

SUNRISE WIND LLC
SUNRISE WIND NEW YORK CABLE PROJECT

EXHIBIT E-5
EFFECT ON COMMUNICATION

PREPARED PURSUANT TO 16 NYCRR § 88.5

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Acronyms and Abbreviations

AC	alternating current
Applicant	Sunrise Wind LLC
ASR	Antenna Structure Registration
CFR	Code of Federal Regulations
DC	direct current
EM&CP	Environmental Management and Construction Plan
FCC	Federal Communications Commission
ft	feet
G&G	geophysical and geotechnical survey
km	kilometer(s)
kV	kilovolt(s)
LIPA	Long Island Power Authority
LIRR	Long Island Rail Road
m	meter(s)
MHWL	mean high water line
mi	mile(s)
NPS	National Park Service
NYCRR	New York Codes, Rules and Regulations
NYS	New York State
NYSERDA	New York State Energy Research and Development Authority
OCS	Outer Continental Shelf
OnCS-DC	Onshore Converter Station-Direct Current
OREC	Offshore Renewable Energy Credit
Project	Sunrise Wind New York Cable Project
PSL	New York Public Service Law
ROW	right-of-way

SRWEC	Sunrise Wind Export Cable
SRWEC–NYS	Sunrise Wind Export Cable–New York State
SRWF	Sunrise Wind Farm
TJB	transition joint bay
ULS	Universal Licensing System
US	United States
USACE	United States Army Corps of Engineers

EXHIBIT E-5: EFFECT ON COMMUNICATION

In accordance with New York Public Service Law (PSL) § 122 and 16 New York Codes, Rules and Regulations (NYCRR) § 88.5, this exhibit provides a summary of the anticipated effects of the proposed line and related facilities on television, radio and other communications systems.

E-5.1 INTRODUCTION

Sunrise Wind LLC (Sunrise Wind or the Applicant), a 50/50 joint venture between Orsted North America Inc. (Orsted NA) and Eversource Investment LLC (Eversource), proposes to construct, operate, and maintain the Sunrise Wind New York Cable Project (the Project). Sunrise Wind executed a 25-year Offshore Wind Renewable Energy Certificate (OREC) contract related to the Sunrise Wind Farm (SRWF) and the Project with the New York State Energy Research and Development Authority (NYSERDA) in October 2019. The Project will deliver power from the SRWF, located in federal waters on the Outer Continental Shelf (OCS), to the existing electrical grid in New York (NYS). The Project includes offshore and onshore components within NYS that are subject to PSL Article VII review and will interconnect at the existing Holbrook Substation, which is owned and operated by the Long Island Power Authority (LIPA).

Specifically, power from the SRWF will be delivered to the existing mainland electric grid via distinct Project segments: the submarine segment of the export cable (SRWEC), which will be located in both federal and NYS waters (the NYS portion of the cable referred to as the SRWEC–NYS); the terrestrial underground segment of the transmission cable (Onshore Transmission Cable); the new Onshore Converter Station (OnCS–DC); and the underground segment of the interconnection cable (Onshore Interconnection Cable). The Onshore Transmission Cable, the OnCS–DC, and Onshore Interconnection Cable (collectively, the Onshore Facilities) are all located in the Town of Brookhaven, Suffolk County, New York.

The Project's components are generally defined into two categories:

- SRWEC–NYS
 - One direct current (DC) submarine export cable bundle (320 kilovolt [kV]) up to 6.2 miles (mi) (10 kilometers [km]) in length in NYS waters and up to 1,575 feet (ft) (480 meters [m]) located onshore (i.e., above the Mean High Water Line [MHWL], as defined by the United States [US] Army Corps of Engineers [USACE] [33 Code Federal Regulations (CFR) 329]) and underground, up to the transition joint bays (TJBs).

- Onshore Facilities
 - One DC underground transmission circuit (320 kV) (referred to as the Onshore Transmission Cable) up to 17.5 mi (28.2 km) in length within existing roadway right-of-way (ROW), TJBs, and concrete and/or direct buried joint bays and associated components;
 - One OnCS–DC that will transform the Project voltage to 138 kV alternating current (AC);
 - Two AC underground circuits (138 kV) (referred to as the Onshore Interconnection Cable) up to 1 mi (1.6 km) in length, which will connect the new OnCS–DC to the existing Holbrook Substation; and
 - Fiber optic cables co-located with both the Onshore Transmission Cable and Onshore Interconnection Cable.

E-5.2 EFFECT ON COMMUNICATIONS

E-5.2.1 Existing Communication Facilities

Depending on the landfall location, the SRWEC–NYS may cross one known submarine telecommunications cable, Apollo North (see Figure E-5.2-1).

A review of the Federal Communications Commission (FCC) databases indicated that 47 registered commercial telecommunications towers are located within 1 mi (1.6 km) of the Project. These towers include antenna structures licensees and microwave towers licensees. There are no cellular telephone towers licensees, FM radio towers licensees, land to mobile transmission tower licensees (private, commercial, or broadcast), paging tower licensees, or TV station transmitter licensees in the FCC databases within 1 mi (1.6 km) of the Project (See Figure E-5.2-1 and Table E-5.2-1). During final Project design, any additional communication facilities, including amateur (*e.g.*, ham) radio and citizens band licenses, as well as underground telecommunications facilities, that may exist along the Onshore Transmission Cable will be identified and included in the Project's Environmental Management and Construction Plan (EM&CP).

Table E-5.2-1. FCC Communication Facilities

Map ID	Licensee/Entity	FCC Registration or License Number	Structure Type	Distance from Project	
				Distance from Onshore Transmission Line	Distance from Union Avenue Site
1	Global Tower, LLC	1249968	Antenna Structure	3,531 ft (1,076 m)	59,141 ft (18,025 m)
2	American Towers, LLC	1005534	Antenna Structure	664 ft (202 m)	51,260 ft (15,623 m)
3	Mid Atlantic Wireless, LLC	1268675	Antenna Structure	869 ft (265 m)	40,567 ft (12,364 m)
4	Suffolk County Fire Rescue	1238269	Antenna Structure	4,504 ft (1,373 m)	40,001 ft (12,192 m)
5	Suffolk County	3230881	Microwave Service Tower	4,504 ft (1,373 m)	40,001 ft (12,192 m)
6	Suffolk County	3230885	Microwave Service Tower	4,504 ft (1,373 m)	40,001 ft (12,192 m)
7	Brookhaven Ambulance Co., Inc	1219218	Antenna Structure	2,758 ft (841 m)	36,732 ft (11,195 m)
8	Global Tower, LLC	1258401	Antenna Structure	721 (220 m)	35,567 ft (10,840 m)
9	Suffolk County Water Authority	1023057	Antenna Structure	3,968 ft (1,210 m)	32,389 ft (9,872 m)
10	Suffolk County Water Authority	3022619	Microwave Service Tower	1,823 ft (556 m)	30,852 ft (9,403 m)
11	Suffolk County Water Authority	3133067	Microwave Service Tower	1,823 ft (556 m)	30,852 ft (9,403 m)
12	Suffolk County Water Authority	1010421	Microwave Service Tower	1,823 ft (556 m)	30,852 ft (9,403 m)
13	Suffolk County Water Authority	1023058	Antenna Structure	2,509 ft (765 m)	30,931 ft (9,427 m)
14	SBA Monarch Towers II, LLC	1274400	Antenna Structure	3,010 ft (917 m)	10,303 ft (3,140 m)
15	Sachem Central School District	2469564	Microwave Service Tower	4,103 ft (1,251 m)	10,542 ft (3,213 m)
16	Sachem Central School District	2449741	Microwave Service Tower	4,103 ft (1,251 m)	10,542 ft (3,213 m)
17	Sachem Central School District	2449739	Microwave Service Tower	4,103 ft (1,251 m)	10,542 ft (3,213 m)
18	Sachem Central School District	2449739	Microwave Service Tower	1,449 ft (442 m)	5,448 ft (1,661 m)
19	Sachem Central School District	2449740	Microwave Service Tower	1,449 ft (442 m)	5,448 ft (1,661 m)
20	Sachem Central School District	2449741	Microwave Service Tower	1,449 ft (442 m)	5,448 ft (1,661 m)
21	Sachem Central School District	2469564	Microwave Service Tower	1,449 ft (442 m)	5,448 ft (1,661 m)
22	Sachem Central School District	2449740	Microwave Service Tower	3,910 ft (1,192 m)	5,167 ft (1,575 m)
23	Sachem Central School District	2449741	Microwave Service Tower	3,910 ft (1,192 m)	5,167 ft (1,575 m)
24	Sachem Central School District	2469562	Microwave Service Tower	3,910 ft (1,192 m)	5,167 ft (1,575 m)
25	Sachem Central School District	2797988	Microwave Service Tower	3,910 ft (1,192 m)	5,167 ft (1,575 m)
26	STC Five, LLC	1225770	Antenna Structure	163 ft (50 m)	1,330 ft (405 m)
27	Sachem Central School District	1236030	Antenna Structure	3,957 ft (1,206 m)	3,923 ft (1,196 m)

Map ID	Licensee/Entity	FCC Registration or License Number	Structure Type	Distance from Project	
				Distance from Onshore Transmission Line	Distance from Union Avenue Site
28	Sachem Central School District	2449739	Microwave Service Tower	3,957 ft (1,206 m)	3,923 ft (1,196 m)
29	Sachem Central School District	2449741	Microwave Service Tower	3,957 ft (1,206 m)	3,923 ft (1,196 m)
30	Sachem Central School District	2469563	Microwave Service Tower	3,957 ft (1,206 m)	3,923 ft (1,196 m)
31	Sachem Central School District	2469564	Microwave Service Tower	3,957 ft (1,206 m)	3,923 ft (1,196 m)
32	New York Power Authority	1986470	Microwave Service Tower	648 ft (198 m)	290 ft (89 m)
33	Sachem Central School District	1252314	Antenna Structure	4,125 ft (1,257 m)	3,632 ft (1,107 m)
34	Sachem Central School District	2449740	Microwave Service Tower	4,125 ft (1,257 m)	3,632 ft (1,107 m)
35	Sachem Central School District	2469566	Microwave Service Tower	4,125 ft (1,257 m)	3,632 ft (1,107 m)
36	Sachem Central School District	2469567	Microwave Service Tower	4,125 ft (1,257 m)	3,632 ft (1,107 m)
37	Sachem Central School District	2797988	Microwave Service Tower	4,125 ft (1,257 m)	3,632 ft (1,107 m)
38	T-MOBILE Northeast, LLC	1272118	Antenna Structure	3,720 ft (1,134 m)	3,364 ft (1,025 m)
39	Sachem Central School District	1236029	Antenna Structure	5,634 ft (1,717 m)	5,092 ft (1,552 m)
40	Sachem Central School District	2469565	Microwave Service Tower	5,634 ft (1,717 m)	5,092 ft (1,552 m)
41	Sachem Central School District	2449736	Microwave Service Tower	5,634 ft (1,717 m)	5,092 ft (1,552 m)
42	Sachem Central School District	2469563	Microwave Service Tower	5,634 ft (1,717 m)	5,092 ft (1,552 m)
43	Sachem Central School District	2469564	Microwave Service Tower	5,634 ft (1,717 m)	5,092 ft (1,552 m)
44	Sachem Central School District	1236020	Antenna Structure	5,260 ft (1,603 m)	4,847 ft (1,477 m)
45	Sachem Central School District	2797988	Microwave Service Tower	5,260 ft (1,603 m)	4,847 ft (1,477 m)
46	Sachem Central School District	2469567	Microwave Service Tower	5,260 ft (1,603 m)	4,847 ft (1,477 m)
47	Sachem Central School District	2469565	Microwave Service Tower	5,260 ft (1,603 m)	4,847 ft (1,477 m)

E-5.2.2 Potential Impacts on Communications and Proposed Mitigation

Two potential sources of interference to communication facilities from transmission lines are corona and gap discharges. A corona is a small electrical discharge that creates ionized air close to a transmission line conductor and results in a small amount of noise that could conflict with surrounding radio and television services. Gap discharges can occur on transmission lines of any voltage and are caused by loose connections or broken insulators that create an electrical arc or spark and unwanted noise.

Radio and Television Interference

The SRWEC–NYS is not expected to have an impact on communications as it will be primarily installed underwater and will not impact communication signals transmitted through the air.

The Onshore Transmission Cable and Onshore Interconnection Cable are also not expected to have an impact on communications as they will be primarily installed underground and will not produce electric fields that will not impact communication signals transmitted through the air. The Onshore Transmission Cable and Onshore Interconnection Cable will comply with applicable sections of the latest version of the National Electrical Safety Code (NESC) related to appropriate spacing between power and communication cables to minimize impacts to underground communication cables. As part of the final design of the Project, the routing and design information will be provided to third parties that may have underground communication cables along or near the same path (*e.g.*, AT&T, LIPA) to confirm appropriate clearances are achieved.

The OnCS–DC will be designed and constructed using industry standard practices to minimize and/or avoid impacts to communications infrastructure. These measures may include shielding and electrical noise filters, as required.

While interference is not expected, should the Applicant receive any complaints of suspected interference with radio (including amateur [*i.e.*, ham] radio and citizens band licenses) or television from the Project, the Applicant will attempt to resolve any confirmed interference.

Power Line Carrier Interference

Power line carrier (PLC) interference can occur from electric transmission lines in the form of noise. Due to the use of fiber optic cables for line protection, the Project is not expected to be a source of PLC interference.

If the Applicant receives any complaints of suspected interference with power line services, the Applicant will attempt to resolve any confirmed interference.

Telephone Interference

Analog telephone and data line interference can occur from the installation of a new electrical transmission line in the form of harmonic distortion. Analog telephone and data line interference is not expected from the Project due to underground installation.

If the Applicant receives any complaints of suspected interference with telephone services from the Project, the Applicant will attempt to resolve any confirmed interference.

Railroad Signaling System Interference

The Onshore Transmission Cable will cross the Long Island Rail Road (LIRR) ROW at two locations. The crossings will be performed in accordance with crossing agreements made between the Applicant and the LIRR. The Applicant will coordinate with the LIRR to locate existing signal and communications cables, including buried signal approach equipment, that may be buried along the ROW in the areas of the crossings and solutions to minimize potential impacts and interference with railroad signaling and communication systems.

REFERENCES

FCC's Antenna Structure Registration (ASR) database and Universal Licensing System (ULS) databases.

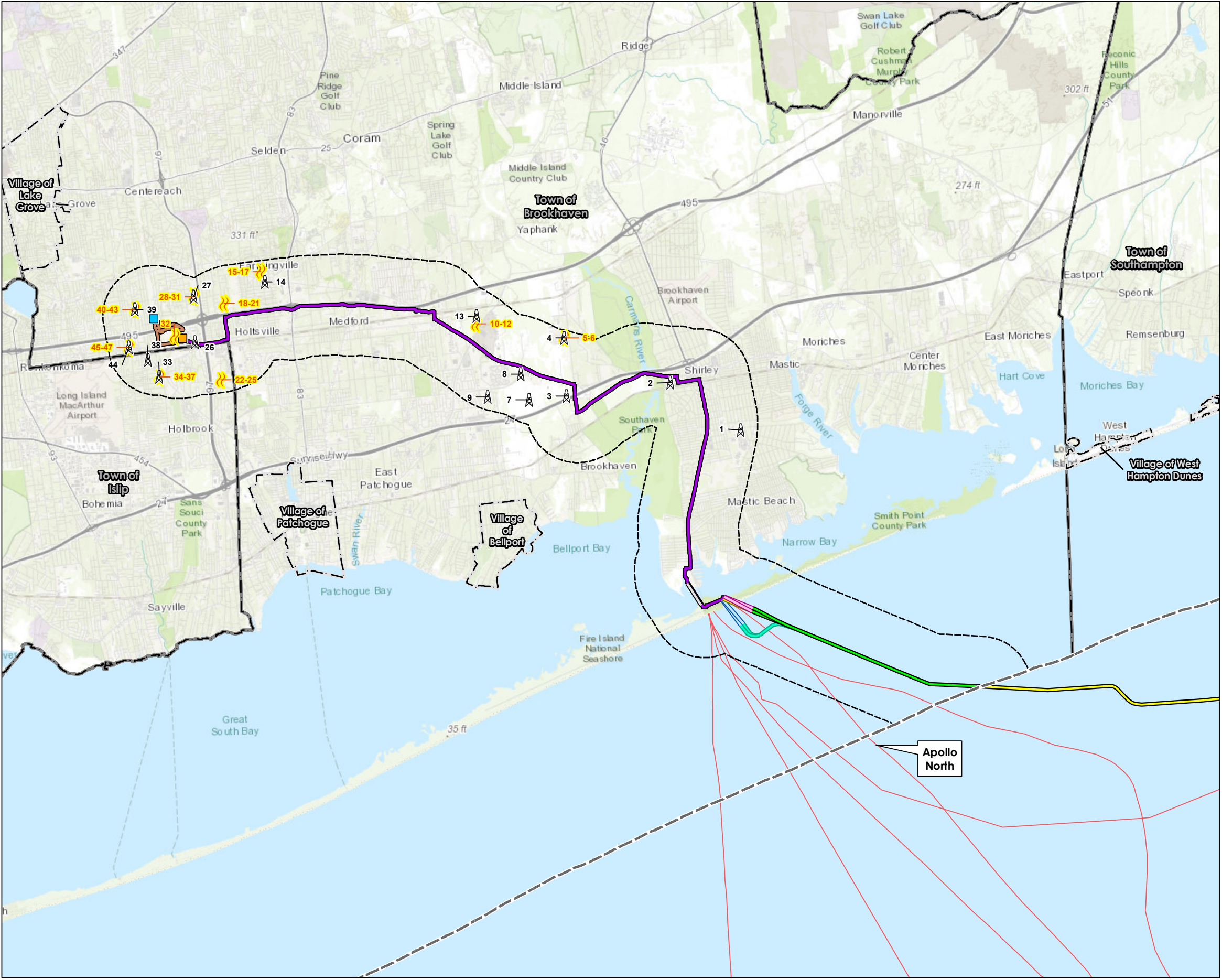


Figure E-5.2-1
Effect on Communications

Sunrise
Wind

Powered by
Ørsted &
Eversource

Legend

- Sunrise Wind Export Cable (SRWEC-OCS)
- Sunrise Wind Export Cable (SRWEC-NYS)
- SRWEC (Western Landfall Option)
- Landfall HDD A
- Landfall HDD B
- Landfall HDD C
- Intracoastal Waterway HDD (ICW HDD)
- Onshore Transmission Cable-LIE Service Road Route
- Onshore Converter Station (OnCS-DC)
- Onshore Interconnection Cable Route
- Holbrook Substation
- 1 Mile from Project
- 3-Nautical Mile State Water Boundary
- Village Boundary
- Town Boundary
- Submarine Cable
- Communication Towers
- Antenna Structure
- Cellular Tower*
- FM Tower*
- TV Station Transmitter*
- Microwave Tower
- Paging Transmission Tower*
- Land Mobile Broadcast Tower*

Notes

- *No Cellular Towers, FM Towers, Land Mobile Broadcast Towers, Paging Transmission Towers, or TV Station Transmitters located within 1-mile of the Project.
- During final project design, additional telecommunication facilities that exist along the project will be identified and included in the project EM&CP.
- The cable route centerline and trenchless crossing work areas are indicative and subject to final engineering design.

Sources

Homeland Infrastructure Foundation-Level Data (HIFLD), 2017
NYS Office of IT Services GPO, NYS Boundaries, 2018; USGS Topo Map

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