010. Available at: <https://msc.fema.gov/portal/search>. Accessed March 2020.

Federal Emergency Management Agency (FEMA). 2012. FEMA Flood Map Service Center: Search By Address. Flood Panel 36027C0437E, dated May 2, 2012. Available at: <https://msc.fema.gov/portal/search>. Accessed March 2020.

Federal Emergency Management Agency (FEMA). 2013. FEMA Flood Map Service Center: Search By Address. Flood Panel 09009C05261, dated July 8, 2013. Available at: <https://msc.fema.gov/portal/search>. Accessed March 2020.

Friedman, Lisa. 2020. New Research Links Air Pollution to Higher Coronavirus Death Rates. Available at: <https://www.nytimes.com/2020/04/07/climate/air-pollution-coronavirus-covid.html>. Accessed September 2020.

Foster, Steven R. 2016. A Study of Natural Gas Compressor Stations and Residential Property Values. Prepared by Foster, LPC Commercial Services, Inc., Boston, MA for Tennessee Pipeline Company LLC. January 5, 2016.

- Friends of the Great Swamp (FROGS). 2020. About the Great Swamp. Available at: <http://frogs-ny.org/about-the-great-swamp/>. Accessed May 2020.
- GIS.NY.GOV. 2020. Water Wells – KML/KMZ File Format. Available at: <https://gis.ny.gov/gisdata/inventories/details.cfm?DSID=1203>. Accessed May 2020.
- Griebner, Donald A. October 1, 2015. Impact on Property Values Surrounding Compressor Stations. Available at: <https://static1.squarespace.com/static/56afc3b92b8dded389a27cc2/t/5711587301d bae161f960425/1460754551387/Property+Value+Assessment+Study+11-6-15.pdf>. Accessed May 2020.
- Johnson, R.H., D.E. Bernhardt, N.S. Nelson, H.W. Calley, Jr. 1973. Assessment of Potential Radiological Health Effects from Radon in Natural Gas. Environmental Protection Agency, EPA-520-73-004. 69 pp.
- Miller, J.A. 1999. Ground Water Atlas of the United States Introduction and National Summary. Available at: [http://pubs.usgs.gov/ha/ha730/ch\\_a/index.html](http://pubs.usgs.gov/ha/ha730/ch_a/index.html). Accessed May 2020.
- Millison, Andrew. 2020. Climate Classification Systems, in Permaculture Design Tools for Climate Resilience. Oregon State University. Available at: <https://open.oregonstate.edu/permaculturedesign/chapter/climate-classification-systems/>. Accessed September 2020.
- National Marine Fisheries Service (NMFS). 2020a. Atlantic Sturgeon. Available at: <https://www.fisheries.noaa.gov/species/atlantic-sturgeon>. Accessed May 2020.
- National Marine Fisheries Service (NMFS). 2020b. Correspondence between Danielle Ward (Mott MacDonald) and Julie Crocker (NOAA NMFS) regarding federally listed species for the ExC Project. July 29, 2020.
- National Oceanic and Atmospheric Administration (NOAA). 2020. 1981 – 2010 U.S. Climate Normals, Albany, NY, Dover, NY, Brookfield, CT, and Bridgeport, CT. Available at: <https://www.ncdc.noaa.gov/cdo-web/datatools/normals>. Accessed January 2020.
- National Oceanic and Atmospheric Administration National Weather Service (NOAA-NWS). 2020a. 1981 – 2010 Monthly and Seasonal Extremes, Albany, NY. Available at: [https://www.weather.gov/media/aly/Climate/ALB\\_MonthlySeasonal\\_Extremes.pdf](https://www.weather.gov/media/aly/Climate/ALB_MonthlySeasonal_Extremes.pdf). Accessed January 2020.

National Oceanic and Atmospheric Administration National Weather Service (NOAA-NWS). 2020b. 1981 – 2010 Monthly and Seasonal Extremes, Poughkeepsie, NY. Available at: [https://www.weather.gov/media/aly/Climate/POU/POU\\_MonthlySeasonal\\_Extremes.pdf](https://www.weather.gov/media/aly/Climate/POU/POU_MonthlySeasonal_Extremes.pdf). Accessed January 2020.

National Oceanic and Atmospheric Administration National Weather Service (NOAA-NWS). 2020c. 1981 – 2010 Monthly and Seasonal Extremes, Danbury, CT. Available at: <https://w2.weather.gov/climate/xmacis.php?wfo=okx>. Accessed January 2020.

National Oceanic and Atmospheric Administration National Weather Service (NOAA-NWS). 2020d. 1981 – 2010 Monthly and Seasonal Extremes, Bridgeport, CT. Available at: <https://www.weather.gov/okx/BridgeportHistorical>. Accessed January 2020.

National Park Service (NPS). 2020. Find a Park. Available at: <https://www.nps.gov/findapark/index.htm>. Accessed September 2020.

New York Natural Heritage Program (NYNHP). 2020a. Online Conservation Guide for *Crotalus horridus*. Available at: <https://guides.nynhp.org/timber-rattlesnake/>. Accessed May 2020.

New York Natural Heritage Program (NYNHP). 2020b. Online Conservation Guide for *Tomostima reptans*. Available at: <https://guides.nynhp.org/carolina-whitlow-grass/>. Accessed May 2020.

New York Natural Heritage Program (NYNHP). 2020c. Online Conservation Guide for *Asclepias viridiflora*. Available at: <https://guides.nynhp.org/green-milkweed/>. Accessed May 2020.

New York Natural Heritage Program (NYNHP). 2020d. Online Conservation Guide for *Solidago rigida* var. *rigida*. Available at: <https://guides.nynhp.org/stiff-flat-topped-goldenrod/>. Accessed May 2020.

New York Natural Heritage Program (NYNHP). 2020e. Online Conservation Guide for *Linum sulcatum*. Available at: <https://guides.nynhp.org/yellow-wild-flax/>. Accessed May 2020.

New York State Department of Environmental Conservation (NYSDEC). 2013. Prehistoric New York, fossil collecting in the Empire State. *New York State Conservationist*. June 2013.

New York State Department of Environmental Conservation (NYSDEC). 2016. Revised Parts 201 and 231 discretionary Enforcement Letter, August 9, 2016. Available

- at: [https://www.dec.ny.gov/docs/air\\_pdf/discretionenforce16.pdf](https://www.dec.ny.gov/docs/air_pdf/discretionenforce16.pdf). Accessed May 2020.
- New York State Department of Environmental Conservation (NYSDEC). 2019. New York Natural Heritage Program Report on Rare Animals, Rare Plants, and Significant Natural Communities. October 15, 2020.
- New York State Department of Environmental Conservation (NYSDEC). 2020a. Mining & Reclamation. Available at: <https://www.dec.ny.gov/lands/5020.html>. Accessed March 2020.
- New York State Department of Environmental Conservation (NYSDEC). 2020b. New York State Mines and Wells Interactive Mapper. Available at: <https://gisservices.dec.ny.gov/gis/maw/>. Accessed March 2020.
- New York State Department of Environmental Conservation (NYSDEC). 2020c. Spill Incidents Database. Available at: <https://www.dec.ny.gov/cfm/externalapps/derexternal/index.cfm?pageid=2>. Accessed June 2020.
- New York State Department of Environmental Conservation (NYSDEC). 2020d. Water Withdrawals Data Set. Available at: <http://www.dec.ny.gov/pubs/103459.html>. Accessed May 2020.
- New York State Department of Environmental Conservation (NYSDEC). 2020e. Full List of State Lands You Can Visit. Available at: <https://www.dec.ny.gov/outdoor/96031.html>. Accessed May 2020.
- New York State Department of Environmental Conservation (NYSDEC). 2020f. Comment Letter from Karen Gaidasz (NYSDEC) to Kimberly D. Bose, Secretary (FERC) regarding the Sensitive Species Habitat Assessment Report for the ExC Project. July 10, 2020.
- New York State Department of Health (NYSDOH). 2002. Wellhead Protection Program. Available at: <https://www.health.ny.gov/environmental/water/drinking/wellhead/wellfact.htm>. Accessed May 2020.
- New York State Department of Transportation (NYSDOT). 2015. Liquefaction Potential of Cohesionless Soils. GDP-9. Available at: <https://www.dot.ny.gov/divisions/engineering/technical-services/technical-services-repository/GDP-9b.pdf>. Accessed May 2020.
- New York State Energy Research and Development Agency (NYSERDA). 2019. New York State Greenhouse Gas Inventory: 1990-2016. Available at:

- <https://www.nyserda.ny.gov/-/media/Files/EDPPP/Energy-Prices/Energy-Statistics/greenhouse-gas-inventory.pdf>. Accessed September 2020.
- New York State. 2015. 2015 New York State Energy Plan. Available at: <https://energyplan.ny.gov/>. Accessed May 2020.
- Olcott, P.G. 1995. Groundwater Atlas of the United States Segment 12: Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont. Available at: <https://pubs.usgs.gov/ha/730m/report.pdf>. Accessed May 2020.
- Regional Water Authority. 2019. Annual Report. Available at: <https://www.rwater.com/media/4392/rwa-ar-2019-web.pdf>. Accessed May 2020.
- The Paleontology Portal. 2020. The Paleontology of North America, Connecticut, US. Available at: [http://paleoportal.org/kiosk/sample\\_site/state\\_18.html](http://paleoportal.org/kiosk/sample_site/state_18.html). Accessed May 2020.
- The Tree Center. 2020. Your Guide to Poplar Trees. Available at: <https://www.threetreecenter.com/your-guide-to-poplar-trees/>. Accessed May 2020.
- Town of Brookfield. January 2, 2020. Planning Commission Legal Notice. Available at: <https://www.brookfieldct.gov/planning-commission-legal-notice/news/january-2-2020-planning-commission-legal-notice>. Accessed on May 2020.
- U.S. Bureau of Labor Statistics. 2020. Labor Force Data by County, 2019 Annual. April 17, 2020. Available at: <https://www.bls.gov/lau/#cntyaa>. Accessed May 2020.
- U.S. Census Bureau. 2020b. B02001 Race: 2014-2018 American Community Survey 5-Year Estimates. Available at: <https://data.census.gov/cedsci/table?q=b02001&tid=ACSDT5Y2018.B02001>. Accessed June 2020.
- U.S. Census Bureau. 2020c. B03003 Hispanic Or Latino Origin: 2014-2018 American Community Survey 5-Year Estimates. Available at: <https://data.census.gov/cedsci/table?q=B03003&tid=ACSDT5Y2018.B03003>. Accessed June 2020.
- U.S. Census Bureau. 2020d. B17017 Poverty Status in the Past 12 Months by Household Type By Age of Householder: 2014-2018 American Community Survey 5-Year Estimates. Available at: <https://data.census.gov/cedsci/table?q=B17017&tid=ACSDT5Y2018.B17017>. Accessed June 2020.

- U.S. Census Bureau. 2020e. S0101 Age and Sex. 2018 American Community Survey 1-Year Estimates. Available at: <https://data.census.gov/cedsci/table?q=s0101&tid=ACSST1Y2018.S0101>. Accessed June 2020.
- U.S. Census Bureau. 2020a. ACS Demographic and Housing Estimates, 2018: ACS 1-Year Estimates Data Profiles. Available at: <https://data.census.gov/cedsci/table?q=population&tid=ACSDP1Y2018.DP05>. Accessed May 2020.
- U.S. Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS). 1955. Soil Survey, Dutchess County New York. Available at: [https://www.nrcs.usda.gov/Internet/FSE\\_MANUSCRIPTS/new\\_york/dutchessNY1955/dutchessNY1955.pdf](https://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/new_york/dutchessNY1955/dutchessNY1955.pdf). Accessed May 2020.
- U.S. Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS). 2019a. Soil Survey, Greene County New York. Available at: <https://websoilsurvey.nrcs.usda.gov/app/>. Accessed May 2020.
- U.S. Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS). 2019b. Soil Survey, Dutchess County New York. Available at: <https://websoilsurvey.nrcs.usda.gov/app/>. Accessed May 2020.
- U.S. Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS). 2019c. Soil Survey, State of Connecticut. Available at: <https://websoilsurvey.nrcs.usda.gov/app/>. Accessed May 2020.
- U.S. Department of Transportation – Pipeline and Hazardous Materials Safety Administration (USDOT-PHMSA). 2020. States Participating in the Federal/State Cooperative Gas and Hazardous Liquid Pipeline Safety Programs. Available at: <https://primis.phmsa.dot.gov/comm/Cooplist.htm>. Accessed May 2020.
- U.S. Energy Information Administration (EIA). 2020a. U.S. Energy Mapping System. Available at: <https://www.eia.gov/state/maps.php?v=Petroleum&sid=CT>. Accessed March 2020.
- U.S. Environmental Protection Agency (USEPA). 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. March 1974.
- U.S. Environmental Protection Agency (USEPA). 1992. Fugitive Dust Background and Technical Information Document. Available at: <https://www.nrc.gov/docs/ML1224/ML12241A395.pdf>. Accessed September 2020.

- U.S. Environmental Protection Agency (USEPA). 1998. AP-42: Compilation of Air Emissions Factors, Chapter 11.9: Western Surface Coal Mining. Available at: <https://www3.epa.gov/ttn/chief/ap42/ch11/final/c11s09.pdf>. Accessed September 2020.
- U.S. Environmental Protection Agency (USEPA). 2000. AP-42: Compilation of Air Emissions Factors, Chapter 3.1: Stationary Gas Turbines. Available at: <https://www3.epa.gov/ttn/chief/ap42/ch03/final/c03s01.pdf>. Accessed September 2020.
- U.S. Environmental Protection Agency (USEPA). 2006. AP-42: Compilation of Air Emissions Factors, Chapter 13.2.2: Unpaved Roads. Available at: <https://www3.epa.gov/ttn/chief/ap42/ch13/final/c13s0202.pdf>. Accessed September 2020.
- U.S. Environmental Protection Agency (USEPA). 2013. Primary Distinguishing Characteristics of Level III Ecoregions of the Continental United States. Available at: <https://www.epa.gov/eco-research/level-iii-and-iv-ecoregions-continental-united-states>. Accessed May 2020.
- U.S. Environmental Protection Agency (USEPA). 2016. Promising Practices for EJ Methodologies in NEPA Reviews. Available at: [https://www.epa.gov/sites/production/files/2016-08/documents/nepa\\_promising\\_practices\\_document\\_2016.pdf](https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf). Accessed June 2020.
- U.S. Environmental Protection Agency (USEPA). 2020a. Cleanups in my Community. Available at: <https://www.epa.gov/cleanups/cleanups-my-community>. Accessed May 2020.
- U.S. Environmental Protection Agency (USEPA). 2020b. Sole Source Aquifers. Available at: <https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b>. Accessed May 2020.
- U.S. Environmental Protection Agency (USEPA). 2020c. SDWIS Search. Available at: <https://www.epa.gov/enviro/sdwis-search>. Accessed May 2020.
- U.S. Environmental Protection Agency (USEPA). 2020d. Viewing WATERS Data using Google Earth. Version January 1, 2020. Available at: <https://www.epa.gov/waterdata/viewing-waters-data-using-google-earth>. Accessed January 2020.
- U.S. Environmental Protection Agency (USEPA). 2020e. NAAQS Table. Available at: <https://www.epa.gov/criteria-air-pollutants/naaqs-table>. Accessed May 2020.

- U.S. Fish and Wildlife Service (USFWS). 2007. Indiana Bat Recovery Plan. Available at:  
[https://www.fws.gov/midwest/endangered/mammals/inba/pdf/inba\\_fldrftrecpln\\_a pr07.pdf](https://www.fws.gov/midwest/endangered/mammals/inba/pdf/inba_fldrftrecpln_a pr07.pdf). Accessed May 2020.
- U.S. Fish and Wildlife Service (USFWS). 2010. Bog Turtle (*Clemmys muhlenbergii*). Available at: <https://www.fws.gov/northeast/pdf/bogturtle.pdf>. Accessed May 2020.
- U.S. Fish and Wildlife Service (USFWS). 2020a. National Wildlife Refuges and National Fish Hatcheries Online Mapper. Available at:  
<https://www.arcgis.com/apps/webappviewer/index.html?id=e379b7e1fff54f00b826ce18183458bd&extent=-18139024.5238%2C2047562.8107%2C-5615581.8096%2C8377771.7452%2C102100>. Accessed September 2020.
- U.S. Fish and Wildlife Service (USFWS). 2020b. Northern Long-Eared Bat (*Myotis septentrionalis*). Available at:  
<https://www.fws.gov/midwest/endangered/mammals/nleb/nlebfactsheet.html>. Accessed May 2020.
- U.S. Fish and Wildlife Service (USFWS). 2020c. Letter from Noelle Rayman-Metcalf (USFWS) to Michael Kinik (Iroquois) regarding ESA consultation. March 24, 2020.
- U.S. Fish and Wildlife Service (USFWS). 2020d. Letter from Thomas Chapman (USFWS) regarding ESA consultation. January 22, 2020.
- U.S. Fish and Wildlife Service (USFWS). 2020e. Northern Long-Eared Bat (*Myotis septentrionalis*). Available at:  
<https://www.fws.gov/midwest/Endangered/mammals/nleb/index.html>. Accessed May 2020.
- U.S. Forest Service (USFS). 2020. Interactive Visitor Map. Available at:  
<https://www.fs.fed.us/ivm/index.html>. Accessed September 2020.
- U.S. Geological Survey (USGS). 2000. Land Subsidence in the United States, USGS Fact Sheet 165-00. Available at: <https://water.usgs.gov/ogw/pubs/fs00165/>. Accessed May 2020.
- U.S. Geological Survey (USGS). 2014. Karst in the United States: A Digital Map Compilation and Database, KML US Karst Map. Available at:  
<https://pubs.usgs.gov/of/2014/1156/>. Accessed March 2020.
- U.S. Geological Survey (USGS). 2018a. USGS US Topo 7.5 minute map for Newton, CT. Available at:

- <https://viewer.nationalmap.gov/basic/?basemap=b1&category=histtopo%2Custop o&title=Map%20View#productSearch>. Accessed June 2020.
- U.S. Geological Survey (USGS). 2018b. USGS US Topo 7.5 minute map for Milford, CT. Available at: <https://viewer.nationalmap.gov/basic/?basemap=b1&category=histtopo%2Custop o&title=Map%20View#productSearch>. Accessed June 2020.
- U.S. Geological Survey (USGS). 2018c. Probabilistic seismic hazards maps and data. Available at: <https://www.sciencebase.gov/catalog/item/5d5597d0e4b01d82ce8e3ff1>. Accessed June 2020.
- U.S. Geological Survey (USGS). 2019a. USGS 1:24000-scale Quadrangle for Hudson North, NY. Available at: <https://viewer.nationalmap.gov/basic/?basemap=b1&category=histtopo%2Custop o&title=Map%20View#productSearch>. Accessed June 2020.
- U.S. Geological Survey (USGS). 2019b. USGS US Topo 7.5-minute map for Dover Plains, NY, CT. Available at: <https://viewer.nationalmap.gov/basic/?basemap=b1&category=histtopo%2Custop o&title=Map%20View#productSearch>. Accessed June 2020.
- U.S. Geological Survey (USGS). 2020a. The Mineral Industry of Connecticut. Available at: <https://www.usgs.gov/centers/nmic/mineral-industry-connecticut>. Accessed March 2020.
- U.S. Geological Survey (USGS). 2020b. Mineral Records Data System. Available at: <https://mrdata.usgs.gov/mrds/map-graded.html#home>. Accessed June 2020.
- U.S. Geological Survey (USGS). 2020c. Search Earthquake Catalog. Available at: <https://earthquake.usgs.gov/earthquakes/search/>. Accessed March 2020.
- U.S. Geological Survey (USGS). 2020d. Modified Mercalli Intensity Scale. Available at: [https://www.usgs.gov/natural-hazards/earthquake-hazards/science/modified-mercalli-intensity-scale?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/natural-hazards/earthquake-hazards/science/modified-mercalli-intensity-scale?qt-science_center_objects=0#qt-science_center_objects). Accessed May 2020.
- U.S. Geological Survey (USGS). 2020e. USGS Interactive Fault Map. Available at: [https://www.usgs.gov/natural-hazards/earthquake-hazards/faults?qt-science\\_support\\_page\\_related\\_con=4#qt-science\\_support\\_page\\_related\\_con](https://www.usgs.gov/natural-hazards/earthquake-hazards/faults?qt-science_support_page_related_con=4#qt-science_support_page_related_con). Accessed March 2020.
- U.S. Global Change Research Program (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.

U.S. Global Change Research Program (USCGRP). 2018. Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II: Report-in-Brief [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 186 pp.

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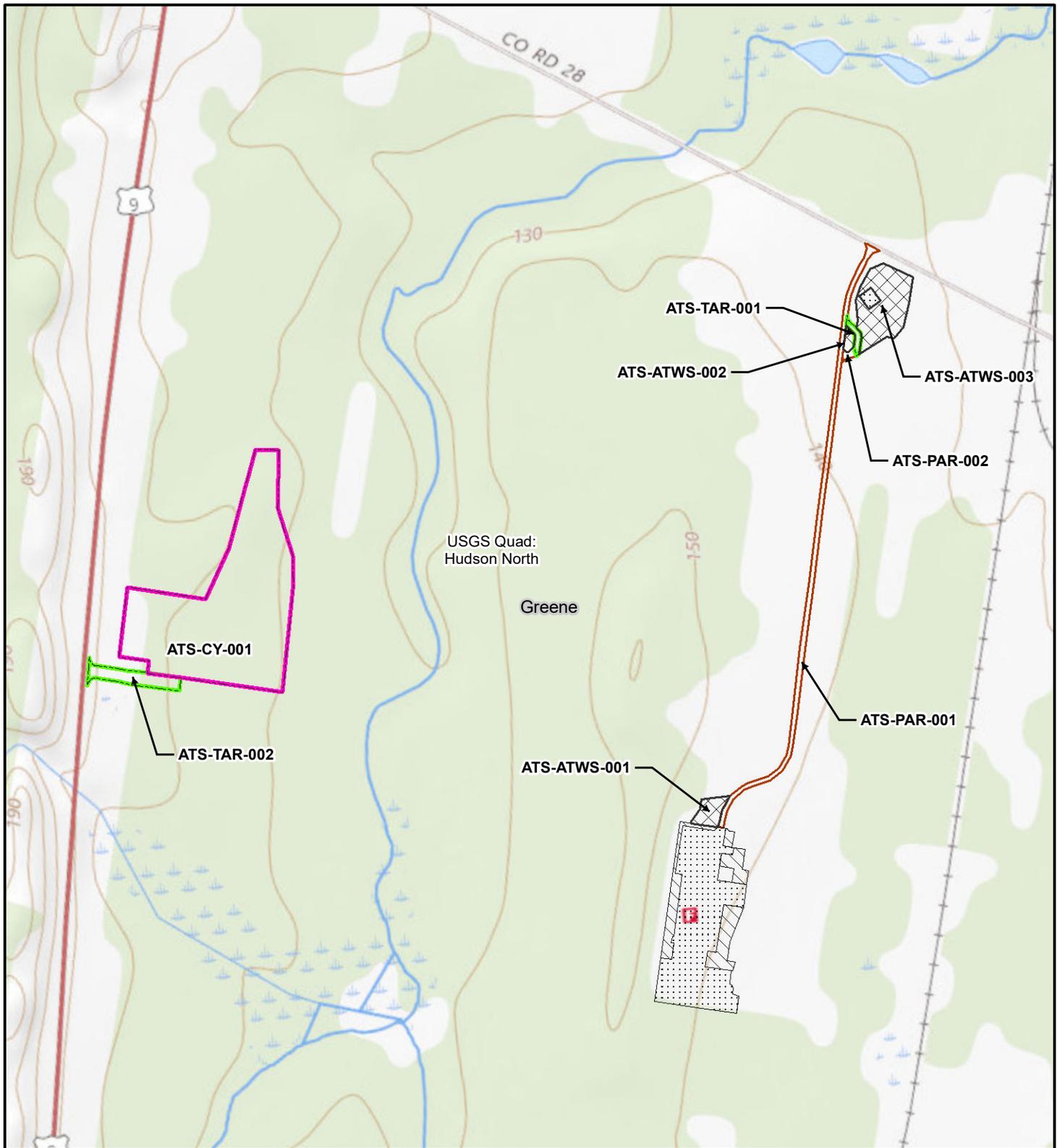
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B.S., Environmental Science, University of Houston at Clear Lake, 2000

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*Edge Engineering and Science, LLC is a third party contractor assisting the Commission staff in reviewing the environmental aspects of the project application and preparing the environmental documents required by NEPA. Third party contractors are selected by Commission staff and funded by project applicants. Per the procedures in 40 CFR 1506.5(c), third party contractors execute a disclosure statement specifying that they have no financial or other conflicting interest in the outcome of the project. Third party contractors are required to self-report any changes in financial situation and to refresh their disclosure statements annually. The Commission staff solely directs the scope, content, quality, and schedule of the contractor's work. The Commission staff independently evaluates the results of the third-party contractor's work and the Commission, through its staff, bears ultimate responsibility for full compliance with the requirements of NEPA.*

**APPENDIX A**  
**PROJECT MAPPING**



**Legend**

	Contractor Staging Area		County Boundary
	Temporary Access Road		USGS 7.5 min quad
	Permanent Access Road		
	Operational Footprint		
	TWS		
	ATWS		

0      250      500  
 Feet

Scale: 1:6,000

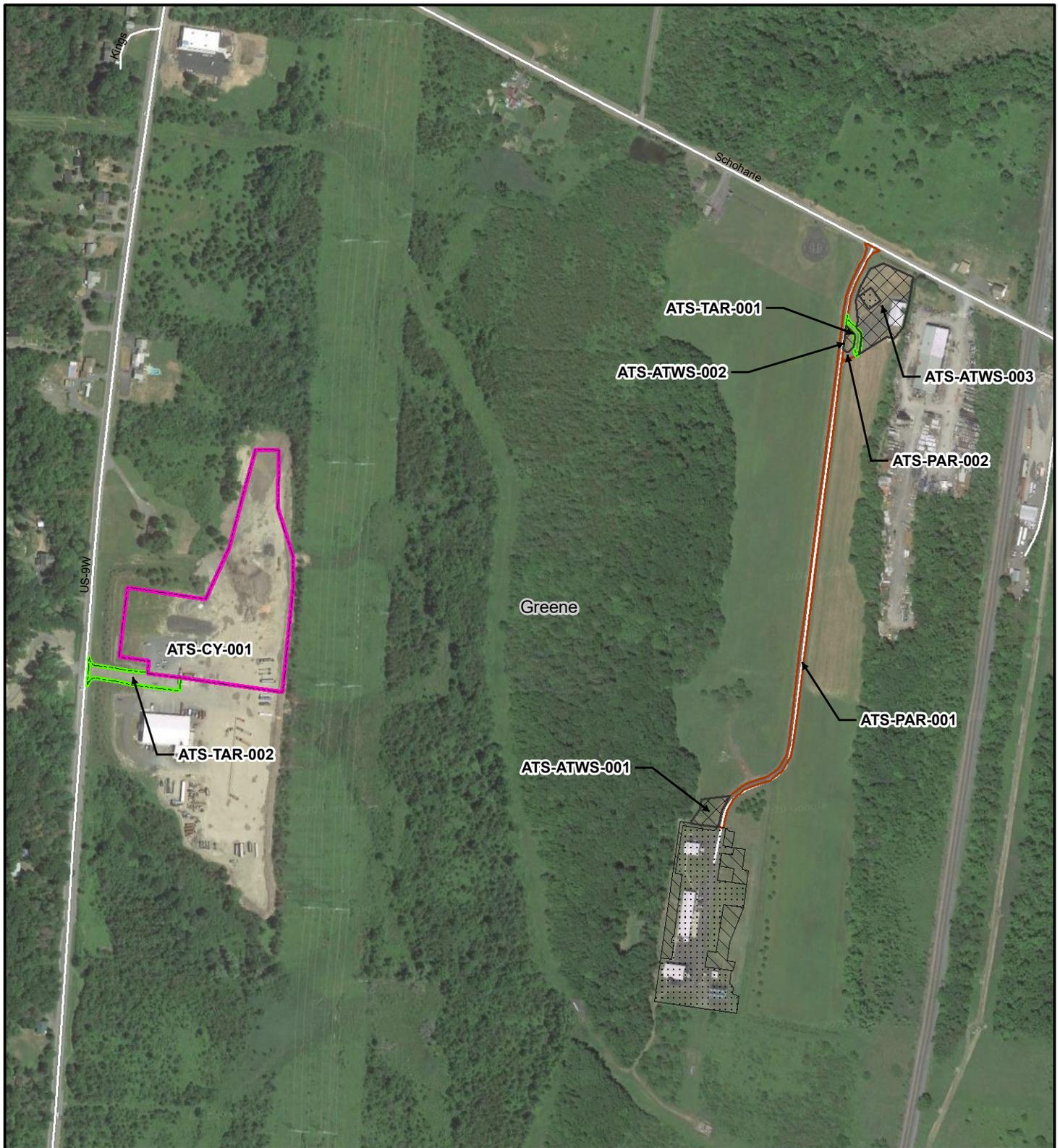
Basemap Source: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China, Esri Thailand, Tom Tom, 2013

**Enhancement By  
 Compression Project**

Athens Compressor Station

Greene County, New York

**Figure A-1**



Legend	
	Contractor Staging Area
	Temporary Access Road
	Permanent Access Road
	Operational Footprint
	TWS
	ATWS
	County Boundary

0 250 500  
Feet

Scale: 1:6,000

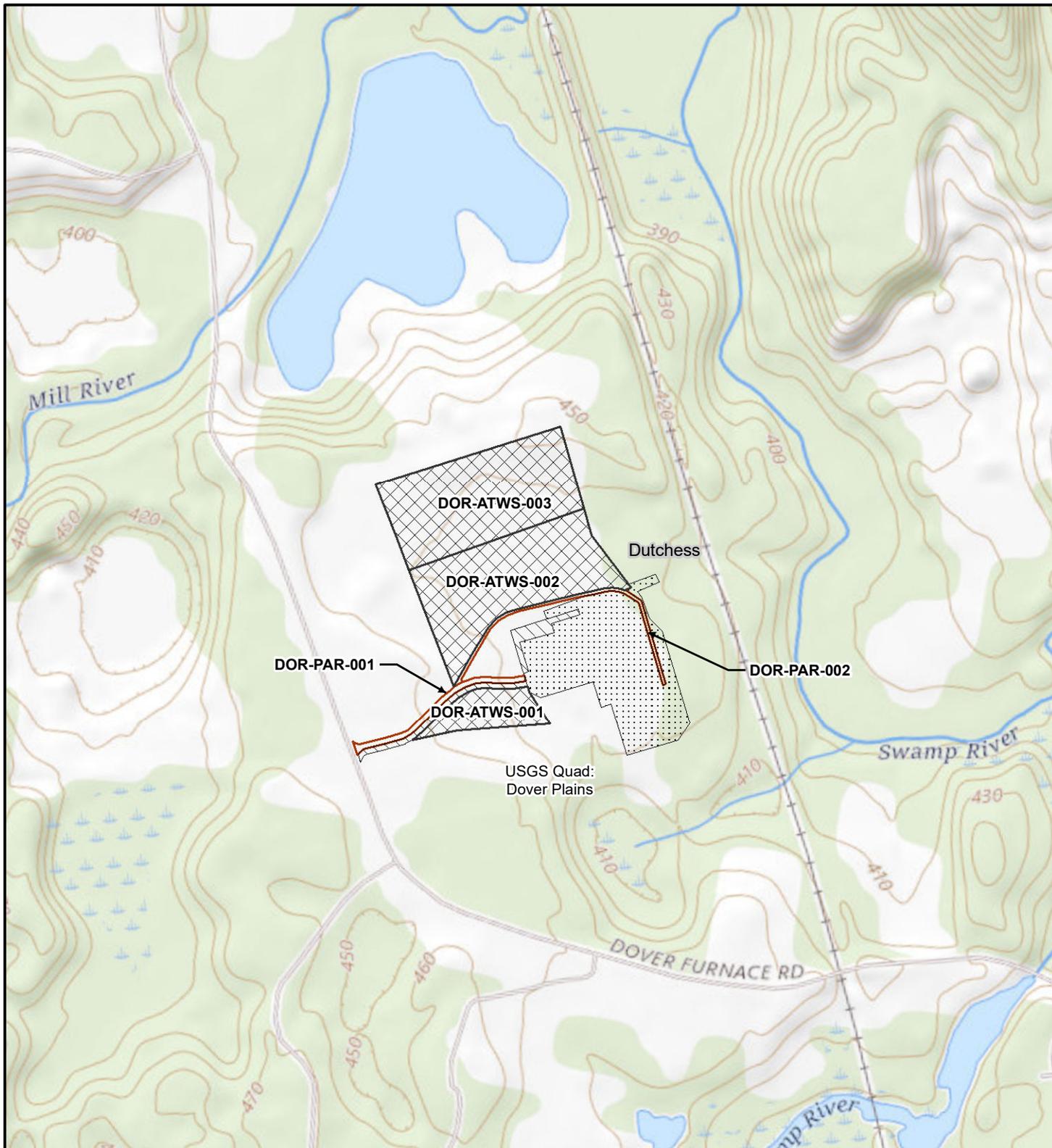
Basemap Source: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China, Esri Thailand, Tom Tom, 2013

**Enhancement By  
Compression Project**

Athens Compressor Station

Greene County, New York

**Figure A-2**



Legend	
	Contractor Staging Area
	Temporary Access Road
	Permanent Access Road
	Operational Footprint
	TWS
	ATWS
	County Boundary
	USGS 7.5 min quad

0 250 500  
Feet

Scale: 1:6,000

Basemap Source: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China, Esri Thailand, Tom Tom, 2013

**Enhancement By  
Compression Project**

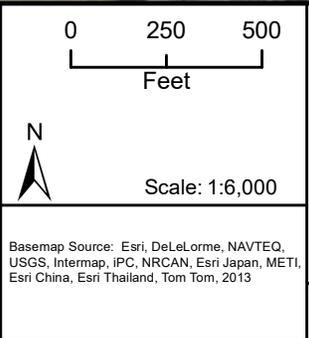
Dover Compressor Station

Dutchess County, New York

**Figure A-3**



Legend	
	Contractor Staging Area
	Temporary Access Road
	Permanent Access Road
	Operational Footprint
	TWS
	ATWS
	County Boundary



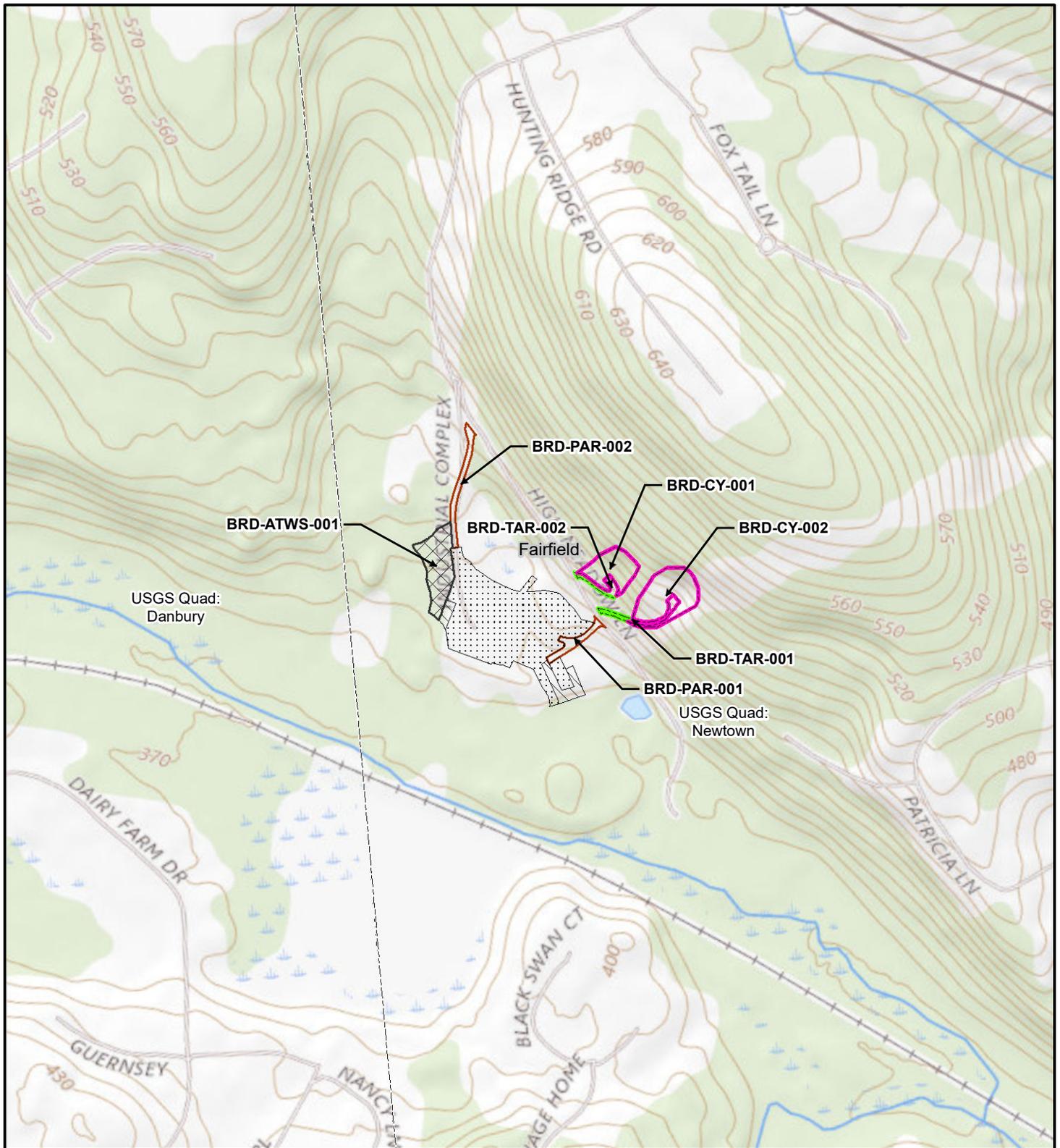
**Enhancement By  
Compression Project**

Dover Compressor Station

Dutchess County, New York

---

**Figure A-4**



Legend	
	Contractor Staging Area
	Temporary Access Road
	Permanent Access Road
	Operational Footprint
	TWS
	ATWS
	County Boundary
	USGS 7.5 min quad

0 250 500  
Feet

Scale: 1:6,000

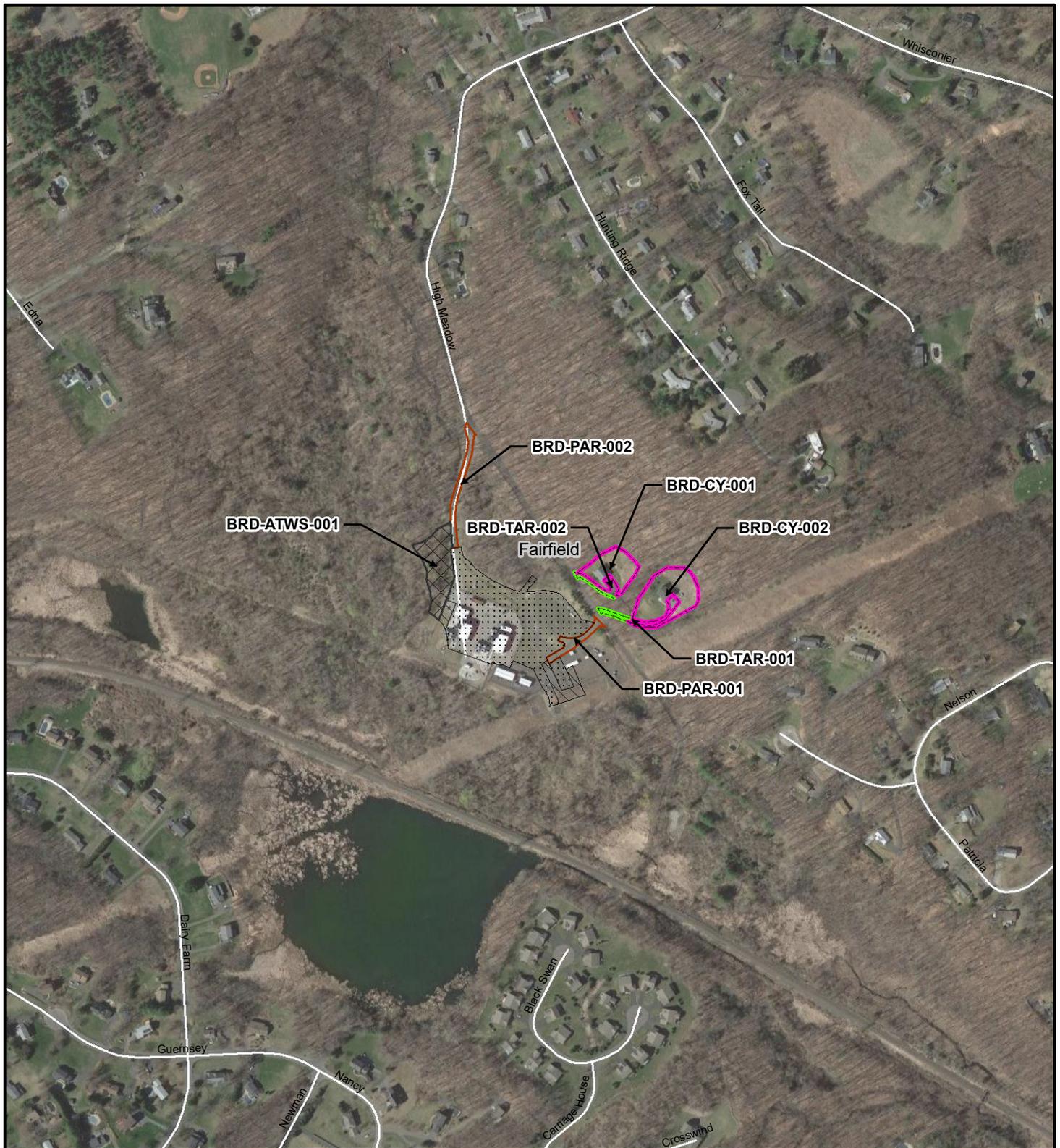
Basemap Source: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China, Esri Thailand, Tom Tom, 2013

**Enhancement By  
Compression Project**

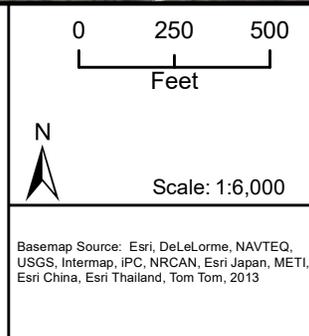
Brookfield Compressor Station

Fairfield County, Connecticut

**Figure A-5**



Legend	
	Contractor Staging Area
	Temporary Access Road
	Permanent Access Road
	Operational Footprint
	TWS
	ATWS
	County Boundary

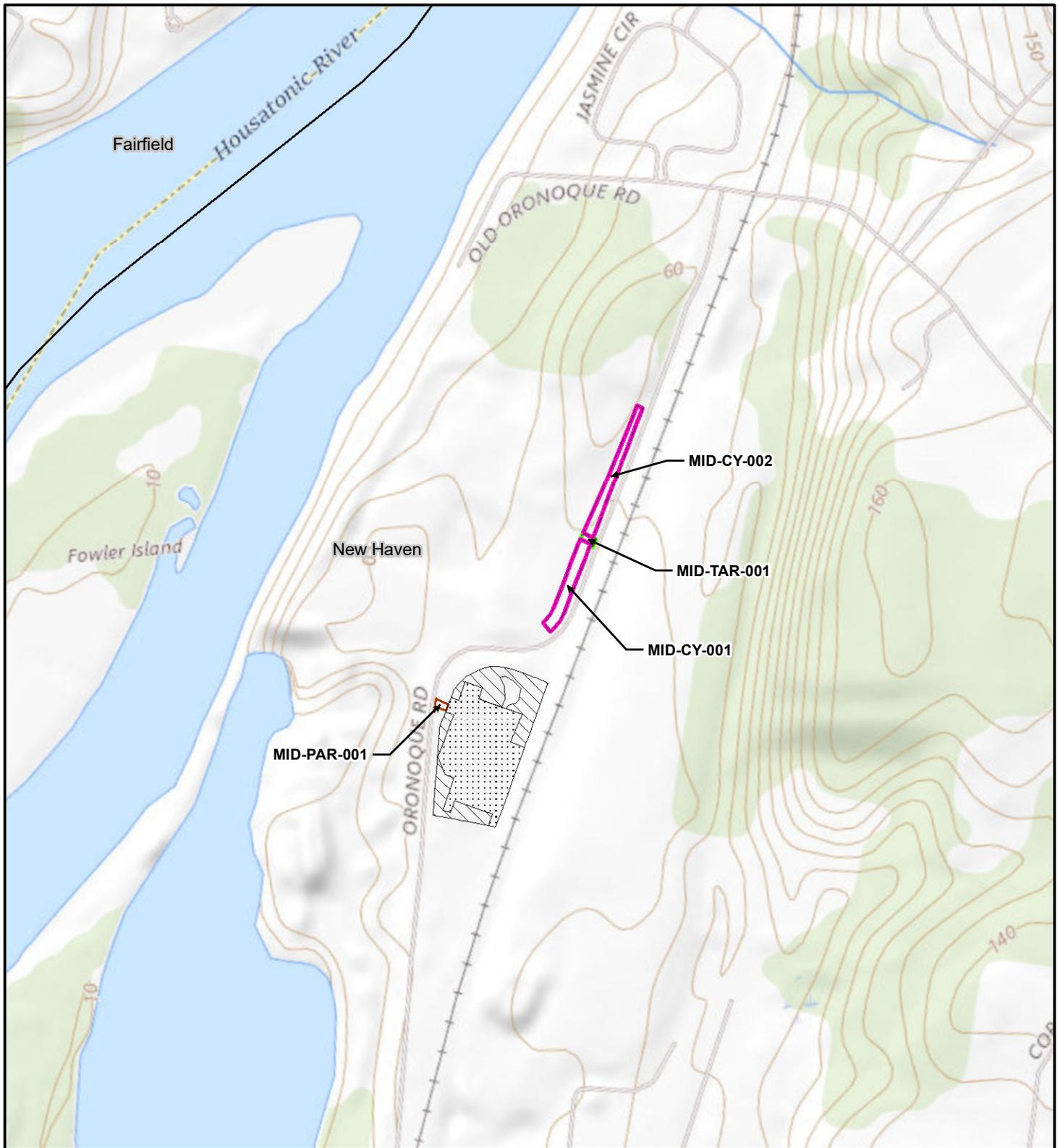


**Enhancement By  
Compression Project**

Brookfield Compressor Station

Fairfield County, Connecticut

**Figure A-6**



Legend	
	Contractor Staging Area
	Temporary Access Road
	Permanent Access Road
	Operational Footprint
	TWS
	ATWS
	County Boundary

0 250 500  
Feet

Scale: 1:6,000

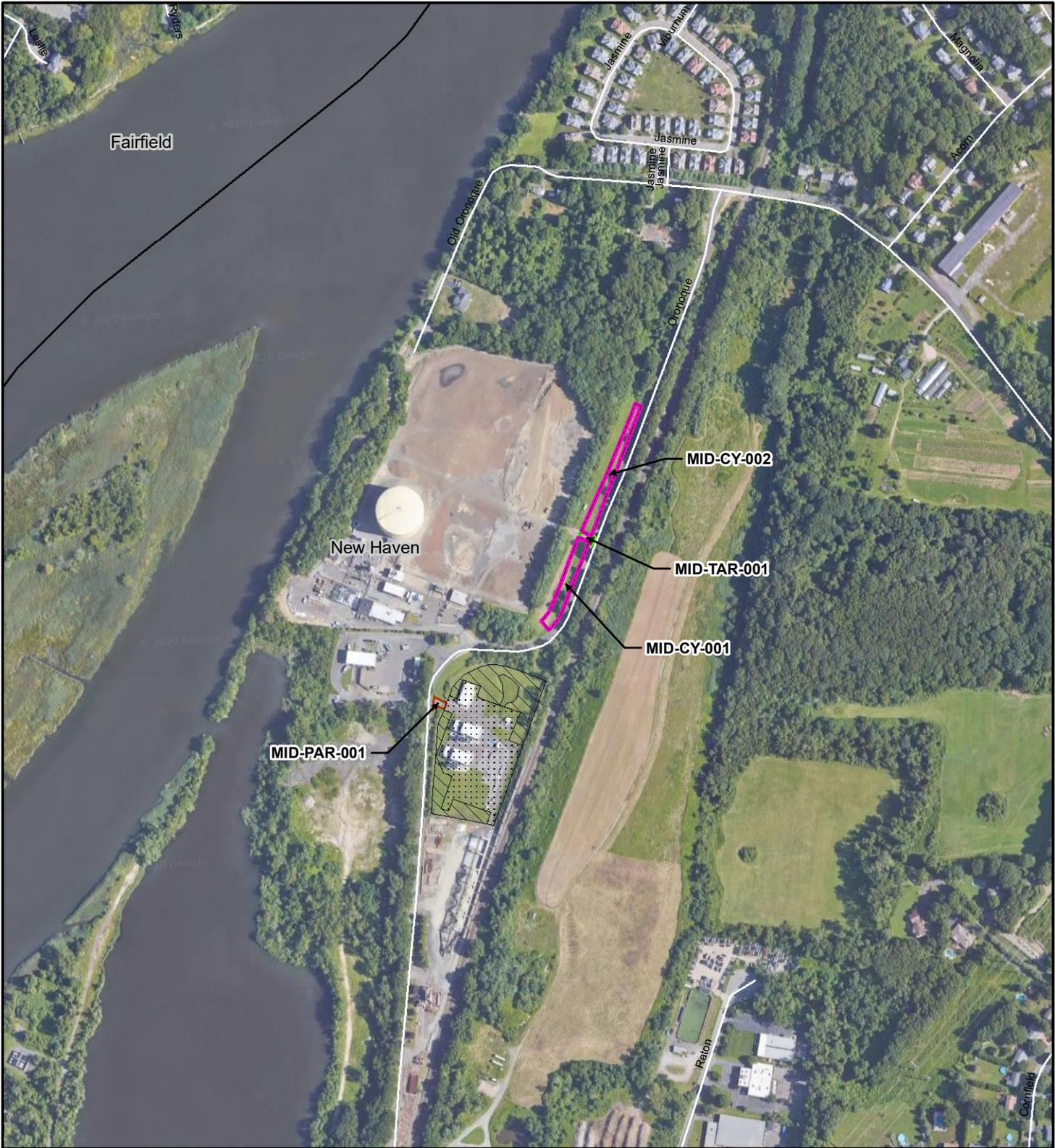
Basemap Source: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China, Esri Thailand, Tom Tom, 2013

**Enhancement By  
Compression Project**

Milford Compressor Station

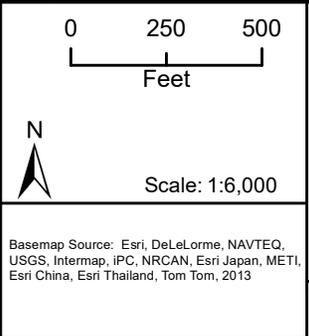
New Haven County, Connecticut

**Figure A-7**



**Legend**

	Contractor Staging Area		County Boundary
	Temporary Access Road		
	Permanent Access Road		
	Operational Footprint		
	TWS		
	ATWS		



**Enhancement By  
Compression Project**

Milford Compressor Station

New Haven County, Connecticut

**Figure A-8**

**APPENDIX B**

**NORTHERN LONG-EARED BAT 4(d)  
STREAMLINED CONSULTATION FORM AREAS**



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New York Ecological Services Field Office  
3817 Luker Road  
Cortland, NY 13045-9385

Phone: (607) 753-9334 Fax: (607) 753-9699

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

In Reply Refer To:

December 02, 2019

Subject: Verification letter for the 'Enhancement by Compression (ExC) Project - Athens Compressor Station Site' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Danielle Ward:

The U.S. Fish and Wildlife Service (Service) received on November 06, 2019 your effects determination for the 'Enhancement by Compression (ExC) Project - Athens Compressor Station Site' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"<sup>[1]</sup> prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Indiana Bat, *Myotis sodalis* (Endangered)

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

**Action Description**

You provided to IPaC the following name and description for the subject Action.

**1. Name**

Enhancement by Compression (ExC) Project - Athens Compressor Station Site

**2. Description**

The following description was provided for the project 'Enhancement by Compression (ExC) Project - Athens Compressor Station Site':

Iroquois Gas Transmission System, LP (Iroquois) is applying to the Federal Energy Regulatory Commission (Commission or FERC) for a Certificate of Public Convenience and Necessity under Section 7(c) of the Natural Gas Act (NGA) for authorization to upgrade existing compressor stations located in Athens, NY, Dover, NY, Brookfield, CT, and Milford, CT as part of the proposed Enhancement by Compression (ExC) Project (Project). The Project includes:

> Athens, NY – integration of one (1) new approximately 12,000 HP turbine (Unit A2) with associated cooling, filter separators and other typical facilities connecting to the Iroquois 24-inch mainline in the Town of Athens, Greene County NY

> Dover, NY – integration of one (1) new approximately 12,000 HP turbine (Unit A2) with associated cooling, filter separators and other typical facilities connecting to the Iroquois 24-inch mainline in the Town of Dover, Dutchess County NY

> Brookfield, CT – addition of two (2) new turbines with approximately 12,000 HP each (Unit B1 & Unit B2) with associated cooling, filter separators and other typical facilities connecting to Iroquois' 24-inch mainline at Brookfield and to be installed downstream and independent of Iroquois' existing transfer compressors Unit-A1 (Solar T-60) and Unit-A2 (Solar T-70). Additionally, incremental cooling will be added to Plant-A and Plant-B to allow for compressed discharge gas to be cooled, as well as addressing noise level to maintain compliance with FERC standards for the entire Brookfield Compressor Station. Such noise compliance may include redesign or replacement of existing turbine stacks on Units-A1 and A2, in addition to other noise reduction measures (e.g., louvers, seals). Compressor station is located in the Town of Brookfield, Fairfield County CT

> Milford, CT – addition of gas cooling to existing Plant-A units and associated piping to allow for compressed discharge gas to be cooled. Currently, no gas

cooling facilities exist at this station. Compressor station is located in the City of Milford, New Haven County, CT

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/42.284733646945675N73.8528325991527W>



### **Determination Key Result**

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

### **Determination Key Description: Northern Long-eared Bat 4(d) Rule**

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

## Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

## Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?  
Yes
2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")  
No
3. Will your activity purposefully **Take** northern long-eared bats?  
No
4. Is the project action area located wholly outside the White-nose Syndrome Zone?  
**Automatically answered**  
No
5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases is available at [www.fws.gov/midwest/endangered/mammals/nleb/nhsites.html](http://www.fws.gov/midwest/endangered/mammals/nleb/nhsites.html).

Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?  
No

7. Will the action involve Tree Removal?

*No*

## Project Questionnaire

**If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.**

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

**If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.**

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

**If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.**

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

**If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.**

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?  
0



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New England Ecological Services Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
Phone: (603) 223-2541 Fax: (603) 223-0104  
<http://www.fws.gov/newengland>

In Reply Refer To:

December 02, 2019

Subject: Verification letter for the 'Enhancement by Compression (ExC) Project - Brookfield Compressor Station Site' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Danielle Ward:

The U.S. Fish and Wildlife Service (Service) received on December 02, 2019 your effects determination for the 'Enhancement by Compression (ExC) Project - Brookfield Compressor Station Site' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"<sup>[1]</sup> prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Bog Turtle, *Clemmys muhlenbergii* (Threatened)

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

**Action Description**

You provided to IPaC the following name and description for the subject Action.

**1. Name**

Enhancement by Compression (ExC) Project - Brookfield Compressor Station Site

**2. Description**

The following description was provided for the project 'Enhancement by Compression (ExC) Project - Brookfield Compressor Station Site':

Iroquois Gas Transmission System, LP. (Iroquois) is applying to the Federal Energy Regulatory Commission (Commission or FERC) for a Certificate of Public Convenience and Necessity under Sections 7(b) and 7(c) of the Natural Gas Act (NGA) for authorization to upgrade existing compressor stations located in Athens, NY, Dover, NY, Brookfield, CT, and Milford, CT as part of the proposed Enhancement by Compression (EXC) Project (Project). The Project includes:

Compressor Stations:

- > Athens, NY – integration of one new approximately 10,800 HP turbine (“Unit A2”) with associated cooling, filter separators and other typical facilities connecting to the Iroquois 24” mainline at Athens
- > Dover, NY – integration of one new approximately 10,800 HP turbine (“Unit A2”) with associated cooling, filter separators and other typical facilities connecting to the Iroquois 24” mainline at Dover
- > Brookfield, CT – addition of two new turbines with approximately 10,800 HP each (“Unit B1 & Unit B2”) with associated cooling, filter separators and other typical facilities connecting to Iroquois’ 24: mainline at Brookfield and to be installed downstream and independent of Iroquois’ existing transfer compressors Plant-A (Solar T-60) and Plant-B (Solar T-70). Additionally, incremental cooling will be added to Plant-A and Plant-B to allow for compressed discharge gas to be cooled to 100°F, as well as addressing noise level issues to maintain compliance with FERC standards for the entire Brookfield Compressor Station. Such noise compliance issues may include redesign or replacement of existing turbine stacks on Plants-A, in addition to other noise reduction measures (e.g., louvers, seals).
- > Milford, CT – addition of gas cooling to existing Plant-A units and associated piping to allow for compressed discharge gas to be cooled to 100°F. Currently, no gas cooling facilities exist at this station.

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/41.443615869516606N73.39906841582423W>



### **Determination Key Result**

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

### **Determination Key Description: Northern Long-eared Bat 4(d) Rule**

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

## Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

## Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?  
Yes
2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")  
No
3. Will your activity purposefully **Take** northern long-eared bats?  
No
4. Is the project action area located wholly outside the White-nose Syndrome Zone?  
**Automatically answered**  
No
5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases is available at [www.fws.gov/midwest/endangered/mammals/nleb/nhsites.html](http://www.fws.gov/midwest/endangered/mammals/nleb/nhsites.html).

Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?  
No

7. Will the action involve Tree Removal?

*Yes*

8. Will the action only remove hazardous trees for the protection of human life or property?

*No*

9. Will the action remove trees within 0.25 miles of a known northern long-eared bat hibernaculum at any time of year?

*No*

10. Will the action remove a known occupied northern long-eared bat maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 through July 31?

*No*

## Project Questionnaire

**If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.**

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

**If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.**

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

**If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.**

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

**If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.**

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?  
0



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New England Ecological Services Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301-5094  
Phone: (603) 223-2541 Fax: (603) 223-0104  
<http://www.fws.gov/newengland>

In Reply Refer To:

December 02, 2019

Consultation Code: 05E1NE00-2020-TA-0619

Event Code: 05E1NE00-2020-E-01662

Project Name: Enhancement by Compression (ExC) Project - Milford Compressor Station Site

Subject: Verification letter for the 'Enhancement by Compression (ExC) Project - Milford Compressor Station Site' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Danielle Ward:

The U.S. Fish and Wildlife Service (Service) received on November 06, 2019 your effects determination for the 'Enhancement by Compression (ExC) Project - Milford Compressor Station Site' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"<sup>[1]</sup> prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

**Action Description**

You provided to IPaC the following name and description for the subject Action.

**1. Name**

Enhancement by Compression (ExC) Project - Milford Compressor Station Site

**2. Description**

The following description was provided for the project 'Enhancement by Compression (ExC) Project - Milford Compressor Station Site':

Iroquois Gas Transmission System, LP (Iroquois) is applying to the Federal Energy Regulatory Commission (Commission or FERC) for a Certificate of Public Convenience and Necessity under Section 7(c) of the Natural Gas Act (NGA) for authorization to upgrade existing compressor stations located in Athens, NY, Dover, NY, Brookfield, CT, and Milford, CT as part of the proposed Enhancement by Compression (ExC) Project (Project). The Project includes: Compressor Stations:

> Athens, NY – integration of one (1) new approximately 12,000 HP turbine (Unit A2) with associated cooling, filter separators and other typical facilities connecting to the Iroquois 24-inch mainline in the Town of Athens, Greene County NY

> Dover, NY – integration of one (1) new approximately 12,000 HP turbine (Unit A2) with associated cooling, filter separators and other typical facilities connecting to the Iroquois 24-inch mainline in the Town of Dover, Dutchess County NY

> Brookfield, CT – addition of two (2) new turbines with approximately 12,000 HP each (Unit B1 & Unit B2) with associated cooling, filter separators and other typical facilities connecting to Iroquois' 24-inch mainline at Brookfield and to be installed downstream and independent of Iroquois' existing transfer compressors Unit-A1 (Solar T-60) and Unit-A2 (Solar T-70). Additionally, incremental cooling will be added to Plant-A and Plant-B to allow for compressed discharge gas to be cooled, as well as addressing noise level to maintain compliance with FERC standards for the entire Brookfield Compressor Station. Such noise compliance may include redesign or replacement of existing turbine stacks on Units-A1 and A2, in addition to other noise reduction measures (e.g., louvers, seals). Compressor station is located in the Town of Brookfield, Fairfield County CT

> Milford, CT – addition of gas cooling to existing Plant-A units and associated piping to allow for compressed discharge gas to be cooled. Currently, no gas

cooling facilities exist at this station. Compressor station is located in the City of Milford, New Haven County, CT

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/41.2348808924861N73.0971746052138W>



### **Determination Key Result**

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

### **Determination Key Description: Northern Long-eared Bat 4(d) Rule**

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service's PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

## Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

## Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

Yes

2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")

No

3. Will your activity purposefully **Take** northern long-eared bats?

No

4. Is the project action area located wholly outside the White-nose Syndrome Zone?

**Automatically answered**

No

5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases is available at [www.fws.gov/midwest/endangered/mammals/nleb/nhsites.html](http://www.fws.gov/midwest/endangered/mammals/nleb/nhsites.html).

Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

No

7. Will the action involve Tree Removal?

*No*

## Project Questionnaire

**If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.**

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

**If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.**

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

**If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.**

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

**If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.**

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?  
0

**APPENDIX C**  
**CONSTRUCTION EMISSIONS**

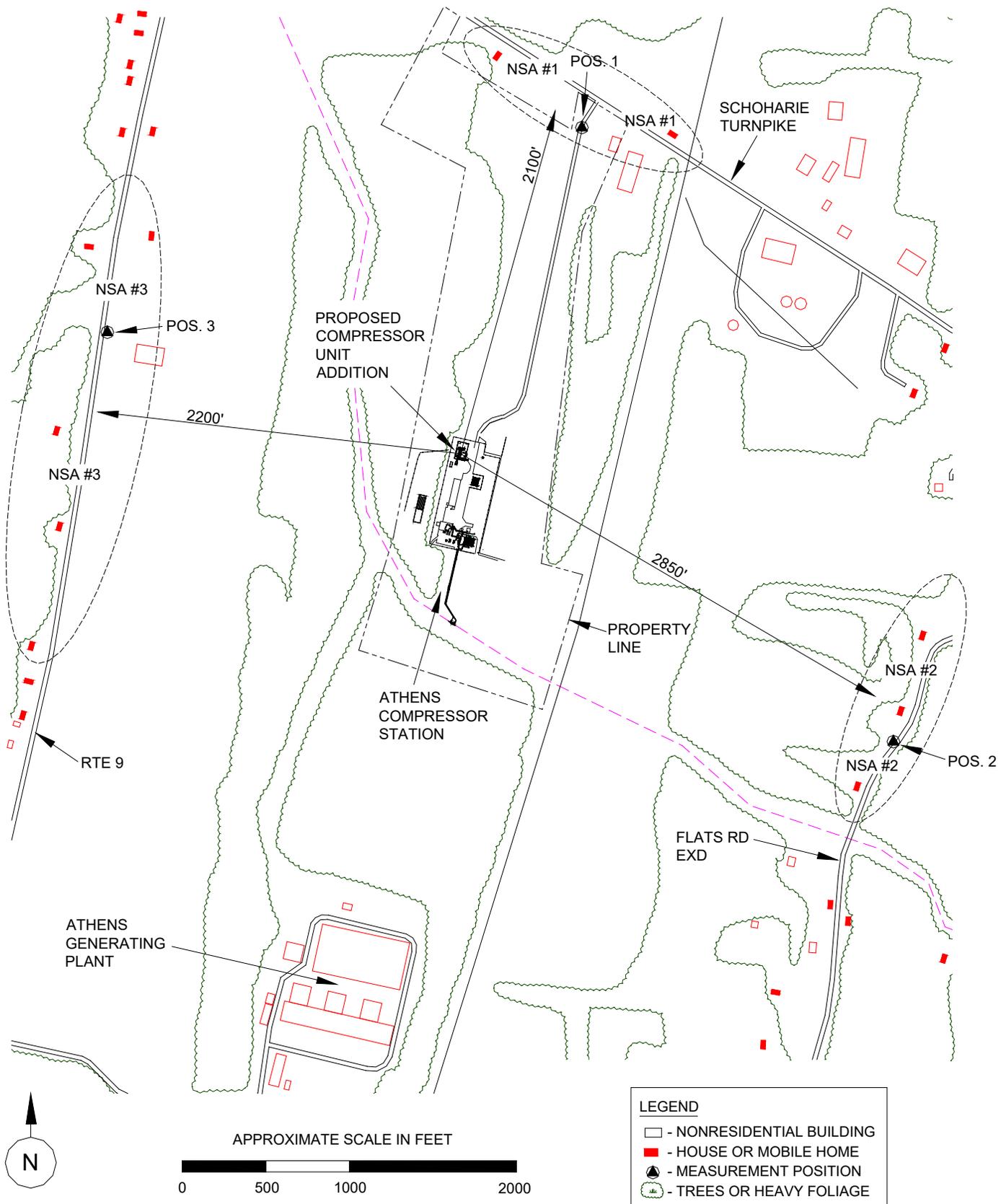
<b>Appendix C</b>									
<b>Summary of Estimated Emissions from Construction of the Project<sup>a</sup></b>									
<b>Source<sup>b</sup></b>		<b>Criteria Pollutants (tpy)</b>							<b>CO<sub>2</sub>e (Metric Tonnes)</b>
		<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>VOC</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>HAPs</b>	
<b>Greene County, New York (Athens Compressor Station)</b>									
2022	Construction Equipment Engines	0.04	0.01	0	0	0	0	0.000674	89.88
	On-Road Vehicle Travel	0.12	0.07	0	0.01	0	0	0.000966	73.99
	Off-Road Vehicle Travel	--	--	--	--	7.12	0.71	--	--
	Earthmoving Fugitives	--	--	--	--	0.09	0.04	--	--
	Construction Activity - Fugitives	--	--	--	--	7.97	0.8	--	--
	Pile Erosion	--	--	--	--	0.03	0	--	--
	<i>2022 Total</i>	<i>0.16</i>	<i>0.08</i>	<i>0</i>	<i>0.01</i>	<i>15.22</i>	<i>1.56</i>	<i>0.00164</i>	<i>163.87</i>
2023	Construction Equipment Engines	0.7	0.26	0	0.02	0.05	0.05	0.01	481.74
	On-Road Vehicle Travel	0.13	0.1	0	0.01	0	0	0.00111	95.14
	Off-Road Vehicle Travel	--	--	--	--	10.6	1.06	--	--
	Earthmoving Fugitives	--	--	--	--	0.11	0.05	--	--
	Construction Activity - Fugitives	--	--	--	--	7.97	0.8	--	--
	Pile Erosion	--	--	--	--	0.03	0	--	--
	<i>2023 Total</i>	<i>0.83</i>	<i>0.35</i>	<i>0</i>	<i>0.02</i>	<i>18.76</i>	<i>1.97</i>	<i>0.01</i>	<i>576.88</i>
<b>Greene County Total</b>		<b>0.99</b>	<b>0.43</b>	<b>0</b>	<b>0.03</b>	<b>33.98</b>	<b>3.53</b>	<b>0.02</b>	<b>740.75</b>

<b>Appendix C</b>									
<b>Summary of Estimated Emissions from Construction of the Project<sup>a</sup></b>									
<b>Source<sup>b</sup></b>		<b>Criteria Pollutants (tpy)</b>							<b>CO<sub>2e</sub> (Metric Tonnes)</b>
		<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>VOC</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>HAPs</b>	
<b>Dutchess County, New York (Dover Compressor Station)</b>									
2022	Construction Equipment Engines	0.03	0.01	0	0	0	0	0.000484	70.07
	On-Road Vehicle Travel	0.19	0.04	0	0.01	0.01	0.01	0.00142	107.75
	Off-Road Vehicle Travel	--	--	--	--	13.88	1.39	--	--
	Earthmoving Fugitives	--	--	--	--	0.07	0.02	--	--
	Construction Activity - Fugitives	--	--	--	--	12.59	1.26	--	--
	Pile Erosion	--	--	--	--	0.08	0.01	--	--
	<i>2022 Total</i>	<i>0.22</i>	<i>0.06</i>	<i>0</i>	<i>0.01</i>	<i>26.64</i>	<i>2.69</i>	<i>0.0019</i>	<i>177.82</i>
2023	Construction Equipment Engines	0.63	0.23	0	0.01	0.04	0.04	0.01	465.01
	On-Road Vehicle Travel	0.12	0.03	0	0.01	0	0	0.000979	80.37
	Off-Road Vehicle Travel	--	--	--	--	10.76	1.08	--	--
	Earthmoving Fugitives	--	--	--	--	0.13	0.06	--	--
	Construction Activity - Fugitives	--	--	--	--	12.59	1.26	--	--
	Pile Erosion	--	--	--	--	0.08	0.01	--	--
	<i>2023 Total</i>	<i>0.75</i>	<i>0.26</i>	<i>0</i>	<i>0.02</i>	<i>23.61</i>	<i>2.45</i>	<i>0.01</i>	<i>545.38</i>
<b>Dutchess County Total</b>		<b>0.97</b>	<b>0.32</b>	<b>0</b>	<b>0.03</b>	<b>50.25</b>	<b>5.14</b>	<b>0.01</b>	<b>723.2</b>

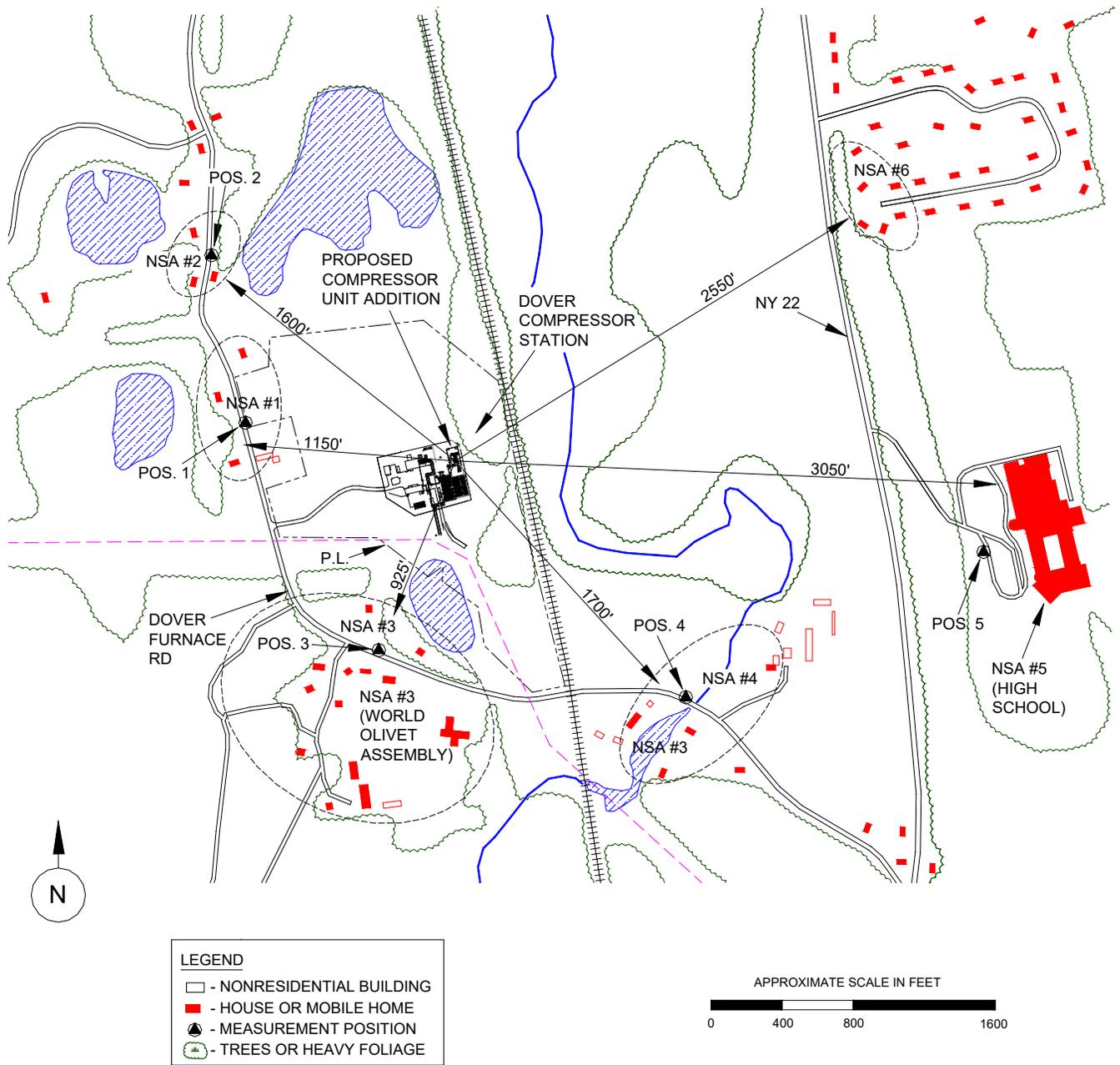
<b>Appendix C</b>									
<b>Summary of Estimated Emissions from Construction of the Project<sup>a</sup></b>									
<b>Source<sup>b</sup></b>		<b>Criteria Pollutants (tpy)</b>							<b>CO<sub>2e</sub> (Metric Tonnes)</b>
		<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>VOC</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>HAPs</b>	
<b>Fairfield County, Connecticut (Brookfield Compressor Station)</b>									
2022	Construction Equipment Engines	0.1	0.03	0	0	0.01	0.01	0.00176	224.25
	On-Road Vehicle Travel	0.47	0.18	0	0.02	0.01	0.01	0.00359	281.54
	Off-Road Vehicle Travel	--	--	--	--	34.4	3.44	--	--
	Earthmoving Fugitives	--	--	--	--	0.1	0.04	--	--
	Construction Activity - Fugitives	--	--	--	--	7.95	0.79	--	--
	Pile Erosion	--	--	--	--	--	--	--	--
	<i>2022 Total</i>	<i>0.57</i>	<i>0.21</i>	<i>0</i>	<i>0.02</i>	<i>42.48</i>	<i>4.3</i>	<i>0.00535</i>	<i>505.79</i>
2023	Construction Equipment Engines	0.93	0.29	0	0.02	0.06	0.05	0.02	504.68
	On-Road Vehicle Travel	0.09	0.14	0	0.01	0	0	0.00075	76.54
	Off-Road Vehicle Travel	--	--	--	--	9.35	0.93	--	--
	Earthmoving Fugitives	--	--	--	--	0.19	0.09	--	--
	Construction Activity - Fugitives	--	--	--	--	7.95	0.79	--	--
	Pile Erosion	--	--	--	--	--	--	--	--
	<i>2023 Total</i>	<i>1.02</i>	<i>0.43</i>	<i>0</i>	<i>0.03</i>	<i>17.54</i>	<i>1.87</i>	<i>0.02</i>	<i>581.22</i>
<b>Fairfield County Total</b>		<b>1.59</b>	<b>0.64</b>	<b>0</b>	<b>0.05</b>	<b>60.02</b>	<b>6.17</b>	<b>0.02</b>	<b>1,087.01</b>

<b>Appendix C</b>									
<b>Summary of Estimated Emissions from Construction of the Project<sup>a</sup></b>									
<b>Source<sup>b</sup></b>		<b>Criteria Pollutants (tpy)</b>							<b>CO<sub>2e</sub> (Metric Tonnes)</b>
		<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>VOC</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>HAPs</b>	
<b>New Haven County, Connecticut (Milford Compressor Station)</b>									
2022	Construction Equipment Engines	0.02	0.01	0	0	0	0	0.000226	28.59
	On-Road Vehicle Travel	0.04	0.06	0	0	0	0	0.000423	29.07
	Off-Road Vehicle Travel	--	--	--	--	5.26	0.53	--	--
	Earthmoving Fugitives	--	--	--	--	0.05	0.03	--	--
	Construction Activity - Fugitives	--	--	--	--	2.91	0.29	--	--
	Pile Erosion	--	--	--	--	0.01	0	--	--
	<i>2022 Total</i>	<i>0.05</i>	<i>0.06</i>	<i>0</i>	<i>0</i>	<i>8.24</i>	<i>0.85</i>	<i>0.000649</i>	<i>57.66</i>
2023	Construction Equipment Engines	0.56	0.17	0	0.01	0.03	0.03	0.0086	344.72
	On-Road Vehicle Travel	0.05	0.16	0	0	0	0	0.000623	52.65
	Off-Road Vehicle Travel	--	--	--	--	10.87	1.09	--	--
	Earthmoving Fugitives	--	--	--	--	0.1	0.05	--	--
	Construction Activity - Fugitives	--	--	--	--	2.91	0.29	--	--
	Pile Erosion	--	--	--	--	0.01	0	--	--
	<i>2023 Total</i>	<i>0.61</i>	<i>0.32</i>	<i>0</i>	<i>0.01</i>	<i>13.92</i>	<i>1.46</i>	<i>0.00922</i>	<i>397.37</i>
<b>New Haven County Total</b>		<b>0.66</b>	<b>0.38</b>	<b>0</b>	<b>0.01</b>	<b>22.16</b>	<b>2.31</b>	<b>0.009869</b>	<b>455.03</b>
<b>PROJECT TOTAL</b>		<b>4.21</b>	<b>1.77</b>	<b>0</b>	<b>0.12</b>	<b>166.41</b>	<b>17.15</b>	<b>0.06</b>	<b>3,005.99</b>
<sup>a</sup> The total may not equal the sum of the addends due to rounding. <sup>b</sup> Construction is anticipated to take 9 months for the Project. However, as a conservative measure, calculations assume 4 weeks of construction equipment use at each facility in 2022 for preparation of contractor staging areas and storage of material and 312 days (about 10 months) in 2023.									

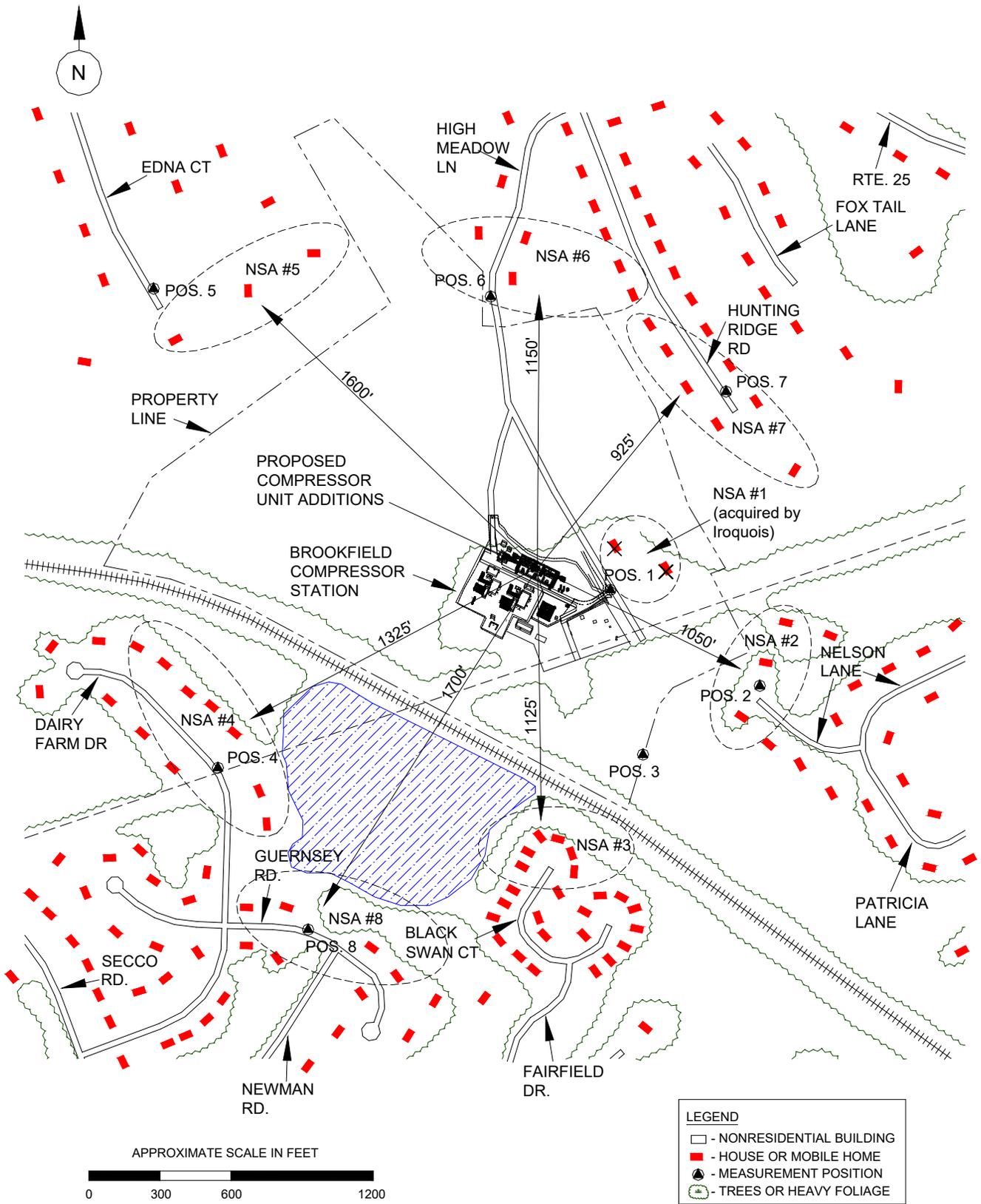
**APPENDIX D**  
**NOISE SENSITIVE AREAS**



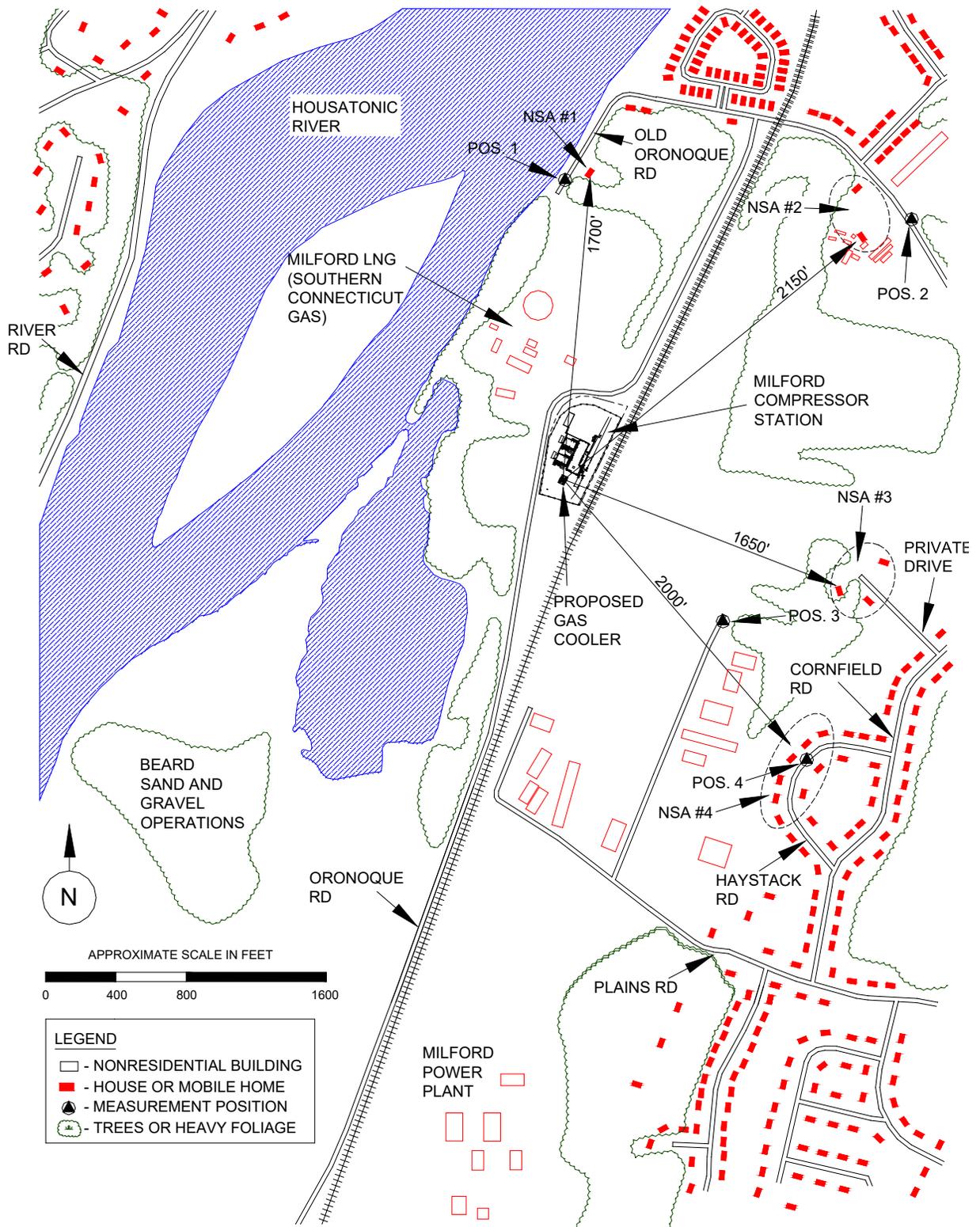
**Figure D-1 - Noise Sensitive Areas in the Vicinity of the Athens Compressor Station**



**Figure D-2 - Noise Sensitive Areas in the Vicinity of the Dover Compressor Station**



**Figure D-3 - Noise Sensitive Areas in the Vicinity of the Brookfield Compressor Station**



**Figure D-4 - Noise Sensitive Areas in the Vicinity of the Milford Compressor Station**