Astoria HVDC Converter Station-Segment 22

Case Number (10-T-0139)

Environmental Management and Construction Plan

Astoria, Queens, Queens County, New York

EDR Project Number: 21075.1

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January 2023

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LIST OF ABBREVIATIONS AND ACRONYMS

ADZ	Allowed Deviation Zone
ANSI	American National Standards Institute
APA	Adirondack Park Agency
APE	Area of Potential Effects
AREMA	American Railway Engineering and Maintenance-of-Way Association
ATRAS	Annual Transmission Reliability Assessment Study
BMP	best management practice
CC	Certificate Condition
CI	Co-located Infrastructure
CNY	City of New York
CO	commercial operation
CP	Canada Pacific
CRIS	Capacity Resource Interconnection Service
CRMP	Cultural Resources Management Plan
ECL	Environmental Conservation Law
EDPL	Eminent Domain Procedure Law
EM&CP	Environmental Management and Construction Plan
EPA	United States Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
FPA	Federal Power Act
HDD	horizontal directional drill(ing)
HVAC	high voltage alternating current
HVDC	high voltage direct current
IEEE	Institute of Electrical and Electronics Engineers
kV	kilovolt(s)
LOW	Limit of Work
MCL	maximum contaminant level
MPT	Maintenance and Protection of Traffic
MS4	Municipal Separate Storm Sewers Systems
NAERO	North American Electric Reliability Organization
NAGPRA	Native American Graves Protection and Repatriation Act
NARC	North American Reliability Corporation
NESC	National Electrical Safety Code
NMFS	National Marine Fisheries Service
NPCC	Northeast Power Coordinating Council
NYCCC	New York City Construction Codes
NYCEC	New York City Electrical Code
NYCFC	New York City Fire Code
NYISO	New York Independent System Operator
NYPA	New York Power Authority
NYSDPS	New York State Department of Public Service
NYSDAM	New York State Department of Agriculture and Markets
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOS	New York State Department of State
NYSDOT	New York State Department of Transportation
NYSHPO	New York State Historic Preservation Office
NYSRC	New York State Reliability Council
OATT	Open Access Transmission Tariff
OGS	Office of General Services
OPRHP	Office of Parks Recreation & Historic Preservation
OSHA	Occupational Safety and Health Administration
PCBs	polychlorinated biphenyls
PSC	Public Service Commission
PSL	Public Service Law
PWS	public water supply
ROV	remotely operated vehicle
ROW	right-of-way

SCFWH	Significant Coastal Fish and Wildlife Habitat
SIS	Systems Impact Study
SOP	Standard Operating Procedure
SPS	Special Protection System
SRIS	System Reliability Impact Study
SSESC	Standards and Specifications for Erosion and Sediment Control
SWPPP	Stormwater Pollution Prevention Plan
TO	Transmission Owner
TPAS	Transmission Planning and Advisory Subcommittee
USACE	United States Army Corp of Engineers
USFWS	United States Fish and Wildlife Service
WQC	Water Quality Certification

GLOSSARY

Agricultural Land – Active agricultural land includes lands zoned for agricultural use which have been involved in the production of crops, livestock and livestock products for 3 of the last 5 years.

Allowed Deviation Zone (CC 3) – The Allowed Deviation Zone, as depicted in Appendix B to the Joint Proposal, defines the Facility/Project geographically around the nominal centerline (the "Centerline). The Allowed Deviation Zone is depicted in Appendix B to the Joint Proposal and described in Certificate Condition 3, as amended by the Commission.

Co-located Infrastructure (CC 27) – Co-located Infrastructure (C) shall consist of electric, gas, telecommunication, water, wastewater, sewer, and steam infrastructure and appurtenant facilities and associated equipment, whether above ground, below ground, or submerged, that are located within the Construction Zone. CI are either owned by a state agency or municipality or a subdivision thereof or owned or operated for public utility purposes by a regulated electric, gas, telecommunication, water, wastewater, sewer, or steam service provider but do not include railroads, railways, highways, roads, streets, or avenues.

Construction Zone (CC 4) – The portions of the Allowed Deviation Zone that may be affected by construction of the Facility. The Construction Zone may also include areas outside the Allowed Deviation Zone that are needed temporarily for site investigation, access, and construction.

Facility ROW (CC 5) – The portions of the Allowed Deviation Zone to be occupied by the Facility/Project once construction is complete.

Good Utility Practice (CC 20) – Good Utility Practice shall include any of the practices, methods or acts engaged in or approved by a significant portion of the electric, gas, steam, water, sewer or telecommunications industries, as applicable, during the relevant time period, including without limitation, the electric, gas, steam, water, sewer or telecommunications utility or utilities whose service territories the work in question is being performed and/or whose facilities are physically impacted by the work in question and, for the electric power industry only, NYISO, NYSRC, NPCC, NERC, NAERO, or any successor organizations. Good Utility Practice shall include any of the practices, methods, or acts in which, in the exercise of reasonable judgement in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety, and expedition. Good Utility Practice is intended to delineate acceptable practices, methods, or acts generally accepted in the region, such as, in the case of the electric power industry only, those practices required by FPA Section 215(a) (4).

Converter Station – the parcel encompassing limits of work for the Astoria Converter Station; see Converter Station Site Plan and Construction Drawings in Appendix C for details.

Limit of Work (LOW) – the boundary in which all construction activities, stockpile materials, equipment storage, access, parking, grading, landscaping, restoration, and any other construction related activities shall occur. Additionally, the LOW is the boundary for all potential disturbance during construction. Unless otherwise specified, when the limit of clearing and grubbing is shown on the plans, it shall also be the LOW. The LOW includes the area that would be considered the limit of disturbance (LOD).

1.0 SITE AND PROJECT DESCRIPTION

The Champlain Hudson Power Express (CHPE) project involves the construction of approximately 339 miles of high voltage direct current (HVDC) underground and underwater transmission cable from Montreal, Quebec, to Queens, New York. It will bring 1,250 megawatts (MW) of renewable energy into New York by the year 2025 to replace the use of fossil fuels and reduce carbon emissions. The proposed Project will provide enough power for more than 1 million homes, along with numerous environmental and economic benefits to millions of residents in New York State communities.

1.1 EM&CP PURPOSE AND INTENT

On March 30, 2010, Champlain Hudson Power Express, Inc. filed an Application for a Certificate of Environmental Compatibility and Public Need (the Application) with the New York State Public Service Commission (PSC) pursuant to Article VII of the New York Public Service Law (PSL) to construct and operate the transmission project known as the Champlain Hudson Power Express Project (the Project) (PSC Case 10-T-0139) (CC 1). An *Order Granting Certificate of Environmental Compatibility and Public Need* (the Certificate) was granted on April 18, 2013. In August 2020, CHPE, Inc. converted from a corporation to a limited liability company and received the PSC's approval to transfer its interest in the Certificate to CHPE, LLC and CHPE Properties, Inc. (hereafter collectively referred to as CHPE and/or Certificate Holders). The Certificate was amended seven times (March 20, 2020, August 13, 2020, September 21, 2020, January 26, 2021, May 14, 2021, February 17, 2022, and March 16, 2022) to reflect revisions in the alignment and other Certificate Conditions (CCs). An eighth amendment is pending (petition submitted September 7, 2022). On October 13, 2022, the Commission approved the first CHPE EM&CP for Segments 1 and 2 of project construction.

The Article VII Application and subsequent review process included the development of numerous documents which identified natural resources within the Project Corridor and best management practices (BMPs) to minimize impacts to those natural resources as a result of the construction or operation of the Project. Specifically, the Article VII Application and the resulting Certificate included the following environmental guidance documents:

- Joint Proposal (Case 10-T-0139 Item 295)
- Certificate Conditions contained within the issued Certificate
- EM&CP Guidelines (Appendix E to the Joint Proposal)
- Best Management Practices (BMP Document) (Attachment F to the Certificate).

Other relevant authorizations/approvals/guidance include the following:

- U.S. Army Corps of Engineers (USACE) Section 404 Clean Water Act Permit
- Section 401 Water Quality Certification
- Applicant Proposed Impact Avoidance and Minimization Measures (Appendix G) to the Environmental Impact Statement prepared in accordance with the National Environmental Policy Act [NEPA]).

This Environmental Management and Construction Plan (EM&CP) has been developed in order to facilitate construction, operation and maintenance of the Astoria HVDC Converter Station (the Converter Station) located in Astoria, Queens, New York in accordance with the terms and conditions of the Certificate issued by the PSC on April 18, 2013, as amended, and the documents listed above. The Converter Station will convert high voltage direct-current electricity from the proposed CHPE transmission line to alternating-current (AC) electricity for local distribution. Certificate Conditions (CCs) 6 and 7 allow the creation of segmented EM&CPs to be developed in accordance with CCs 145 through 164 (as applicable) and the Environmental Management and Construction Plan Guidelines document (EM&CP Guidelines) included as Appendix E to the Certificate. Section 1.1.1 summarizes additional resources used to develop this EM&CP.

In accordance with CC 6, Table 1-1 contains the Certificate Holders' updated anticipated Project schedule and sequencing for dividing the overland and marine portions of the Project into EM&CP Segments to facilitate construction and sequencing (CC 6). Separate EM&CPs will be developed for the overland and marine segment outlined in Table 1-1. This Table will be updated with each EM&CP submission.

Table 1-1. Overland and Marine Segments/Packages: Project Construction and Sequencing and Scheduling

EM&CP Construction Segment	Design Packages	Location Description	Segment Length (miles)	Anticipated EM&CP Filing with DPS	Anticipated Start of Construction
OVERLAND SEGMENTS					
1, 2	1A/1B	Putnam to Dresden/ Dresden to Whitehall	17.8	April 15, 2022	November 2022
3	1C/2	Whitehall to Fort Ann Fort Ann to Kingsbury	20.8	December 23, 2022	May 2023
4, 5	3	Kingsbury to Milton	26.5	January 2023	June 2023
6	4A	Milton to Ballston	10.2	February 2023	July 2023
7	4B	Ballston to Schenectady/Rotterdam	9.6	February 2023	July 2023
8	5A	Rotterdam to Selkirk	16.99	December 21, 2022	May 2023
9	5B	Selkirk Bypass	5.31	December 21, 2022	May 2023
10	6	Ravena to Catskill	20.9	February 2023	June 2023
11	7A	Catskill to Germantown	8.6	February 2023	July 2023

EM&CP Construction Segment	Design Packages	Location Description	Segment Length (miles)	Anticipated EM&CP Filing with DPS	Anticipated Start of Construction
12	7B	Stony Point to Haverstraw	7.6	February 2023	July 2023
13, 14, 15	8	Queens	2.13	February 2023	July 2023
Laydown Yards EM&CP	3,5B,6	Fort Edward, Bethlehem, Coxsackie	N/A	November 17, 2022	February 2023
MARINE SEGMENTS					
16	9	Transitional HDD (Stony Point)	N/A	September 29, 2022	July2023
17	10	3 Transitional HDDs (Putnam, Catskill, Clarkstown)	N/A	December 14, 2022	June 2023
18	11	Lake Champlain	~96	February 2023	June 2023
19	12	Hudson River (Pre-Lay Mattressing)	89.1	March 2023	August 2023
20	13	Hudson River (Cable Installation)	89.1	December 2023	June 2024
21	14	Harlem River	~6.3	December 2023	June 2024
22	TBD	Converter Station, Astoria Complex, (Queens)	N/A	January 2023	June 2023
23	TBD	Astoria Rainey Cable HVAC System, (Queens)	~3.5	April 2023	July 2023

Work described in this EM&CP focuses on the construction and installation of the Converter Station located within the Astoria generating and utility facilities complex (Astoria Complex) in Queens, New York (see Figure 1.1).

1.1.1 EM&CP Certificate Conditions and Environmental Protection Measures

As previously indicated, multiple documents developed in support of the Article VII Application, Certificate, and other permits/approvals issued in accordance with federal regulatory processes outline environmental protection measures relevant to the Project. Appendix D to this EM&CP includes a summary table describing how the CCs, BMPs, and EM&CP Guidelines have been addressed and incorporated into this EM&CP to assist in review by agencies. Section 2.0 provides the details of all CCs along with the location within this EM&CP each CC is addressed. Table 1-2 provides a summary of all CCs applicable to the Converter Station EM&CP. Those Certificate Conditions which are not relevant to this specific EM&CP are identified in Table 1-2, and shaded with grey to indicate their inapplicability, but will be discussed in the applicable EM&CP Packages (CC 145).

Table 1-2. Summary of Applicable EM&CP Certificate Conditions

Section	Certificate Conditions	Section Title	Location of Conditions within EM&CP
A	1-15e	General Conditions of the Order	Included in Sections 1 and 3; Appendices A, B, and C; and separate filings, as cited in Section 2.0 or discussed elsewhere in this document.
B	16-20	Laws and Regulations	General requirements and best practices for entire construction of the Converter Station
C	21-26	HVDC-AC Converter Station Design, Interconnection and Construction	Addressed in Section 1.2, Section 4.0, Section 10.0, Appendix C.
D	27-29d	Special Conditions Regarding Co-Located Infrastructure and Related Matters	Addressed in Section 13 Co-Located Infrastructure
E	30-40	Public Health and Safety	Addressed in Sections 3, 4, 12, 13
F	41-52	Notices and Public Complaints	Addressed in Section 3, Appendix A, B, I
G	53-57	Environmental Supervision	Addressed in Section 3
H	58-74	Overland Installation	Addressed in Sections 1, 3, 4, 6, 7, 11, 12, 13, 14
I	75-80	Agricultural Lands	Addressed in Section 1, 3, 4, 7, 14
J	81-84	Herbicide Use	N/A – Herbicides will not be used in construction
K	85-87	Building Code and Inspections – Converter Station and Related Buildings	Addressed in Section 4.2.3
L	88-89	Overland Restoration	Addressed in Section 14
M	90-91	Overland Habitat Areas	Addressed in Section 9, Appendix T and
N	92-101	Underwater Cable Installation	Does not apply to Converter Station segment
O	102-106	Water Supply Intakes	Does not apply to Converter Station segment
P	107-112	Cultural resources	Addressed in Section 11
Q	113-118	Waterbodies and Regulated Wetlands	Addressed in Section 9

Section	Certificate Conditions	Section Title	Location of Conditions within EM&CP
R	119-137	Transmission System Reliability	Conditions require filings/reports/studies not related to EM&CP; relevant filings and correspondence discussed in Section 3 and Table 3-2
S	144	Mapping, Land Acquisition, and As-Built Drawings for the Converter Station	Addressed in Sections 1,3,4 Appendix C,
T	145-164	EM&CP	All Sections addressed throughout this document
U	165(d)(xi)	Environmental Trust	Does not apply to Converter Station segment

1.2 ASTORIA CONVERTER STATION LOCATION AND DESCRIPTION

The Converter Station will be constructed on a 7.84-acre parcel located at 31-45 20th Avenue, Astoria, Queens NY, 11105[3] (the Site). This Site is largely comprised of impervious surface and was extensively disturbed by its previous owner for use as a fuel oil storage and distribution facility[4]. The Converter Station will consist of the following:

- Converter Station Building
- Site Improvements
- Stormwater Management
- Transformers
- AC Yard

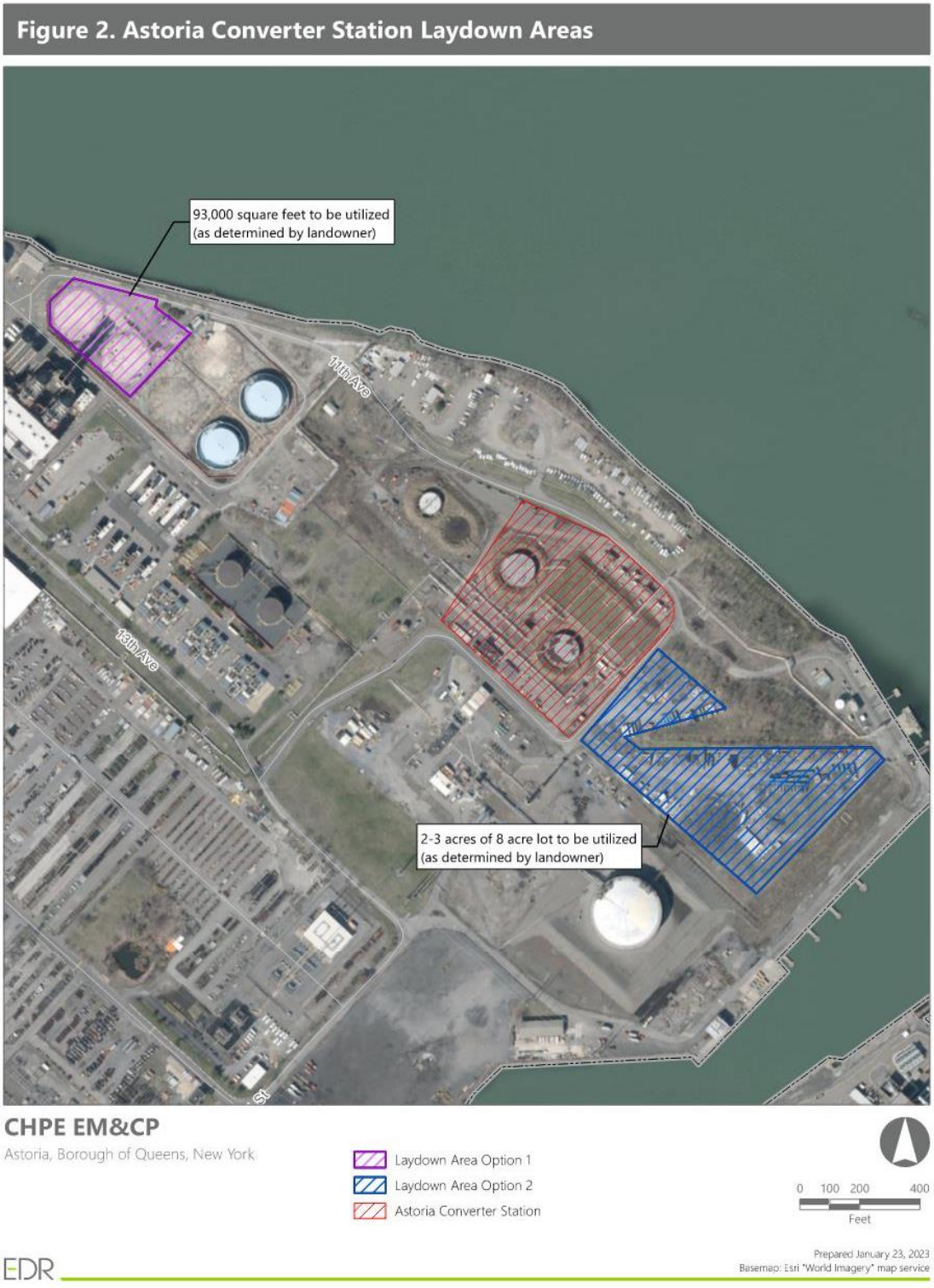
[3] Location of Converter Station (CC 21) was amended pursuant to the *Order Granting Amendment of Certificate of Environmental Compatibility and Public Need Subject to Conditions* for Case 10-T-0139, Issued and Effective August 13, 2020.

[4] The Astoria Generating Station (AGS) is subject to a Consent Order entered into by Orion Power New York, L.P., Inc. (Orion Power) and the New York State Department of Environmental Conservation (NYSDEC), NYSDEC File No.C02-19990430-28, on September 11, 2000, and amended by Modification Agreements 1 through 5, dated July 16, 2001, May 20, 2003, September 28, 2004, May 31, 2005, and March 9, 2006, respectively. The State-approved remedial activities are being performed at the Site separate and apart from this EM&CP as per the approved Environmental Remediation Plan dated July 8, 2020. The work conducted under this Consent Order falls outside the scope of this EM&CP; it is being provided here for reference purposes.

In addition, approximately five acres of land will be required for use as a laydown area to support the construction of the Converter Station. Two previously disturbed and developed parcels are being evaluated for potential use as laydown areas. The Certificate Holders are actively coordinating with the two landowners to finalize use of the land, so both potential alternative laydown yards are included in this EM&CP. The laydown yard(s) will be used for the duration of the construction and will be decommissioned, and the site(s) returned to the previous condition, or as requested by the landowner. One of the potential laydown areas being evaluated is located on a parcel 1,300 feet northwest of the Converter Station and is proposed to be approximately 93,000 square feet. The second laydown location being evaluated consists of approximately 3 acres on an 8-acre parcel adjacent to the Converter Station to the east. The exact location within the 8-acre parcel is still being finalized with the landowner. See figure 1-2 for a map of the potential laydown areas for the Converter Station construction. In the event that the two identified parcels of land are not available for use as a laydown area then the Certificate Holders will consider an off-site location for workers to park and be transported to the work location daily.

Figure 1-1. Overview Map

Figure 1-2. Laydown Areas



1.3 DESCRIPTIONS OF PROPOSED WORK

1.3.1 Converter Station

The construction methods for the Converter Station involve grading and stabilizing the site. Fill will be required to adjust the existing grade to the proposed grade of the Converter Station site. Subgrade work includes the installation of piles and shallow foundations for the above grade structures on the Site. The Converter Station consists of several building components that include: the Main Converter Building (DC Hall, Valve Hall and Reactor Hall), Service Building, Transformer Area, Auxiliary Transformer, HVAC Enclosure, MVS Enclosures, Valve Cooling Towers, Diesel Generators, Fire Water Tank, Relay Enclosure, AC Filter Yard, Spare Transformer, Storage Enclosure, Security, and Fencing. Access to the construction site will be via the current private roads within the Astoria Complex. The Astoria Complex is a secure, non-public facility with controlled access points. Access to the Converter Station will be via the security checkpoints, accessed from 20th Avenue.

1.3.2 Astoria Temporary Laydown Yard(s)

The work required to establish a temporary laydown yard on the Astoria Complex requires clearing of vegetation where required, followed by grading of the site and ground stabilization if required due to site conditions. As mentioned in Section 1.2 two previously disturbed and developed parcels are being evaluated for potential use as laydown areas as shown in Figure 1-2. Laydown areas will be utilized for staff and craft parking with temporary material storage. Temporary electric utility tie-ins will be installed from nearby locations for temporary offices and site lighting. Temporary restroom facilities will be utilized with holding tanks, which will be serviced regularly. Holding tanks will be used for sanitary sewer and non-potable water storage; if municipal sanitary sewage connections are available, these will be explored at a later date. Fencing, gates, site lighting, modular offices, dumpsters, and Connex storage units will be brought in.

1.4 DEVIATION ZONE

The Converter Station is fully contained to the tax parcel Block: 850, Lot: 310 located in the Borough of Queens, New York, and no deviations are proposed for the construction of the Converter Station.

2.0 CERTIFICATE CONDITIONS

Table 2-1 identifies where each applicable CC to the Astoria Converter Station is addressed in this EM&CP.

Table 2-1. Certificate Conditions		**Compliance Status**	**EM&CP Section/Appendix**
A. General Conditions of the Order		**CHPE Response**	**EM&CP Section/Appendix**
1	Subject to the Conditions set forth in this Opinion and Order, CHPE, LLC and CHPE Properties, Inc. (Certificate Holders), are granted a Certificate of Environmental Compatibility and Public Need (Certificate), pursuant to Article VII of the New York PSL, authorizing the construction and operation of an electric transmission facility comprised of the following components: (i) two HVDC cables capable of transmitting 1,000 MW extending from the United States/Canada border east to the Town of Champlain, New York under the waters of Lake Champlain to the Town of Dresden, New York, extending to the hamlet of Cementon in the Town of Catskill, New York where the cables will exit the water to proceed along existing highways and railroad ROW, as well as under state park land through horizontal directional drill (HDD) borings, to bypass Haverstraw Bay, reentering the Hudson River at Hook Mountain State Park in Clarkstown, New York and continuing in the waters of the Hudson and Harlem Rivers to a point south of the Willis Avenue Bridge and north of the Bronx Hill, following the railroad ROW in the Bronx and then across the East River to terminate at Astoria, Queens (the HDVC Line); (ii) a voltage source Converter Station to convert HVDC to high voltage alternating current (HVAC) be constructed at Astoria, Queens, that will be connected to the New York Power Authority (the Authority or NYPA) 345-kilovolt (kV) HVAC gas insulated switchgear (GIS) Substation (the Converter Station and, collectively with the HVDC Line, the HVDC Transmission System); and (iii) a HVAC	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	cable circuit extending from the NYPA's 345 kV GIS Substation at Astoria, Queens to Con Edison's 345 kV Rainey Substation located on the corner of 36th Avenue and Vernon Boulevard in Queen, New York (the Astoria-Rainey Cable and, collectively with the HVDC Transmission Line System, the Facility). [As Amended by Certificate Amendment 2 (August 13, 2020, authorizing use of Preferred Alternatives), Amendment 3 (January 26, 2021, modifying certain routing in the Harlem River Yard in New York City and augmenting Deviation Zone for Rockland County locations), Amendment 4 (May 14, 2021, increasing capacity from 1,000 to 1,250 MW), and Amendment 5 (February 17, 2022, making certain modifications to Facility components in the Astoria complex)].		
2	The Facility route is authorized as depicted on a series of maps included in Appendix B to the Joint Proposal. [As Amended by Certificate Amendment 2 (August 13, 2020, authorizing use of Preferred Alternatives), Amendment 3 (January 26, 2021, modifying certain routing in the Harlem River Yard in New York City and augmenting Deviation Zone for Rockland County locations), and Amendment 5 (February 17, 2022, making certain modifications to Facility components in the Astoria complex)].	CHPE will comply	See Figure 1.1.
3	The Facility is defined geographically by a deviation zone (ADZ) around a nominal centerline (the Centerline), as depicted in Appendix B to the Joint Proposal. For the portion of the Facility located on land, the Allowed Deviation Zone is depicted in Appendix B to the Joint Proposal. For the portions of the HVDC Transmission System located in Lake Champlain and the Hudson, Harlem, and East Rivers, the Allowed Deviation Zone is as specified in Certificate Condition 155.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
4	Those portions of the Allowed Deviation Zone that may be affected by construction of the Facility are included in the construction zone (Construction Zone), which may also include areas outside the Allowed Deviation Zone that are needed temporarily for site investigation, access, and construction.	CHPE will comply	Not applicable to Converter Station EM&CP.

5	The portions of the Allowed Deviation Zone to be occupied by the Facility once construction is complete are referred to herein as the Facility ROW. The Certificate Holders shall also acquire and maintain the continuing right to enter onto and use certain additional lands immediately adjacent to the Facility ROW needed for repair and maintenance purposes, including preclusion of vegetative encroachment, on terms prohibiting the owners of such land from taking any action on that land that would interfere with such repair and maintenance activities.	CHPE will comply	Not applicable to Converter Station EM&CP.
6	The Facility may be developed in segments (each, a Segment) to facilitate construction sequencing and scheduling, including the commencement of construction of overland components thereof, provided that, with the EM&CP filing regarding the first Segment, the Certificate Holders shall identify the anticipated Segments and include a schedule for their construction, and, provided further that the EM&CP filings regarding subsequent Segments shall include updates to the Segment identification and construction schedule.	CHPE complied in connection with first Segment EM&CP submission on April 15, 2022 (DMM Item 862).	Updated Segment EM&CP schedule provided in Table 1-1.
7	In the event of any conflict between the express provisions of this Certificate and any of the provisions of the Joint Proposal, including the BMP document and the EM&CP Guidelines), both of which are attached as appendices to the Joint Proposal, the express provisions of this Certificate shall govern.	CHPE will comply	Section 1.1, Section 2.0.
8	The Certificate Holders shall, within 30 days after Commission approval of this Certificate, file with the Secretary to the Public Service Commission either a petition	CHPE has complied.	See *Acceptance Letter of Champlain Hudson Power*

	for rehearing or a verified statement that they accept and will comply with this Certificate. Failure to comply with this condition shall invalidate this Certificate.		*Express* (April 23, 2013 (DMM Item 727).
9	The Certificate Holders shall not commence site preparation or construction of a particular Segment unless and until all the necessary permits and consents referred to in Certificate Condition 16 that pertain to that Segment are received and unless and until the EM&CP for that Segment (each such EM&CP filing for a particular Segment being referred to as a Segment EM&CP) is approved by the Commission. Copies of all permits/consents required for or obtained in connection with site preparation and construction shall be provided to the Secretary to the Commission (Secretary) before commencement of any such activity. For the purposes of this Certificate, construction shall include site preparation, installation, delivery of equipment and supplies, maintenance of construction equipment during construction, clearing, and grading, but shall not include component manufacture, including cable manufacture.	CHPE will comply	Section 3.3
10	The Certificate Holders shall not commence work on any Segment until they shall have obtained all required interests in real estate, including interests in real estate to be used for access roads (whether obtained through a conveyance, consent, permit, or other approval) as are necessary and applicable for such Segment. Evidence of the obtaining of such interests shall be provided to the Secretary prior to commencement of the work.	CHPE will comply	Section 4.2
11(a)	The Certificate Holders shall not place transmission cable in any waterway, trench, conduits, or other location intended for permanent installation prior to the issuance of (i) by appropriate Canadian federal and/or provincial authorities of those approvals and permits necessary in order to allow for the construction of transmission facilities interconnecting with the bulk power system operated by TransÉnergie (or a successor to such organization) and extending to the New York border; (ii) by the United States Department of Energy of an approval pursuant to Executive Orders 10485 and 12038 (the Presidential Permit); and (iii) by the United States Army Corps of Engineers of permits pursuant to section 404 of the Federal Clean Water Act and section 10 of the Federal Rivers and Harbors Act (the Corps Permit). The Certificate Holders shall provide	CHPE will comply	Not applicable to Converter Station EM&CP.

	copies of said permits to the Secretary within 15 days of receipt. In no event shall a delay or failure to obtain any of the above-referenced approvals serve as occasion or justification for a deferral or alteration of any and all required state clean-up and restoration activities as set forth in the applicable Environmental Management and Construction Plan and relevant sections of this Certificate and the BMPs, including, without limitation, section 11 of the BMPs. [as Amended by Order Approving Amendment Issued September 21, 2020]		
11(b)	Work shall advance generally in accordance with the schedule of gating events as described in Appendix 1 [This Appendix was attached the Order Approving Amendment Issued September 21, 2020]	CHPE will comply	Not applicable to Converter Station EM&CP.
11(c)	The Certificate Holders shall provide reports to the Commission regarding the status of efforts to achieve certifications and approvals of upstream facilities in Canada every six months from the date of this Order until the certifications and approvals are obtained. If Hydro Quebec-TransÉnergie is unable to achieve certification in Canada, the Certificate Holders shall (i) notify the Secretary; and (ii) stop work in New York State and initiate stabilization of disturbed sites, and (iii) undertake restoration of any sites not previously restored, as set forth in the applicable EM&CP and relevant sections of this Certificate and the BMPs, including, without limitation, section 11 of the BMPs. [as amended by Order Approving Amendment Issued September 21, 2020]	CHPE will comply	Not applicable to Converter Station EM&CP. Reports have been filed periodically to DMM as required since this provision was Ordered on September 21, 2020, most recently on September 30, 2022 (DMM Item 898).
12	The Certificate Holders shall promptly notify the Secretary in writing should they decide not to complete construction of all or any portion of the Facility and shall serve a copy of such notice upon all parties to this proceeding.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
13	This Certificate may be vacated on notice to the Certificate Holders if (a) the Certificate Holders has not submitted the EM&CP or the initial Segment EM&CP to the Commission for its review within 12 months of the date upon which Certificate Holders	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	has received all permits and approvals required for the commencement of construction of the Facility from any and all governmental agencies and authorities having jurisdiction with respect thereto, and any finding made or action taken by any such agency or authority that is subjected to administrative and/or judicial review has been conclusively upheld as a result of such review, or the time period for the initiation of any such review has definitively expired, or (b) unless reasonable cause as defined in this Condition is shown, the Certificate Holders has not commenced construction of the Facility on or before the date that is six months following the approval by the Commission of the EM&CP for the initial Segment EM&CP submitted to the Commission, or the date that is 18 months following the date of the grant of this Certificate, whichever is later. Reasonable cause may include delays in the issuance of permits and approvals required for the Facility by federal agencies and other circumstances beyond the reasonable control of the Certificate Holders.		See permitting status report filed September 30, 2022 (DMM Item 898).
14	The Certificate Holders shall integrate and coordinate maintenance of the Facility with that of adjacent facilities, structures, and property in accordance with the EM&CP.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
15(a)	The Certificate is granted and the required determinations of the need for the Facility and that the Facility will serve the public interest, convenience and necessity are explicitly made contingent on Certificate Holders delivering a minimum of 1,550 MW of energy (including 550 MW of energy not flowing through the HVDC Transmission System) out of the NYPA's Astoria substation. The Certificate Holders shall file a report documenting how they will achieve this level of deliverability prior to, or at the time they file their EM&CP for the first segment of the Facility. If the Certificate Holders cannot demonstrate compliance with this deliverability requirement, the Certificate Holders shall file with the Secretary a Request for Reconsideration of the need and public interest, convenience and necessity determinations made with respect to the Facility. The request shall be served on all parties to this proceeding and shall clearly state that all parties may submit comments on the filing within 30 days of service. Such request shall explain why Certificate Holders believes that a lesser amount of energy deliverability is consistent with the Commission's findings that the Facility is needed and will serve the public interest, convenience and necessity. Such request shall	CHPE has complied.	Not applicable to Astoria Converter Station EM&CP. The PSC approved the Deliverability Report in an Order dated October 13, 2022 (DMM Item 903).

	include a discussion of each option the Certificate Holders considered as a means of achieving the minimum threshold level of deliverability. The Certificate Holders may not commence construction of the Facility unless and until the Commission has accepted the report or approved the request filed pursuant to this subpart.		
15(b)	The Certificate is granted and the required determination that the Facility will serve public interest, convenience and necessity is explicitly made contingent on the HVDC Transmission System being developed, financed, constructed, and operated on a merchant basis with no reliance on cost-of-service rates set by either a federal or state regulatory entity, and will not be included in utility rate base, either directly or through a contractual arrangement between Certificate Holders and any agency, authority or other entity of the State of New York, any municipal subdivision of the State of New York, any utility subject to cost-based regulation, or any instrumentality of any of the foregoing, and on the further condition that all costs associated with the use of Astoria-Rainey Cable to deliver electric energy and capacity transmitted over the HVDC Transmission System will also be recovered exclusively on a merchant basis with no reliance on cost-of-service rates set by either a federal or state regulatory entity, and will not be included in utility rate base, either directly or through a contractual agreement between Certificate Holders and any agency, authority or other entity of the State of New York, any municipal subdivision of the State of New York, any utility subject to cost-based regulation, or any instrumentality of any of the foregoing. Prior to, or at the same time they file their EM&CP for the first segment of the Facility, the Certificate Holders shall file a report documenting that they have received building contractual commitments from one or more financially responsible entities for a combined total of no less than 750 MW of Firm Transmission Service over the Facility for a period of no less than twenty-five (25) years. The Certificate Holders may not commence construction of the Facility unless and until the Commission has accepted this report. If Certificate Holders seeks to recover any of the costs of the HVDC Transmission System, or any of the costs associated with the use of the Astoria-Rainey Cable to deliver electric energy and capacity transmitted over the HVDC Transmission System, in cost-based rates set by a Federal or State regulatory authority, the Certificate shall be deemed invalid. In the event that the Certificate Holders recovers all of any part of the costs of the HVDC Transmission System, or any of the costs	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	associated with the use of the Astoria-Rainey Cable to deliver electric energy and capacity transmitted over the HDVC Transmission System, under a contract between Certificate Holders and any agency, authority or other entity of the State of New York, any municipal subdivision of the State of New York, any utility subject to cost-based regulation, or any instrumentality of any of the foregoing, the Certificate shall also be deemed invalid. For purposes of this provision, the term "rates" shall include any charges established by the NYPA or a utility operating under cost-based regulation, including without limitation base rates, surcharges, adjustments, or any other recovery mechanism.		
15(c)	The Certificate is granted and the required determination that the Facility will serve public interest, convenience and necessity is explicitly made based on the cost estimate for the Astoria-Rainey Cable set out in paragraph 23 of the Joint Proposal in this proceeding. Certificate Holders shall include as part of their EM&CP for the Astoria-Rainey Cable a report providing an updated construction cost estimate for the Astoria-Rainey cable, including supporting documentation. If the updated cost estimate exceeds the cost estimate in the evidentiary record of this proceeding by 10% or more, the Certificate Holders shall file with the Secretary a Request for Reconsideration of the determination of public interest, convenience and necessity made with respect to the Facility. The request shall be served on all parties to this proceeding and shall clearly state that all parties may submit comments on the filing within 30 days of service. Such request shall explain how such increased cost would be consistent with the Commission's public interest, convenience and necessity determination made in this proceeding.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
15(d)	Upon commencement of construction, the Certificate Holders shall file with the Secretary monthly reports showing the costs for the Astoria-Rainey Cable as they occur, broken out as follows: excavation costs, traffic control costs, cable installation costs, splicing costs, thermal back fill, manhole and vault costs, costs relating to damage to other facilities (gas, electric, telephone, fiber optic cables, sewer, water, etc.), engineering costs, inspector costs, fines, cable costs, and all other costs by category. The reports shall include the names of the individuals responsible for	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	providing the information, along with their contact information, and shall contain all supporting documentation.		
15(e)	Subject to the limitations of 15(b), nothing contained in this Certificate shall be construed as affecting in any way the rights of Certificate Holders to unilaterally make application to the Federal Energy Regulatory Commission (FERC) for a change in rates, terms and conditions, charges, classification of service, Service Agreement, rule or regulation under section 205 of the Federal Power Act (FPA) and pursuant to FERC's rules and regulations promulgated thereunder.	CHPE will comply	General condition not related to EM&CP.
B. Laws and Regulations		**CHPE Response**	**EM&CP Section/Appendix**
16	Each substantive federal, state, and local law, regulation, code, and ordinance applicable to the Facility authorized by this Certificate shall apply except as set forth in Condition 17 and except and to the extent that the Commission has refused to apply any substantive local ordinances, laws, resolutions, or other actions issued thereunder or local standards or requirements, as being unreasonably restrictive as listed in the Revised and Updated Exhibit 7 to the Application (see Exhibit 115 to the Joint Proposal). [As Amended by Amendment 2 (August 13, 2020) authorizing additional waivers for Preferred Alternative routing]	CHPE will comply	All Sections of EM&CP (designed to ensure adherence to Certificate).
17	No State or municipal legal provision purporting to require any approval, consent, permit, certificate, or other condition for the construction or operation of the Facility authorized by this Certificate shall apply, except (i) those of the PSL and regulations and orders adopted thereunder, (ii) those provided by otherwise applicable state law for the protection of employees engaged in the construction and operation of the Facility, (iii) those regarding permits issued pursuant to federally approved authority, (iv) those regarding the right to use or occupy state or municipal property (including ROW), and (v) those discussed in CC 18.	CHPE will comply	All Sections of EM&CP (designed to ensure adherence to Certificate).

18	Subject to the Commission's ongoing jurisdiction, the Certificate Holders shall apply for certain local regulatory permits and approvals, to wit:	CHPE will comply	Section 4.2.3.
18(a)	The following City of New York (CNY) regulatory permits and approvals that would be applicable to construction and operation of those portions of the Facility located within the boundaries of CNY in the absence of PSL § 130: building permits, street excavation permits, street closure permits, permits for structural welding, permits under the CNY Fire Code, permits under the CNY Construction Codes and Electrical Code, permits for the discharge of wastewater and stormwater to CNY's sewer system, permits for the use and supply of water, and forestry permits.	CHPE will comply	Section 4.2.3
18(b)	If the Certificate Holders believes that any action taken, or determination made, in connection with the permits and approvals referenced in subpart (a) of this Certificate Condition is unreasonable or unreasonably delayed, they may petition to Commission, upon reasonable notice to the permitting authority, to seek a resolution of any such unreasonable requirement or unreasonable delay. The permitting authority may respond to the petition, within 10 business days, to address the reasonableness of any requirement or delay.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
19	The Certificate Holders shall construct the Facility in a manner that conforms to Good Utility Practice, as herein defined, and all applicable standards of the American National Standards Institute (ANSI) including, without limitation, the National Electrical Safety Code (NESC), Institute of Electrical and Electronics Engineers (IEEE), Standard IEEE C2-2002, and any stricter standards adopted by the Certificate Holders. Upon completion thereof, the Certificate Holders shall certify to the Commission that the Facility was constructed in full conformance with the standards specified herein.	CHPE will comply	See Table 3-2 and Glossary.
20	For the purposes of this Certificate, "Good Utility Practice" shall include any of the practices, methods or acts engaged in or approved by a significant portion of the electric, gas, steam, water, sewer or telecommunications industries, as applicable, during the relevant time period, including without limitation, the electric, gas, steam, water, sewer or telecommunications utility or utilities whose service territories the work in question is being performed and/or whose facilities are physically impacted	CHPE will comply	Section 4.0 & Glossary

	by the work in question and, for the electric power industry only, the New York Independent System Operator (NYISO), the New York State Reliability Council (NYSRC), the Northeast Power Coordinating Council (NPCC), the North American Reliability Corporation (NERC) and the North American Electric Reliability Organization (NAERO) or any successor organizations. Good Utility Practice shall include any of the practices, methods, or acts in which, in the exercise of reasonable judgement in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety, and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to delineate acceptable practices, methods, or acts generally accepted in the region, such as, in the case of the electric power industry only, those practices required by FPA Section 215(a)(4).		
C. HVDC-AC Converter Station Design, Interconnection and Construction		**CHPE Response**	**EM&CP Section/Appendix**
21	The Converter Station shall be located entirely on and within Subdivision Parcel A as shown on Hearing Exhibit 130 along Luyster Creek in the Astoria neighborhood of the borough of Queens (Subdivision Parcel A), a copy of which is annexed to these Certificate Conditions. The Certificate Holders shall be responsible for the cost of protecting or relocating any utility infrastructure during or as a result of construction activity by them in Subdivision Parcel A. The Certificate Holders may not use, occupy, or take (by condemnation or otherwise) any other real property owned or occupied by Con Edison at Astoria for the Converter Station, a ring bus and related facilities that are required to complete the Facility without ConEdison's prior written consent.	Location of Converter Station was amended under the Order Granting Amendment of Certificate of Environmental Compatibility and Public Need Subject to Conditions for Case 10-T-0139, Issued and	See Section 1.2, Figure 1-1.

		Effective August 13, 2020.	
22(a)	The tallest building serving as part of the Converter Station shall not exceed 70 feet in height above finished grade, as defined below, and the tallest support tower shall not exceed 70 feet above finished grade. The finished grade shall be the grade at the elevation of the 100-year floodplain, and such additional minimal fills as necessary to provide drainage of the site. The height and arrangement of all station facilities shall be indicated in the EM&CP site plan discussed in Section 1(A) of the EM&CP Guidelines.	The Converter Station building is less than 70 feet in height. The lightning masts and AC yard dead-end gantry are required to be greater than 70 feet in height, however these infrastructures do not fall within definition of building, or support tower subject to this height limit	See Section 4.1.1. Appendix C. Converter Station Site Plan and Construction Drawings.
22(b)	The Converter Station shall be designed to minimize visibility and visual impacts.	CHPE will comply	See Section 10.5.
22(c)	The Converter Station shall use materials that minimize glare and that are neutral in color. The design shall also include appropriate landscaping at the site.	CHPE will comply	See Section 10.0.
22(d)	Maintenance and enhancement of the shoreline area vegetative cover between the Converter Station site and the Luyster Creek waterway shall be addressed in the final site plan and station maintenance plans.	Location of Converter Station was amended under the Order Granting	Not applicable to the Astoria HVDC Converter Station EM&CP, in light of amendment

		Amendment of Certificate of Environmental Compatibility and Public Need Subject to Conditions for Case 10-T-0139, Issued and Effective August 13, 2020.	relocating Converter station location away from Luyster Creek.
22(e)	Exterior night lighting of the Converter Station shall be designed to provide illumination necessary for worker safety and site security purposes, giving full consideration to energy conservation, glare, and the minimization of light trespass. All such lighting shall be selected and installed to shield the lamp filaments from direct view to the greatest extent possible, which may include the use of full-cutoff fixtures without drop-down optics, use of task lighting for maintenance purposes where feasible, and minimizing upward lighting. Lighting shall comply with worker safety requirements.	CHPE will comply	See Section 10.0.
22(f)	If ConEdison moves forward with its recently announced plan to interconnect a PAR to the NYPA's 345 kV Astoria GIS Substation, the Converter Station may also include a fourbreaker 345 kV GIS ring bus, which ring bus, if owned and operated by Applicants, shall be located entirely on Subdivision Parcel A and shall be interconnected at 345 kV to the Astoria-Rainey Cable, NYPA's Astoria GIS Substation and the Converter Station as described in hearing Exhibit 125 to the Joint Proposal.	CHPE will comply	Not applicable to the Astoria HVDC Converter Station EM&CP.
23	The EM&CP Site Plan for the Converter Station site shall include the following:	CHPE will comply	See Astoria Converter Station EM&CP Narrative and Appendices.

23(a)	a site plan of sufficient detail to demonstrate conformance with the requirements of this Certificate, the Noise Mitigation Procedures of the CNY, and the EM&CP guidelines.	CHPE will comply	See Astoria Converter Station EM&CP Narrative; Section 2.0; section 10.0.
23(b)	construction drawings including architectural, structural, HVAC, mechanical, electrical, plumbing and fire protection plans for all structures, which drawings shall have been prepared by an architect or engineer licensed by the State of New York and in conformance with the code requirements of the CNY.	CHPE will comply	See Appendix C. Converter Station Site Plan and Construction Drawings.
23(c)	a review of the sound emissions characteristics of the high-voltage transformers selected for final project design, including typical and maximum noise levels generated at associated operating levels; and a tonal analysis based on one-third octave bands to determine the potential for tonal sound generation, including pure tones.	CHPE will comply	Section 10.0
23(d)	an exterior lighting plan based on illumination requirements for worker safety, which limits off-site glare.	CHPE will comply	Section 10.0
24	In developing the site plan for the Converter Station, Certificate Holders shall consult with New York State Department of Public Service (DPS) Staff and the CNY, and share preliminary drawings of foundations, elevations, renderings, stormwater control, and noise control measures, as they become available. Not later than 30 days prior to the date by which Certificate Holders expects to file the EM&CP segment for the Converter Station, they shall file with the same parties a preliminary site plan of sufficient detail to address relevant requirements of this Certificate and the EM&CP guidelines, for their review and comment.	CHPE will comply	See Appendix A; Section 4.2.3.

25	Prior to commercial operation of the Converter Station, the Certificate Holders shall obtain from CNY a certificate of occupancy covering the Converter Station. A copy shall be provided to the Secretary.	CHPE will comply	Section 4.2.3.2
26	The Converter Station shall have a 345 kV underground Gas Insulated Line connection to the Astoria Annex GIS Substation installed in duct banks.	CHPE will comply	Not applicable to this EM&CP. Separate EM&CP segment will be filed that is applicable to this condition.
D. Special Conditions Regarding Co-located Infrastructure and Related Matters		**CHPE Response**	**EM&CP Section/Appendix**
27	The Certificate Holders shall engineer, construct, and install the Facility so as to make it fully compatible with the continued operation and maintenance of Co-located Infrastructure (CI), as herein defined, and affected railroads, railways, highways, roads, streets, or avenues. CI shall consist of electric, gas, telecommunication, water, wastewater, sewer, and steam infrastructure and appurtenant facilities and associated equipment, whether above ground, below ground, or submerged that:	CHPE will comply	See Appendix C. Converter Station Site Plan and Construction Drawings.
27(a)	are located within the Construction Zone approved in the EM&CP for the Facility or a proposed Construction Zone as provided for in Certificate Condition 28(d); and	CHPE will comply	See Appendix C. Converter Station Site Plan and Construction Drawings.
27(b)	are either owned by a state agency or municipality or a subdivision thereof or owned or operated for public utility purposes by a regulated electric, gas, telecommunication, water, wastewater, sewer, or steam service provider;	CHPE will comply	See Appendix C. Converter Station Site Plan and

			Construction Drawings.
27(c)	but do not include railroads, railways, highways, roads, streets, or avenues.	CHPE will comply	See Appendix C. Converter Station Site Plan and Construction Drawings.
28	In order to protect CI, Certificate Holders shall:	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
28(a)	within 60 days of Commission issuance of a Certificate, consult with the owners and/or operators of all known electric, gas, telecommunication, water, wastewater, sewer, and steam infrastructure and appurtenant facilities and associated equipment, whether above ground, below ground or submerged, other than railroads, railways, highways, roads, streets and avenues, located either: (i) within the Allowed Deviation Zone, (ii) within three hundred (300) feet of any location outside the Allowed Deviation Zone where Certificate Holders intends to undertake any pre-construction activities; or (iii) sufficiently close to areas of anticipated pre-construction activities such that Good Utility Practice, as defined in Condition 20 of this Certificate, requires discussion of the impacts of such pre-construction activities between Certificate Holders and the owners and/or operators of such facilities (Potential CI). Such consultations shall include discussion of the likely routing of the Facility and the measures that will be employed by Certificate Holders to protect CI, including the studies required by the exercise of Good Utility Practice regarding the manner in which the Facility will be designed and installed wherever they are expected to cross CI or are expected to come in such proximity to CI that Good Utility Practice would require a specific design to be developed. All agreements and requirements resulting from this consultation shall be reflected in the proposal prescribed in subsection (d) of this Condition and the notice prescribed in subsection (e) of this Condition; and	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

28(b)	within 60 days of Commission issuance of a Certificate, begin the process of consulting with the owners and/or operators of Potential CI to develop a construction schedule for the Facility that, among other things, coordinates system outage requirements, if any, and avoids conflicts with the internal construction programs of each affected owner and/or operator. This consultation shall continue throughout each phase and portion of the construction of the Facility that affects any CI or Potential CI, as applicable. As a part of this consultation, the Certificate Holders will identify to a reasonable degree of certainty the appropriate representative of the party, whether owner or operator, having primary care, custody, and control of a particular segment of Potential CI or CI (each such a representative being a Designated Representative). All agreements and requirements resulting from this consultation shall be reflected in the proposal prescribed in subsection (d) of this Condition and the notice prescribed in subsection (e) of this Condition and in the Certificate Holders' EM&CP; and	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
28(c)	comply with all procedures identified by the Designated Representative(s) of the owners and/or operators of such CI or Potential CI, including, without limitation, application procedures and compliance with requirements for obtaining relevant rights, permission, permits, or authorization, whenever the Certificate Holders seeks to undertake any studies, surveys, testing, sampling, preliminary engineering, pre-construction, construction, operation, maintenance, or repair activities that involve CI or Potential CI, except in cases where such actions must be taken on an expedited basis to protect the public or to ensure reliable operation of the Facility, whereupon Certificate Holders shall provide such Designated Representatives with such notice and obtain such approvals as is reasonable under the circumstances, and except where such procedures are subject to the Commission's jurisdiction and the Commission or its designee finds such procedures to be unreasonable or unduly restrictive. Notwithstanding the foregoing, the Certificate Holders shall not be required to comply with the requirements of subsection (c) of this Condition for the transport or travel over or under CI or Potential CI by the Certificate Holders and their agents, employees, and contractors where such CI or Potential CI is located in, over, or under public waterways, roads, streets, highways, or railroad ROW, unless such transportation	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	would be subject to special approval by state and/or local authorities due to the size or weight of load(s) transported; and		
28(d)	provide to the owner(s) and operator(s) of Potential CI or CI, at least 180 days prior to the filing of the relevant Segment EM&CP, a proposal for the location and design of the Facility (including a proposed Construction Zone) and the methods of construction to be employed with respect to all locations involving CI (Proposal). The Certificate Holders' Proposal must include all studies, calculations, tests, results, explanations, protocols, drawings, proposed construction schedules, and documents developed through the consultations described in subsections (a) and (b) of this Condition, other documentation identified in Condition 162, and any other information that supports the proposal. To the extent that any such Proposal addresses CI that was not previously identified as Potential CI, the Certificate Holders shall conduct the consultations described in subsections (a) and (b) of this Condition 28 with the Designated Representative(s) of the owner(s) or operator(s) of such CI and shall perform all other activities required by such paragraphs with respect to such CI in as reasonably expeditious a manner as possible and shall provide any resulting studies, calculations, tests, results, explanations, protocols, drawings, proposed construction schedules, and documents to the appropriate Designated Representative in a timely fashion; and	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
28(e)	advise owner(s) and operator(s) of CI at least 30 days prior to commencing any planned repair, construction, operation, or maintenance activity relating to the Facility affecting or occurring in the vicinity of such owner's or operator's CI, unless such actions must be taken in less than thirty (30) days to protect the public or to ensure reliable operation of the Facility, whereupon Certificate Holders shall provide such notice as is reasonable under the circumstances; provided that, in any event, "vicinity" with respect to CI used to transmit or distribute natural gas shall mean all areas within 200 feet thereof and with respect to all other CI shall mean all areas within 100 feet thereof; and	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

28(f)	immediately upon knowledge or discovery of any damage to or adverse effect on any CI or Potential CI resulting from any studies, surveys, testing, sampling, preliminary engineering, pre-construction activities, construction, operation, maintenance, or repair of the Facility, report to the owners and operators of the affected CI or Potential CI the nature and existence of such damage or effect and other known facts relating to the cause thereof; and	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
28(g)	notify the owners or operators of CI or Potential CI as soon as possible in the event of any situation involving imminent risk to health, safety, property, or the environment requiring the Certificate Holders to cross such CI or Potential CI or to use any associated property to address the emergency. Such notice shall not be required for the transport or travel over or under CI or Potential CI by the Certificate Holders or their agents, employees, or contractors where such CI or Potential CI is located in, over, or under public waterways, roads, streets, highways, or railroad ROW unless such transportation would be subject to special approval by state and/or local authorities due to the size or weight of load(s) transported; and	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
28(h)	include within any Project Segment EM&CP filing relating to the Astoria-Rainey Cable a study demonstrating that the proposed installation of the Astoria-Rainey cable will have not have a negative impact on the continued operation of any Parallel CI. A draft of that study will be included in the materials that Certificate Holders is required to provide to the owner or operator of such CI pursuant to Certificate Condition 28(d) and will be subject to review and comment as provided therein. For purposes of this subsection, Parallel CI means electric transmission facilities that are located in the same public ROW and are generally parallel to the Astoria-Rainey Cable.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
29	Reimbursement of Owners or Operators of CI and/or Potential CI for Certain Expenses:	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

29(a)	Subject to the provisions of subsections (b) and (c) of this Condition, the Certificate Holders shall reimburse owners and/or operators of Potential CI or CI for the reasonable costs they incur in the following activities: 1. consulting with Certificate Holders as described in Certificate Conditions 28 (a) and (b). 2. reviewing pre-construction activities, designs, construction methods, maintenance and repair protocols, and means of gaining access to Potential CI or CI proposed by Certificate Holders. 3. reviewing studies and design proposals described by Condition 28(d) and the EM&CP filings described in Certificate Condition 162. 4. conducting or preparing such additional studies and designs as may be agreed to by Certificate Holders or approved by the Commission pursuant to Condition 29(a)(3). 5. coordinating with, and monitoring the activities of, the Certificate Holders during pre-construction activities, construction, maintenance and repair of the Facility. 6. conducting maintenance and repair work on CI property or facilities, but only to the extent of increases in such costs that result from the presence of the Facility. 7. repairing damage to Potential CI or CI or associated property caused by Certificate Holders or their representatives in connection with any studies, surveys, testing, sampling, preliminary engineering, pre-construction activities, construction, operation, maintenance or repair of the Facility. 8. scheduling and implementing electric system outages required by any studies, surveys, testing, sampling, preliminary engineering, preconstruction activities, construction, operation, maintenance, or repair of the Facility.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
29(b)	For the purposes of this Certificate Condition 29, cost shall be deemed to be reasonable if in the case of each separate review of a study or design proposal described in subsection (a)(3) of this Certificate Condition, the total cost to be borne by the Certificate Holders is $5,000 or less.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
29(c)	Certificate Holders' cost responsibility is limited as follows: a Potential CI or CI owner or operator who intends to incur costs as described in subsection (a) of this Certificate Condition 29 for which reimbursement will be sought for activities other than reviewing a study or design proposal described in subsection (a)(3) of this Certificate Condition 29, or for reviewing such a study or design proposal but in an amount greater than $5,000, must provide Certificate Holders with a written description of the scope of the planned studies or activities and a good faith estimate of the expected	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	costs, except where such studies or activities are undertaken in a situation involving unscheduled electric outages or an imminent risk to health, safety, property, or the environment, in which case Certificate Holders' reimbursement obligations shall be limited to reasonably incurred costs. Within 60 days of the expenditure by the owners and/or operators of affected Potential CI or CI of any funds which are eligible for reimbursement by the Certificate Holders under this Certificate, the Potential CI or CI owner or operator shall present Certificate Holders with a final invoice for the actual costs incurred, but not to exceed 25% over the good faith estimate unless approved by Certificate Holders in advance in writing or, in the case of a dispute between the Certificate Holders and the Potential CI or CI owners or operators, by the Commission. Certificate Holders shall pay the authorized invoice amount within 30 days of receipt.		
29(d)	Disputes concerning the Certificate Holders' cost reimbursement responsibility shall be brought to the Commission for resolution. The time required to resolve any dispute arising under this Certificate Condition 29 shall not be counted for the purpose of any limitation on the time available for commencement or completion of construction of the Facility.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
E. Public Health and Safety		**CHPE Response**	**EM&CP Section/Appendix**
30	The Certificate Holders shall design, engineer, and construct the Facility such that, to the extent applicable, their operation shall comply with the interim electrostatic field standard established by the Commission in Opinion No. 78-13 (issued on June 19, 1978 in Cases 26529 and 26559) and the limit for magnetic fields set in the Statement of Interim Policy on Magnetic Fields of Major Electric Transmission Facilities (issued on September 11, 1990, in Cases 26529 and 26559) or with any standard that has superseded these standards at the time of consideration by the Commission of the EM&CP or a particular Segment EM&CP.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP. Generally, with regard to the EMF calculations for the Converter Station, see Exhibits B, C and D and Appendix A and B to the Certificate Holders' January

			29, 2021, Petition for an Amendment to Certificate of Environmental Compatibility and Public Need (DMM Item 819)
31	Construction work occurring inside the boundaries of the CNY and outside the walls of buildings whose exterior walls and roof are substantially complete shall take place between 7 a.m. and 6 p.m. as required by Section 24-222 of the CNY City Administrative Code. For certain construction phases and activities, additional work hours may be necessary. Nothing herein shall preclude the Certificate Holders from making necessary arrangements for the extension of additional work hours with appropriate authorities of the CNY. Noise mitigation procedures shall follow those set forth in the approved EM&CP and shall not be less stringent than the citywide Construction Noise Mitigation Procedures provided by the CNY. DPS Staff shall be notified at least 24 hours in advance if planned weekend, evening, or holiday construction becomes necessary. This condition is not intended to prohibit nighttime construction reasonably necessary to comply with restrictions on daytime construction on or along roadways or public access areas or to require the cessation of construction activities that require a continuous work effort once started. Furthermore, construction vehicles used in CNY will be outfitted with smart back up alarms.	CHPE will comply	Section 4.2.3
32	Deliveries occurring inside the boundaries of the CNY and related to construction activities shall take place between 7 a.m. and 6 p.m., except that, to the extent required to accommodate oversized delivery pursuant to a New York City Department of Transportation (NYCDOT) permit, the Certificate Holders shall be exempt from restrictions limiting delivery to 7 a.m. to 6 p.m. This condition is not intended to prohibit nighttime deliveries reasonably necessary to facilitate compliance with restrictions on daytime construction in or along roadways or public access areas or to	CHPE will comply	Section 4.2.3

	require the cessation of construction activities that require a continuous work effort once started.		
33	The Certificate Holders shall provide timely information to adjacent property owners and/or their tenants regarding planned construction activities and schedules. The Certificate Holders shall notify these persons of construction work within 100 feet of their property at least two weeks prior to the commencement of construction in these areas and provide copies of all correspondence to the DPS Staff.	CHPE will comply	Section 3.3
34	The Certificate Holders shall keep local fire department and emergency management teams apprised of on-site chemicals and waste and shall also advise owners and operators of CI as to on-site chemicals and waste stored within 100 feet of their CI. In the case of CI located within the CNY, the Certificate Holders shall advise CI owners and operators of on-site chemicals and waste stored within 300 feet of such facilities. All chemicals shall be secured in a locked and controlled area(s).	CHPE will comply	Section 3.3
35	The Certificate Holders shall notify DPS Staff and the New York State Department of Environmental Conservation (NYSDEC) immediately of any petroleum product spills. The Certificate Holders shall also notify owners and operators of CI of any petroleum product spills within 100 feet of their CI, provided however that in the case of CI located within CNY, the Certificate Holders shall advise CI owners and operators of petroleum product spills within 300 feet of such facilities	CHPE will comply	Section 3.3
36	The Certificate Holders shall comply with the requirements for the protection of underground facilities set forth in 16 New York Codes, Rules, and Regulations (N.Y.C.R.R.) Part 753, entitled "Protection of Underground Facilities."	CHPE will comply	Section 13.3
37	Parking for construction workers shall be in designated areas that do not interfere with normal traffic, cause a safety hazard, or interfere with existing land uses, including CI.	CHPE will comply	Section 4.10; See Appendix C. Converter Station Site Plan and

			Construction Drawings.
38	Direct disturbance to properties shall be avoided by accessing the overland Construction Zone from existing roadways or approved access roads where feasible. The Certificate Holders, in undertaking the Facility, shall not violate the property rights of individual landowners and shall not commit trespass upon their lands. Before the Certificate Holders attempts to enter private property that they do not have the legal right to enter, they shall first obtain the permission of the landowner and shall abide by all conditions on such permission that the landowner may impose. If the Certificate Holders relies on a document as evidence of their easement or other right to access land owned in fee by an individual landowner, they shall provide a copy of such document to the landowner upon his or her request.	CHPE will comply	Section 4.7; see also See Appendix C. Converter Station Site Plan and Construction Drawings.
39	For each location where the Facility involves construction across or within the ROW limits of a road, street, highway or public thoroughfare, the Certificate Holders shall implement a Maintenance and Protection of Traffic (MPT) plan that identifies procedures to be used to maintain traffic and provide a safe construction zone for those activities within the roadway ROW. The Certificate Holders shall also prepare MPT plans for each location where construction vehicles will access the Construction Zone from a local roadway. The MPT plans shall address temporary signage, lane closures, placement of temporary barriers, and traffic diversion.	CHPE will comply	Section 12.1 and See Appendix C. Converter Station Site Plan and Construction Drawings.
39(a)	All signage utilized shall comply with the New York State Department of Transportation (NYSDOT) Manual of Uniform Traffic Control Devices (Manual No. 7155) and, within State highway ROW, a Highway Work Permit issued by NYSDOT. Placement of signs shall be determined in consultation with the jurisdictional agency. At a minimum, signs shall be placed at the following distances: (1) Signs announcing construction at 500 feet and 1,000 feet; (2) Signs depicting workers at 300 feet; and (3) Where blasting is to take place within 50 feet of a road, a blast warning sign at 1,000 feet.	CHPE will comply	Section 12.0; See Appendix C. Converter Station Site Plan and Construction Drawings.

39(b)	Flagmen shall be present at all times when equipment is crossing or entering any road, when equipment is being loaded or unloaded, and when two-lane traffic has been reduced to one lane. All flagging operations shall comply with 17 N.Y.C.R.R. Part 131.	CHPE will comply	Section 12.0; See Appendix C. Converter Station Site Plan and Construction Drawings.
40	To the extent required in connection with the delivery of oversized components, the Certificate Holders or their suppliers shall obtain any necessary permits from applicable state agencies and provide copies of such permits to the Secretary.	CHPE will comply	Section 12.0 and Section 3.3
F. Notices and Public Complaints		**CHPE Response**	**EM&CP Section/Appendix**
41	The Certificate Holders shall make available to the public a toll-free or local phone number of an agent or employee who will receive complaints, if any, during the construction of the Facility. In addition, the phone number of the Secretary and the phone number of the Commission's Environmental Compliance Section shall be provided. A log shall be maintained that lists at least the date of any complaint, identity and contact information for the complaining party, the date of the Certificate Holders' response, and a description of the outcome. Phone logs shall be made available to DPS Staff upon request. The Certificate Holders shall report to DPS Staff every complaint that cannot be resolved after reasonable attempts to do so. Any such report shall be made within three business days after receipt of the complaint.	CHPE will comply	Toll-free number and contact information included in notices (Appendix B) and remaining requirements addressed in Public Involvement Plan and Complaint Resolution Plan (Appendix H).
42	No less than two weeks before commencing site preparation, the Certificate Holders shall: (1) provide notice to local officials and emergency personnel in the area where they will be working on the Facility; and (2) provide notice to the owners of property identified in CC 33 herein; and (3) provide such notice for dissemination to local media and display in public places (such as general stores, post offices, community centers, and conspicuous community bulletin boards); and (4) in the event that the site	CHPE will comply	Section 3.3

	preparation is delayed after notice is given, additional notice as set forth above shall be provided before site preparation is resumed. The notice shall be written in language reasonably understandable to the average person and shall contain: (1) a map and a description of the Construction Zone in the local area; and (2) the anticipated date for start of construction in the local area; and (3) the name, address, and local or toll-free telephone number of an employee or agent of the Certificate Holders who will receive complaints, if any, during the construction of the Facility; and (4) a statement that the Facility, as applicable, is under the jurisdiction of the Commission, which is responsible for enforcing compliance with environmental and construction conditions and which may be contacted at an address and telephone number to be provided in the notice. Upon distribution, a copy of such notice shall be filed with the Secretary.		
43	The Certificate Holders shall provide the Engineering, Procurement, and Construction Contractor retained to undertake construction of the Facility and their other construction Contractors (Contractors or EPC Contractors) with complete copies of this Certificate and any and all permits, certificates, and approvals required to initiate and/or complete construction of the Facility, including, without limitation, approved Segment EM&CPs and governmental approvals issued pursuant to § 401 and § 404 of the Federal Clean Water Act, and § 10 of the Federal Rivers and Harbors Act. To the extent that the listed documents are available before contracts for construction services are executed, such copies shall be provided to the Contractors prior to the execution of such contracts.	CHPE will comply	See Table 3-2.
44	The Certificate Holders shall notify all Contractors that the Commission may seek to recover penalties for violation this Certificate and other Orders issued in this proceeding, not only from the Certificate Holders, but also from their Contractors, and that Contractors also may be liable for other fines, penalties, and environmental damage.	CHPE will comply	See Table 3-2.
45	No later than three days after completion of the transaction(s) pursuant to which the costs of construction of the Facility are funded (Closing), the Certificate Holders shall notify the Secretary of the date of such Closing.	CHPE has complied	See Letter Notice dated November 3,

			2022 (DMM Item 905).
46	The Certificate Holders shall inform the Secretary and NYSDEC at least five days before commencing site preparation for the Facility.	CHPE will comply	See Table 3-2 below.
47	The Certificate Holders shall provide DPS Staff, NYSDOT, and NYSDEC with bi-weekly status reports summarizing construction and indicating construction activities and locations scheduled for the next month.	CHPE will comply	See Table 3-2 below.
48	Within 10 days of the completion of final restoration activities, the Certificate Holders shall notify the Secretary that all restoration has been completed in compliance with this Certificate and the Order(s) approving the EM&CP.	CHPE will comply	See Table 3-2 below.
49	Within 60 days of completing construction of the HVDC Transmission System, the Certificate Holders shall consult with the New York State Office of General Services (OGS) Bureau of Land Management regarding specifications for providing as-built information and mapping of the submerged portions of the HVDC Transmission System in conformance with the requirements of the OGS Bureau and 9 N.Y.C.R.R. Part 271. Within 60 days of that consultation, the Certificate Holders shall provide to the OGS as-built information and mapping complying with its specifications (including shapefile information compatible with ArcView® GIS software) and shall file with the Secretary copies of the as-built information and mapping and proof of filing with the OGS.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
50	No later than three days after the date on which the Facility commences commercial operation (CO) of the Facility, the Certificate Holders shall notify NYSDOT, NYSDEC, and the Secretary of the date of such commencement.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
51	The Certificate Holders shall promptly notify DPS Staff and NYSDEC if a New York State listed species of special concern is observed to be present in the Facility area.	CHPE will comply	Section 3.3 and 9.3; Appendix F.

52	The Certificate Holders shall promptly notify DPS Staff, NYSDEC and the United States Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) (if applicable) if any threatened or endangered wildlife species under 6 N.Y.C.R.R. Part 182 (TE species) or any rare, threatened or endangered plant species under 6 N.Y.C.R.R. Part 193 (RTE plants) are observed to be present in the Facility area so as to determine the appropriate measures to be taken to avoid or minimize impacts to such species. If necessary to avoid or minimize impacts to such species or as directed by DPS Staff, the Certificate Holders shall stabilize the area and cease construction or ground disturbing activities in the Facility area until DPS Staff have determined that appropriate protective measures have been implemented.	CHPE will comply	Section 3.3 and 9.3; Appendix F.
G. Environmental Supervision		**CHPE Response**	**EM&CP Section/Appendix**
53(a)	The Certificate Holders shall employ at least six inspectors on the HVDC Transmission System (or at least five inspectors if the Certificate Holders elects to use the same individual as both environmental inspector (Environmental Inspector) and agricultural inspector (Agricultural Inspector) as follows: (i) an Environmental Inspector employed full-time on the HVDC Transmission System; (ii) a construction inspector employed full-time on the HVDC Transmission System during construction of overland portions of the HVDC Transmission System, including construction of the Converter Station (Construction Inspector); (iii) an aquatic inspector employed full-time on the HVDC Transmission System (Aquatic Inspector); (iv) an Agricultural Inspector; (v) a safety inspector employed full-time on the HVDC Transmission System (Safety Inspector); and (vi) a part-time quality assurance inspector who will inspect the work site from time to time (Quality Control and Quality Assurance Inspector).	CHPE will comply	Section 3.1; Appendix F.
53(b)	The Certificate Holders shall employ the following inspectors in connection with the Astoria-Rainey Cable: (i) an Environmental Inspector; (ii) a Construction Inspector; (iii) a Safety Inspector; and (iv) a Quality Control and Quality Assurance Inspector.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

53(c)	During periods of relative inactivity on the Facility, the number of inspectors and the extent of their presence at the Facility construction site may be temporarily decreased commensurate with the decline in activity levels; likewise, during periods of relatively high activity on the Facility, the number of inspectors and the extent of their presence at the Project site may be temporarily increased commensurate with the increase in activity levels.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
53(d)	The Certificate Holders shall provide DPS Staff a weekly schedule of the Environmental Inspector and the Construction Inspector and their cell phone numbers.	CHPE will comply	Section 3.0
53(e)	The Environmental Inspector and Construction Inspector shall be equipped with sufficient documentation, transportation, and communication equipment to effectively monitor each Contractors' compliance with the provision of every Order issued in this proceeding and applicable sections of the PSL, New York State Environmental Conservation Law (ECL), the Water Quality Certification (WQC) issued in connection with the Facility pursuant to section 401 of the Federal Clean Water Act and the approved EM&CP.	CHPE will comply	Section 3.0
53(f)	The Agricultural Inspector shall be available to provide site-specific agricultural information as necessary for development of the proposed EM&CP through field review, as well as to have direct contact with affected farm operators, County Soil and Water Conservation Districts, and the NYSDAM. The Agricultural Inspector shall maintain regular contact with the Environmental Inspector and the Construction Inspector throughout the construction phase. The Agricultural Inspector shall also maintain regular contact with the affected farmers and County Soil and Water Conservation Districts concerning farm resources and management matters pertinent to the agricultural operations and the site-specific implementation of the approved EM&CP.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP, which contains no agricultural lands.
53(g)	The names and qualifications of the Environmental Inspector and the Construction Inspector shall be submitted to DPS Staff and NYSDEC at least two weeks prior to the start of construction.	CHPE will comply	Section 3.0

53(h)	The Environmental Inspector's qualifications shall satisfy those of the Qualified Inspector pursuant to the NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-0-10-001)(SPDES General Permit).	CHPE will comply	Section 3.0
53(i)	The Certificate Holders' employees, Contractors, and subcontractors shall be properly trained in the construction, operation, and maintenance of the Facility.	CHPE will comply	Section 3.1
54	The authority granted to the Certificate Holders in this Certificate and any subsequent Order(s) in this proceeding is subject to the following conditions necessary to ensure compliance with such Order(s):	CHPE will comply	Section 3.4
54(a)	The Certificate Holders shall regard DPS Staff representatives (authorized pursuant to PSL § 8) as the Commission's designated representatives in the field. In the event of any emergency resulting from the specific construction or maintenance activities that violate or may violate the terms of this Condition, the WQC, or any other Order in this proceeding, either the Certificate Holders' Environmental Inspector or DPS Staff may issue a stop work order for that location or activity.	CHPE will comply	Section 3.4
54(b)	A stop work order issued by DPS Staff shall expire 24 hours after issuance unless confirmed by a single Commissioner. If a stop work order is confirmed, the Certificate Holders may seek reconsideration from the confirming Commissioner or the whole Commission. If the emergency prompting the issuance of a stop work order is resolved to the satisfaction of the Commissioner or the Commission, the stop work order will be lifted. If the emergency has not been satisfactorily resolved, the stop work order will remain in effect.	CHPE will comply	Section 3.4
54(c)	Stop Work Authority will be exercised sparingly and with due regard to potential environmental impact, economic costs involved, possible impact on construction activities, and whether an applicable statute or regulation is or is claimed to be violated. Before exercising such authority, DPS Staff will consult (wherever practicable) with the Environmental Inspector. Within reasonable time constraints, all attempts will be made to address any issue and resolve any dispute in the field. In the event the	CHPE will comply	Section 3.4

	dispute cannot be resolved, the matter will be brought immediately to the attention of the Certificate Holders' construction manager and the Director of the DPS Office of Energy Efficiency and the Environment. If DPS Staff issues a stop work order, neither the Certificate Holders nor the Contractor will be prevented from undertaking any safety-related activities that they deem necessary and appropriate under the circumstances. The issuance of a stop work order or the implementation of measures as described below may be directed at the sole discretion of the DPS Staff during these discussions.		
54(d)	Exercise of Stop Work Authority: If DPS Staff or the Environmental Inspector discovers a specific activity that represents a significant environmental threat that is or immediately may become a violation of this Condition, the WQC, or any other Order in this proceeding, and on-site construction personnel refuse to take appropriate action after being advised of the threat, DPS Staff and/or the Environmental Inspector may direct the field crews to stop the specific potentially harmful activity immediately. If the direction to stop work is issued by DPS Staff and Certificate Holders' responsible personnel are not on site, the DPS Staff will immediately thereafter inform the Construction Inspector and/or the Environmental Inspector of the action taken. The stop work order will be lifted by the DPS Staff when the situation prompting its issuance has been resolved.	CHPE will comply	Section 3.4
54(e)	DPS Staff's Implementation of Specific Measures to Protect the Public and the Environment: If DPS Staff determines that a significant threat exists such that protection of the public or the environment at a particular location requires the immediate implementation of specific measures, the DPS Staff may, in the absence of the Environmental Inspector and the Construction Inspector, or in the presence of such personnel who, after consultation with the DPS Staff, refuse to take appropriate action, direct the Certificate Holders or their Contractors to implement the corrective measures identified in the approved EM&CP. The field crews shall comply with the DPS Staff's directive immediately. DPS Staff will immediately thereafter inform the Certificate Holders' Construction Inspector and/or Environmental Inspector of the action taken.	CHPE will comply	Section 3.4

54(f)	DPS Staff or the Environmental Inspector will promptly notify the appropriate NYSDEC representative of any activity that is a significant environmental threat to a state-regulated wetland or its adjacent area, a protected stream or other waterbody, a TE species, or a State- or Federally- identified hazardous waste site or that may become a violation of this Condition, WQC, or any other Order issued in this proceeding pursuant to subsection (d) of this Certificate Condition 54.	CHPE will comply	Section 3.4
55	The Certificate Holders shall organize and conduct site-compliance audit inspections for DPS Staff as needed, but not less frequently than once per month during the site preparation, construction, and restoration phases of the Facility and at least annually for two years after the COD.	CHPE will comply	See Table 3-2.
55(a)	The monthly inspections shall include a review of the status of compliance with all conditions contained in this Certificate, the WQC, and any other Order issued in this proceeding, and with other legal requirements and commitments, as well as a field review of the construction site, if necessary. The inspections may also include: (1) review of all complaints received, and their proposed or actual resolutions; and (2) review of any significant comments, concerns, or suggestions made by the public, local governments, or other agencies; and (3) review of the status of the Facility in relation to the overall schedule established prior to the commencement of construction; and (4) other items the Certificate Holders or DPS Staff consider appropriate.	CHPE will comply	Section 3.2.3
55(b)	The Certificate Holders shall provide a written record of the results of the inspection, including resolution of issues and additional measures to be taken, to agencies involved in the inspection audit.	CHPE will comply	Section 3.2.3
56	Nothing herein shall be deemed to limit the right of any jurisdictional agency to enter and inspect the Facility to assess compliance with any permit issued by such agency or any applicable substantive statute or regulation under such agency's jurisdiction; provided, however, that such inspection shall, to the extent possible, be coordinated with the DPS Staff (authorized pursuant to PSL § 8).	CHPE will comply	Section 3.1

57	Nothing in this Certificate shall restrict NYSDOT's authority over Certificate Holders' use of state highways, including without limitation NYSDOT's authority to place inspectors on site to monitor and observe the Certificate Holders' activities on state highways and/or to request the presence of state or local police to assure the safety of freeway travelers at such times and for such periods as NYSDOT deems appropriate.	CHPE will comply	Section 3.1
H. Overland Installation		**CHPE Response**	**EM&CP Section/Appendix**
58	At least two weeks prior to the start of overland construction, the Certificate Holders shall hold a preconstruction meeting to which they shall invite DPS Staff, NYSDOT, and NYSDEC. The agenda, location, and attendee list for this meeting shall be agreed upon between DPS Staff and the Certificate Holders. The Certificate Holders shall supply draft minutes from this meeting to all attendees. The attendees may offer corrections or comments, and thereafter the Certificate Holders shall issue the finalized meeting minutes to all attendees. If, for any reason, the Contractors retained by the Certificate Holders to construct the Facility cannot finish the construction of such facilities, and one or more new construction contractors are needed, there shall be another preconstruction meeting with the same format as outlined above.	CHPE will comply	Section 3.2
59	The Certificate Holders shall confine construction to the Construction Zone and approved additional work areas as detailed in the approved EM&CP. A detailed construction schedule and location timeline shall be provided to DPS Staff prior to construction.	CHPE will comply	Section 1
60	The Certificate Holders shall identify encroachments within the Construction Zone and contact individual property owners or occupants to address and seek to rectify such potential encroachments on a case-by-case basis. The Certificate Holders shall report to DPS Staff the result of efforts to address and rectify encroachments in the Construction Zone periodically, but in no event less than quarterly.	CHPE will comply	Section 4.7

61	The Facility may not be located beneath existing buildings, footings, or foundations, except as authorized in the EM&CP, and all excavations shall be in accordance with all applicable standards and specifications, including: (a) the Building Code of New York State, including Section 1803 and other relevant sections; and (b) the Occupational Safety and Health Administration (OSHA) Technical Manual (OTM), including Section V: Chapter 2 and other relevant sections; and (c) OSHA Regulations, including Part Number 1926, Standard Number 1926.651, and other applicable provisions.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
62	Except as authorized in any Segment EM&CP, the Certificate Holders shall not construct or allow their Contractors to construct any new, or improve any existing access roads for the construction, operation, or maintenance of the Facility.	CHPE will comply	Section 4.10
63	Before construction begins on any Segment, the boundaries of the Construction Zone shall be delineated in the field. Also, the Certificate Holders shall stake and flag all access roads and extra workroom areas to be used in constructing that Segment.	CHPE will comply	Section 4
64	The Certificate Holders shall adopt appropriate measures to minimize fugitive dust and airborne debris from construction activity and details of measures to be implemented shall be described in the proposed Segment EM&CP. If contamination in the ground is detected during overland construction and such contamination is of the kind that will lead to volatilization or off-gassing of such contamination or chemical constituents thereof, the Certificate Holders shall contact the New York State Department of Health (NYSDOH), NYSDEC, and DPS Staff prior to further disturbance. Additionally, the Certificate Holders shall conform to practices and procedures described in the DER10/Technical Guidance for Site Investigation and Remediation and the NYSDOH Generic Community Air Monitoring Plan ("CAMP"), to the extent applicable. Nothing in this Certificate shall have the effect of diminishing, enlarging, or altering in any way the obligations of any party that may be triggered in the event a spill of petroleum or a release of hazardous substances to the environment ("Reportable Event") is detected within the Construction Zone by the Certificate Holders and/or their contractors and other representatives during overland construction of the Facility, including, without limitation, any obligation the Certificate	CHPE will comply	Section 6.3.2

	Holders may have to report such Reportable Event to the NYSDEC Oil and Hazardous Materials Spills Hotline (800-518-457-7362).		
65	Disposal of trees and woody material:	CHPE will comply	Section 8.1
65(a)	The Certificate Holders shall negotiate in good faith with each landowner the purchase of rights to all logs over 6 inches in diameter at the small end and 8 feet or longer (merchantable logs) to be cleared from the Construction Zone. Certificate Holders shall not leave any permanent slash piles or log piles along passenger railroad routes or public highways. The Certificate Holders' removal of the merchantable logs resulting from clearing the Construction Zone shall be based on factors such as the attributes of the site, outcome of landowner negotiations, and attributes of the logs, and the Certificate Holders shall explain these factors in detail in the proposed EM&CP.	CHPE will comply	Section 8.4
65(b)	The Certificate Holders shall comply with the provisions of 6 N.Y.C.R.R. Part 192, Forest Insect and Disease Control.	CHPE will comply	Section 9.4 and Appendix K.
65(c)	The Certificate Holders shall prepare a plan for removal, reuse, recycling, and disposal of all woody material. Logs and woody material that cannot be reused or sold shall be either chipped on site, stacked along the edge of the Final Layout Area (as defined at CC 139), hauled to a NYSDEC approved landfill or other suitable off-site location, or buried on the Final Layout Area with landowner agreement. The Certificate Holders shall not leave any logs or other woody material in any designated floodway or other flood hazard area.	CHPE will comply	Section 8
66	All trees over 2 inches in Diameter at Breast Height or shrubs over 4 feet in height damaged or destroyed by activities during construction, operation, or maintenance, regardless of where located, shall be replaced within the following year by the Certificate Holders with the equivalent type of trees or shrubs except if: (a) other arrangements are specified in the approved EM&CP; or (b) equivalent type replacement trees or shrubs would interfere with the proper clearing, construction, operation, or maintenance of the Facility or would be inconsistent with State-invasive species policy; or (c) replacement would be contrary to sound ROW management	CHPE will comply	Section 14.2

	practices, or to any approved long-range ROW management plan applicable to the Facility or adjoining ROW; or d. the owner of land where the damaged or destroyed trees or shrubs were located (or other recorded easement or license Holders' with the right to control replacement) declines replacement.		
67	The Certificate Holders shall provide detailed soil erosion and sediment control plans in a Stormwater Pollution Prevention Plan (SWPPP), which shall be included with the first Segment EM&CP associated with the overland route of the Facility. Soil and sediment control measures shall be implemented early in the construction process and be installed prior to, and maintained in acceptable condition for the duration from any clearing or earthmoving operations through to the permanent stabilization of the soil. Erosion and sediment control devices shall be installed in accordance with the New York State Standards and Specifications for Erosion and Sediment Control (SSESC), the approved EM&CP Converter Station drawings, permit conditions, regulatory approvals, and as otherwise necessary or directed by the Environmental Inspector to prevent adverse impacts to environmentally sensitive areas. The SWPPP shall include a schedule for necessary inspections at all control measure locations. The SWPPP shall be available at the construction site and available to the public upon five days written notice.	CHPE will comply	Section 3.3, 6.3 and SWPPP (Appendix F).
68	The Certificate Holders shall coordinate with DPS Staff and the NYSDOT regarding all plans and work to be performed in state-owned ROWs under the NYSDOT's supervision and management. Prior to filing any Segment EM&CP involving any such state-owned ROW, the Certificate Holders shall provide DPS Staff and NYSDOT Staff with a preliminary design marked to avoid conflict with potential transportation projects that NYSDOT Staff may seek to undertake in the future and shall offer to consult with NYSDOT Staff concerning any comments it may offer and shall use reasonable efforts to accommodate any NYSDOT concerns.	CHPE will comply	Section 3.3 and 12.0; also see Appendix A.
69(a)	In preparing the proposed EM&CP, the Certificate Holders shall consult with each transportation department or agency having jurisdiction over any roads, related structures, and components that will be crossed by the Facility or used for direct access to the Construction Zone. If the access road takes direct access from, or lies within the	CHPE will comply	Section 12.1

	limits of, such roads, the Certificate Holders shall notify each relevant transportation department or agency of the approximate date when work will begin.		
69(b)	Infrastructure subject to the requirements of Condition 69(a) include: movable bridges over the Harlem River and their associated apparatus, including any cables, chains or other apparatus allowing for their operation; and a planned pedestrian and bicycle pathway and associated infrastructure, including landscaping, lighting, rail crossings, fences, railroad gates, and stormwater retention facilities, and associated subsurface components, to be constructed under and in the vicinity of the Hells Gate Bridge in the Bronx, whether constructed or designed at the time of the EM&CP development. The procedures and protections outlined in CCs 27 through 29 shall apply to the movable bridges and other apparatus, and, if they are in place at the time of construction of the Facility, the aforementioned infrastructure associated with the pedestrian and bicycle pathway.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
70	Construction access to the Construction Zone at controlled-access highways shall be provided from off-highway locations.	CHPE will comply	Section 12.1
71	The Certificate Holders shall minimize the impact of construction of the Facility on traffic circulation. Traffic control personnel and safety signage shall be employed to facilitate safe and adequate traffic flow when secondary roadways are affected by construction.	CHPE will comply	Section 12.1 and Appendix C.
72	The Certificate Holders shall consult periodically with state and municipal highway transportation agencies about traffic conditions near the site of the Facility and shall notify each such transportation agency of the approximate date work will begin in its jurisdiction and Construction Zone access points that connect with the highways in that jurisdiction.	CHPE will comply	Sections 3.3 and 12.1
73	The Certificate Holders shall be responsible for checking all culverts and assuring that they are not crushed or blocked during construction and restoration of the Facility	CHPE will comply	Section 13.4 and 14.2.

	and, if a culvert is blocked or crushed, taking immediate steps to replace or repair the culvert in accordance with applicable state or local standards.		
74	Disturbed areas, ruts, and rills shall be restored to original grades and conditions with permanent revegetation and erosion controls appropriate for those locations. Disturbed pavement, curbs, and sidewalks shall be restored to their original preconstruction condition or improved.	CHPE will comply	Section 13.4 and 14.2.
I. Agricultural Lands		**CHPE Response**	**EM&CP Section/Appendix**
75	The Certificate Holders shall design the Facility to the extent possible to avoid crop fields or other active agricultural land.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
76	During the acquisition of rights to use lands comprising the Construction Zone, the Certificate Holders shall ask the owners of such lands that appear to be either undeveloped or used as active agricultural land whether such lands are presently being used for agricultural purposes and, if so, whether such lands are being operated, in whole or in part, by third parties. During the preparation of the EM&CP, the Certificate Holders shall use this information, along with any additional information received during consultation with the NYSDAM, to identify land within the Construction Zone reasonably believed to be active agricultural land. The Certificate Holders shall provide the owners and identified operators of such land with a telephone number to facilitate direct contact with the Certificate Holders and the Agricultural Inspector(s).	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
77	Where construction entrances are required from public roadways to the Construction Zone across agricultural fields, temporary access shall use matting or road installation. The use of topsoil stripping for construction access, as opposed to matting, shall only be allowed with approval from DPS Staff in consultation with the NYSDAM. For matting, the mats shall be layered where necessary to provide a level access surface. For road installation and topsoil stripping, an underlayment of durable, geotextile	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	fabric shall be placed over the exposed subsoil surface prior to the use of temporary gravel access fill material. Complete removal of the construction entrance upon completion of the Facility and restoration of the affected site is required prior to topsoil replacement. Segments of farm roads utilized for access shall be improved as necessary following consultation with the farm operator and the NYSDAM prior to use, subject to the Commission's ongoing jurisdiction.		
78	The Certificate Holders shall provide a monitoring and remediation period of two years following completion of Construction Zone restoration in active agricultural areas. The Certificate Holders shall retain the services of the Agricultural Inspector through this period. The monitoring and remediation phase shall be used to identify any remaining agricultural impacts associated with construction of the Facility that need mitigation and to implement the follow-up restoration. During the monitoring and remediation period, on site monitoring shall be conducted at least three times during each growing season and shall include a comparison of growth and yield for crops within and outside the Construction Zone. When subsequent crop productivity within the Construction Zone is less than that of the adjacent unaffected agricultural land, the Agricultural Inspector, in conjunction with the Certificate Holders and in consultation with other appropriate organizations including the NYSDAM, shall help to determine the appropriate rehabilitation measures for the Certificate Holders to implement (soil decompaction, topsoil replacement, etc.). During the various stages of construction of the Facility, all affected farm operators shall be periodically apprised of the duration of remediation by the Agricultural Inspector. Because conditions that require remediation may not be noticeable at or shortly after the completion of construction, the signing of a release form prior to the end of the remediation period shall not obviate the Certificate Holders' responsibility to fully redress all impacts caused by construction of the Facility. After completion of the specific remediation period, the Certificate Holders shall continue to respond to the requests of the farmland owner/operators to correct adverse impacts to agricultural resources caused by construction of the Facility.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

79	The Agricultural Inspector shall work with farm operators during the planning phase to develop a plan to delay pasturing of livestock in the Construction Zone, work areas, access roads, or staging areas following construction until pasture areas are adequately revegetated. The Certificate Holders shall be responsible for maintaining temporary fencing on the Construction Zone, work areas, access roads, or staging areas until the Agricultural Inspector determines that the vegetation in the Construction Zone is established and able to accommodate grazing. At such time, the Certificate Holders shall be responsible for removal of the fences.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
80	On affected farmland, restoration practices shall be postponed until favorable (workable, relatively dry) topsoil/subsoil conditions exist. Restoration shall not be conducted while soils are in a wet or plastic state. Stockpiled topsoil shall not be re-graded until plasticity, as determined by the Atterberg field test, is significantly reduced. No Facility restoration activities shall occur in agricultural fields in the months of October through May unless DPS Staff has determined after consultation with Ag & Mkts that favorable soil moisture conditions exist. The Certificate Holders shall monitor and advise Ag & Mkts and DPS Staff regarding tentative restoration planning.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
J. Herbicide Use		**CHPE Response**	**EM&CP Section/Appendix**
81	The application of herbicides shall be made under the direct supervision of a NYSDEC Certified Applicator (Applicator) who shall own or be employed by a NYSDEC registered business. The supervising certified Applicator shall be familiar with and understand the Conditions of this Certificate, the approved EM&CP, and any other pertinent Orders issued in this proceeding and shall be present in the field to ensure compliance with provisions in such documents for targeting species and for proper application of authorized herbicides.	CHPE will comply	Not Applicable to this EM&CP. There is no planned herbicide use during construction.
82	All herbicides used shall have valid registrations under applicable state and federal laws and regulations.	CHPE will comply	Not Applicable to this EM&CP. There is no planned herbicide use

			during construction.
83	Application of herbicides shall conform to all label instructions and all applicable federal and state laws and regulations. Herbicides shall not be applied within 100 feet of any public water supply (reservoirs and wellheads), or any private well-head of which Certificate Holders has actual knowledge. Applicators shall reference maps that indicate treatment areas, and wetland and adjacent area boundaries, prior to treating. Applications required in seasonally flooded freshwater wetlands shall be undertaken during a dry season.	CHPE will comply	Not Applicable to this EM&CP. There is no planned herbicide use during construction.
84	The Certificate Holders shall notify DPS Staff and the appropriate NYSDEC Regional Natural Resource Supervisor(s) and Pesticide Control Specialist 14 days prior to the commencement of any herbicide application on the Facility.	CHPE will comply	Not Applicable to this EM&CP. There is no planned herbicide use during construction.
K. Building Code and Inspections - Converter Station and Related Buildings		**CHPE Response**	**EM&CP Section/Appendix**
85	Prior to the commencement of construction of the Converter Station and related buildings, the Certificate Holders shall first obtain review and written certification by the CNY Department of Buildings that the construction plans for the Converter Station are in compliance with the New York City Electrical Code (NYCEC), the New York City Fire Code (NYCFC), and Title 28 of the New York City Administrative Code, including the New York City Construction Codes (NYCCC). Within 10 days of receiving any written certification, the Certificate Holders shall file a copy of such certification with the Secretary and shall serve a copy on the Director of the Office of Energy Efficiency and the Environment.	CHPE will comply	Section 4.2.3

86	During construction of the Converter Station and related buildings, the Certificate Holders shall obtain periodic inspections of the construction work by the CNY Department of Buildings for compliance with the NYCFC, NYCEC and NYCCC.	CHPE will comply	Section 4.2.3
87	Prior to the use or occupancy of the Converter Station and related buildings, the Certificate Holders shall first obtain written certification by the CNY Department of Building that the construction was completed in compliance with the NYCFC, NYCEC, and the NYCCC. Within 10 days of receiving any written certification, the Certificate Holders shall file a copy of such certification with the Secretary and shall serve a copy on the Director of the Office of Energy Efficiency and the Environment	CHPE will comply	Section 4.2.3
L. Overland Restoration		**CHPE Response**	**EM&CP Section/Appendix**
88	At the conclusion of all Facility construction, Construction Zone areas, work areas, access roads, and/or staging areas shall be thoroughly cleared of all debris such as wood, nuts, bolts, spikes, wire, pieces of steel, and other assorted items.	CHPE will comply	Section 14.1
89	The Certificate Holders shall, on completion of construction of the Facility:	CHPE will comply	Section 14.1
89(a)	provide an assessment of the need for landscape improvements, including vegetation planting, earthwork, or installed features to screen or landscape with respect to road crossings, residential areas, parks, highways, Converter Stations, and substations; and	CHPE will comply	Section 14.1
89(b)	prepare plans for any visual mitigation found necessary, considering removal, rearrangement, and supplementation of existing landscape improvements or plantings; and	CHPE will comply	Section 14.1
89(c)	consult with DPS Staff on the content and execution of their landscape improvement assessment, resultant landscaping plan specifications, and materials list; details shall include measures for controlling maintenance and third party or wildlife damage to any landscape or vegetation plantings; and	CHPE will comply	Section 14.1

89(d)	assure the reduction or elimination of net storm water runoff within or immediately adjacent to the Construction Zone and any contribution to sources of non-point pollution resulting from the finished condition; and	CHPE will comply	Appendix C and G.
89(e)	present assessments and plans for DPS Staff review within one (1) year of the date the Facility is placed in service.	CHPE will comply	Sections 3.3 and 14.1.
M. Overland Habitat Areas		**CHPE Response**	**EM&CP Section/Appendix**
90	The Certificate Holders shall incorporate the measures described in the Karner blue butterfly (*Lycaeides melissa samuelis*) *Impact Avoidance and Minimization Report* (Exhibit 109 to the Joint Proposal) into the EM&CP. Prior to the commencement of construction, the Certificate Holders shall arrange a "walk through" of the Construction Zone where lupine habitat has been identified for representatives of the DPS Staff, NYSDEC, the EPC Contractor, and others as deemed appropriate to discuss and review these measures including the location of the flagging of lupine and nectar patches of potential and occupied butterfly habitat. The flagging shall be maintained until construction has been completed and all disturbed areas have been restored to their final grade.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
91	Within six months after the commencement of commercial operations of the Facility, the Certificate Holders shall provide a ROW maintenance plan for the Facility ROW from Route Mile 145, south of Scout Road in the Town of Wilton, New York to Route Mile 180, north of County Line Road in the Town of Rotterdam, New York. This plan shall include but not be limited to methods of maintenance, access routes to the ROW, seasonal construction windows, and the education of all company employees and contractors regarding all measures to avoid occupied habitat associated with Karner blue butterfly and frosted elfin butterfly. The plan shall also provide requirements for notification of the DPS Staff and NYSDEC of any planned maintenance or repair work within, or in the vicinity of occupied habitat that requires excavation or ground disturbance.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

N. Underwater Cable Installation		CHPE Response	EM&CP Section/Appendix
92	All the terms and conditions of the WQC are incorporated by reference into this Certificate as though fully set out herein. Any changes to the WQC shall be governed by the provisions of Condition 158 of this Certificate.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
93	Construction within navigable waters and pre-installation route clearing activities (prelay grapnel run and associated obstruction and debris removal) shall occur within the construction time frames set forth in Table 1-1. After consultation with DPS Staff, the New York State Department of State (NYSDOS), and NYSDEC, the Certificate Holders may seek an appropriate modification of the time frames, either in the proposed EM&CP or subject to the provisions of Condition 158 of this Certificate.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
94	Commencement of in-river work within 1 mile south of the designated Significant Coastal Fish and Wildlife Habitats (SCFWHs) at Haverstraw Bay shall occur during the high, or flood, tide condition in order to avoid and/or minimize impacts from resuspended sediments to the SCFWH habitat of Haverstraw Bay.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
95	The Certificate Holders shall use installation techniques for underwater cable installation activities that are appropriate for the prevailing substrate conditions.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
95(a)	Cable installation in the Hudson, Harlem, and East Rivers shall be designed and installed to meet the following criteria: (i) Where the cables shall be located within the limits of the maintained Federal Navigation Channels (a) in the Harlem, Hudson, and East Rivers, the Certificate Holders shall install the cables to a depth of at least fifteen (15) feet below the federally-authorized depth of the Federal Navigation Channel and (b) in the Harlem River, the Certificate Holders shall install the cables to those elevations below the federally-authorized depth of such Channel that have been specified by the USACE in Permit NAN-2009-0189 and by the New York State	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	Department of State in its determination of March 3, 2014 made pursuant to the federal Coastal Zone Management Act; (ii) and where the cables shall be located outside the limits of the maintained Federal Navigation Channels in such rivers, the Certificate Holders shall install the cables to the maximum depth achievable that would allow each pole of the bi-pole to be buried in a single trench using a jet-plow, which is expected to be at least six (6) feet below the sediment water interface or, if sand waves are present, the trough of said waves, or as authorized by DPS Staff, NYSDEC, and NYSDOS as discussed in condition 95(a)(iii), below the existing riverbed outside maintained Federal Navigation Channels, except where utility lines or other infrastructure are crossed or where geologic or topographic features prevent burial at such depth. (iii) No changes in the installation technology or burial depth shall be allowed without a written statement from NYSDOS stating that the deviation would not result in coastal effects that differ significantly from the coastal effects reviewed by NYSDOS in Certificate Holders' original federal coastal consistency certification (Coastal Consistency Certification). In the event that NYSDOS determines that such deviation would result in coastal effects that differ significantly from those reviewed in the Coastal Consistency Certification, the Certificate Holders shall seek a written concurrence from NYSDOS for any such project changes that would require an amendment to the Certificate Holders' Coastal Consistency Certification. Nothing in this Certificate shall be construed to limit or expand any rights Certificate Holders may have to seek administrative or judicial review of any action or inaction by NYSDOS relating to any such deviation. [as Amended by Amendment 1 (March 20, 2020)].		
95(b)	Cable installation in Lake Champlain shall be designed and installed to meet the following criteria: (i) in locations where the water depth is less than 150 feet, the target burial depth is 3 to 4 feet below the sediment surface, except where the cables cross other utility lines or other infrastructure or where geologic or bathymetric features prevent burial at such depth, and adequate measures for cable and infrastructure protection are provided; (ii) in locations where water depth is 150 feet or greater, the target burial depth is 3 to 4 feet below the sediment surface, however the cables may be buried at shallower depths or laid on the lake bed where Certificate Holders	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	provides a report prepared by a recognized authoritative technical consultant demonstrating and concluding that public health and safety can be appropriately protected without such burial, and the proposed installation method is approved by the Commission in the Segment EM&CP. (iii) Where the cables shall be located in the portion of Lake Champlain south of Crown Point (Route Mile 73), the Certificate Holders will rely on the shear plow installation method or, when reliance on such method is infeasible, an alternative method that avoids environmental impacts to a substantially equivalent degree. Where cables shall be located in the portion of Lake Champlain north of Crown Point, the Certificate Holders shall rely on a jet-plow or shear plow, or, in deeper water, either a self-propelled remotely operated vehicle (ROV) that shall bury the cables using water jetting after the initial surface lay of the cables from the vessel.		
95(c)	Utility and other infrastructure crossings shall be executed consistent with site-specific design measures for each such crossing as specified in the approved EM&CP.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
96	In the event that the target depth of cover (consistent with the requirements of Condition 95) has not been substantially achieved in an area due to geologic or topographic features and not due to limitations associated with a utility crossing, following the post-installation inspection provided for in Condition 161, the Certificate Holders shall report the actual depth of cover, and propose a plan, with a reasonable schedule, consistent with Good Utility Practice whose definition is provided in Condition 20, for achieving an adequate burial depth or protection level given the location to NYSDEC, NYSDOS and DPS Staff for review and comment.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
97	As long as the Certificate Holders complies with the requirements of Condition 96, failure to achieve the depth of cover consistent with the requirements of Condition 95 shall not be a basis for an order to cease installation of the remaining cable sections, an order not to energize, or an order to cease operation. An order not to energize or to cease operation will be issued only after affording the Certificate Holders an opportunity to show cause why such order should not be issued.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

98	The Certificate Holders shall employ HDD and dredging to install the proposed underwater cables from the proposed cable landfall locations to avoid disturbance to near shore sediments. The exit pit of each HDD borehole shall be installed within temporary dredged cofferdams or into a steel casing rise pipe. The walls of each temporary cofferdam shall extend above mean high water during dredging to contain suspended sediments associated with dredging activities and hence limit the dispersion of the suspended sediments to the interior footprint of the temporary cofferdam.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
99	As part of the planning process for dredging, consultations with NYSDEC and USACE shall occur, at which time the specific practices to be employed shall be discussed. All cofferdams and any other dredged area shall be backfilled with clean material. The dredging practices and procedures to be utilized by the Certificate Holders shall be specified in the EM&CP and shall include:	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
99(a)	A closed (i.e., sealed) environmental (clamshell) bucket with sealing gaskets or an overlapping sealed design at the jaws and seals or flaps positioned at locations of vent openings, approved by the Commission, shall be used to minimize sediment suspension at the dredging site for fine grained unconsolidated (silty) sediments and for dredging across or within Federal Navigation Channels. Seals or flaps designed or installed at the jaws and locations of vent openings must tightly cover these openings while the bucket is lifted through the water column and into the barge, and the closed environmental (clamshell) bucket dredge shall be equipped with sensors to ensure complete closure of the bucket before lifting through the water.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
99(b)	Dredging Practices: The following practices shall be applied to all activities to ensure that large amounts of sediment are not released into the water column: (1) Hoist speed shall be limited so that the bucket is raised through the water column at a rate of 2 feet per second or less. The bucket shall be lifted in a continuous motion through the water column and into the barge; (2) The dredge shall be operated to control the rate of the descent and to maximize the depth of penetration without overfilling the bucket; (3) Washing of the gunwales of the dredge scow shall be avoided except to the extent necessary to ensure the safety of workers; and (4) The bucket shall be	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	lowered to the level of the barge gunwales prior to release of the load and the dredged material shall be placed deliberately and in a controlled manner; (5) Operations shall be suspended until all necessary repairs or replacements are made when a significant loss of water and visible sediments from the bucket are observed; and (6) Dredged material shall not be side cast or returned to the water.		
99(c)	Barge overflow is prohibited.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
99(d)	Barge/Scow Type: Barges or scows shall be of solid hull construction or be sealed.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
99(e)	Dredging Monitoring: An on-board Aquatic Inspector(s) shall be present at all times during dredging operations.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
99(f)	Dredging Windows: Dredging shall occur within the underwater construction windows identified in Table 1 of Condition 93.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
99(g)	Decanting Operations: Decanting of barges shall be approved by DPS Staff in consultation with NYSDEC prior to implementation. Barges may not be decanted before 24 hours of settlement within the scow.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
99(h)	Only barges in good operating condition shall be used. Deck barges shall not be used, unless modified to allow no barge overflow and as approved by the Aquatic Inspector and DPS Staff in Consultation with NYSDEC.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

99(i)	The Aquatic Inspector shall inspect all dredging equipment prior to use and shall perform periodic inspections of all such equipment no less than once per week. The contractor shall demonstrate to the Aquatic Inspector that the bucket dredge operator has sufficient control over the bucket depth in the water and bucket closure.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
99(j)	All sediments excavated during cofferdam construction and transition activities at the landfall location must be disposed of at a state-approved upland disposal site. All contaminated sediments excavated during placement in the navigation channel shall be disposed of in a state-approved upland disposal site.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
99(k)	During dredging operations, the Certificate Holders shall provide weekly reports on progress to date, document compliance with Certificate requirements, and such other information as determined necessary based on consultation with DPS Staff, NYSDEC, and NYSDOS.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
99(l)	All cofferdams and any other dredged area shall be backfilled using imported clean material, as needed, to restore the stream, lake, or riverbed to preconstruction contours. This work shall be completed in accordance with the relevant approved Segment EM&CP.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
99(m)	In no instance shall excavated contaminated sediment be placed back into a waterbody.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
100	Underwater activities shall be undertaken in a manner that minimizes the potential for interference with navigation.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
101	The Certificate Holders shall coordinate with NYSDOT on cable construction and maintenance activities within Lake Champlain that may affect construction, operation, maintenance, and inspection of the Crown Point Bridge in Lake Champlain.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

O. Water Supply Intakes		CHPE Response	EM&CP Section/Appendix
102	The Certificate Holders shall review the pre-installation marine sediment survey to determine if the location of any public water supply (PWS) structure along the HVDC Transmission System route can be identified.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
103	The Certificate Holders shall provide notice that the EM&CP is available for review to operators of PWS facilities located within 1 mile of the in-water facility. The notice shall include, in plain language: (i) details about the planned work; (ii) hours and duration of activities; (iii) provisions for protection of facilities, if applicable; (iv) identification of locations where additional information and copies of the EM&CP are available; (v) contact information for Certificate Holders' personnel, including a toll-free number; and (vi) instructions on how comments regarding construction plans and mitigation measures may be filed with the Secretary, indicating appropriate deadlines for commenting and contact information. Proof of notice shall be provided to the Secretary.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
104	The Certificate Holders shall notify operators of PWS facilities of construction work within 1 mile of their intake structure(s) at least 30 days prior to the commencement of any underwater work (including but not limited to grapnel, preconstruction, and construction activities) in these areas or within the period requested by the systems operators during the consultation process detailed in CC 150. Such notice shall be in the form of a written letter as well as any other method identified during the consultation process detailed in CC 150. The Certificate Holders shall provide copies of all written correspondence to DPS Staff.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
105	Operational Control: The schedule of grapnel/debris removal and all phases of construction shall be coordinated in consultation with each PWS facility. Construction and pre-construction operations within 1 mile of an intake shall be performed at night or another scheduled time when systems are not operating to the extent reasonably possible.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

106	PWS Sampling during Grapnel/Debris Removal and Construction Operations: The Certificate Holders shall establish a fund that provides for each of the PWS facilities identified by the NYSDOH as being within 1 mile of the underwater cable facility to enable completion of the following testing, with payment for this work being based on the mechanism established during the consultation provided for by CC 150:	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
106(a)	One pre-construction raw water sample collected no more than 12 hours prior to in-water operations occurring in proximity to the intake structure. Samples collected shall be analyzed for total metal concentrations with United States Environmental Protection Agency (EPA) Method 200.8. Raw water samples collected from PWS facilities located along the Hudson River shall also be analyzed for polychlorinated biphenyls (PCBs) with EPA Method 508A. All pre-construction raw water samples collected from the PWS facilities should be reported using a 24-hour turnaround.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
106(b)	Two sets of post-construction raw water and finished water (post-treatment) samples from the PWS facility. The first set shall be collected immediately following operations occurring in proximity to the intake structure and the second set shall be collected approximately 12 hours after conclusion of operations.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
106(c)	Post-construction raw water samples from all PWS facilities shall be analyzed for total metal concentrations with EPA Method 200.8. Raw water samples collected from PWS facilities located along the Hudson River shall also be analyzed for PCBs with EPA Method 508A. All post-construction raw water samples collected from the PWS facilities shall be reported using a 24-hour turnaround. Finished water samples shall be held at the laboratory.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
106(d)	If raw water sample results suggest any significant water quality impacts associated with any pre-construction or construction operations, the finished water samples shall be analyzed: (a) for total metal concentrations with EPA Method 200.8 and, (b) if collected from PWS facilities located along the Hudson River, for PCBs with EPA Method 508A. All finished water samples submitted for analysis shall be reported	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	using a 24-hour turnaround. The decision to analyze the finished water samples shall be made by DPS Staff in consultation with the NYSDOH.		
106(e)	If analysis of finished water sample results indicates that there has been a maximum contaminant level (MCL) violation caused by the installation activities, the Certificate Holders shall employ the mitigation measures prescribed in accordance with Condition 14(c) of the WQC in all locations where cable installation operations are within 1 mile of a water intake structure. If the Certificate Holders proposes to employ mitigation measures not otherwise provided for in accordance with CC 14(c) of the WQC, they must first consult with the DPS Staff, NYSDEC, and the Aquatic Inspector. In the event that DPS Staff determines that the mitigation techniques are unable to mitigate the MCL violation(s), underwater cable installation shall be suspended, and the Certificate Holders shall consult with DPS Staff, NYSDOH, and NYSDEC regarding alternative cable installation techniques and propose such changes to the approved EM&CP in accordance with Condition 158 as may be necessary.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
106(f)	The Certificate Holders shall provide copies of all laboratory data reports for samples collected from each PWS facility located along the Hudson River to NYSDOH and DPS Staff.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
P. Cultural Resources		**CHPE Response**	**EM&CP Section/Appendix**
107	The Certificate Holders shall: (a) avoid creating adverse impacts on heritage resource sites, archeological sites, historic structures, and underwater cultural resources in the vicinity of the Facility by implementing location, design, vegetation management, resource protection, and construction scheduling measures as shall be specified in the approved EM&CP; and (b) provide cultural and heritage resource impact mitigation measures as specified in the approved EM&CP or facility management and restoration plan(s).	CHPE will comply	Section 11
108	The Certificate Holders shall refrain from undertaking construction in areas where archeological surveys have not been completed and until such time as the appropriate	CHPE will comply	Section 11

	authorities, including New York State Office of Parks Recreation & Historic Preservation (OPRHP) and DPS Staff, have reviewed the results of any additional historic properties and archeological surveys that are required. These archeological surveys may be segmented in conjunction with the preparation of the EM&CP to permit the review, approval, and commencement of any circuit or Converter Station improvements prior to review and approval for the remaining portions of the Facility.		
109	The Certificate Holders shall develop a Cultural Resources Management Plan (CRMP) as described below. The CRMP shall be developed in consultation with the OPRHP Field Services Bureau, Indian tribes, the Advisory Council on Historic Preservation (Council), the U.S. National Park Service, DPS Agency Preservation Officer, and other stakeholders (as appropriate). The CRMP shall provide for the identification, evaluation, and management of historic properties within the Area of Potential Effects (APE) of the Facility. The CRMP shall also outline the processes for resolving adverse effects on historic properties within the APE and determining the appropriate treatment, avoidance, or mitigation of any effects of the Facility on these resources.	CHPE will comply	Section 11 and Appendix L.
110	Should archeological materials be encountered during construction, the Certificate Holders shall stabilize the area and cease all construction activities in the immediate vicinity of the find, and protect the site from further damage. Within 24 hours of such discovery, the Certificate Holders shall notify and seek to consult with DPS Staff and OPRHP Field Services Bureau to determine the best course of action. No ground-disturbing activities shall be permitted in the vicinity of the archeological materials until such time as the significance of the resource has been evaluated and the need for and scope of impact mitigation have been determined.	CHPE will comply	Section 3.3, Section 11, and Appendix L.
111	Should human remains or evidence of human burials be encountered during the conduct of archeological data recovery fieldwork or during construction, all work in the vicinity of the find shall be halted immediately and the site shall be protected from further disturbance. Within 24 hours of any such discovery, the Certificate Holders shall notify the DPS Staff and OPRHP Field Services Bureau. Treatment and disposition of any human remains that may be discovered shall be managed in a manner consistent with the Native American Graves Protection and Repatriation Act (NAGPRA); the	CHPE will comply	Section 3.3, Section 11, and Appendix L.

	Council's Policy Statement Regarding Treatment of Burial Sites, Human Remains, any Funerary Objects (February 2007); and OPRHP's Human Remains Discovery Protocol. All archaeological or remains-related encounters and their handling shall be further reported in the status reports summarizing construction activities and reviewed in the site-compliance audit inspections.		
112	The Certificate Holders shall have a continuing obligation during the life of the Facility to respond promptly to complaints of negative archeological impacts and to consult with OPRHP, the Council, Indian tribes, and other appropriate parties identified in the CRMP to resolve adverse effects on historic properties and determine the appropriate avoidance, treatment, or mitigation measures.	CHPE will comply	Section 11 and Appendix L.
Q. Waterbodies and Regulated Wetlands		**CHPE Response**	**EM&CP Section/Appendix**
113	The Certificate Holders shall minimize disruption to regulated wetlands during the construction, operation, and maintenance activities of the Facility.	CHPE will comply	Section 9.1
113(a)	Regulated wetland locations shall be delineated in the field and indicated on the proposed EM&CP drawings for the Construction Zone and any access roads. Such delineations shall be delivered for review to DPS Staff, NYSDOS, and NYSDEC and, for wetlands within the Adirondack Park, to the Adirondack Park Agency (APA), at least 30 days prior to the filing of the proposed EM&CP.	CHPE will comply	Section 3.3, 9.1
113(b)	Any activities that may affect regulated wetlands shall be designed and controlled to minimize adverse impacts, giving due consideration to the environmental features and functions of the regulated wetlands and the 100-foot adjacent area associated with any state-regulated wetlands (adjacent area).	CHPE will comply	Section 9.1
113(c)	The Certificate Holders shall, to the maximum extent practicable, avoid direct impacts to regulated wetlands and construct access roads outside regulated wetlands and	CHPE will comply	Section 9.1

	adjacent areas. Any direct impacts that are not avoided shall be minimized and appropriately mitigated.		
113(d)	Construction through regulated wetlands or adjacent areas shall be done with tracked equipment or on temporary mats or geotextile/gravel access roads and shall be restricted to access roads and work areas set forth on the approved EM&CP drawings, provided that the Certificate Holders' use of geotextile and gravel for access roads shall not contravene the requirements set forth in CC 77 of this Certificate.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
113(e)	Clearing of existing vegetation in wetlands or in or near waterbodies shall be limited to that material necessary to allow completion of construction activities and to allow for reasonable access for long-term maintenance to reduce the amount of activity and disturbance to the wetland and adjacent area.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
113(f)	Equipment or machinery shall not be washed in any regulated wetland or adjacent area, and runoff resulting from washing operations shall not be permitted to directly enter any regulated wetland or protected stream or waterbody.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
113(g)	Excavated material shall be stockpiled outside regulated wetland areas and all excess material shall be disposed of in approved overland locations.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
114	The Certificate Holders shall minimize disruption to streams and waterbodies during construction, operation, and maintenance of the Facility. Measures to protect such streams and waterbodies from runoff and sedimentation during construction (other than installation of underwater cables in navigable waters) shall include:	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
114(a)	The development of an inventory that includes for each Segment: (i) a listing of waterbodies within the Construction Zone, including associated stream width, NYSDEC classification, proposed crossing method, and any potential construction schedule window developed during the preparation of the proposed EM&CP; (ii) a spreadsheet that contains the GPS coordinates (latitude and longitude) of each waterbody; (iii) a digital photograph of each waterbody, cross-referenced to its GPS	CHPE will comply	Not applicable to Astoria Converter Station EM&CP. See discussion at Section 9.1.

	coordinates; and (iv) a wetland delineation shape-file. This inventory shall be delivered for review to DPS Staff, NYSDOS, and NYSDEC and, for waterbodies within the Adirondack Park, to APA, at least 30 days prior to the filing of the proposed EM&CP;		
114(b)	Limitation of construction vehicle access across streams and waterbodies to existing bridges and culverts and to temporary crossings installed in accordance with the provisions set forth in the approved EM&CP;	CHPE will comply	Section 9.1
114(c)	Construction of equipment crossings to allow for unrestricted flow and to prevent soil from entering streams and waterbodies. Temporary crossings shall be designed and constructed to withstand the two-year flood event at a minimum;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
114(d)	Except where an access path is necessary, a 15-foot-wide buffer zone shall be maintained at all waterbody crossings along any railroad ROW;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
114(e)	Prohibition of vehicular access where alternative access can be provided;	CHPE will comply	Section 4.10
114(f)	Restriction of equipment and materials (including fill, construction materials, or debris) from being deposited, placed, or stored in any waterbody;	CHPE will comply	Section 5.4, 5.5, and Appendix F.
114(g)	In general, and to the maximum extent practicable, refueling of equipment, storage mixing, or handling of open containers of pesticides, chemicals labeled "toxic," or petroleum products, shall not be conducted within one hundred (100) feet of a stream or waterbody or wetland. Requirements for refueling within 100 feet of wetlands or streams will be allowed under certain circumstances identified below, subject to the practices set forth in the approved EM&CP.	CHPE will comply	Sections 5.4, 5.5, and Appendix J.
	(1) Refueling of hand equipment will be allowed within 100 feet of wetlands or streams when secondary containment is used. Secondary containment will be constructed of an impervious material capable of holding the hand equipment to be refueled and at least 110% of the fuel storage container capacity. Fuel tanks of hand-held equipment will be initially filled in an upland location greater than 100 feet from wetlands or		

	streams in order to minimize the amount of refueling within these sensitive areas. Crews will have sufficient spill containment equipment on hand at the secondary containment location to provide prompt control and cleanup in the event of a release.		
	(2) Refueling of equipment will be allowed within 100 feet of wetlands or streams when necessary to maintain continuous operations and where removing equipment from a sensitive area for refueling would increase adverse impacts to the sensitive area. Fuel tanks of such equipment will be initially filled in an upland location greater than 100 feet from wetlands or streams in order to minimize the amount of refueling within these sensitive areas. Absorbent pads or portable basins will be deployed under the refueling operation. In addition, the fuel nozzle will be wrapped in an absorbent pad and the nozzle will be placed in a secondary containment vessel (e.g., bucket) when moving the nozzle from the fuel truck to the equipment to be refueled. All equipment operating within 100 feet of a wetland or stream will have sufficient spill containment equipment on board to provide prompt control and cleanup in the event of a release.		
	(3) Field personnel and Contractors shall be trained in spill response procedures, including the deployment and maintenance of spill response materials;		
114(h)	Employment of precautions, when not feasible to move the affected vehicle or equipment from an environmentally sensitive area to a suitable access area (i.e., pumping equipment), to prevent petroleum products or hazardous materials from being released into the environment. These precautions include (but are not limited to) deployment of portable basins or similar secondary containment devices, use of ground covers (such as plastic tarpaulins), and precautionary placement of floating booms on nearby surface waterbodies;	CHPE will comply	Sections 5.5
114(i)	Implementation of EM&CP procedures for erosion and sediment control (in accordance with the SWPPP to be included with the proposed EM&CP) early in the construction process and prior to the start of grading and excavation activities; such procedures shall be maintained throughout the construction period and in accordance with SSESC;	CHPE will comply	Sections 6.3, Appendices G and C.

114(j)	Pumping of water from dewatering operations into a temporary straw bale or silt fence barrier or filter bag to settle suspended silt material prior to discharge. Direct discharge of sediment laden water to state- and/or federally- regulated wetlands and to streams and stormwater systems shall be avoided;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
114(k)	Runoff resulting from equipment or machinery washing operations shall be prevented from directly entering any State-regulated wetland or protected stream or waterbody;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
114(l)	Development and implementation of spill response and cleanup procedures to minimize and respond to any accidental spills of petroleum producing chemicals or hazardous liquids that occur during construction;	CHPE will comply	Appendix I
114(m)	A requirement that, during the performance of any HDD waterbody crossing, contractors monitor the use of inert biodegradable drilling solution and, in the event of a detected release of fluid, implement the procedures specified in the approved EM&CP. For any release occurring in a waterbody, the Certificate Holders shall immediately notify DPS Staff and NYSDEC of details of the release and the course of action they recommend taking;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
114(n)	Monitoring of the status of each HDD waterbody crossing while construction activities are underway until the crossing has been completed and the stream and stream banks have been restored. In the event of any potential or actual failure of the crossing, the Certificate Holders shall have adequate staff and equipment available to take necessary steps to prevent or avoid adverse environmental impacts;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
114(o)	Completion of backfilling operations and of cleanup and restoration of the stream crossing, banks, and bank approaches (at least 50 feet adjacent to each bank) within 24 hours. If needed, stream banks shall be reestablished to original grade immediately after stream bank work is completed. The banks shall then be permanently stabilized by seeding with native grasses, mulching, and, if needed, planting native shrub seedlings	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

115	The Certificate Holders shall notify DPS Staff and NYSDEC at least 5 days prior to construction involving protected stream crossings.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
116	NYSDEC field representatives will notify the DPS Staff representative and the Certificate Holders' appropriate representative and, for wetlands within the Adirondack Park, APA of any activities that violate or may violate either the terms of this Certificate or the ECL. DPS Staff, NYSDEC field representatives, and, for wetlands within the Adirondack Park, the APA will consult in assessing site conditions and determining whether a recommendation should be made to DPS Staff to exercise its stop work authority or, alternatively, whether the Certificate Holders should be directed to take action to minimize further impacts to streams and regulated wetlands as appropriate.	CHPE will comply	Section 3.4
117	The Certificate Holders shall establish and implement a program to monitor the success of wetland and stream restoration upon completion of construction and restoration activities. The success of wetland revegetation shall be monitored and recorded annually for the first two (2) years (or as required by any applicable permit) after construction, or longer, until wetland re-vegetation is successful. Wetland re-vegetation will be considered successful when the vegetative cover is at least 80 percent of the type, density, and distribution of the vegetation in adjacent wetland areas that were not disturbed by construction. If re-vegetation is not successful at the end of two years, the Certificate Holders shall develop and implement (in consultation with a professional wetland ecologist) a plan to actively revegetate the wetland with native wetland herbaceous plant species.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
118	If DPS Staff, in consultation with NYSDEC, determines that restoration of damage to wetlands caused by use of temporary road mats has not been adequate, the Certificate Holders shall prepare a mitigation plan for impacts arising from the use of temporary road mats. Such plan shall provide for compensatory mitigation in the form of a proposed project to address the loss of wetland functions, such as vegetation plantings or a project to address invasive species in wetlands.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

R. Transmission System Reliability		CHPE Response	EM&CP Section/Appendix
119	This section of this Certificate deals with the interconnection of the Facility to the New York State Bulk Power System (NYSBPS) and with certain aspects of the operation of the Facility while interconnected with the NYSBPS. Some of these matters may also be subject to regulation by FERC under the FPA. Nothing contained in this section shall be construed as limiting or waiving Certificate Holders rights under the FPA in any way. If Certificate Holders petition a tribunal of competent jurisdiction to determine whether any of the conditions and/or requirements established within this Transmission System Reliability section are regulated within the scope of FERC's exclusive jurisdiction under the FPA, Certificate Holders will provide a copy of such petition to DPS Staff within three days of filing. If determined by such tribunal to be within FERC's exclusive jurisdiction, Certificate Holders' compliance with FERC's requirements applicable to such matters (including without limitation any requirements established in any tariff or service agreement accepted for filing by FERC) shall be regarded as full and complete compliance with any such conditions and/or requirements established in this section.	CHPE will comply	General Requirement not Applicable to Astoria Converter Station EM&CP.
120	The Certificate Holders is authorized to construct and agree to design, engineer, and construct the HVDC Transmission Facility's Attachment Facilities (as defined in the Open Access Transmission Tariff (OATT) of the NYISO, as provided in the Optional Interconnection Study (OI) and System Reliability Impact Study (SRIS) approved by NYISO, NYISO's Transmission Planning and Advisory Subcommittee (TPAS), and NYISO's Operating Committee (OC), the applicable NYISO Class Year Annual Transmission Reliability Assessment Study (ATRAS), and the Facility's Interconnection Agreement with the applicable parties, which may include the NYPA, ConEdison and NYISO (the IA). The Certificate Holders shall utilize Good Utility Practice as described in CC 20, in the design, engineering, and construction of the HVDC Transmission System's Attachment Facilities.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

121	The Certificate Holders shall connect the HVDC Transmission System to the 345 kV Astoria bus owned by NYPA at 345 kV, as shown in Appendix B. Certificate Holders shall connect the Astoria-Rainey Cable to the 345 kV Astoria bus owned by the NYPA and to the 345 kV Rainey bus owned by ConEdison as shown in Appendix B.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
122	The Certificate Holders shall work with the NYPA and ConEdison, and any successor Transmission Owner(s) (TOs) (as defined in the NYISO Agreement) to ensure that the Facility has a power system relay protection and appropriate communication capabilities to ensure that operation of the electric transmission system is adequate under NPCC Bulk Power Protection Criteria, and meets the protection requirements at all times of the NERC, NPCC, NYSRC, NYISO, ConEdison, and NYPA and any successor organizations. The Certificate Holders shall ensure that their power system relay protection and communication capabilities comply with applicable NPCC criteria and shall be responsible for the costs to verify that their relay protection system is in compliance with applicable NERC, NPCC, NYISO, NYSRC, Con Edison and NYPA criteria.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
123	The following requirements apply: (a) The Certificate Holders shall be responsible for the Facility's share of the cost of System Upgrade Facilities (as that term is defined in the OATT) as determined by NYISO in accordance with its FERC approved tariffs, rules, and procedures; (b) The Certificate Holders shall be responsible for the cost of interconnection facilities as they are defined in Attachment S of the OATT, and to the extent set forth in the IA; (c) Payments from the Certificate Holders to NYPA and/or Con Edison of the amounts contemplated in this Certificate Condition shall be made in accordance with the terms of the IA; (d) The Certificate Holders shall maintain the Facility in accordance with the approved tariffs and applicable rules and protocols of NYPA, ConEdison, NYISO, NYSRC, NPCC, NERC, and NAERO, and successor organizations; (e) The Certificate Holders shall obey operational orders and dispatch instructions issued by NYISO or its agent or successor pursuant to applicable tariffs, manuals, rules, protocols, and other relevant documents applicable to the Facility. If the NYISO System Operator encounters communication difficulties, the Certificate Holders shall obey dispatch instructions issued by the Con Edison Energy Control Center, or its successor(s), pursuant to applicable tariffs, manuals, rules, protocols, and	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	other relevant documents applicable to the Facility in order to maintain reliability of the transmission system.		
124	The Certificate Holders shall fully comply with the applicable reliability criteria of NYPA, the Commission, ConEdison, NYISO, NPCC, NYSRC, NERC, NAERO and their successors. If the Facility fails to meet such reliability criteria at any time, the Certificate Holders shall notify NYISO immediately, in accordance with NYISO requirements, and shall simultaneously provide the Commission, NYPA and Con Edison with a copy of the NYISO notice.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
125	The Certificate Holders shall file a copy of the following documents with the Secretary and provide any updates to the documents throughout the life of the Facility:	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
125(a)	all facilities agreements with ConEdison, NYPA, and successor Transmission Owners (as defined in the NYISO agreement);	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
125(b)	any documents submitted to the NYSRC, including but not limited to, any updates issued by the NYSRC;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
125(c)	the SRIS or any OIS or the Systems Impact Study (SIS) approved by the NYISO Operating Committee, and the Final Class Year Facilities Study. Should the Certificate Holders apply in the future to NYISO for additional Capacity Resource Interconnection Service (CRIS) rights for the Facility, they shall file with the Commission copies of all documents submitted to NYISO, provided however that in the case of documents containing confidential information of the NYISO, Certificate Holders shall not be obligated to file any materials that NYISO refuses to authorize Certificate Holders to file. Certificate Holders shall file such documents with the Commission, even if they choose not to fund construction of the System Deliverability Upgrades (as that term is defined in the OATT) required to obtain such additional CRIS rights;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

125(d)	the Relay Coordination Study (which shall be filed not later than six months prior to the projected date for circuit energization or testing and commissioning activities of the Facility, and shall be performed in concert with Con Edison and NYPA, and the results of which shall be provided to Con Edison and NYPA);	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
125(e)	a copy of the IA(s) and all updates thereto throughout the life of the Facility	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
125(f)	a copy of the facilities design studies, including all associated drawings and support documentation and a copy of the manufacturer's "terminal facilities design characteristics" of the equipment installed (including test and design data); updates thereto throughout the life of the Facility; and	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
125(g)	if any equipment or control system with different characteristics is to be installed, the Certificate Holders shall provide that information to the Commission, NYPA and Con Edison before any such change is made at least three months in advance so that it can be reviewed prior to installation (throughout the life of the Facility).	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
126	Within five business days of any failure of equipment causing a reduction of more than 10% percent in the capability of the Facility to transmit electric power, the Certificate Holders shall promptly provide to DPS Staff, NYPA, and Con Edison copies of all notices, filings, and other substantive written communications with NYISO as to such reduction, any plans for making repairs to remedy the reduction, and a proposed schedule for any such repairs. The Certificate Holders shall provide monthly reports to DPS Staff, Con Edison, and NYPA on the progress of any repairs until completed. The report shall contain, when available, copies of applicable drawings, descriptions of the equipment involved, a description of the incident, and a discussion of how future occurrences will be avoided. The Certificate Holders shall work cooperatively with NYPA, ConEdison, and NYISO to avoid any future occurrences. If such equipment failure is not completely repaired within nine months of its occurrence, the Certificate Holders shall provide a detailed report to the Secretary within nine months and two weeks after the equipment failure, setting forth the progress on the repairs and	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	indicating whether the repairs will be completed within three months. If the repairs will not be completed within three months, the Certificate Holders shall explain the circumstances contributing to the delay and demonstrate why the repairs should continue to proceed.		
127	The Certificate Holders shall include in the Facilities Study for the HVDC Transmission System prepared by NYISO, and request that NYISO identify, the additional facilities required for the Certificate Holders to provide Black Start service, as well as the cost of those facilities. If the Certificate Holders subsequently decide to participate in the NYISO's Black Start program, they shall demonstrate annually that the Facility can be black started. The Certificate Holders shall schedule with the NYISO, Con Edison, and NYPA the black start test and demonstrate black start procedures. If the Black Start Test fails, the Certificate Holders shall produce a report describing the test, detailing the cause (including copies of diagrams, photos, details of the test, and illustrations of the fail test) and what actions or changes are being made to the black start procedures. A copy of the report shall be submitted to ConEdison, NYPA, the Commission, and the NYISO. The Certificate Holders will provide the opportunity for DPS Staff to observe the black start testing and to attend all meetings related to Black Start. The Certificate Holders shall effectuate a successful black start annually to qualify for the Black Start program.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
128	The Certificate Holders shall coordinate with NYPA and Con Edison system planning and system protection engineers to evaluate the characteristics of the transmission system before purchasing any system protection and control equipment related to the electrical interconnection of the Facility to NYPA's and Con Edison's transmission facilities. This discussion is designed to ensure that the equipment purchased will be able to withstand most system abnormalities.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
129	The technical considerations of interconnecting the Facility to the NYPA's and ConEdison's transmission facilities shall be documented by the Certificate Holders and provided to Staff of the Bulk Power Systems Section of DPS, Con Edison, and NYPA	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	prior to the installation of transmission equipment. Updates to the technical information shall be furnished as available throughout the life of the Facility.		
130	The Certificate Holders shall work with NYPA and Con Edison engineers and safety personnel on testing and energizing equipment and develop a start-up testing protocol providing a detailed description of the steps that they will take to limit system impacts prior to and during testing of the Facility. Such protocol shall be provided to NYISO, Con Edison, and NYPA for review and comment and, following the review and comment phase, a copy of such protocol shall be provided to Staff of the Bulk Electric System Section of the DPS. The Certificate Holders shall comply with this protocol once established, unless NYISO provides written authorization to Certificate Holders to deviate from that protocol. The Certificate Holders shall make a good faith effort to notify DPS Staff of meetings related to the electrical interconnection of the Facility to NYPA's or Con Edison's transmission system, as applicable, and provide the opportunity for Staff to attend those meetings. The Certificate Holders shall provide a copy of the testing protocol to Staff of the Bulk Electric Systems Section of DPS.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
131	The Certificate Holders shall make modifications to the Facility if it is found by the NYISO or the Commission to cause reliability problems to the New York State Transmission System. If the NYPA, ConEdison, or the NYISO bring concerns to the Commission, the Certificate Holders shall be obligated to respond to those concerns. The Certificate Holders shall prepare a report within 45 days of notification by DPS Staff that DPS Staff has determined that a reliability problem exists.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
132	No less than 60 days prior to the Facility's anticipated COD, the Certificate Holders shall file with the Secretary, Operation and Maintenance Plan(s) for the Facility's Interconnection Facilities. The plan(s) shall be updated yearly and a copy of the updated plan(s) shall be filed with the Secretary; the plan(s) and updates shall be provided to Con Edison and NYPA.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

133	The Certificate Holders shall file with the Secretary, no less than 60 days prior to delivery of test energy from the Facility to the Astoria Annex Substation and the Rainey Substation, a report regarding the measures taken to achieve the 1,550 MW deliverability commitment established in Condition 15(a) hereof, as well as copies of all studies, drawings, and backup documentation that support all such measures. The Certificate Holders shall provide a draft of such report to Con Edison for its review and comment at least thirty days prior to the filing of such report. The measures for achieving the 1,550 MW deliverability commitment specified by the Certificate Holders in that report shall not include a Special Protection System (SPS) or other operational measures subject to individual approval by NYISO, the New York State Reliability Council or other applicable reliability authorities, unless Con Edison informs the Certificate Holders, no more than twenty five days after receiving Certificate Holders' draft report, that as a result of changed circumstances since the execution of the Stipulation in Commission Case 10-T-0139 on June 26, 2012, it disputes Certificate Holders' conclusion that they can achieve 1,550 MW of energy deliverability out of the Astoria Annex Substation and into Con Edison's transmission system. In the event that Con Edison takes the position that Certificate Holders cannot meet the 1,550 MW energy deliverability commitment using such facilities, nothing in this Certificate shall limit Certificate Holders' right to propose to meet this deliverability commitment by using an SPS, other operational measures or any other measures, or the right of any party, including Con Edison, to object to the use of such measures. In such circumstances, the Certificate Holders shall include with their report all documentation for the design of any such SPS, other operational measures or other measures, with a complete description of all components and logic diagrams. Prior to delivery of test energy to the Astoria Annex Substation, the Certificate Holders shall provide documentation to DPS Staff that any such measures to be used by the Facility have received all required approvals from all applicable authorities, including without limitation NYISO and NPCC.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
134	In the event the HVDC Transmission System trips offline (other than as a result of any Operational Measures), the Certificate Holders shall notify DPS Staff, within 1 hour of the incident. Following the incident, the Certificate Holders shall notify DPS Staff, NYPA, and Con Edison of the cause of the trip, and what actions, if any, the Certificate	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	Holders is taking to rectify the cause. The Certificate Holders shall call and report to the Staff of the Bulk Electric Systems Section of the DPS within 6 hours of any transmission related incident that affects the operation of the Facility. The Certificate Holders shall submit a report on any such incident within seven days to the Bulk Electric System Staff, ConEdison, and NYPA. The report shall contain, when available, copies of applicable drawings, descriptions of the equipment involved, a description of the incident and a discussion of how future occurrences will be prevented. The Certificate Holders shall work cooperatively with ConEdison, NYPA, NYISO, NPCC, NYSRC, NERC, and DPS Staff to prevent any future occurrences.		
135	If there is a failure of one of the Facility's cables, the Certificate Holders shall report, within one day of determining the location of the fault, to Bulk Electric System Section of DPS Staff, ConEdison, and NYPA as well as the likely location of and schedule for repairs. Any changes in the schedule shall be reported to DPS Staff, ConEdison, and NYPA.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
136	The Certificate Holders shall provide the Bulk Electric System Section of DPS with a copy of their emergency procedures and contacts, and an updated copy shall be provided with documentation of any modifications	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
137	The Certificate Holders shall report any theft of materials related to the Facility with a value in excess of $10,000 to the DPS Representative within one business day of the time when the theft comes to the attention of the Certificate Holders. The Certificate Holders shall provide the DPS Representative with a list of the stolen items to the extent known and a copy of any police report.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
S. Mapping, Land Acquisition, and As-built Drawings for the Facility		**CHPE Response**	**EM&CP Section/Appendix**
138	Each Segment EM&CP shall include a detailed map or maps showing (a) the boundaries of the Construction Zone associated with the work to be performed in connection with such Segment, including access routes, laydown and storage areas, sampling locations, and other relevant places, and (b) the anticipated ultimate location	CHPE will comply	Appendix C

	and the anticipated boundary of the Facility ROW and, (c) in the case of overland ROW, areas associated therewith, as follows: (i) areas within which periodic vegetative management may be necessary in order to prevent significant intrusion of tree roots into the Facility ROW, (ii) areas within which future ground alteration, structural construction, or other permanent installations by others generally should be precluded in order to protect the Facility and ensure appropriate access thereto for the purposes of repair and maintenance, and, (iii) areas offering (a) continuous longitudinal access along and (b) intermittent linking access from public roads and highways or established railroad access routes to the Facility ROW.		
139	Following final completion of construction of a particular Segment, the Certificate Holders shall prepare and provide to the DPS the as-built design drawings, which shall include a detailed map or maps showing: (a) the boundary of the permanent Facility ROW and areas that will be subject to periodic vegetation management (Final Layout Area), (b) the location of the Facility as installed (As-built Design Drawings). All As-built Design Drawings provided to DPS pursuant to this condition shall include shapefile information compatible with ArcView® GIS Software, and (c) With respect to As-built Design Drawings that relate to installation of the Project on lands owned or controlled by the Canadian Pacific Railway, such As-built Design Drawings shall be provided to DPS staff within 90 days of the completion of construction and shall conform with Section 5.5.5 of the American Railway Engineering and Maintenance-of-Way Association (AREMA) Manual for Railway Engineering, taking into account the fact that such standard is specifically addressed to fiber optic infrastructure. With respect to As-built Design Drawings that relate to installation of the HVDC Transmission System on lands owned or controlled by the CSX Transportation, such As-built Design Drawings shall be provided to DPS staff within 90 days of the completion of construction and shall conform to an appropriate standard that is substantially equivalent in terms of detail to the AREMA standard referenced, and (d) With respect to As-built Design Drawings that relate to submerged portions of the HVDC Transmission System, such As-build Design Drawings shall indicate areas in which the cables are laid in deep waters without cover and areas in which the cables	CHPE will comply	See Table 3-2.

	are laid on the bottom but covered, in which case(s) the type of cover (i.e., natural bed material, rip-rap or concrete mattress cover) shall also be described.		
140	Except as may be detailed, justified, and approved by the Department of Public Service pursuant to the EM&CP process, each edge of the permanent overland Facility ROW shall be no closer than (a) when located entirely within lands owned or controlled by a railroad company or a public highway, 6 feet to the outer surface of the nearest installed cable and (b), in all other areas, 8 feet to the outer surface of the nearest installed cable. [as amended in Amendment 1 (March 20, 2020)].	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
141	The Certificate Holders shall acquire control of all lands within the overland Final Layout Area by fee, easement, or other appropriate interest and shall perfect, in accordance with New York State law relating to the official recordation of instruments related to land and other possessory interests, their rights to use and occupy such lands for the life of the Facility, as appropriate.	CHPE will comply	See Section 4.2.
142	For each Segment EM&CP that involves municipal lands with respect to which the Certificate Holders cannot acquire control by fee or easement, the Certificate Holders shall provide to the Commission an instrument or instruments confirming that the affected municipality has consented to the use of such lands and shall in any and all events comply with PSL § 68 with respect to exercise of rights conferred pursuant to such consents.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
143	For all rights concerning property comprising the Facility ROW, the Construction Zone, off-rights-of-way access, storage or staging areas, or the like, to be acquired, the Certificate Holders shall cause an examination of title (title search) to be conducted in the same manner as would be conducted by a reputable title insurance company to identify all of-record owners, mortgagees, lien holders, lease holders, or others with an interest in such property rights to be acquired. The Certificate Holders shall serve written notice(s) of the EM&CP filing on each such person identified, and on any person owning the land underlying an affected easement or leasehold interest of	CHPE will comply	Section 3.3, 4.7

	record. Such notice would include, at a minimum, the procedures and deadlines for submitting comments.		
144	The Certificate Holders shall not commence any proceedings under the New York State Eminent Domain Procedure Law (EDPL) to acquire any part of the Facility ROW areas temporarily needed areas within the Construction Zone, or off-ROW access until the Commission has approved the relevant Segment EM&CP. To calculate the three-year period for acquisition of property pursuant to the EDPL, the date of Commission approval of a Segment EM&CP covering the affected parcel shall be regarded as the date on which this Article VII proceeding was completed. The Certificate Holders retains all rights afforded them by the New York Transportation Corporations Law and the EDPL.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
T. Environmental Management and Construction Plan		**CHPE Response**	**EM&CP Section/Appendix**
145	Except where the provisions of this Certificate require otherwise, the environmental protection measures contained in the Joint Proposal and the Certificate Holders' Article VII Application, the WQC, the approved EM&CP Guidelines, and the approved BMPs shall be incorporated into the proposed EM&CP and applied during construction, operation, and maintenance of the Facility. Applicable Conditions of this Certificate, approved EM&CP, and orders approving the EM&CP and any Segment EM&CP shall be included in any design, construction, ownership, or maintenance contracts associated with the Facility.	CHPE will comply	Section 1.1
146	The Certificate Holders shall provide, as a part of the proposed EM&CP, a final design plan that conforms with the design of the Facility set forth in this Certificate, applicable federal, state, and local requirements (including, but not limited to, applicable regulations administered by or in connection with the OSHA, NYSDEC, OPRHP, Ag & Mkts, the APA, the Commission, NYSDOT, the Bureau of Alcohol, Tobacco and Firearms, the New York State Department of Labor, and hazardous materials, chemical and waste-storage use and handling regulations).	CHPE will comply	Appendix C

147	The proposed EM&CP shall identify details of nearby electric, gas, telecommunication, water, wastewater, steam, sewer, and related facilities (whether underground, aboveground or underwater) and Measures to protect the integrity, operation, and maintenance of those facilities shall be presented in the EM&CP for each Segment, which shall explain the safety procedures that will be implemented during construction of the Facility	CHPE will comply	Section 13 and Appendices C and R.
148	With respect to each Segment EM&CP filed with the Commission and prior to the filing of the same, the Certificate Holders shall: (a) conduct a pre-installation survey that will document the location and condition of CI within the Construction Zone that is the subject of the Segment EM&CP and identify the parties owning and operating such CI and the agencies exercising regulatory jurisdiction over the same; (b) include the results of such survey as a part of such filing; (c) provide a detailed plan setting forth the measures that will be taken by the Certificate Holders to avoid damage to CI documented in connection with the filing and explaining how any reasonably foreseeable contingency will be met.	CHPE will comply	No impacts to CI are anticipated. See Section 13.
149	The Certificate Holders shall identify black cherry trees located in the Construction Zone near active livestock use areas during the development of each proposed Segment EM&CP. During the clearing phase, such vegetation shall be disposed of in a manner that prevents access by livestock.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
150	In preparing the proposed EM&CP, the Certificate Holders shall consult with the NYSDOH to identify all PWS systems within one mile of the HVDC Transmission System facilities. The Certificate Holders shall consult with the operators or other representatives of each system to obtain information on the location of intake structures, plant operations, raw water quality parameters of concern including turbidity, and appropriate notification procedures. The results of that consultation shall be reported in the proposed EM&CP. The Certificate Holders shall include in their proposed EM&CP justification for any cable installation proposed to occur within 500 feet of a PWS intake and a description of alternative cable installation methods or	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	modified methods (i.e., reduced speed and pressure) of trenching for cable installation in such areas as determined necessary based on information obtained from the PWS.		
151	The Certificate Holders shall file copies of the proposed EM&CP as directed by the Secretary, and serve five hard copies and two copies on CD-ROMS on DPS Staff, two copies on the Staff of the NYSDEC in the Central Office in Albany, one copy on each Regional Office of NYSDEC where the Facility is located, one copy on the Commissioner of OPRHP, one copy on staff of the Palisades Interstate Park Commission (if the Segment EM&CP relates to construction that may take place in Rockland County), one copy on the Staff of NYSDAM, one copy on NYSDOT in the Central Office in Albany and one copy on each municipality and Regional Office of NYSDOT where the relevant portion of the Facility is located (if requested by such municipality or NYSDOT), one copy on NYSDOS, one copy on any other New York State agency (and its relevant regional offices) that requests the document, and one copy on active parties on the service list who request the document (in the case of a municipality, such service shall be directed to the Chief Executive Officer thereof). Service upon state agencies shall be in the same manner and at the same time as filing with the Secretary. The Certificate Holders also shall place electronic or hard copies for inspection by the public on an internet website and in at least one public library or other convenient location in each municipality in which the construction authorized in that portion of the EM&CP will take place. Contemporaneously with the filing and service of the proposed EM&CP, the Certificate Holders shall provide notice, in the manner specified below, that the proposed EM&CP has been filed.	CHPE will comply	See cover materials, affidavits of service, and Appendix B.
152	The Certificate Holders shall serve written notice(s) of the filing of the proposed EM&CP or Segment EM&CP on all parties to this proceeding, as well as the relevant railroads and CI owners whose facilities, properties, and/or structures within the geographic scope of that portion of the EM&CP that may be impacted, including but not limited to tracks and devices, and shall attach a copy of the notice so served to each copy of the proposed EM&CP or Segment EM&CP. Further, the Certificate Holders shall publish the notice(s) in a newspaper or newspapers of general circulation in the vicinity of the Segment(s) to which the EM&CP relates.	CHPE will comply	Section 3.3 and Appendix B.

153	The Certificate Holders shall provide notice that the EM&CP is available for review to the chief executive officer of each affected municipality and to residents, businesses, and building, structure, and facility owners and, to the extent known, operators of the same when such land uses are located within 100 feet of the HDD staging areas, off-ROW construction access roads, and the overland components of the Facility. The notice shall include, in plain language: (i) details about the planned work locations; (ii) hours and duration of activities; (iii) provisions for protection of properties, if applicable; (iv) provisions for maintenance and protection of pedestrian and vehicle access to buildings and properties; (v) identification of locations where additional information and copies of the EM&CP are available; (vi) contact information for Certificate Holders personnel, including a toll-free number; and (vii) instructions on how comments regarding construction plans and mitigation measures may be filed with the Secretary, indicating appropriate deadlines for commenting and contact information. The Certificate Holders shall also provide a hard copy synopsis of any approved Segment EM&CP for residents owning property located within 100 feet of the Construction Zone as delineated therein. Such synopsis shall include a hard copy page(s) from the approved Segment EM&CP that may have relevance to the resident's property. Proof of notice to residents, businesses, and building and structure owners shall be provided to the Secretary.	CHPE will comply	Section 3.3 and Appendix B.
154(a)	The Certificate Holders shall provide notice to residents, businesses, and building, structure, and facility (including underground, aboveground and underwater facilities) owners and operators within 100 feet of any HDD staging area or trenching activity with an offer to inspect foundations before, during, and after construction. The notice provided shall include the following provisions: (i) an offer to inspect building, facility, and structure foundations before, during, and after construction; (ii) an explanation of the benefits of such inspections and what documentation will be provided to building or facility or structure owners and operators; and (iii) proof of notice to residents, businesses, and building, facility, and structure owners and operators shall be provided to the Secretary. Proof of notice shall accompany filing of the proposed EM&CP.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP, as no such facilities fall within the identified distances and/or no such activities are proposed in the Astoria Converter Station EM&CP.

154(b)	Inspections of building foundations conducted for residents, businesses, and building, facility, or structure owners or operators, or for which Certificate Holders reimburses such costs expended by any such individuals for this purpose, shall (i) provide each building, facility, or structure owner or, to the extent known, operator with documented conditions at each significant stage of construction; (ii) include photographs of any existing and post-construction damage and document measurements of foundation crack lengths during each inspection phase; (iii) provide each building, facility, and structure owner/operator a report detailing foundation condition findings; and (iv) provide a copy of each prepared report to DPS Staff within 30 days of completion.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP, as no such facilities fall within the identified distances and/or no such activities are proposed in the Astoia Converter Station EM&CP.
154(c)	HDD site preparation or trench excavation work shall not commence until all building, facility, and structure owners and operators provided with notice under sub-part (b) above have accepted or declined inspection offers, or a response has not been received within two weeks from service.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
155(a)	The written notice(s) and the newspaper notice(s) of filing the proposed EM&CP or Segment EM&CP shall contain, at a minimum, the following: (1) a statement that the proposed EM&CP has been filed; (2) a general description of the Facility and the proposed EM&CP; (3) with respect to the written notice(s) for identified persons with a record interest in property to be acquired or significantly disturbed by construction, a specific description of the ROW of the Facility, as applicable, temporarily needed areas within the Construction Zone, or off ROW access to be acquired; (4) a listing of the locations where the proposed EM&CP is available for public inspection; (5) a statement that any person desiring additional information about a specific geographical location or specific subject may request it from the Certificate Holders; (6) the name, address, and telephone numbers of an appropriate Certificate Holders representative; (7) the address of the Secretary; and (8) a statement that any person may be heard by the Commission on any matter or objection regarding the proposed EM&CP by filing written comments with the Secretary and the Certificate Holders	CHPE will comply	Section 3.3 and Appendix B.

	within 30 days of the date the proposed EM&CP was filed with the Commission (or within 30 days of the date of the newspaper notice, whichever is later).		
155(b)	A certificate of service indicating upon whom all EM&CP notices and documents were served and a copy of the written notice shall be filed with the Secretary at the time the proposed EM&CP is filed, and shall be a condition precedent to approval of the EM&CP.	CHPE will comply	Section 3.3 See cover materials, affidavits of service.
156(a)	For the overland portions of the Facility, construction outside the Allowed Deviation Zone, to the minimum extent necessary, as detailed and justified in an EM&CP submittal, shall be allowed for appropriate environmental or engineering reasons, except where a conflict with a specific provision of this Certificate would be created.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
156(b)(1)	For the HVDC Transmission System installed in Lake Champlain and the Hudson River, the Allowed Deviation Zone shall be anywhere within those bodies of water where the water depth exceeds 20 feet at mean low water, and where installed in the Harlem and East Rivers the Allowed Deviation Zone for the HVDC Transmission System shall be anywhere where the water depth exceeds 10 feet at mean low water, provided however that: (1) Where the HVDC Transmission System Centerline enters any of the Exclusion Zones identified on the maps contained in Appendix B to the Joint Proposal, the Allowed Deviation Zone shall be limited to 150 feet on either side of the Facility Centerline. The Certificate Holders' rights to enter into such Exclusion Zones are as follows: Prior to installation in these areas, the Certificate Holders shall provide in the EM&CP an analysis as to whether there are any reasonable and feasible underwater alternatives outside of the Exclusion Zones that would allow for burial at the target depth of 6 feet. No deviation in the Centerline may cause the HVDC Transmission System to enter into any of the Exclusion Zones identified in that Appendix B without (a) the Certificate Holders providing in the EM&CP an analysis that there are no other reasonable and feasible alternatives that would allow for achieving the target burial depth of 6 feet and (b) the written consent of NYSDEC. In the event the Certificate Holders is unable to agree on a change to the Centerline governed by this subpart, the Certificate	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	Holders shall be free to file an application for an amendment to this Certificate setting out their proposed new Centerline and the environmental and engineering considerations underlying that proposal;		
156(b)(2,3,&4)	(2) No deviation of over 150 feet in the Centerline may cause the HVDC Transmission System to come within 160 feet of any instance of "Lake Champlain Maritime Museum ("LCMM")/CHPE Marine Route Survey Cultural Resources" identified in Appendix B to the Joint Proposal without (a) the Certificate Holders providing in the EM&CP an analysis that there are no other reasonable and feasible alternatives; and (b) the written consent of the New York State Historic Preservation Office (NYSHPO). In the event that the Certificate Holders and NYSHPO are unable to agree on a change to the Centerline governed by this subpart, the Certificate Holders shall be free to file an application for an amendment to this Certificate setting out their proposed new Centerline and the environmental and engineering considerations underlying that proposal; and (3) No deviation of more than 150 feet in the Centerline may cause the Facility to be located or re-located within any Significant Coastal Fish & Wildlife Habitat identified in the NYS Coastal Management Program without: a. the Certificate Holders providing in the EM&CP an analysis that there are no other reasonable and feasible alternatives that would allow for achieving the target depth of cover of 6 feet; b. the written consent of NYSDEC. In the event that the Certificate Holders and NYSDEC are unable to agree to a change in the Centerline governed by this subpart, the Certificate Holders shall be free to file an application for an amendment to this Certificate setting out their proposed new Centerline and the environmental and engineering considerations underlying that proposal; c. a written statement from NYSDOS stating that the deviation would not result in coastal effects that differ significantly from the coastal effects reviewed by NYSDOS in Certificate Holders' original federal Coastal Consistency Certification. In the event that NYSDOS determines that such deviation would result in coastal effects that differ significantly from those reviewed in the Coastal Consistency Certification, the Certificate Holders shall seek a written concurrence from NYSDOS for any such project changes that would require an amendment to the Certificate Holders' Coastal Consistency Certification. Nothing in this Certificate shall be construed to limit or expand any rights Certificate Holders may have to seek administrative or judicial review of any action or	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	inaction by NYSDOS relating to any such deviation; and (4) No significant increase in adverse effects to CI or other infrastructure results from proposed facility re-location.		
157	All deviations from the design depth, height, and location of facilities or structures shall be presented in the proposed EM&CP for approval. An explanation for the proposed deviations shall be provided, with supporting documentation. Deviations shall be allowed for appropriate environmental or engineering reasons without modification to this Certificate, except where a conflict with a specific provision of this Certificate would be created. If a deviation is proposed after approval of the EM&CP, the procedures contained in CC 158 of this Certificate shall apply.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
158	The EM&CP approved by the Commission may incorporate modifications from the EM&CP proposed by the Certificate Holders. No change to the approved EM&CP may thereafter be made except in accordance with the following procedures:	CHPE will comply	Section 3.2.6 and Appendix E.
158(a)	For a proposed change that: (i) would involve a site listed or eligible for listing on the New York State or National Register of Historic Places, the Certificate Holders shall give at least two weeks prior notice to the Field Service Bureau of OPRHP; (ii) would involve any state-regulated wetland or protected stream or water body, the Certificate Holders shall give at least two weeks prior notice to NYSDEC, and, if within the Adirondack Park, to APA; (iii) would affect the occupied habitat of a TE species, the Certificate Holders shall give at least two weeks prior notice to NYSDEC and to the USFWS or NMFS (where applicable) prior to providing notice to DPS staff of the proposed change; (iv) would affect the individual or habitat supporting RTE plants, the Certificate Holders shall give at least two weeks prior notice to NYSDEC and DPS; (v) would involve agricultural land, the Certificate Holders shall give at least two weeks prior notice to NYSDAM; (vi) would involve the herbicides planned for use (including mixed proportions, additives or method of application), the Certificate Holders shall give at least 30 days prior notice to NYSDEC; (vii) would affect land or water owned or controlled by CNY, the Certificate Holders shall give at least two weeks prior notice to CNY.	CHPE will comply	Section 3.2.6

158(b)	The Certificate Holders shall report any proposed changes to the EM&CP to DPS Staff. DPS Staff will refer to the Commission for approval any proposed changes that cause a substantial increase in environmental impact, after consultation with NYSDEC, any proposed changes that relate to contested issues decided during the proceeding, and any proposed changes affecting State highways (but need not do so if the report indicates NYSDOT's agreement to such proposed changes). DPS Staff is authorized to approve all other proposed changes, in accordance with the procedure outlined herein, and will submit reports of such changes to the Secretary or the Secretary's designee, which reports will be posted on the Commission's website under this case number.	CHPE will comply	Section 3.2.6
158(c)	Upon being advised that DPS Staff will refer a proposed change to the Commission, the Certificate Holders shall notify all active parties that have requested to be so notified, as well as property owners or lessees whose property is affected by the proposed change. The notice shall: (i) describe the original conditions and the requested change; (ii) provide documents supporting the request; and (iii) state that persons may comment by writing to the Commission within 21 days of the notification date.	CHPE will comply	Section 3.2.6
158(d)	The Certificate Holders shall not execute any proposed change until they receive written approval from the Commission (if Commission approval is required pursuant to subparagraph (a) of this paragraph) or oral or written approval from DPS Staff (in the case of a change that Staff has authority to approve) except in emergency situations threatening personal injury, property damage, or severe adverse environmental impact, or as specified in the EM&CP. When the Certificate Holders has obtained oral approval from DPS Staff for a change, DPS Staff will confirm such approval in writing within 10 business days.	CHPE will comply	Section 3.2.6
159	The EM&CP and, as and when appropriate, a Segment EM&CP and any proposal to modify the EM&CP or a Segment EM&CP shall address, but not be limited to, the following information:	CHPE will comply	All sections and appendices of the EM&CP.

159(a)	details of work site dimensions; construction ROW and off-ROW access needs and locations; locations and descriptions of work scheduled or planned by others in the vicinity of the construction identified after consulting relevant federal, state, and city agencies; and measures to protect adjacent facilities, structures and vegetation;	CHPE will comply	Section 12, 13, Appendix C.
159(b)	documentation of methods to meet the requirements of this Certificate and incorporation of appropriate engineering standards, regarding existing road, bridge, and culvert conditions;	CHPE will comply	Section 12, Section 13, Appendices C and R.
159(c)	location of the utility, water, steam, sewer, and wastewater crossings and other nearby utility facilities, including CI facilities, and methods for protecting the cable and other facilities, including CI facilities, at those crossings and nearby locations; the plan shall include detailed construction techniques, methods, and equipment descriptions for the protection of existing utilities including, but not limited to, how damage to existing utilities will be avoided and how any contingency will be met in case damage does occur, and for coordination with utilities and public service providers;	CHPE will comply	Section 12, 13, and Appendices C and R.
159(d)	detailed construction schedule and coordination plans, including those in connection with other utility owners and operators with respect to any work on the Facility for which coordination is required by this Certificate or other related agreement(s), including construction calendar;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
159(e)	each construction activity as discussed in CC 58;	CHPE will comply	Section 3.2
159(f)	a comprehensive plan to identify encroachments within the Construction Zone as discussed in CC 60;	CHPE will comply	Section 4.7
159(g)	an HDD work packet providing planning, installation controls, and site measures that will be taken in accordance with good engineering practices; including relevant information and deliverables described in Section 8.1 of the BMPs;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

159(h)	jet plow and shear plow techniques and adjustments, including details related to crossing existing underwater facilities and infrastructure;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
159(i)	a work plan for dredging activities including specific practices to be used during dredging, dredged materials management plans, and proof of the ability to provide proper disposal;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
159(j)	drawings and specifications of any closed environmental bucket or other dredging equipment, including specifications demonstrating that appropriate design considerations are incorporated in equipment selected for deployment;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
159(k)	a pre-installation and post-energizing sediment sampling and monitoring plan, which plan will be subject to review and comment by NYSDEC and NYSDOS and will adhere to the following specifications: the plan will correspond to Attachment 2 of this Certificate, Benthic and Sediment Monitoring Scope of Study. The plan submitted to DPS Staff for approval shall include the results of the consultation with NYSDEC and NYSDOS;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
159(l)	details of cable pulling and splicing plans that include locations of any spare conduits that will be installed;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
159(m)	Night-time construction provisions, including lighting and noise control, and mitigation measures, including conditions when night-time construction will be undertaken;	CHPE will comply	Section 10
159(n)	public road traffic control and public safety and the MPT plans as discussed in Condition 39;	CHPE will comply	Appendix C

159(o)	details regarding street work, including provisions for minimizing the duration and extent of open excavation, traffic disruptions, and work within and adjoining public streets and public street ROW;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
159(p)	public safety control provisions including practices for work near residential and publicly accessible sites; fencing around open work areas, and provisions for through traffic, and alternative access;	CHPE will comply	Appendix C
159(q)	designated parking areas and equipment storage and staging locations;	CHPE will comply	Section 4.10, 5.4 and 5.5, Appendix C.
159(r)	details for drainage line repair procedure and drawings in the event of a crushed or severed drain lines;	CHPE will comply	Appendix C; Section 14.5.2.
159(s)	provision for submission of a certification by a professional engineer licensed by the State of New York stating that, if constructed in accordance with the final design plans, the Facility shall, to the extent applicable, comply with the interim electrostatic field standard established by the Commission in Opinion No. 78-13 (issued on June 19, 1978 in Cases 26529 and 26559) and the limit for magnetic fields set in the Statement of Interim Policy on Magnetic Fields of Major Electric Transmission Facilities (issued on September 11, 1990, in Cases 26529 and 26559) or with any standard test that has superseded these standards at the time of consideration by the Commission of the EM&CP or a particular Segment EM&CP;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
159(t)	a work plan for reducing magnetic fields, which will include documentation of the calculation of anticipated average magnetic field levels, overland and underwater with the Facility in operation;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
159(u)	impact avoidance and/or minimization measures for regulated wetlands, streams, and other environmental resources including any maps and plan drawings of streams, regulated wetlands, and sensitive habitat crossing locations, site-specific stream-crossing techniques for the construction of the Facility and for the construction of any	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	access roads to be used for such construction, and selective vegetation-clearing techniques in areas near streams or regulated wetlands;		
159(v)	measures consistent with this Certificate, the Joint Proposal, the BMPs, and the EM&CP Guidelines to avoid and/or minimize impacts to TE species and RTE plants and their occupied habitat;	CHPE will comply	Section 9.3
159(w)	work plan for measures to be taken for protection of vegetation and visual resources of the Lakes to Locks Passage Scenic Byway (State Highway 22);	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
159(x)	a notice of intent to exercise authority under the SPDES General Permit for construction activities;	CHPE will comply	Appendix F
159(y)	details of erosion control plans, including grading and filling at the overland Construction Zone, Converter Station, and substation, so as to provide for the control of discharges incidental to the construction of the Facility, including to stormwater, groundwater, and surface waters, and meet applicable water quality standards;	CHPE will comply	Appendix C and F.
159(z)	methods to avoid the effects of sediment on nearby facilities and infrastructure, including avoidance techniques with respect to the clogging of outfalls and diffusers;	CHPE will comply	Appendix G and C.
159(aa)	spoil control plans for excavations, including for any materials proposed for use as backfill in the underwater or overland route, identification of its source and the evaluation of its suitability;	CHPE will comply	Appendix C
159(bb)	a blasting plan that includes the information described in the BMPs;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

159(cc)	work plan for storage of all petroleum products and hazardous chemicals which may be used during, or in connection with, the construction, operation, or maintenance of the Facility, fuel and fluids spill prevention and control plans;	CHPE will comply	Section 5.6 and Appendix I SPCC.
159(dd)	work plans for responding to and remediating the effects of any spill of petroleum products or hazardous substances that occurs during construction of the Facility on land or in the water in accordance with applicable federal and state laws, regulations, and guidance, which shall include proposed methods of handling spills of petroleum products and any chemicals that may be stored or utilized during the construction, operation, or maintenance of the Facility;	CHPE will comply	Section 5.6 and Appendix I SPCC.
159(ee)	plans for pre- and post-installation bathymetry, sediment, benthic invertebrate, fish, temperature, and magnetic field surveys as described in Condition 163, and mitigation;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
159(ff)	a plan for suspended sediment and water quality monitoring consistent with Attachment 1 of this Certificate, Suspended Sediment and Water Quality Plan Scope of Study, for jet and shear plow activities, as well as removal of large debris with an area greater than 900 square feet or longer than 30 feet in any direction;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
159(gg)	invasive species control measures during construction;	CHPE will comply	Section 9.4 and Appendix K.
159(hh)	appropriate measures as proposed in Karner blue butterfly (Lycaeides melissa samuelis) Impact Avoidance and Minimization Report attached to the Joint Proposal as Exhibit 109;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
159(ii)	United States Coast Guard Notice(s) to Mariners during the occupation of any surface waters of the State of New York which may present a hazard or obstacle to safe navigation;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

159(jj)	other mitigation measures as appropriate to demonstrate compliance with other permits and approvals;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
159(kk)	plans and specifications for site and pavement restoration, including pre-existing drainage systems;	CHPE will comply	Section 14.2 and Appendix C.
159(ll)	noise mitigation plan for noise sensitive sites showing the locations of residential areas and other noise-sensitive areas along the proposed ROW of the Facility and the specific procedures to be followed to minimize noise impacts related to ROW clearing, facility construction, and operation for the Facility;	CHPE will comply	Section 10.1 and Appendix C.
159(mm)	mitigation measures that will be employed should significant concentrations of waterfowl be encountered during fall migration when construction is proposed near the following SCFWH: Germantown-Clermont Flats, The Flats, Roundout Creek, Esopus Meadows, Vanderburgh Cove and Shallows, Constitution March, and Iona Island Marsh;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
159(nn)	plans for use of roadways for the delivery of oversized loads in the event that transportation of oversize loads by road is required. The Certificate Holders shall obtain any necessary governmental permits associated with transport of such oversized loads and provide copies of such permits to the Secretary;	CHPE will comply	Appendix C addresses the Plans. Any applicable permits will be submitted as issued.
159(oo)	a plan for responding to and remediating the effects of any spill of petroleum or any hazardous substances that occurs during the construction of the Facility, in accordance with applicable state and federal law and regulations. Such plan shall be developed in accordance with such applicable laws and regulations and relevant official guidance and shall include proposed methods of handling spills of petroleum products and any hazardous substances which may be stored or utilized during construction, operation, or maintenance of the Facility;	CHPE will comply	Appendix K

159(pp)	For excavations in proximity to buildings, walls, or other structures: (i) a description of the support system method for each such location where support is determined to be necessary; (ii) the rationale for each such location where it is determined that support systems are unnecessary; and (iii) support system designs for each location where it is determined that support is necessary; designs shall demonstrate approval by a registered professional engineer licensed in New York State.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
159(qq)	For excavations that will be below the level of the base or footing of any foundation or retaining wall: (i) a list of all locations where excavation below the base or footing of any structure is considered necessary; (ii) a description of the support system method for each such location where support is determined to be necessary; (iii) the rationale for each such location where it is determined that support systems are unnecessary per OSHA Requirements 1926.651(i)(2)(ii), 1926.651(i)(2)(iii), and 1926.651(i)(2)(iv); and (iv) support system designs for each location where it is determined that support is necessary; designs shall demonstrate approval by a registered professional engineer licensed in New York State.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
160	The Certificate Holders shall also include in the proposed EM&CP a compliance assurance plan that includes but is not limited to: (a) The name(s) of the inspector(s) selected under Condition 53 and a statement of qualifications for each inspector demonstrating sufficient knowledge and experience in environmental and construction matters to complete the inspections and audits; (b) Provision for deployment of more than one of a particular type of inspector (or types of inspectors, when appropriate) in the event that two or more major construction operations are undertaken simultaneously in areas separated by ordinary highway driving of more than 3 hours, such that at least one inspector of a particular type shall be assigned to each such separated construction area; (c) A proposed checklist of matters to inspect for compliance, including the specific items or locations to be inspected, the inspection to be employed such as visual, auditory, testing by instrument, and acceptability criteria to be applied by the inspector(s); (d) A procedure setting forth how the Certificate Holders shall respond to and correct problems found by the inspector(s); (e) A procedure setting forth how the Certificate Holders shall respond to and correct problems identified by any utility owners or operators whose property has	CHPE will comply	Appendix G

	been damaged in any material way as a result of the construction, operation, or maintenance of the Facility; (f) A schedule for monthly environmental audits during construction and submission of audit checklists, together with a written explanation of problem(s), signed by the independent inspectors and an authorized representative of the Certificate Holders, to DPS Staff and NYSDEC; and (g) A schedule for submission of annual environmental audits during the first two years of operation of the Facility to DPS Staff, NYSDEC, and specified state and municipal agencies.		
161	The Certificate Holders shall also include in the EM&CP: (a) An immediate post-installation inspection plan that shall include at a minimum: (i) the method for determining the actual cable location and actual burial depth of the cable upon completion of installation; (ii) standards to be used to determine what remedial actions are warranted consistent with Good Utility Practices (e.g., additional burial and/or protection efforts) in all locations where the cable burial depth is less than the applicable target burial depth; (iii) standards to be used to determine if any damage has been or will be caused to any pre-existing facility and/or infrastructure as a result of cable installation, operation, or maintenance, and remedial measures therefore; and (iv) the method and timing for undertaking such efforts; and (b) A maintenance and emergency action plan that shall include, at a minimum, (i) a schedule for periodic verifications, not to exceed three years for overland locations and five years for underwater locations, of the depth of burial of the cable and the standard to be used to determine, based upon inspection results, whether, and if so, what relocation, reburial, and/or added protection measures for the cable or pre-existing facilities or infrastructure are required; (ii) ROW vegetation maintenance plan; (iii) provisions for stabilizing erosion and resolving drainage problems; and (iv) control of access to the ROW and facility components.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
162	In order to protect CI described in CC 27, the Certificate Holders shall include in the EM&CP:	CHPE will comply	Not applicable to Astoria Converter Station EM&CP, no impacts to CI anticipated.

162(a)	an interference study, conforming to industry standards and performed by an individual or individuals with suitable qualifications to conduct such study, with respect to each location at which the Facility crosses CI or comes into such proximity to CI that an interference study is warranted by Good Utility Practices, and specifying any proposed mitigation measures;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
162(b)	a study to determine whether the Facility may have corrosive effects on any CI, conforming to industry standards and performed by individual(s) with suitable qualifications to conduct such study, and specifying any proposed mitigation measures;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
162(c)	detailed cable ampacity and thermal calculations and documentation demonstrating that CI will not be adversely affected by the construction, operation, or maintenance of the Facility; such documentation shall include study results, calculations, and underlying assumptions used in the analysis and also to include, but not be limited to, cable specification, installation cross sections, thermal resistivity (tested or assumed) and, in the case of alternating current (AC) lines only, magnetic field studies;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
162(d)	detailed calculations and documentation demonstrating that CI will not be adversely affected by the weight and installation methodology of the Facility's cables; such calculations and documentation shall respond to and address study results and shall set forth the underlying assumptions used in the analysis and shall also include, but not be limited to, cable specification, installation cross sections, geotechnical data (tested or assumed), and proposed mechanical protection;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
162(e)	in the event that a Segment EM&CP proposes that the HVDC Transmission System is to cross CI located on or below the beds of the Hudson, Harlem, or East Rivers or Lake Champlain (Submerged CI), any such Segment EM&CP shall include: (i) a technical and economic analysis and documentation (including supporting information) comparing the installation of the Facility both over and beneath such Submerged CI; (ii) a detailed explanation of Certificate Holders' plans for maintaining the existing mechanical protection of any Submerged CI during and after installation of the HVDC Transmission System's cables, including a discussion of the type and replacement of	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	thermal sands; (iii) a demonstration based on the final design of the HVDC Transmission System of the manner in which the owners or operators of such Submerged CI would have access to repair and/or maintain its Submerged CI; (iv) where requested by the Designated Representative of the owner(s) or operator(s) of such Submerged CI, Certificate Holders shall make reasonable efforts to ensure that the route of the HVDC Transmission System is designed to cross such Submerged CI at an angle which is as close to a right angle on the horizontal as is practicable having due regard to other route requirements; and		
162(f)	documentation showing that there will be no material interference with the ability of the owners and/or operators of any CI crossed by, or in proximity to, the Facility, to repair, operate, or maintain such CI as a result of the construction, operation, or maintenance of the Facility;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
162(g)	a full description of all measures that will be employed by Certificate Holders to protect all CI that may be affected by the construction, operation, or maintenance of the Facility, including, but not limited to, detailed construction techniques and methods, equipment descriptions, an explanation of how any contingency will be met in case damage does occur, and procedures for coordination with utilities and public service providers;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
162(h)	protocols for performing repair and maintenance work on the Facility in proximity to CI;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
162(i)	documentation showing agreement by the owners and/or operators of affected CI with both Certificate Holders' construction schedule for operations in the vicinity of such CI and the measures described in the EM&CP documents relating to such CI or a description of those aspects of the proposal that are disputed, and a discussion of the positions taken by the Certificate Holders and the owners and/or operators of the CI;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

162(j)	documentation showing agreement by CNY that CI owned or operated by CNY, whether located within the boundaries of CNY or elsewhere, has been adequately identified and protected or a description of those aspects of Certificate Holders' proposal that are disputed and a discussion of the positions taken by the Certificate Holders and CNY; and	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
162(k)	A decommissioning plan setting forth steps to be taken in the event that the Facility is permanently de-energized.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
163	Within six months after issuance of this Certificate, the Certificate Holders shall submit to the DPS Staff for review, comment, and approval in consultation with NYSDEC and the NYSDOS, detailed Standard Operating Procedures (SOPs) for compliance monitoring studies to be conducted in the Hudson River. The SOPs shall be consistent with the Scopes of Study attached to this Certificate: § Benthic and Sediment Monitoring Scope of Study (Attachment 2 to this Certificate) § Bathymetry, Sediment Temperature and Magnetic Field Scope of Study (Attachment 3 this Certificate) § Atlantic Sturgeon Pre-Installation and Post-Energizing Hydrophone Scope of Study (Attachment 4 to this Certificate)	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
164	The approved SOPs required by Condition 163 shall be incorporated into the EM&CP or first Segment EM&CP that proposes to perform cable installation in the Hudson River and completion of the studies as defined by the approved SOPs shall be a requirement of this Certificate.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
U. Environmental Trust		**CHPE Response**	**EM&CP Section/Appendix**
165	The Certificate Holders shall establish the Hudson River and Lake Champlain Habitat Enhancement, Restoration, and Research/Habitat Improvement Project Trust ("the Trust") solely for the purposes of protecting, restoring, and improving aquatic habitats and fisheries resources in the Hudson River Estuary, the Harlem and East Rivers, Lake Champlain, and their tributaries, in order to minimize, mitigate, study, and/or	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	compensate for the short-term adverse aquatic impacts and potential long-term aquatic impacts and risks to these water bodies from Facility construction and operation and for the administration of the Trust to the extent expressly authorized in these Certificate Condition.		
165(a)	Certificate Holders shall file an agreement providing for the establishment of the Trust (the Trust Agreement) within 120 days after issuance of this Certificate. The trustee selected by Certificate Holders to oversee the Trust (the Trustee) shall be, or shall be associated with, a bank accredited by and doing business in the State of New York. Both the Trust Agreement and the selection of the Trustee shall be subject to review and approval by the Commission (in consultation with NYSDEC) and, if required, the New York State Comptroller, and Attorney General.	CHPE complied by submitting a Pro-Forma Trust Agreement on October 16, 2013 (DMM Item 750).	Not applicable to Astoria Converter Station EM&CP.
165(b)	Within 30 days of the Closing, the Certificate Holders shall endow the Trust with an interest-bearing account established at the Trustee bank, with a first payment of $2.5 million. [Trust payment schedule revised by Amendment 6 (March 16, 2022), creating a new Table 2 for payments during Construction and Operations]	CHPE will comply—pending necessary approvals from the PSC of July 18, 2022 submission (DMM Item 879).	Not applicable to Astoria Converter Station EM&CP.
165(c)	Within 30 days of the Closing, Certificate Holders shall prepare and file with the Commission for its approval a written agreement to govern the administration and operation of the Trust (the Governance Agreement). The Governance Agreement shall: (i) provide that the funding commitments of the Certificate Holders will be fixed in accordance with Table 2 attached hereto and the terms stated in this condition, and that they will not be increased for any reason or decreased except as provided for in subsections (d)(vii) and (d)(ix) of this Certificate Condition; (ii) establish a Governance Committee consisting of: Certificate Holders; DPS Staff; NYSDEC; NYSDOS; CNY; APA; the New York State Council of Trout Unlimited; Riverkeeper, Inc.; and Scenic Hudson, Inc.; (iii) authorize the Governance Committee to meet prior to COD to perform the preliminary work required to implement the Trust, including consideration of whether	CHPE will comply—proposed Governance Agreement was approved by the PSC on June 17, 2013 (DMM Item 740). Further details were submitted on July	Not applicable to Astoria Converter Station EM&CP.

	to use a third-party administrator (the Administrator) to assist in the conduct of its business and for the administration of the Trust for tasks including but not limited to developing: (a) cash flow schedules for the Trust expenditures; (b) measures to track administrative costs; and (c) associated auditing and reporting tasks; (iv) permit the Governance Committee to retain an Administrator, if desired by the Governance Committee, and to compensate the Administrator (if any) from monies available in the Trust; (v) provide that members of the Governance Committee other than Certificate Holders will not be obligated to pay into the Trust and that no member of the Governance Committee, including Certificate Holders, shall be obligated to directly fund or perform any of the responsibilities of the Trustee, including compensation of the Trustee or the Administrator; (vi) obligate the Trust to indemnify and hold harmless all members of the Governance Committee, including Certificate Holders, from liability for any and all actions and/or inactions of the Trustee, the Administrator (if any), or any representative(s) of any of them; (vii) provide that the studies, projects and activities listed in Attachment 5 hereto totaling approximately $32.4 Million (the Priority Projects) satisfy the requirements of this Certificate Condition and shall be implemented by the Administrator (or by the Trustee if no Administrator has been selected) pursuant to a schedule to be developed by the Governance Committee in order to meet the primary objectives of the Trust during its initial implementation phase. The Governance Committee, by a three quarters vote, may determine, on the basis of changed circumstances, that a Priority Project should not be implemented; and (viii) provide that the Governance Committee shall be empowered to approve all expenditures of the monies of the Trust, provided however that no more than 75% of the monies to be provided by Certificate Holders to the Trust in any year may be designated for such Priority Projects during the first 15 years of the Trust's existence or until the Priority Projects have been completed; and (ix) require the Administrator (or the Trustee if no Administrator has been selected) to maintain a clear written record identifying any criteria and justification for the decisions of the Governance Committee and for all expenditures by the Trust itself.	18, 2022 for PSC approval (DMM Item 879).	

165(d)(i)	The Governance Agreement shall further require that: the Governance Committee shall manage the Trust so that, over the life of the Facility, the monies of the Trust will be able to support additional studies, projects, or activities that may result from (a) the Priority Projects, (b) studies to be agreed to at a later time by the Governance Committee, or (c) information produced by the Governance Committee, consistent with the criteria set forth in this CC 165;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
165(d)(ii)	the Governance Committee shall manage the Trust so that money remains available for future projects that were not identified in this Certificate and, from time to time, project ideas shall be solicited from the Governance Committee's members, other Federal and State Agencies or municipalities, individuals, and organizations located along the route of the Facility, provided these ideas are consistent with the purposes of the Trust and approved by the Governance Committee;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
165(d)(iii)	projects and activities approved by the Governance Committee for funding shall not replace natural resource management programs funded by the General Fund of the State of New York or NYSDEC Environmental Programs, meet an obligation of the State of New York or any other party to this proceeding, or replace funding for the operation and maintenance of any project not previously funded by the Trust. The Governance Committee may, however, authorize the Administrator (or the Trustee if no Administrator has been selected) to use the monies of the Trust to carry out additional or new activities that are part of or are consistent with applicable State and Federal resource management and land use plans;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
165(d)(iv)	studies, projects or activities to be financed by the Trust shall have a nexus to the Facility and shall include, but not be limited to: (a) habitat restoration, enhancement, or protection; (b) habitat research; (c) fish and wildlife species restoration, enhancement, or protection; (d) stewardship activities including additional or new activities, formally adopted by the Governance Committee, that are part of or are consistent with applicable State and Federal resource management and land use plans; (e) water quality improvement (excluding projects eligible for funding under the Clean Water State Revolving Fund); and (f) scientific or administrative support to ensure coordination of Trust projects with each other and externally funded research,	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

	restoration, and stewardship projects; delivery of final products; review of reports, data sets, and metadata; and placement of project results and data to insure public access in appropriate digital and hard copy media;		
165(d)(v)	prior to funding any studies, projects or activities, the Governance Committee must find that such studies, projects or activities have been proven: (a) to make a contribution to the long-term protection and enhancement of fish and wildlife species and habitats in the Hudson River Estuary, the Harlem and East Rivers, and/or Lake Champlain and their tributaries; (b) to have a strong scientific foundation; (c) to achieve identified environmental goals; (d) to be consistent with applicable State and Federal natural resource management plans; (e) to address impacts associated with the construction, operation, maintenance or security of the Facility; and, (f) to be feasible from an engineering perspective;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
165(d)(vi)	the Governance Committee shall give preference to projects that: (a) achieve multiple environmental goals; (b) involve multi-stakeholders collaboration; (c) feature matching funds; and/or, (d) are cost effective;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
165(d)(vii)	the Administrator (or the Trustee if no Administrator has been selected) shall pay any administrative costs associated with the establishment and maintenance of the Trust from any accrued interest on monies of the Trust or, if adequate interest is not accrued, such administrative costs shall be borne by the Trust, provided however that the monies of the Trust shall not be used to compensate any party, including Certificate Holders, for participation in the Governance Committee or to reimburse any such party for any expenses incurred in such participation;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
165(d)(viii)	Certificate Holders' obligation to make the payments into the Trust set out above and in Table 2 attached hereto shall terminate upon receipt by the Administrator (or the Trustee if no Administrator has been selected) of documentation from the NYISO or DPS stating that the Facility has ceased commercial operation. Should the Facility resume operations, the Certificate Holders shall resume the payments to the Trust on January 1st of the following year;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

165(d)(ix)	if the Facility ceases permanent operation for any reason, payments owed to the Trust as of the date of the final termination and the balance of unused monies in the Trust, plus any accrued interest and minus any administrative cost, shall be retained in the Trust and administered by the Governance Committee until completely expended;	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
165(d)(x)	the Trustee, Administrator (if any) and the Governance Committee shall all be prohibited from directly or indirectly bonding or pledging any funds to be provided by the Certificate Holders at any future date; and	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.
165(d)(xi)	if any department, agency, authority, office or other instrumentality or subdivision of the State of New York shall claim ownership or control of the Trust or any of the funds paid into the Trust by Certificate Holders or any interest thereon, the Trustee shall immediately return all monies held in the name of the Trust to Certificate Holders.	CHPE will comply	Not applicable to Astoria Converter Station EM&CP.

3.0 ENVIRONMENTAL PERSONNEL AND PROJECT PROCEDURES

3.1 PROJECT PERSONNEL

During Project construction, multiple inspectors and monitors will be employed to ensure appropriate adherence to all applicable CCs, the procedures, plans, and specifications described in this EM&CP, and other applicable federal, state and local laws, permits and approvals. The required qualifications and duties of each type of inspector are provided in the following sections. Figure 3-1 summarizes the high-level organizational chart. Figure 3-2 summarizes the construction personnel. While inspector positions are assigned either full- or part-time, the responsibilities and time commitments may fluctuate with the Project activity levels. The Certificate Holders and associated staff will ensure that the necessary inspectors' presence corresponds with the Project activity level (CC 53c). All Project personnel, including the Certificate Holders' employees, contractors, and subcontractors will be properly trained in the construction, operation, and maintenance of the Project (CC 53i). The necessary contact information for the inspectors is included in Appendix E - Compliance Assurance Plan. Additional contact information for other onsite inspectors will be provided to NYSDPS and NYSDEC Staff at least two weeks prior to the start of Project construction (CC 53g).

In addition to the inspector's specific qualifications listed as described in the following subsections, the following attributes are required for all inspectors (BMP Document Section 2.0):

1. Possess good communication skills, both oral and written.
2. Be honest, fair, straightforward, sincere, and possess a strong sense of integrity.
3. Be able to communicate effectively with all parties: Certificate Holders' staff and fellow Project inspectors; construction/restoration contractors, foremen, equipment operators and laborers; agency inspectors, etc.
4. Be experienced with underground utilities.

Figure 3-1. High Level Organization Chart

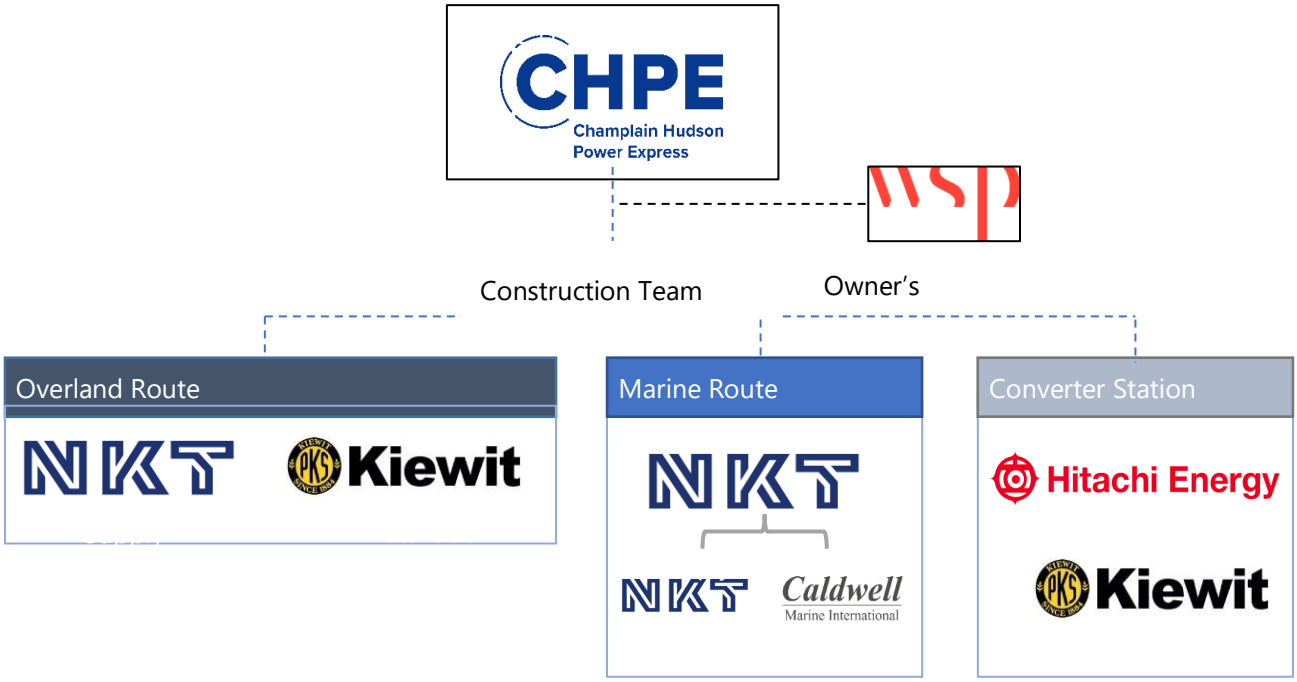
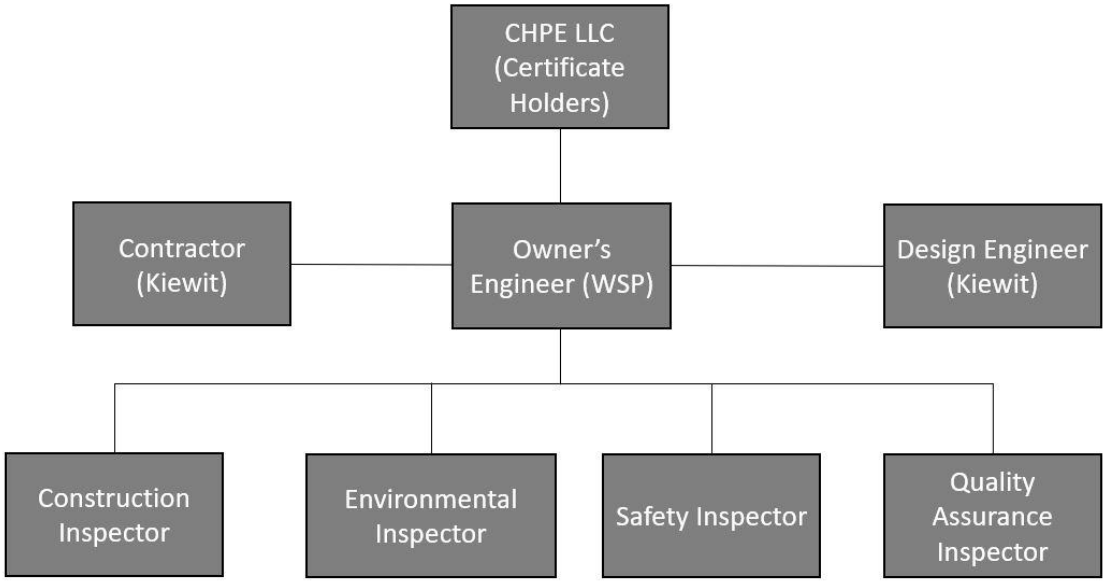


Figure 3-2. Construction Personnel Organization Chart



3.1.1 Contractors

All contractors hired by the Certificate Holders must comply with the Article VII Certificate Conditions. The Certificate Holders will provide the Engineering, Procurement, and Construction (EPC) Contractor(s) retained to undertake the construction of the Project with complete copies of the Certificate Conditions and all permits, certificates, and approvals required to initiate and/or complete construction of the Project. These documents include but are not limited to the approved Segment EM&CP and governmental approvals issued pursuant to § 401 and § 404 of the Federal Clean Water Act, and § 10 of the Federal Rivers and Harbors Act. To the extent that the listed documents are available before contracts for construction services are executed, such copies will be provided to the Contractors prior to the execution of such contracts (CC 43).

Additionally, the Certificate Holders will inform all Contractors that the PSC may seek to recover penalties for violation of the Certificate Conditions and other Orders issued in this proceeding, not only from the Certificate Holders, but also from their Contractors, and that Contractors also may be liable for other fines, penalties, and environmental damage (CC 44).

Kiewit will serve as the EPC Contractor for the Converter Station and will hire subcontractors as determined necessary to complete the construction of the Project.

3.1.2 Environmental Inspector

The Environmental Inspector(s) will be equipped with sufficient documentation, transportation, and communication equipment to effectively monitor all Contractors' compliance with the Certificate Conditions and applicable sections of and approvals issued pursuant to the PSL, New York State Environmental Conservation Law (ECL), § 401 and § 404 of the Federal Clean Water Act, and the procedures outlined in this EM&CP (CC 53e).

The Environmental Inspector that will be employed full-time during construction and restoration (CC 53a) on Segments 13,14, and 15 of the HVDC Transmission System will be utilized as needed at the Converter Station Site. Additional Environmental Inspectors may be utilized as required to meet environmental inspection requirements set out in this EM&CP and any other relevant permit conditions. The lead Environmental Inspector will be responsible for determining when additional inspectors are needed to meet inspection requirements.

3.1.2.1 Responsibilities

The Environmental Inspector will have the following responsibilities (BMP Document, Section 2.1.1):

1. Monitor all construction activities including clearing, trenching, cable installation, installation and maintenance of temporary erosion controls, work involving wetlands, streams, agricultural lands, avoidance, and minimization of impacts to threatened and endangered (TE) species and their occupied habitat and rare, threatened, and endangered (RTE) plants, restoration work, etc.
2. Provide DPS and NYSDEC, as well as Project team members, with weekly status reports summarizing construction activities from the week prior to the report and identifying construction activities and locations scheduled for the next two weeks.
3. Coordinate inspections of the Project by NYSDEC, NYSDAM, USACE, and other involved agencies as needed.
4. Monitor and manage all environmental protection requirements of this EM&CP and closely coordinate these requirements with the Construction Inspector and the Contractor(s).
5. Monitor Contractor compliance with the provisions of the Certificate and permits, applicable sections of the PSL, and the EM&CP.
6. Verify that the right-of-way and any access roads are marked prior to construction.
7. Identify, document, and oversee corrective actions as necessary to bring an activity back into compliance.
8. Install and maintain signs and flagging/marking the boundaries of sensitive resource areas (e.g., waterbodies and wetlands) or other areas where special requirements will be in effect.
9. Locate slope breakers, drivable berms, and water bars to ensure that they will not direct water into sensitive resources such as wetlands or waterbodies.
10. Direct the Construction Inspector when site conditions make it advisable to restrict construction activities in areas of sensitive environmental resources.
11. Ensure restoration of preconstruction contours, topsoil, and vegetation.
12. Determine the need for additional erosion and sediment controls other than those already required by the Certificate and this EM&CP and ensuring that these controls are properly installed to prevent sediment flow into wetlands, waterbodies, streams, or other sensitive environmental resources.
13. Inspect and ensure the maintenance of all temporary soil erosion and sedimentation controls in fulfillment of the requirements for a qualified inspector as defined in the SPDES Construction General Permit (GP-0-10-001) (CC 53h).
14. Ensure the repair of all ineffective erosion and sediment control devices within 24 hours of identification.

15. Keep records of compliance with the environmental conditions of the Certificate, the EM&CP, and other federal, state, or local agency requirements. The Environmental Inspector will have stop-work authority over all aspects of the Project.
16. Identify areas that will be given special attention to ensure stabilization and restoration after the construction phase.
17. Be the point of contact for all emergency response procedures such as oil spills, encountering hazardous wastes, etc.
18. Monitor all construction activities on, above, below or in the vicinity of state highways to assure that any work in the right-of-way of a state highway is performed in accordance with a Highway Work Permit issued by New York State Department of Transportation (NYSDOT) and, as applicable, any use and occupancy permits, leases or other permits or agreements issued by, with or involving NYSDOT.
19. Monitor all construction activities in the vicinity of railroad tracks, equipment, or facilities to assure that any alteration of railroad-related improvements are made in accordance with requirements of NYSDOT and the railroad operating the tracks, equipment, or facility.

3.1.2.2 Qualifications

The Environmental Inspector must have the following qualifications (BMP Document, Section 2.1.2):

1. Sufficient knowledge and experience to manage the environmental compliance procedures described in this EM&CP.
2. A bachelor's degree in geology, soil science, natural resource science or management, forestry, or a related environmental discipline or a demonstrated equivalent knowledge, including courses in ecological sciences and experience in environmental construction inspection.
3. Necessary qualifications consistent with a "Qualified Inspector" pursuant to the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-0-20-001).

3.1.3 Construction Inspector

The Construction Inspector(s) will be equipped with sufficient documentation, transportation, and communication equipment to effectively monitor each Contractors' compliance with the Certificate Conditions and applicable sections of and approvals issued pursuant to the PSL, New York State ECL, § 401 and § 404 of the Federal Clean Water Act, and the procedures outlined in this EM&CP.

3.1.3.1 Responsibilities

The Construction Inspector will have the following responsibilities (BMP Document, Section 2.4.1):

1. Ensure that high standards of contract compliance are consistently maintained.
2. Work with the appropriate individuals to fully understand contract program needs and ensure that promised commitments are delivered on time and within budget.
3. Participate in construction conference calls and meetings to provide weekly updates and reports.
4. Assure that site personnel are properly directed, trained, licensed, and evaluated.
5. Monitor all construction activities on, above, below or in the vicinity of state highways to assure that any work in the right of way of a state highway is performed in accordance with a Highway Work Permit issued by NYSDOT and, as applicable, any use and occupancy permits, leases or other permits or agreements issued by, with or involving NYSDOT.
6. Monitor all construction activities in the vicinity of railroad tracks, equipment, or facilities to assure that any alteration of railroad-related improvements are made in accordance with requirements of the railroad operating the tracks, equipment, or facility.

3.1.3.2 Qualifications

The Construction Inspector must have the following qualifications (BMP Document, Section 2.4.2):

1. An associate degree or higher in a construction related discipline.
2. Five years of experience in construction of transmission facilities with an understanding of the applicable construction standards and work methods, construction field issues, prints specification sheets, schematics, one-line diagrams, instructional information to construct, maintain, troubleshoot cable installation and general aspects of Converter Station and substation construction.
3. Knowledge of federal, state, Occupational Safety and Health Administration ("OSHA"), local, and applicable environmental rules and regulations.
4. A thorough understanding of electrical principles and the hazards associated with electrical transmission work.
5. The ability to travel throughout the Project Area and work extended hours and weekends in emergency situations, as needed.

3.1.4 Agricultural Inspector

An Agricultural Inspector is not required for the Converter Station addressed in this report, as there will be no work within agricultural areas or impacts to agricultural lands (BMP Document, Section 2.3).

3.1.5 Aquatic Inspector

An Aquatic Inspector is not required for the Converter Station addressed in this report, as there will be no aquatic installation, construction, or impact (BMP Document, Section 2.3).

3.1.6 Safety Inspector

One Safety Inspector will work full-time on the HVDC Transmission System and will be present for any higher risk procedures. This inspector will be utilized as needed at the Converter Station.

3.1.6.1 Responsibilities

The Safety Inspector will assume responsibility for the following duties (BMP Document, Section 2.5.1):

1. Assist in the establishment and implementation of regulatory compliance and incident- prevention activities regarding the safety and health of employees, contractor and subcontractor personnel, and the public.
2. Assist management and direct safety specialists in analyzing any serious incidents.
3. Advise management on problem solving or decision making to eliminate safety hazards and to develop incident-prevention and regulatory compliance programs to reduce incidents that may lead to personal injury or property damage.
4. Monitor all construction activities on, above, below or in the vicinity of state highways to assure that any work in the ROW of a state highway is performed in accordance with a Highway Work Permit issued by the NYSDOT and, as applicable, any use and occupancy permits, leases or other permits or agreements issued by, with or involving NYSDOT.
5. Monitor all construction activities in the vicinity of railroad tracks, equipment, or facilities to assure that any alteration of railroad-related improvements are made in accordance with requirements of the railroad operating the tracks, equipment, or facility.

3.1.6.2 Qualifications

The Safety Inspector must have the following qualifications (BMP Document, Section 2.5.2):

1. Hold bachelor's degree – preferably in Safety Management, a related science or engineering discipline.
2. Have 5 to 7 years of professional safety experience.
3. Have 5 to 7 years of experience in electric or gas operations or in a related industry, preferably in a supervisory or leadership role.

4. Be certified as a Safety Professional or Occupational Health Professional or another equivalent recognized credential.
5. Have knowledge of federal, state, and local safety and health laws and regulations.
6. Have knowledge of electric operations, experience with underground utilities is a plus.
7. Knowledge of industrial hygiene principles.
8. Have proven interpersonal skills coupled with the ability to lead in connection with various broad occupational safety and health principles in a constantly changing work environment.
9. Demonstrate an ability to manage multiple high-priority tasks and engage in complex problem-solving.
10. Demonstrate a high level of ethical behavior.
11. Have excellent judgment and decision-making skills.

3.1.7 Quality Assurance Inspector

The Quality Assurance Inspector will conduct the Quality Control Audits described in the Compliance Assurance Plan in Appendix E. At least one Quality Control and Assurance Inspector will be employed on a part-time basis as needed for the Project.

3.1.7.1 Responsibilities

The Quality Assurance Inspector will have the following responsibilities (BMP Document, Section 2.6.1):

1. Perform quality audits on transmission lines, Converter Stations and substations.
2. Verify that installation of the cable complies with construction specifications.
3. Write and publish reports detailing results of field construction audits.
4. Track non-conformances for work not meeting the required specifications.
5. Require submission of corrective and preventive action from the Certificate Holders for any non-conformance with the construction plans.
6. Maintain documentation in a systematic and orderly manner.
7. Identify areas where the quality of work can be improved.
8. Participate in conference calls and meetings.
9. Develop in-process quality statistical reporting forms and charts to support the Compliance Assurance Plan found in Appendix E.
10. Conduct audits of compliance with the Certificate, Orders, and legal requirements as required by the Certificate Conditions.

3.1.7.2 Qualifications

The Quality Assurance Inspector will have the following qualifications (BMP Document, Section 2.6.2):

1. Hold a bachelor's degree and a minimum of three years of experience in a quality assurance role; or an equivalent combination of technical education and training and a minimum of eight years of experience in a quality assurance role.
2. Be able to undertake tasks with limited supervision and be highly motivated.
3. Demonstrate analytical skills with the ability to evaluate and produce routine reports.
4. Be able to collect, enter, analyze, track, and produce data.
5. Demonstrate organization and planning skills, with the ability to schedule and perform quality audits across internal and external functions.
6. Have the ability to solve complex issues.
   Be familiar with construction job sites that may be in harsh climates and terrain, and in controlled conditions that require the use of Personal Protection Equipment (PPE).

3.2 PROCEDURES

3.2.1 Other Inspection and Monitoring Personnel

The NYSDOT will have full authority over the Certificate Holders' use of state highways, including the authority to place NYSDOT inspectors on site to monitor and observe the Certificate Holders' activities on state highways and/or request the presence of state or local police to assure the safety of freeway highway travelers at such times and for such periods as the NYSDOT deems appropriate (CC 57).

As specified in the Certificate Conditions and pursuant to the PSL, the Certificate Holders and their associated Contractors will not limit the right of any jurisdictional agency to enter and inspect the Project to assess compliance with any permit issued by such agency or any applicable substantive statute or regulation under such agency's jurisdiction. Any such inspection should be coordinated with DPS staff to the greatest extent possible (CC 56).

3.2.2 Inspection & Coordination Requirements and Schedule

Table 3-1 identifies required inspections, the person performing or coordinating each, and the frequency of each. They are further detailed in Section 3.2.3 below. See section 4.2.3 for required coordination on Campaign for New York Health building inspection.

Table 3-1. Inspection and Coordination Requirements and Schedule

Inspection Required	Person Performing Inspections/Coordination	Frequency of Inspections
Pre-construction Meeting	Certificate Holders invite DPS Staff, NYSDOT, NYSDEC and other required stakeholders as identified in the Certificate.	Two weeks prior to start of overland construction
Foundation inspections to adjacent buildings and structures within the Converter Station Site	Certificate Holders' hired inspectors/contractors.	Prior to construction at each location. NOTE: This is not applicable to the Converter Station EM&CP.
Site Compliance Audit Inspection	Certificate Holders organize and conduct site-compliance audit inspections for DPS Staff	Monthly during site preparation, construction, and restoration phases of the Project. Annually for first two years of operation
SWPPP BMPs	Environmental Inspector	Weekly during soil disturbing activities
Post installation Inspection	See Compliance Assurance Plan Appendix E	See Compliance Assurance Plan Appendix E
Notifications and coordination with CI Owners' Designated Representative(s) in accordance with CC 28c-e	Certificate Holders' hired Inspectors/Contractors.	At least 30 days prior to any construction or repair within vicinity of CI

3.2.3 Inspection/Coordination Additional Details

3.2.3.1 Pre-Construction Meeting

For the preconstruction meeting, the agenda, location, and attendee list will be agreed upon between DPS Staff and the Certificate Holders. The Certificate Holders will supply draft minutes from this meeting to all attendees. The attendees may offer corrections or comments, and thereafter the Certificate Holders will issue the finalized meeting minutes to all attendees. If, for any reason, the Contractors retained by the Certificate Holders to construct the Converter Station cannot finish the construction of such facilities, and one or more new construction contractors are needed, there will be another preconstruction meeting with the same format as outlined above (CC 58, 159e).

3.2.3.2 Site Compliance Audit Inspection

The Certificate Holders will organize and conduct site-compliance audit inspections for DPS Staff as needed, but not less frequently than once per month during the site preparation, construction, and restoration phases of the Project and at least annually for two years after the commencement of operation of the Project

(CC 55). These inspections will be performed in coordination with inspections along with applicable overland route segment and include a review of the status of compliance with all Certificate Conditions, the WQC, and with other legal requirements and commitments, as well as a field review of the construction site, if necessary. The inspections may also include the following:

1. Review all complaints received, and their proposed or actual resolutions
2. Review any significant comments, concerns, or suggestions made by the public, local governments, or other agencies
3. Review the status of the Project in relation to the overall schedule established prior to the commencement of construction
4. Perform other activities that Certificate Holders or DPS Staff consider appropriate (CC 55a).

The Certificate Holders, with the help of the appropriate Inspectors and Project personnel, will provide a written record of the results of the inspection, including resolutions of issues, and additional measures to be taken, to agencies involved in the inspection audit (CC 55b).

3.2.3.3 SWPPP Inspections

As specified in the Stormwater Pollution Prevention Plan (SWPPP) in Appendix F the Certificate Holders, via the Environmental Inspector, will inspect the erosion and sediment control measures as identified in the SWPPP to ensure that they are being maintained in effective operating conditions at all times. When soil disturbing occurs, a site inspection will be conducted by the Environmental Inspector at least once every seven days. A copy of the "Stormwater Construction Site Inspection Reports" is included in Appendix C of the SWPPP in Appendix F of this EM&CP. Where soil disturbing activities temporarily cease (e.g., winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the Environmental Inspector can stop conducting inspections.

The Environmental Inspector shall resume inspections when soil disturbing activities begin again. The Environmental Inspector shall notify the NYSDEC Regional Office's stormwater contact prior to any reduction in the frequency of site inspections. A final inspection will be performed by the Environmental Inspector where soil disturbing activities have not occurred or been resumed within two years from the start of soil disturbing activities. The final inspection will certify that all disturbed areas have achieved final stabilization, all temporary and permanent control measures have been removed, and post-construction stormwater management practices have been constructed in conformance with the SWPPP.

In locations where restoration is necessary or required, SWPPP inspections will be performed by the Environmental Inspector on a weekly basis until all disturbed areas have achieved the 80% revegetation required for final restoration. Following final restoration, erosion and sediment control measures will be

removed from the site and disposed of appropriately. Descriptions related to the restoration and cleanup are summarized in Section 14 of this EM&CP. All other inspection requirements and details related to stormwater pollution control measures are included in Section 6.0 Maintenance/Inspection Procedures of the SWPPP in Appendix F.

3.2.3.4 Construction Safety Policies and Procedures

Construction Safety Policies and Procedures are included in Appendix G.

3.2.3.5 Post Installation Inspection

The procedures for the post-installation inspection plan are described in the Compliance Assurance Plan (Appendix E) (CC 161). The Certificate Holders will conduct an immediate post-installation inspection following the installation of the Segment.

3.2.4 Notifications

The Certificate Holders will provide notices to local municipalities and communities that are located along or within the vicinity of the Converter Station. This notice will be distributed by notifying those interested persons that this EM&CP has been submitted and is available for comment and, at the appropriate time, providing additional notices prior to construction. Newspaper and mailed notices of this EM&CP filing will be circulated concurrent with the filing of this EM&CP, using the notice forms included in Appendix B.

Affidavits of publication and/or mailing/service will be provided to the Secretary under separate cover. Notices will be distributed as follows:

1. Newspapers (CCs 152 and 154): the notice will be published in local newspapers in accordance with CCs 152 and 155. The Certificate Holders will publish the notice in the official newspaper of record for Astoria, Queens:. The text of the notice and the accompanying color map included in Appendix B were published as display advertisements and posted to the newspapers' websites where possible.
2. Parties to the Proceeding (CC 152): the notice was posted to the PSC's online DMM docketing system in Case 10-T-0139 for distribution to all Parties to the proceeding in conjunction with this filing.
3. General Stakeholder Notice: this notice was provided to landowners, residents and businesses within 100 feet of any Facility access road, or overland Facility components in accordance with CC 153; the CEOs of each host municipality in this Segment (CC 153); (see Appendix B).

4. Interest Holders (CC 143 and 155): to the extent that other persons hold an interest, such as an easement, lease, lien, or other recorded title interest in the proposed Converter Station, the Applicant will mail an Interest Holder notice letter to indicate that the Certificate Holders have obtained a temporary or permanent interest in Converter Station properties, in accordance with CC 143 (see Appendix B).
5. Agricultural Consultation (CC 76): The Converter Station is located on previously developed, urban land. No agricultural resources are present at or near the Site. As such, the requirements of CC 76 did not apply to this EM&CP.
6. Structure Owners (CC 154): no residences, buildings and other structures were identified within 100 feet of excavation activity requiring general notice of the filing and offering to inspect foundations in accordance with CC 154. Therefore, this requirement does not apply.

At the appropriate time, pre-construction notices will be displayed in public areas such as post offices and community centers as well as provided to local newspapers and news outlets (CC 42, 155a). The display of notices will be performed two weeks prior to the commencement of site preparation in the area of applicable jurisdiction. The notification to newspapers and news outlets will be performed prior to construction, as discussed further in Table 3-2.

A Public Involvement and Complaint Resolution Plan has been developed and is included in Appendix H. Further discussion of public involvement and notification procedures in advance of the construction phase, as well as the Certificate Holders' plans for addressing questions and complaints from the public during construction, are discussed in that Plan.

3.2.5 SPDES Notice of Intent

In accordance with the State Pollution Discharge Elimination System (SPDES) General Permit for Construction Activities (GP-0-20-001), the Certificate Holders will maintain copies of the Notice of Intent (NOI), NOI acknowledgment letter, SWPPP, and any inspection reports submitted in conjunction with this permit and records, or all data used to complete the NOI to be covered by this permit for a period of at least five years from the date that the site is finally stabilized.

3.2.6 Modifying the EM&CP

The Final EM&CP approved by the PSC may incorporate modifications from this proposed EM&CP by the Certificate Holders. No change to the approved EM&CP may thereafter be made except in accordance with the following procedures (CC 158). For a proposed change that:

1. Would involve a site listed or eligible for listing on the New York State or National Register of Historic Places, the Certificate Holders will give at least two weeks prior notice to the Field Service Bureau of OPRHP.
2. Would involve any State-regulated wetland or protected stream or water body, the Certificate Holders will give at least two weeks prior notice to NYSDEC,
3. Would affect the occupied habitat of TE species, the Certificate Holders will give at least two weeks prior notice to NYSDEC and to the United States Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) (where applicable) prior to providing notice to DPS Staff of the proposed change.
4. Would affect the individual or habitat supporting RTE plants, the Certificate Holders will give at least two weeks prior notice to NYSDEC and DPS.
5. Would involve agricultural land, the Certificate Holders will give at least 2 weeks prior notice to New York State Department of Agriculture and Markets (NYSDAM).
6. Would involve the herbicides planned for use (including mixed proportions, additives, or method of application), the Certificate Holders will give at least 30 days prior notice to NYSDEC.
7. Would affect land or water owned or controlled by CNY, the Certificate Holders will give at least two weeks prior notice to CNY (CC 158a).

The Certificate Holders will report any proposed changes to this EM&CP to NYSDPS Staff. DPS Staff will refer to the PSC for approval for any proposed changes that cause a substantial increase in environmental impact, after consultation with NYSDEC, any proposed changes that relate to contested issues decided during the proceeding, and any proposed changes affecting state highways (if the report has not indicated NYSDOT's agreement to such proposed changes). DPS Staff is authorized to approve all other proposed changes, in accordance with the procedure outlined herein, and will submit reports of such changes to the Secretary or the Secretary's designee. The reports will be posted on the PSC's website under the relevant case number (CC 158b). Upon being advised that DPS Staff will refer a proposed change to the PSC, the Certificate Holders will notify all active parties that have requested to be notified, as well as property owners or lessees whose property is affected by the proposed change. The notice will:

1. Describe the original conditions and the requested change;
2. Provide documents supporting the request; and
3. State that persons may comment by writing to the PSC within 21 days of the notification date (CC 158c).

The Certificate Holders will not execute any proposed change until they receive written approval from the PSC (if PSC approval is required) or oral or written approval from DPS Staff (in the case of a change that NYSDPS Staff has authority to approve) except in emergency situations threatening personal injury,

property damage, or severe adverse environmental impact, or as specified in this EM&CP. When the Certificate Holders have obtained oral approval from DPS Staff for a change, DPS Staff will confirm such approval in writing within 10 business days (CC 158d).

3.3 REPORTING AND DOCUMENT MANAGEMENT

Several CCs identified in Table 2-1 explicitly address the timing requirements for Project notifications and reports. Table 3-2 summarizes these CCs based on whether the notification is required before, during, or after construction, or at any point during those 3 periods. Not all notices are required for the Astoria Converter Station, and some notices may be required after the entire Project has been constructed.

Table 3-2. Reporting and Notification Requirements and Schedule

Description	Submitted to	Approximate Due Date
BEFORE OR CONCURRENT WITH EM&CP FILING		
In developing the site plan for the Converter Station, Certificate Holders shall consult with New York State Department of Public Service (DPS) Staff and the CNY, and share preliminary drawings of foundations, elevations, renderings, stormwater control, and noise control measures, as they become available. Not later than 30 days prior to the date by which Certificate Holders expects to file the EM&CP segment for the Converter Station, they shall file with the same parties a preliminary site plan of sufficient detail to address relevant requirements of this Certificate and the EM&CP guidelines, for their review and comment.	DPS Staff and CNY.	At least 30-days prior to filing.
The Certificate Holders will provide a preliminary design marked to avoid conflict with potential transportation projects that NYSDOT Staff may seek to undertake in the future and will offer to consult with NYSDOT Staff concerning any comments it may offer and will use reasonable efforts to accommodate any NYSDOT concerns (CC 68).	DPS Staff and NYSDOT.	Not applicable to Astoria Converter Station EM&CP.
The Certificate Holders will file copies of the segment EM&CP as directed by the Secretary to the Commission to relevant jurisdictional agencies as described in CC 151.	Relevant jurisdictional agencies.	Upon filing the applicable Segment EM&CP. See Appendix B and EM&CP Segment cover material.
The Certificate Holders will provide newspaper notices and written notice(s) of the filing of the segment EM&CP on all	Relevant parties specified in CC 152.	Upon filing the applicable Segment

Description	Submitted to	Approximate Due Date
parties such as relevant railroads, infrastructure owners whose facilities, properties, and/or structures within the geographic scope of the segment EM&CP may be impacted. The notice(s) will contain the information specified in CC 152).		EM&CP. See Section 3.2.4, Section 12.1, and Section 12.1 for additional details; see Appendix B for copy of notice.
The Certificate Holders will provide newspaper notices and written notice(s) of the filing of the segment EM&CP on all parties such as residents, businesses, and building, structure, and facility (including underground, aboveground and underwater facilities) owners and operators within 100 feet of any HDD staging area or trenching activity with an offer to inspect foundations before, during, and after construction. The notice(s) will contain the information specified in CC 154.	Relevant parties specified in CC 154.	Upon filing the applicable Segment EM&CP. See Appendix B for copy of notice.
The Certificate Holders will provide written notice(s) to any person with an interest in the property underlying the Certificate Holders' easements/leaseholds, including underlying landowners, other easements holders as specified in CC 143 upon filing the applicable segment EM&CP.	Relevant parties specified in CC 143.	Upon filing the applicable Segment EM&CP. See Appendix B and Section 4.7
Provide to the owner(s) and operator(s) of all co-located infrastructure a proposal for the locations and design of the Project. The submission will contain all the information and conditions outlined in CC 28d.	Owners and operators of all co-located infrastructure	At least 180 days prior to the filing of the Astoria Converter Station EM&CP.
The Certificate Holders will provide written notice and newspaper notices of the filing of the applicable Segment EM&CP. (CC 152). The notice will contain the information outlined in CC 155a.	Local media within the vicinity of the segments to which the segment EM&CP relates.	Concurrent with the filing of the applicable Segment EM&CP. See Appendix B.
The Certificate Holders will notify that the EM&CP is available for review to the chief executive officer of each affected municipality and to residents, businesses, and building, structure, and facility owners and to the extent known, operators of the same when such land uses are located within 100 feet of the HDD staging areas, off-ROW construction access roads, and the overland components of the Project. The notice will meet the conditions outlined in CC 153. The Certificate Holders will also provide a hard copy synopsis of any approved Segment EM&CP for residents owning property located within 100 feet of the Construction Zone as delineated therein. The synopsis will meet the conditions outlined in CC 153. Proof of notice to	Chief executive officer of each affected municipality. Residences, Businesses, and Building/structure/facility owners/operators.	Concurrent with the filing of the Segment EM&CP. See Appendix B.

Description	Submitted to	Approximate Due Date
residents, businesses, and building and structure owners will be provided to the Secretary.		
The Certificate Holders will begin consultations with CI owners within 60 days of Certificate (CC 28a, 28b) and provide proposed plans and methods of construction to CI Owners within 180 days of the filing of the relevant Segment EM&CP (CC 28d): "proposal for the location and design of the Facility (including a proposed Construction Zone) and the methods of construction to be employed with respect to all locations involving CI ("Proposal"). The Certificate Holders' Proposal must include all studies, calculations, tests, results, explanations, protocols, drawings, proposed construction schedules, and documents developed throughout the consultations described in subsections (a) and (b) of this Condition, other documentation identified in Condition 162, and any other information that supports the proposal" (CCs 28a, 28b, 162).	Owners and operators of all co-located infrastructure	Within 180 days of submission of Segment EM&CP. See discussions in Section 13.
The Certificate Holders will provide CI interference studies as described in CCs 28 and 162, conforming to industry standards and performed by an individual or individuals with suitable qualifications to conduct such study, with respect to each location at which the Facility crosses CI or comes into such proximity to CI that an interference study is warranted by Good Utility Practices, and specifying any proposed mitigation measures (CCs 28, 162).	Owners and operators of all co-located infrastructure, as applicable.	Not applicable to Astoria Converter Station EM&CP.
The Certificate Holders will provide regulated wetland locations delineated in the field and indicated on the proposed EM&CP drawings for the Construction Zone and any access roads. Such delineations will be delivered for review to DPS Staff, NYSDOS, and NYSDEC and, for wetlands within the Adirondack Park, the APA (CCs 113a).	DPS Staff, NYSDOS, NYSDEC, APA	At least 30 days prior to filing of the proposed EM&CP. Submitted on March 3, 2022; see Appendices A and M.
The Certificate Holders will develop an inventory that includes for each Segment: (i) a listing of waterbodies within the Construction Zone, including associated stream width, NYSDEC classification, proposed crossing method, and any potential construction schedule window developed during the preparation of the proposed EM&CP; (ii) a spreadsheet that contains the GPS coordinates (latitude and longitude) of each waterbody; (iii) a digital photograph of each waterbody, cross-referenced to its GPS coordinates; and (iv) a wetland delineation shape-file. This inventory will be delivered for review to DPS Staff, NYSDOS, and NYSDEC	DPS Staff NYSDOS, NYSDEC, APA	At least 30 days prior to filing of the proposed EM&CP. See Appendices A and M.

Description	Submitted to	Approximate Due Date
and, for waterbodies within the Adirondack Park, the APA (CC 114a).		
The Certificate Holders will provide municipal consents as applicable for each Segment with EM&CP filing.	Included in the EM&CP	As needed. See section 4.2.3.
The Certificate Holders will provide detailed soil erosion and sediment control plans in a SWPPP, which will be included with the first Segment EM&CP associated with the overland route of the Facility. Soil and sediment control measures will be implemented early in the construction process and be installed prior to and maintained in acceptable condition for the duration from any clearing or earthmoving operations through to the permanent stabilization of the soil. The SWPPP will be available at the construction site and available to the public upon five days written notice (CC 67).	Included in the EM&CP	Concurrent with filing of Segment EM&CP. Included as Appendix F.
If Construction Zone access involves non-State Roads, the Certificate Holders will consult with each transportation department or agency having jurisdiction over any roads, related structures, and components that will be crossed by the Facility or used for direct access to the Construction Zone. If the access road takes direct access from, or lies within the limits of, such roads, the Certificate Holders will notify each relevant transportation department or agency of the approximate date when work will begin (CC 69).	Included in the EM&CP	Prior to filing date of applicable Segment EM&CP. Road use agreements to be completed with applicable municipalities prior to construction.
A certificate of service indicating upon whom all EM&CP notices and documents were served and a copy of the written notice will be filed by the Certificate Holders (CC 155b).	Secretary to the Commission.	Following each applicable Segment EM&CP filing.
BEFORE CONSTRUCTION		
All necessary permits and consents referred to in CC 16 that pertain to Astoria Converter Station (CC 9).	Secretary to the Commission	Before commencing site preparation and any construction activities.
The Certificate Holders shall not commence work on any Segment until they shall have obtained all required interests in real estate, including interests in real estate to be used for access roads (whether obtained through a conveyance, consent, permit, or other approval) as are necessary and applicable for such Segment. Evidence of the obtaining of such interests shall be provided to the Secretary prior to commencement of the work. (CC 10)	Secretary to the Commission	Before commencement of construction.

Description	Submitted to	Approximate Due Date
The Certificate Holders will inform the Secretary and NYSDEC at least five days before commencing site preparation for the Project (CC 46).	Secretary to the Commission and NYSDEC.	At least five days before commencing site preparation.
The Certificate Holders will consult with each transportation department or agency having jurisdiction over any roads, related structures, and components that will be crossed by the Facility or used for direct access to the Construction Zone. If the access road takes direct access from, or lies within the limits of, such roads, the Certificate Holders will notify each relevant transportation department or agency of the approximate date when work will begin (CC 69a).	Transportation Department or Agency crossed by project.	When work begins; Pre-EM&CP coordination is described in Section 12, Table 12-3.
The names and qualifications of the Environmental Inspector and Construction Inspector will be submitted to DPS Staff and NYSDEC (CC 53g).	DPS Staff and NYSDEC.	At least 2 weeks prior to the start of construction.
At least two weeks prior to the start of overland construction, the Certificate Holders shall hold a preconstruction meeting to which they shall invite DPS Staff, NYSDOT, and NYSDEC. The agenda, location, and attendee list for this meeting shall be agreed upon between DPS Staff and the Certificate Holders. The Certificate Holders shall supply draft minutes from this meeting to all attendees. The attendees may offer corrections or comments, and thereafter the Certificate Holders shall issue the finalized meeting minutes to all attendees. If, for any reason, the Contractors retained by the Certificate Holders to construct the Facility cannot finish the construction of such facilities, and one or more new Construction Contractors are needed, there shall be another preconstruction meeting with the same format as outlined above. (CC 58)	DPS Staff, NSDEC, NYSDOT	At least 2 weeks prior to the start of overland construction.
The Certificate Holders shall confine construction to the Construction Zone and approved additional work areas as detailed in the approved EM&CP. A detailed construction schedule and location timeline shall be provided to DPS Staff prior to construction (CC 59).	DPS Staff	Prior to construction.
The Certificate Holders will keep required parties apprised of on-site chemicals and waste stored within one hundred (100) feet of their Co-Located Infrastructure (CI) or service area. In the case of CI located within the CNY, the Certificate Holders will advise CI owners and operators of on-site chemicals and waste stored within 300 feet of such facilities (CC 34).	Local Fire Departments, Emergency Management Teams, Owners and Operators of Co-Located Infrastructure; Local	Prior to storage of chemicals.

Description	Submitted to	Approximate Due Date
	Fire Departments, Emergency Management Teams in CNY.	
The Certificate Holders will provide the owners and operators of identified agricultural lands with the contact information for the Agricultural Inspector(s) and the Certificate Holders (CC 76).	Agricultural landowners & Operators. Not applicable to Astoria Converter Station EM&CP, which contains no agricultural lands.	After approval of the EM&CP and prior to construction. Not applicable to Astoria Converter Station EM&CP, which contains no agricultural lands.
The Certificate Holders will provide notice to local officials and emergency personnel in the area where they will be working on the Project. The notice will meet the conditions outlined in CC 42.	Local officials and Emergency Personnel.	Two weeks prior to the commencement of site preparation in area of applicable jurisdiction.
The Certificate Holders will provide notice to local media for dissemination and display in public places (such as general stores, post offices, community centers, etc.). The notice will meet the conditions outlined in CC 42.	Media for public display.	Two weeks prior to the commencement of site preparation in area of applicable jurisdiction.
The Certificate Holders will notify the adjacent landowners and their tenants of construction work within 100 feet of their property at least two weeks prior to the commencement of construction in these areas and provide copies of all correspondence to the DPS Staff. The notice will meet the conditions outlined in CC 42 (CCs 33, 42).	Adjacent landowners & Tenants with copies to DPS Staff	Two weeks prior to commencement of site preparation in area of landowner or tenant.
DURING CONSTRUCTION		
The Certificate Holders will make available to the public a toll-free or local phone number of an agent or employee who will receive complaints, if any, during the construction of the Project. In addition, the phone number of the Secretary and the phone number of the Commission's Environmental Compliance Section will be provided. A log will be maintained that lists at least the date of any complaint, identity and contact information for the complaining party, the date of the Certificate Holders' response, and a description of the outcome. Phone logs will be made available to DPS Staff upon request. The Certificate Holders will report to DPS Staff every complaint that cannot be resolved after reasonable attempts to do so.	DPS Staff as needed.	Upon commencement of construction. See Appendix H for current toll-free number, Public Involvement Plan and Compliant Resolution Plan.

Description	Submitted to	Approximate Due Date
Any such report will be made within three business days after receipt of the complaint (CC 41).		
The Certificate Holders will provide status reports summarizing construction and indicating construction activities and locations scheduled for the next month (CC 47).	DPS Staff, NYSDOT, and NYSDEC.	Bi-weekly.
The Certificate Holders shall identify encroachments within the Construction Zone and contact individual property owners or occupants to address and seek to rectify such potential encroachments on a case-by-case basis. The Certificate Holders shall report to DPS Staff the result of efforts to address and rectify encroachments in the Construction Zone periodically, but in no event less than quarterly (CC 60).	DPS Staff	At least Quarterly (or more often, as identified).
The Certificate Holders shall consult periodically with state and municipal highway transportation agencies about traffic conditions near the site of the Facility and shall notify each such transportation agency of the approximate date work will begin in its jurisdiction and Construction Zone access points that connect with the highways in that jurisdiction (CC 72).	State and Municipal highway agencies.	Periodically leading up to and during construction.
Should archeological materials be encountered during construction, the Certificate Holders will notify and seek to consult with to determine the best course of action (CC 110). (see Cultural Resources Section 11 of the EM&CP)	DPS Staff and OPRHP Field Services Bureau.	Within 24-hours of discovery.
Should human remains or evidence of human burials be encountered during the conduct of archeological data recovery fieldwork or during construction, the Certificate Holders will notify and consult on the appropriate course of action. All archaeological or remains-related encounters and their handling will be further reported in the status reports summarizing construction activities and reviewed in the site-compliance audit inspections (CC 111). (see Cultural Resources Section 11 of the EM&CP)	DPS Staff and OPRHP Field Services Bureau.	Within 24-hours of discovery.
The Certificate Holders will promptly notify if a New York State listed species of special concern is observed to be present in the Project Area (CC 51).	DPS Staff and NYSDEC.	As soon as possible upon discovery.
The Certificate Holders will promptly notify if any threatened or endangered wildlife species under 6 NYCRR Part 182 ("TE species") or any rare, threatened, or endangered plant species under 6 NYCRR Part 193 ("RTE plants") are observed to be present in the Facility area so as to determine the appropriate measures to be taken to	DPS Staff, NYDEC, USFWS, NMFS.	As soon as possible upon discovery.

Description	Submitted to	Approximate Due Date
avoid or minimize impacts to such species. If necessary to avoid or minimize impacts to such species or as directed by DPS Staff, the Certificate Holders will stabilize the area and cease construction or ground disturbing activities in the Facility area until DPS Staff have determined that appropriate protective measures have been implemented (CC 52).		
For any release of drilling solution occurring in a waterbody, the Certificate Holders will provide notification of details of the release and the course of action they recommend taking (CC 114m).	DPS Staff and NYSDEC.	Immediately.
Immediate notification of any petroleum product spills (CC 35).	DPS, NYSDEC, owners and operators of any CI within 100 feet (or 300 ft in CNY).	Immediately upon discovery of a spill of petroleum products.
Notification prior to the commencement of any herbicide application on the Project (CC 84).	DPS Staff and the appropriate NYSDEC Regional Natural Resource Supervisor(s) and Pesticide Control Specialist.	14 days prior to the commencement of any herbicide application on the Project site.
Schedule of Inspectors and their contact information	DPS	Weekly
POST CONSTRUCTION		
The Certificate Holders shall file with the Secretary, a report regarding the measures taken to achieve the 1,550 MW deliverability commitment established in CC 15(a) hereof, as well as copies of all studies, drawings, and backup documentation that support all such measures (CC 133). The Certificate Holders shall provide a draft of such report to Consolidated Edison (Con Edison) for its review and comment at least thirty days prior to the filing of such report. The report shall include the information provided in CC 133.	Secretary of the Commission.	Completed and approved in connection with October 13, 2022 Order from the Commission.
The Certificate Holders shall file an Operation and Maintenance Plan(s) for the Project's Interconnection Facilities. The Plan(s) shall be updated yearly, and a copy of the update plan(s) shall be filed with the Secretary, as well as submitted to Con Edison, and NYPA (CC 132).	Secretary of the Commission.	60 days prior to the anticipated date of commercial commencement of operation (COD).
Notification that all restoration has been completed in compliance with this Certificate and the Order(s) approving the EM&CP (CC 48).	Secretary of the Commission.	Within 10 days of the completion of final restoration activities.

Description	Submitted to	Approximate Due Date
Following final completion of construction of a particular Segment, the Certificate Holders shall prepare and provide to the DPS the as-built design drawings, which shall include a detailed map or maps containing all of the information specified in CC 139.	DPS	Within 90 days following the completion of construction.
The Certificate Holders shall provide a copy of their emergency procedures and contacts. If modifications are made an updated copy will be provided (CC 136).	Bulk Electric System Section of DPS Staff, Con Edison, and NYPA	Upon commencement of operation.
The Certificate Holders shall notify NYSDOT, NYSDEC, and the Secretary to the Commission of the date of commencement of commercial operation (CC 50).	NYSDOT, NYSDEC, and the Secretary to the Commission.	No later than three days after commercial operation.
The Certificate Holders will notify NYSDOT, NYSDEC, and the Secretary to the Commission of the date of commencement of commercial operation (CC 50).	NYSDOT, NYSDEC, and the Secretary to the Commission.	Three days after commercial operation.
The Certificate Holders will promptly provide to DPS Staff, NYPA, and Con Edison copies of all notices, filings, and other substantive written communications with NYISO as to such reduction, any plans for making repairs to remedy the reduction, and a proposed schedule for any such repairs.	DPS Staff, NYPA, Con Edison.	Within five business days of any failure of equipment causing a reduction of more than 10 percent in the capacity of the Project.
The Certificate Holders will provide monthly reports to DPS Staff, Con Edison, and NYPA on the progress of any repairs until completed. The monthly reports will contain the information specified in CC 126.	DPS Staff, NYPA, Con Edison.	Monthly until repairs are completed.
The Certificate Holders will work cooperatively with NYPA, Con Edison, and NYISO to avoid any future occurrences. If such equipment failure is not completely repaired within nine months of its occurrence, the Certificate Holders will provide a detailed report to the Secretary. The report will contain the information specified in CC 126.	Secretary to the Commission.	Within nine months and two weeks after equipment failure.
The Certificate Holders will report any failure of the Project's cables. The report will contain the information specified in CC 135.	Bulk Electric System Section of DPS Staff, Con Edison, and NYPA	Within one day of determining the location of failure in one of the Project's cables.
The Certificate Holders will provide a copy of their emergency procedures and contacts. If modifications are made, an updated copy will be provided (CC 136).	Bulk Electric System Section of DPS Staff, Con Edison, and NYPA	Upon commencement of operation.

Description	Submitted to	Approximate Due Date
The Certificate Holders will notify DPS Staff of any system trips incidents. Following the incident, the Certificate Holders will provide notice of the cause of the trip and what actions, if any, the Certificate Holders are taking to rectify the cause (CC 134).	DPS Staff DPS Staff, NYPA, Con Edison	If the HVDC transmission system trips offline (other than as a result of any Operational Measures).
The Certificate Holders will call and report any transmission related incident that affects the operation of the Project. A subsequent report of the incident will be submitted. The report will contain the information specified in CC 134. The Certificate Holders will work cooperatively with Con Edison, NYPA, NYISO, NPCC, NYSRC, NERC, and DPS Staff to prevent any future occurrences (CC 134).	Call Bulk Electric System Section of DPS Staff. Submit report to Bulk Electric System Section of DPS Staff, Con Edison, and NYPA	Call within 6 hours of any incident. Submission of report within seven days of the incident.
Following final completion of construction of a particular Segment, the Certificate Holders will prepare and provide to the DPS the as-built design drawings, which will include a detailed map or maps containing all of the information specified in CC 139.	DPS	Within 90 days following the completion of construction.
Present CC 89's post-construction assessments and plans for DPS Staff review within one year of the date the Facility is placed in service.	DPS Staff	Within one year of COD.
ANY PERIOD DURING PROJECT (PRIOR TO CONSTRUCTION, DURING CONSTRUCTION, POST CONSTRUCTION)		
The Certificate Holders will notify the Secretary of the Commission of the date of closing which will occur after the completion of the transaction(s) pursuant to which the costs of construction of the Project are funded (CC 45).	Secretary of the Commission.	Completed November 10, 2022 (DMM Item 905).
Petition describing the action or determination made in connection with the permits and approvals referenced in the Certificate Conditions that is unreasonable or unreasonably delayed (CC 18b).	Commission and appropriate permitting authority	As needed.
A summary or statement notifying the Secretary in writing of all, or any portion of the Project's construction was not completed (CC 12).	Secretary to the Commission	As needed.
The Certificate Holders will provide copies of all necessary permits from applicable state agencies for the delivery of oversized construction materials and equipment (CC 40).	Secretary to the Commission	As needed.
The Certificate Holders shall make modifications to the Project if it is found by the NYISO or the Commission to cause reliability problems to the New York State	DPS Staff	As needed within 45 days of notification by DPS Staff.

Description	Submitted to	Approximate Due Date
Transmission System. If NYPA, Con Edison, or the NYISO bring concerns to the Commission, the Certificate Holders shall be obligated to respond to those concerns. The Certificate Holders shall prepare a report within 45 days of notification by DPS Staff that DPS Staff has determined that a reliability problem exists (CC 131).		
The Certificate Holders will report any theft of materials related to the Facility with a value in excess of $10,000 to the DPS Representative. The notice will contain the information specified in CC 137.	DPS Staff	As needed within 1 business day of the time when the theft comes to the attention of the Certificate Holders.
All proposed modifications to any of the Segment EM&CPs and subsequent notices and filings will follow the procedures described in Section 3.2.6.	DPS Staff	As needed.
The Certificate Holders will notify the owners or operators of co-located infrastructure that is impacted by the Project or has the potential to be impacted by the Project of any situation involving imminent risk to health, safety, property, or the environment that requires the Certificate Holders to cross any infrastructure or to use any associated property to address the emergency (CC 28g).	Owners and Operators of co-located infrastructure.	In the event of the emergency
The Certificate Holders will advise the owners or operators of co-located infrastructure of all construction activities that take place within the vicinity of co-located infrastructure. The vicinity will be defined as described in CC 28e.	Owners and Operators of co-located infrastructure.	At least 30 days prior to commencing any construction activities
The Certificate Holders will notify the owners or operators of co-located infrastructure if any damage to or adverse effects to the co-located infrastructure resulting from any studies, surveys, testing, sampling, preliminary engineering, pre-construction activities, and construction (CC 28f).	Owners and Operators of co-located infrastructure.	Immediately upon knowledge or discovery of damage.
The Certificate Holders shall coordinate with NYPA and Con Edison system planning and system protection engineers to evaluate the characteristics of the transmission system before purchasing any system protection and control equipment related to the electrical interconnection of the Project to NYPA's and Con Edison's transmission facilities. This discussion is designed to ensure that the equipment purchased will be able to withstand most system abnormalities (CC 128).	NYPA and Con Edison system planning and system protection engineers.	Before purchasing any system protection and control equipment related to the electrical interconnection of the Project to NYPA's and Con Edison's transmission facilities.

Description	Submitted to	Approximate Due Date
The Certificate Holders shall work with NYPA and Con Edison engineers and safety personnel on testing and energizing equipment and develop a start-up testing protocol providing a detailed description of the steps that they will take to limit system impacts prior to and during testing of the Project. Such protocol shall be provided to NYISO, Con Edison, and NYPA for review and comment and, following the review and comment phase, a copy of such protocol shall be provided to Staff of the Bulk Electric System Section of the DPS. The Certificate Holders shall comply with this protocol once established, unless NYISO provides written authorization to Certificate Holders to deviate from that protocol. The Certificate Holders shall make a good faith effort to notify DPS Staff of meetings related to the electrical interconnection of the Project to the NYPA's or Con Edison's transmission system, as applicable, and provide the opportunity for Staff to attend those meetings. The Certificate Holders shall provide a copy of the testing protocol to Staff of the Bulk Electric Systems Section of DPS (CC 130).	NYISO, Con Edison, NYPA, DPS Staff, Bulk Electric Systems Section of DPS	During the testing and energizing phase of the Project.

3.4 STOP WORK ORDERS

During the pre-construction meeting, all Contractors will be notified that the Environmental Inspector(s) will have the authority to stop work and direct actions in the event of, or for the occurrence or prevention of violations of a Certificate Condition or a condition of another Project permit. The Safety Inspector will have stop work authority in the event of a leak, spill, or other event that impacts human health and safety during construction activities.

All Project personnel will be encouraged to notify the Environmental Inspector, Safety Inspector, Construction Manager, Contractor, Project Preservation Officer, or DPS Staff if they observe conditions that could potentially be in non-compliance so that corrective action(s) can be taken. If any non-compliant or potentially non-compliant actions or issues are observed, all Project personnel should report it to their supervisor as soon as it is safe to do so.

Upon becoming aware of any concern, the Environmental Inspector, Safety Inspector, and other Project personnel will meet with the contractor's or subcontractor's employees to discuss and resolve the issues. Stop Work Authority will be exercised sparingly and with due regard to potential environmental impact,

economic costs involved, possible impact on construction activities, and whether an applicable statute or regulation is or is claimed to be violated.

Any observation of spills, leaking fluids or improperly stored fluids may trigger the issuance of a "stop work" notice by the Safety Inspector or the Environmental Inspector until the situation is resolved (BMP Document Section 13.7).

The Certificate Holders will regard DPS Staff representatives as the PSC's designated representatives in the field. In the event of any emergency resulting from the specific construction or maintenance activities that violate or may violate the terms of the Certificate Conditions, the WQC, or any other terms of any relevant permits or jurisdictional agencies, DPS Staff may also issue stop work order for that location or activity (CC 54a). Before exercising such authority, DPS Staff will consult (wherever practicable) with the Environmental and/or Safety Inspector. Within reasonable time constraints, all attempts will be made to address any issue and resolve any dispute in the field. In the event the dispute cannot be resolved, the matter will be brought immediately to the attention of the Certificate Holders' Construction Manager and the Director of the DPS Office of Energy Efficiency and the Environment. If DPS Staff issues a stop-work order, neither the Certificate Holders nor the EPC Contractor will be prevented from undertaking any safety-related activities that they deem necessary and appropriate under the circumstances. The issuance of a stop-work order, or the implementation of measures as described below may be directed at the sole discretion of the DPS Staff during these discussions.

A stop work order issued by DPS Staff will expire 24 hours after issuance unless confirmed by a single Commissioner. If a stop-work order is confirmed, the Certificate Holders may seek reconsideration from the confirming Commissioner or the whole Commission. If the emergency prompting the issuance of a stop work order is resolved to the satisfaction of the Commissioner or the Commission, the stop work order will be lifted. If the emergency has not been satisfactorily resolved, the stop work order will remain in effect. (CC 54b)

If DPS Staff or the Environmental Inspector discovers a specific activity that represents a significant environmental threat that is or immediately may become a violation of the Certificate Conditions, the WQC, or any other terms of any relevant permits or jurisdictional agencies, and on-site construction personnel refuse to take appropriate action after being advised of the threat, DPS Staff and/or the Environmental Inspector may direct the field crews to stop the specific potentially harmful activity immediately. If the direction to stop work is issued by DPS Staff and Certificate Holders' responsible personnel are not on site, the DPS Staff will immediately thereafter inform the Construction Inspector and/or the Inspector of the action taken. The stop work order will be lifted by the DPS Staff when the situation prompting its issuance has been resolved.

If DPS Staff determines that a significant threat exists such that protection of the public or the environment at a particular location requiring the immediate implementation of specific measures, the DPS Staff may, in the absence of the Environmental Inspector and the Construction Inspector, or in the presence of such personnel who, after consultation with the DPS Staff, refuse to take appropriate action, direct the Certificate Holders or their Contractors to implement the corrective measures identified in the approved EM&CP. The field crews will comply with the DPS Staff's directive immediately. DPS Staff will immediately thereafter inform the Certificate Holders' Construction Inspector and/or Environmental Inspector of the action taken.

DPS Staff or the Environmental Inspector will promptly notify the appropriate NYSDEC representative of any activity that is a significant environmental threat to a state-regulated wetland or its regulated adjacent area, a protected stream or other waterbody, an RTE species, or a state- or federally- identified hazardous waste site or that may become a violation of the Certificate Conditions, WQC, or any other terms of any relevant permits or jurisdictional agencies. If any NYSDEC field representatives observe any activities that violate or may violate either the Certificate Conditions or the ECL, the representative will notify the DPS Staff and the Environmental Inspector. NYSDEC field representatives and APA representatives (where applicable) will consult with the Environmental Inspector in assessing site conditions and determining whether a recommendation should be made to DPS staff to exercise its stop-work authority or alternatively if the Certificate Holders should be directed to take action to minimize further impacts to streams and regulated wetlands as appropriate.

Any archeological materials or human remains encountered in the field during construction will result in a stop work order until appropriate agencies can be consulted, and appropriate mitigation measures to be implemented. See Section 11.0 of this EM&CP for additional information related to the response to cultural resources encountered during construction.

4.0 CONSTRUCTION METHODS

The Certificate Holders will construct the Converter Station in a manner that conforms to all applicable BMPs. All cleanup and restoration methods that will be performed after construction are described in Section 13.0. All vegetation clearing methods and protection measures to be used prior to and during construction are described in Section 8.0.

As described in the SWPPP (Appendix F), the approximate construction sequence the Converter Station will be as follows:

1. Establish work area and contractor staging areas.
2. Install stabilized construction entrance and temporary erosion and sediment control measures (installed in progressive phases).
3. Perform initial clearing to remove vegetation (where required).
4. Perform site grading and ground stabilization if required due to site conditions. Ground stabilization shall generally consist of undercutting existing unsuitable topsoil (to be stockpiled on-site), proof rolling the subgrade, installing layers of geotextile fabric and geogrid, and installing an aggregate base. Additional E&SCs will be installed at the direction of design engineers and environmental inspectors.
5. Install building foundations
6. Erect steel superstructure
7. Connect site utilities to existing utilities and install permanent stormwater management infrastructure
8. Install electrical equipment
9. Connect building utilities to existing utilities nearby (electric, water, sanitary)
10. When all disturbed areas have been stabilized, remove all temporary sediment and erosion control measures.

The approximate construction sequence the laydown yards(s) will be as follows:

1. Establish work area and contractor staging areas.
2. Install stabilized construction entrance and temporary erosion and sediment control measures (installed in progressive phases).
3. Perform initial clearing to remove vegetation (where required).
4. Perform site grading and ground stabilization if required due to site conditions. Ground stabilization shall generally consist of undercutting existing unsuitable topsoil (to be stockpiled on-

site), proof rolling the subgrade, installing layers of geotextile fabric and geogrid, and installing an aggregate base. Additional ESCs will be installed at the direction of design engineers and environmental inspectors.

5. Temporary electric utility tie-ins will be installed from nearby locations for temporary office and site lighting.
6. Temporary restroom facilities will be utilized with holding tanks. Holding tanks will be used for sanitary sewer and non-potable water storage; if municipal sanitary sewage connections are available, these will be explored at a later date.
7. Install fencing and gates, site lighting, modular offices, dumpsters, and Connex storage containers.
8. When all disturbed areas have been stabilized, remove all temporary sediment and erosion control measures.

4.1 CONVERTER STATION & SUBSTATION REQUIREMENTS

Section C of the Certificate Conditions (CC 21 – 26) outlines certificate conditions specific to the design, interconnection, and construction of the HVDC-AC Converter Station. The conditions include requirements for the height of the building, site plan requirements, and coordination with the City of New York. The Certificate Holders have designed the Converter Station in accordance with these conditions as described in the following sections.

4.1.1 Building and Structure Height

The overall site design is based on the finished floor elevation (FFE) of 15.0 feet. Fill will be required to bring the elevation up to the FFE. The FFE was established based on the 500-year flood elevation for the site. The Base Flood Elevation (BFE) is designated as 13.0 feet per FEMA FIRM 360497. The tallest building on the Converter Station site will be the main converter building. The building height of the main converter building is 69 ft. 8.25 in, consistent with CC 22(a).

The lightning masts and AC yard dead-end gantry are required to be greater than 70 feet in height, however these infrastructures do not fall within definition of building, or support tower subject to this height limit. The lightning masts, which are required to be taller than the adjacent facilities to provide proper protection from the impact and transient of lightning, are designed at a maximum height of 87 feet. The AC yard dead-end gantry is designed at a height of 85 feet to maintain clearances from nearby electrical equipment for the safe operation of the Converter Station. The height of this equipment cannot be reduced to less than 70 feet without compromising the safety of the Converter Station and CHPE project. CHPE notes that this height restriction was put in place when the Converter Station was at a different location on Luyster Creek, where visual impacts were more of a concern.

The Federal Aviation Administration (FAA) completed an Aeronautical Study[5] of the design of the Converter Station and a Determination of No Hazard to Air Navigation was issued. The study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation. See Appendix A - Agency Correspondence for FAA Determination of No Hazard to Air Navigation.

4.1.2 Site Plan Requirements

A site plan of sufficient detail is provided in Appendix C in conformance with the requirements of the Certificate, EM&CP Guidelines, and the code requirements of the CNY. The site plan and construction drawings include architectural, structural, HVAC, mechanical, electrical, plumbing and fire protection plans for all structures. The required construction drawings are packaged according to the permit submission requirements set forth by the NYC Department of Buildings (DOB). See Table 4-1 for complete list drawings by DOB permit packages. The site plan and construction drawings have been prepared by an architect or engineer licensed by the State of New York.

4.1.3 Coordination with CNY

In conformance with the code requirements of the CNY, the site plans and construction drawings have been packaged according to the applicable building permits required from the New York City Department of Buildings (DOB). The site plans and construction drawings have been packaged as listed below in table 4-1. The status of all work permits necessary for construction is listed in Table 12-1.

Table 4-1. DOB Permit Packages

Permit Package	Permit Number	Included Drawings	Appendix	Status
Site - Civil	#Q08038915	Site Civil Package	C.1. Site Plan Civil Package	*Approved by DOB*
		Site Drainage Package	C.2. Site Plan Drainage Package	*Under review by DOB*
	#Q08038050	Site Pavement Package	C.3. Site Plan - Pavement Package	*Approved by DOB*
	#Q08039161	Site Retaining Wall Package	C.4. Site Plan - Retaining Wall Package	*Approved by DOB*
		Site Utilities Wall Package	C.5. Site Plan - Utilities Package	*Under review by DOB*
Structural		Structural - Site Piles and Foundations	C.6. Structural - Piles & Foundations	*Under review by DOB*

[5] Aeronautical Study No. 2022-AEA-18583-OE

		Structural - Service and Converter Building Piles and Foundations	C.7. Structural - Service and Converter Building Piles & Foundations	*Under review by DOB*
		Structural - Auxiliary Enclosures Piles and Foundations	C.8. Structural - Auxiliary Enclosures Piles & Foundations	*Under review by DOB*
		Structural - Site Package	C.9. Structural - Site Package	*Under review by DOB*
		Structural - Converter and Service Building Package	C.10. Structural - Converter and Service Building Package	*Under review by DOB*
		Structural - Auxiliary Enclosures Package	C.11. Structural - Auxiliary Enclosures Package	*Under review by DOB*
Architecture		Architecture Package - Converter and Service Building	C.12. Architecture - Converter and Service Building	*Under review by DOB*
		Architecture Package - Auxiliary Enclosures	C.13. Architecture- Auxiliary Enclosures	*To be submitted after approval of New Building Application, currently under review with DOB*
		Energy Package - Converter and Service Building	C.14. Energy Package - Converter and Service Building	*To be submitted after approval of New Building Application, currently under review with DOB*
		Energy Package - Auxiliary Enclosures	C.15. Energy Package - Auxiliary Enclosures	*To be submitted after approval of New Building Application, currently under review with DOB*
		Zoning Package - Converter and Service Building	C.24. Zoning - Converter and Service Building	*To be submitted after approval of New Building Application, currently under review with DOB*
Electrical		Electrical Package	C.16. Electrical Drawings	*To be submitted after approval of New Building Application, currently under review with DOB*
Fire Protection		Fire Protection Systems - Clean	C.17. Fire Protection - Clean Agent Fire Extinguishing	*To be submitted after approval of New Building Application,*

		Agent Fire Extinguishing		*currently under review with DOB*
		Fire Protection Systems - Fire Alarm	C.18. Fire Protection - Fire Alarm	*To be submitted after approval of New Building Application, currently under review with DOB*
		Fire Protection Systems - Water-Based Fire Suppression	C.19. Fire Protection - Water-Based Fire Suppression	*To be submitted after approval of New Building Application, currently under review with DOB*
Mechanical		Mechanical Package - Converter and Service Building	C.20. Mechanical - Converter and Service Building	*To be submitted after approval of New Building Application, currently under review with DOB*
		Mechanical Package - Auxiliary Building	C.21. Mechanical - Auxiliary Enclosures	*To be submitted after approval of New Building Application, currently under review with DOB*
Plumbing		Plumbing - Site	C.22. Plumbing - Site	*To be submitted after approval of New Building Application, currently under review with DOB*
		Plumbing - Service Building	C.23. Plumbing - Service Building	*To be submitted after approval of New Building Application, currently under review with DOB*
Other		Communications Package	C.25. Communications Package	*Not applicable to DOB*
		FDNY Package: Site Plan, Grading Plan, Road Design, Turning Movement Plan	C.26. FDNY Drawings	*Permit under review by FDNY*

4.1.3.1 CNY Inspections

During construction of the Converter Station and related buildings, the Certificate Holders will obtain periodic inspections of the construction work by the NYC DOB for compliance with the NYCFC, NYCEC and NYCCC (CC 86).

4.1.3.2 CNY Certificate of Occupancy

Upon completion of the construction of the Converter Station, and prior to commercial operation, the Certificate Holders will obtain a certificate of occupancy for the operation of the Astoria HVDC Converter Station (CC 25).

4.2 RIGHT OF WAYS AND EASEMENTS

The Certificate Holders have obtained the rights via purchased ownership to utilize this parcel for the converter station (CC 141). For all rights concerning property comprising the Converter Station, the Construction Zone, off-ROW-access, storage or staging areas, or similar areas, the Certificate Holders have obtained initial title information and will continue to develop the required title reports in accordance with CC 143.

With regard to the laydown yards, the Certificate Holders are in the process of obtaining rights to utilize the two laydown yard alternatives proposed in this EM&CP. Further discussion with these landowners will aid in finalizing plans for which alternative(s) may be selected.

4.3 CONVERTER STATION SITE CLEARING

The procedures for vegetation and tree clearing, as well as the locations where clearing will be necessary, are described in Section 8.

4.4 BUILDING AND STRUCTURE REMOVAL

Work under a previous Consent Order with the NYSDEC is under way at the Site to remove buildings and structures from the decommissioned facilities on the current site as outlined in Section 1.2.

4.5 SOIL AND MATERIALS MANAGEMENT PLAN

The Soil and Materials Management Plan is included in Appendix J attached to this EM&CP, which sets guidelines for the management of excess excavated soil associated with all excavation and other land disturbance activities associated with construction. The Consent Order referenced in Section 4.4 above

requires that the Site remediation activities bring the Site into compliance with soil standards set forth in the Consent Order, and construction of the Converter Station will not commence until the Consent Order activities are complete. As such, construction of the Converter Station is not anticipated to require any additional soil or materials management protocols beyond those outlined in Appendix J.

4.6 INADVERTENT DAMAGE TO EXISTING UTILITIES

If, during construction, damage occurs to existing utilities discussed in Section 13 and Appendix M, the typical process will be as follows:

1. Ensure the site personnel and public are safe.
2. CHPE, LLC, will immediately notify the utility owner; If the damaged utility poses an imminent danger to public safety, the contractor will contact emergency services and the utility owner.
3. Document the damage by filing a utility damage report and notify the one-call center (811) about utility damage.
4. Follow the utility owner repair procedures.

5.0 POLLUTION PREVENTION

5.1 POTENTIAL POLLUTANT SOURCES

In addition to the potential for sediment to act as a pollutant as a result of land disturbance during construction of the Converter Station, some polluting materials may be found in staging/laydown areas and active work sites during construction of the Converter Station (see Table 5-1).

Table 5-1. Potential Pollutant Sources for Converter Station Construction Activities

Pollutant	Quantity	Container and Storage Description
Used oil	50–100 gallons	Drum with secondary containment
Lube Connexes containing various oil types: 15-40, 10W, 30W, 50W, ATF, used coolant, new coolant, used oil	2,050 gallons	20-foot Connexes with bulk storage tanks inside secondary containment
Dyed tanks	1,500 gallons	Double wall UL-2085 tank
Wire pulling lubricants	100 gallons	
Hydraulic fluid	Greater than 25 gallons	Approved containers
Gasoline	250 gallons	5-gallon steel containers located inside secondary containment for chainsaws, pumps, etc.
Mobile fueling truck w/spill kit on board	no full-time storage. Diesel fuel 30 to 500 gallons	Steel AST
Solid waste (litter and construction debris)	Varies	Covered dumpsters
Sanitary waste	Varies	Portable facilities
Used filter and absorbent bins	330 gallons	330-gallon steel containers
Chemicals associated with laydown yard equipment maintenance	Varies	Flammable cabinets inside shops and on service trucks, shelves in storage connex, 20-inch Hazmat connex with rollup doors and built-in secondary containment

5.2 GOOD HOUSEKEEPING PRACTICES

Good housekeeping practices were developed as part of the development of the SWPPP and are included in the "Spill Prevention" section of the SWPPP (Appendix F). These good housekeeping practices will be followed within Project construction areas to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff:

- Where possible, store only enough products required to do the job.
- Store all materials within Project Areas in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
- Keep products in their original containers with the original manufacturer's label.
- Avoid mixing substances with one another unless recommended by the manufacturer.
- Whenever possible, use all of a product up before disposing of the container.
- Follow manufacturers' recommendations for proper use and disposal.
- The project superintendent will inspect daily to ensure proper use and disposal of materials.

5.3 WASTE DISPOSAL

5.3.1 Solid Waste

Foreign waste materials will be collected and stored in a secured area until removal and disposal by a licensed solid waste management company. All trash and construction debris from the Converter Station will be disposed of in a portable container unit. No foreign waste materials will be buried within the Converter Station site. All personnel will be instructed regarding the correct procedure for waste disposal. Notices stating these practices will be posted in the Project trailer and the Contractor (or their designee) will be responsible for seeing that these procedures are followed.

5.3.2 Sanitary and Hazardous Waste

Any sanitary waste from portable units will be collected from the portable units by a licensed sanitary waste management contractor, as required by NYSDEC regulations.

The installation of the overland transmission cable will require the transport, handling, use, and onsite storage of hazardous materials and petroleum products, and small amounts of hazardous wastes would be generated as by-products of the transmission cable installation and burial process. These will be handled in accordance with the Construction and Safety Policies and Procedures (see Appendix G). Handling of hazardous soil materials will be in accordance with the Soil Management Plan (Appendix J).

All hazardous waste materials will be disposed of in a manner specified by local or state regulations or by the manufacturer. Project personnel will be instructed in these practices, and the individual who manages daily project operations will be responsible for seeing that these practices are followed.

Procedures for the storage and use of hazardous products are outlined in the "Spill Prevention" section of the SWPPP which is included in Appendix F. These products may include but are not limited to petroleum

products, fertilizers, and paints. These procedures are used to reduce the risks associated with hazardous materials.

5.4 CONSTRUCTION MATERIALS

Materials (including fill, construction materials, or debris) cannot be deposited, placed, or stored in any waterbody as described in Section 9.1.

All construction materials stored onsite will be stored in a neat, orderly manner in appropriate containers with appropriate labels. Products will be kept in their original containers with the original manufacturer's label unless the containers are not re-sealable and manufacturer's recommendations for proper use and disposal will be followed. Original labels and Safety Data Sheets (SDSs) will be retained for the period that the product is being utilized onsite in accordance with all applicable OSHA regulations (29 CFR 1926.33). Containers will not be stored on the ground but will be stored in cabinets or on a stable working surface such as a portable trailer bed or other secure decking. Containers will be kept closed unless the material is being transferred. All transfer operations will be monitored and not left unattended (BMP Document, Section 12.3). The Good Housekeeping practices outlined in the "Spill Prevention" section of the SWPPP included in Appendix F will be followed to minimize the risk of spills or other accidental exposure of materials and substances to stormwater runoff and ecologically sensitive sites.

The Construction Contractor will not store, mix, or load chemicals labeled toxic or petroleum products within 100 feet of a wetland, river, creek, stream, lake, reservoir, or other ecologically sensitive site or existing recreational area along the proposed ROWs (BMP Document Section 12.3.1). This applies to storage and does not apply to normal operation or use of equipment or chemical in these areas. All employees and/or other handlers of hazardous materials will be properly trained and instructed on the proper reporting and handling requirements.

5.4.1 Secondary Containment

Secondary containment shall be used to prevent leaks or spills from reaching the environment and to contain spills until they can be cleaned up. Secondary containment for portable containers (drums and buckets) will be of sufficient size to contain 110% of the capacity of the largest container. Tank containment will be of sufficient size to contain 100% of the capacity of the largest tank within its boundary and have additional capacity sufficient to contain precipitation from a 25-year, 24-hour rainfall event. The liner or structural material used for secondary containment will be compatible with the product that it's expected to contain. Carbon steel, for example, would not be compatible with corrosive liquids such as sulfuric acid. In this case, plastic should be used.

Spill management consists of plastic laid underneath oil containing equipment. Plastic will be replaced on an as needed basis.

5.5 CONSTRUCTION EQUIPMENT

Construction equipment will be staged within the Converter Station's limits of work and/or the limits of work for the Astoria Laydown Yard(s). All on-site construction vehicles including contractor employee vehicles (will be monitored for leaks and will receive regular preventative maintenance to reduce the risk of leakage. The following measures will be followed for all construction material and equipment staging locations:

1. Any equipment leaking oil, fuel or hydraulic fluid will be repaired immediately or removed from the site.
2. Contractor personal vehicles at all times, and construction equipment at the end of the working day, will be parked at least 100 feet from a wetland, river, creek, stream, lake, reservoir, spring, well or other ecologically sensitive site or existing recreational area along the proposed construction ROW except where it is necessary to maintain continuity of construction.
3. Equipment cannot be deposited, placed, or stored in any waterbody.
4. Equipment or machinery will not be cleaned in any regulated wetland or adjacent area, and debris resulting from cleaning operations will not be permitted to directly enter any regulated wetland or protected stream or waterbody (CC 113f).
5. In accordance with the amended CC 114, in general, and to the maximum extent practicable, refueling equipment, storage mixing, or handling of open containers of pesticides, chemicals labels "toxic", or petroleum products will not be conducted within 100 feet of a stream or waterbody or wetland. Requirements for refueling within 100 feet of wetlands or streams will be allowed under certain circumstances identified below.
    a. Refueling of hand equipment with be allowed within 100 feet of wetlands or streams when secondary containment is used. Secondary containment will be constructed of an impervious material capable of holding the hand equipment to be refueled and at least 110% of the fuel storage container capacity. Fuel tanks of handheld equipment will be initially filled in an upland location greater than 100 feet from wetlands or streams in order to minimize the amount of refueling within these sensitive areas. Crews will have sufficient spill containment equipment on hand at the secondary containment location to provide prompt control and cleanup in the event of a release.
    b. Refueling of equipment will be allowed within 100 feet of wetlands or streams when necessary to maintain continuous operations and where removing equipment from a sensitive area for refueling would increase adverse impacts to the sensitive area. Fuel

tanks of such equipment will be initially filled in an upland location greater than 100 feet from wetlands or streams in order to minimize the amount of refueling within these sensitive areas. Absorbent pads or portable basins will be deployed under the refueling operation. In addition, the fuel nozzle will be wrapped in an absorbent pad and the nozzle will be placed in a secondary containment vessel (e.g., bucket) when moving the nozzle from the fuel truck to the equipment to be refueled. All equipment operating within 100 feet of a wetland or stream will have sufficient spill containment equipment on board to provide prompt control and cleanup in the event of a release.

c. Field personnel and contractors shall be trained in spill response procedures, including the deployment and maintenance of spill response materials.

6. The contractor will coordinate with the Environmental Inspector to determine the appropriate location for all refueling operations. Paved areas are not preferred. These areas will be properly contained to prevent excess spillage during routine refueling.
7. Spill containment devices and materials will be readily accessible at the refueling site. Any effluent generated on/resulting from these sites will be contained, treated or disposed of, as appropriate. All drivers of fueling trucks will take all usual and reasonable environmental and safety precautions during refueling, such as connecting a safety grounding strap between the fuel tank and vehicle or equipment being refueled.
8. Drivers will frequently check for fuel spills, drips, or seeps during the refueling operation (BMP Document, Section 12). When not feasible to move a vehicle or construction equipment from an environmentally sensitive area to a suitable access area, the following precautions will be used to prevent petroleum products or hazardous materials from being released to the environment.
    1. Deployment of portable basins or similar secondary containment devices
    2. Use of ground covers (such as plastic tarpaulins)
    3. Precautionary placement of a floating boom on nearby surface waterbodies if applicable

5.6 PETROLEUM AND CHEMICAL HANDLING PROCEDURES

Petroleum and Chemical handling procedures are outlined in the SPCC Plan in Appendix I. These procedures will be used to minimize the potential for spills of petroleum and hazardous substances, or other materials, that have the potential to pollute the environment. The SPCC Plan also describes the response measures that will be implemented to contain, clean-up and dispose of any spilled substances during construction. The Certificate Holders will keep required parties appraised of on-site chemicals and waste stored within 100 feet of their CI or service area. These required parties include local fire departments, emergency management teams, and owners and operators of CI (CC 34).

5.7 SPILL RESPONSE AND CLEANUP PROCEDURES

The spill response and cleanup procedures are outlined and described in the SPCC included in Appendix I.

5.8 NOTIFICATION AND REPORTING

Section 4.0 of the SPCC included in Appendix I describes the notification and reporting requirements that are necessary after a spill has occurred. Reporting obligations are also addressed in Table 3-2.

5.9 UNANTICIPATED ENCOUNTERS WITH CONTAMINATED SOIL

Due to the heavily urbanized landscape of New York City, and the current and former use of nearby areas for industrial, commercial, and waste management operations, soils within the Converter Station may be contaminated. Construction of the Converter Station could disturb contaminants potentially deposited in the soil. The Soil and Materials Management Plan in Appendix J describes procedures for identifying and managing contaminated soils.

6.0 STORMWATER POLLUTION, SOIL EROSION, AND SEDIMENT CONTROL

A SWPPP (Appendix F) was prepared for the Astoria Converter Station in accordance with the criteria presented in the State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities (GP-0-20-001), the New York State Stormwater Management Design Manual (January 2015), and the New York State Standards and Specifications for Erosion and Sediment Control (July 2016). Along with the EM&CP, the SWPPP and Erosion and Sedimentation Control (ESC) plans will be updated with subsequent Project phases as they occur. A copy of the SWPPP and SPDES general permit will be available on-site at all times during construction.

6.1 TOPOGRAPHY AND SITE SOILS

The Web Soil Survey of Queens County, New York indicates the occurrence of 3 soil series within the Converter Station site. These soil series consist of Laguardia artifactual coarse sandy loam, Urban land-Laguardia complex, and Urban Land reclaimed substratum and are rated as well drained. Topography within the Converter Station site ranges from 0.1 to 5.0 feet above mean sea level.

6.2 CONSTRUCTION SEQUENCING

The sequence of construction is summarized in Section 4.0 and further detailed in the SWPPP (Appendix F). All of the erosion and sediment controls will be temporary. Erosion and sediment controls must be implemented early in the construction process and prior to the start of grading and excavation activities. Such procedures will be maintained throughout the construction period in accordance with the SWPPP (Appendix F) (CC 114i).

6.3 STRUCTURAL CONTROLS

6.3.1 Erosion and Sediment Control

Soil and sediment control measures will be implemented early in the construction process and will be installed prior to any site clearing or earth moving operations. These measures will be maintained throughout the duration of construction until the permanent stabilization of soil has been achieved. All erosion and sediment control devices will be installed in accordance with the SWPPP (Appendix F) and the New York State Standards and Specifications for Erosion and Sediment Control (SSESC or "Blue Book") (CC 67).

The "Controls" section of the SWPPP included in Appendix F describes the erosion and sediment controls that will be constructed prior to clearing or grading any portion of the Project in order to reduce excessive stormwater runoff. If needed, additional erosion and sediment control measures will be installed following site inspections.

6.3.2 Dust Control

The Certificate Holders and all associated subcontractors will take appropriate measures to minimize fugitive dust and airborne debris from construction activity associated with Converter Station construction (CC 64). Only plain water will be used for dust suppression. Stabilized construction entrances will be consistent with NYSDEC stabilized construction entrance requirements (see Converter Station Site Plan and Construction Drawings in Appendix C) and will also help provide dust control. All applicable regulations and standards related to dust control will be followed including the SSESC page 2.25.

6.4 MS4 COORDINATION

The City of New York (CNY), where the Astoria Converter Station is located, operates a Municipal Separate Storm Sewers Systems (MS4), and therefore requires an MS4 permit to implement measures to reduce pollution in stormwater runoff. The Certificate Holders will obtain the necessary permit from NYC Department of Environmental Protection (DEP). Initial outreach was completed as part of overland segment coordination, an NOI will be submitted prior to the start of construction.

6.5 MAINTENANCE, INSPECTION, AND RECORDKEEPING

In accordance with the SWPPP (Appendix F), sediment and erosion control measures will be inspected at least once every seven days. More frequent inspections will occur as needed and defined in the SWPPP (e.g., land disturbance exceeds 5 acres). Sediment and erosion control inspections will be performed by the Environmental Inspector. All maintenance required by inspection will commence within 24 hours and be completed within 48 hours of the inspector's report. Additional details regarding the minimum required inspection and maintenance practices used to maintain erosion and sediment controls are described in the "Maintenance/Inspection Procedures" section of the SWPPP (Appendix F) as well as in Section 3.0 of this EM&CP. These procedures include inspection requirements for Owner/Operator, Qualified Inspectors, and general requirements.

6.6 POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

As outlined in the Astoria Converter Station SWPPP (Appendix F), permanent erosion and sediment control features will be installed at the site prior to completion of the Converter Station. These include:

- Land Grading: Permanent reshaping of the existing land surface by grading in accordance with an engineering topographic plan and specification to provide for erosion control and vegetative establishment on disturbed, reshaped areas.
- Vegetative Protection: Protect post-construction practice areas during construction to Preserve native soil permeability, install SMP's only after site is stabilized. Clearing and grubbing as necessary for the installation Of perimeter controls.
- Infiltration Basin: a water impoundment over permeable soils which receives stormwater runoff and contains it until it infiltrates the soils.
- Underground Infiltration System: A shallow excavated trench, that will be backfilled with a coarse stone aggregate allowing for the temporary storage of runoff in the void space of the material. Drawdown of this stored runoff occurs through infiltration into the surrounding naturally permeable soil.

7.0 SENSITIVE LAND USES

The Astoria Converter Station is sited within an existing, disturbed, industrial site. Based on aerial imagery and multiple site visits, no sensitive agricultural or recreational land uses were identified for this segment.

8.0 VEGETATION CLEARING AND DISPOSAL

The construction of the Converter Station does not require any vegetation clearing. However, some vegetation clearing may be required for use of the potential laydown areas described in Section 1.2, and 1.3.2. The objective of vegetation clearing is to remove vegetation from the work area as necessary for safe and proper installation of the Project and selection of the appropriate vegetation clearing methods to avoid and/or minimize impact to sensitive resources (e.g., threatened or endangered species habitat, streams and wetlands, areas of high visual sensitivity). Tree (limb) trimming will consist of cutting branches off trees as needed. Both vegetation clearing and tree trimming are accomplished through site specific prescriptions for clearing and disposal of woody vegetation and selective retention of vegetative buffer zones (BMP Document Section 5.1). Table 8-1 below provides the terms and definitions associated with vegetation clearing and disposal.

Table 8-1. Terms and Definitions from BMP Document Section 5.2

Term	Definition
Clearing	the cutting and physical removal, either by hand or mechanical means, of all vegetation from the work area
Grubbing	the mechanical removal of the stump and root mass of felled woody vegetation
Slash	shrubs, saplings, and tops of trees 4 inches in diameter or less at the large end for hardwood and 6 inches in diameter or less at the large end for softwoods.
Stumps	the woody stem and fibrous root mass left in the soil after removing the trunk at the butt.
Timber/logs	trunks and limbs greater than 6 inches in diameter at the small end, with a minimum 8-foot length.

8.1 TREE AND VEGETATION CLEARING METHODS

Table 8-2 provides the terms and definitions associated with methods of clearing. While no clearing is anticipated for the construction of the Converter Station, type II and III clearing will may need to be employed to prepare the Converter Station laydown areas for use during construction.

Table 8-2. Tree and Vegetation Clearing Methods

Method Type	Method Title	Method Description
Type I	Hand Cutting (HC)	This method employs a hand-held chain saw. It is selective but is slower and more expensive than motorized mechanical devices. Residential areas, buffer zones, wetlands, and highway screens are areas where hand cutting is typically prescribed.
Type II	Mechanical Clearing Machine (HA)	This term usually refers to a machine known as the Hydro-ax or Kershaw mower. This machine can cut trees up to 10 inches in diameter at the rate of several acres a day, depending on stem density and terrain. It is essentially nonselective and a good device for clearing rights-of-way that are composed of young undesirable species in a relatively uniform stand.
Type III	Mowing	This technique is primarily used in areas of herbaceous vegetation. Terrain must be relatively flat with no gullies or rocks.
Type IV	Mechanical whole-tree felling equipment	This method allows controlled felling and loading of whole trees while minimizing damage to adjacent trees. Where vegetation is cleared, erosion and sediment control measures will be installed and monitored until the topsoil is stabilized and can support grassy vegetation.

9.0 ENVIRONMENTALLY SENSITIVE AREAS

This Section of the EM&CP addresses environmentally sensitive areas, specifically waterbodies and regulated wetlands, groundwater and wells, ecologically sensitive species and habitats (e.g., state and federally listed species, significant natural communities), and invasive species. Given the previous industrial usage and existing disturbance of the Converter Station site, environmentally sensitive areas are very limited. CHPE chose this location for this Converter Station because of its proximity to existing highways, and because it is already improved for or generally suitable to a Converter Station purpose. This allowed the Certificate Holder to avoid and minimize impacts to ESAs resulting from the construction of the Converter Station.

9.1 WATERBODIES AND REGULATED WETLANDS

No wetlands or streams were identified within the LOW at the Converter Station or at either of the locations being evaluated for use as a laydown yard as described in Section 1.2.

9.2 GROUNDWATER AND WELLS

The Project will not impact any wells adjacent to the Converter Station, which is located in an industrial area serviced by municipal water supply, with limited nearby residential development. The Certificate Holders performed a review of geospatial data to locate potential private and municipal wells within 200 and 400 feet of the Converter Station, respectively. Specifically, a review of NYSDEC's water wells dataset and a review of aerial mapping of buildings/structures (assuming that existing wells will be generally in proximity to structures) was performed, the distance to the nearest known well is 2.12 miles.

At the Converter Station refueling will be located well beyond 200 feet from any adjacent residential properties and potential wells which may be present.

9.3 ECOLOGICALLY SENSITIVE SPECIES AND HABITATS

The Certificate Holders corresponded with the NYNHP In April of 2022 and were provided with shapefiles of known rare, threatened, or endangered (RTE) species locations in relation to the project corridor by the NYSDEC. No state-listed RTE habitat was identified at the Astoria HVDC Converter Station site. The nearest known habitat was associated with a breeding zone for the Peregrine Falcon (*Falco Peregrinus*), identified approximately 3,225 feet to the southwest of the Site. Given the distance between the breeding zone and the Site and considering the extensively disturbed and industrially active nature of the surrounding area, no adverse effect to the Peregrine Falcon are anticipated.

In accordance with Section 7 of the Endangered Species Act of 1973, an official species list was requested from the USFWS Information for Planning and Consultation (IPaC) website (see Appendix A). The following species were identified:

- Northern Long-eared Bat *(Myotis septentrionalis*) – endangered
- Piping Plover (*Charadrius melodus*) – threatened
- Red Knot (*Calidris canutus rufa*) – threatened
- Roseate Tern (*Sterna dougallii dougallii)* – endangered
- Monarch Butterfly (*Danaus plexippus*) – candidate
- Seabeach Amaranth (*Amaranthus pumilus*) – threatened

Of the species identified, no suitable habitat was identified on the Project Site, therefore no impact to these species is anticipated,

The DOE requested re-initiation of informal consultation pursuant to Section 7 of the Endangered Species Act in a letter dated March 17, 2021 (Appendix A). Minor route modifications and proposed relocation of the site and of the Converter Station were noted. DOE's determination in their Biological Assessment is that the Project "may affect but is not likely to adversely affect the endangered Indiana bat or the threatened northern long-eared bat critical habitat."

The USFWS responded in a letter dated March 29, 2021 (Appendix A), indicating that they concur with the above determination for Indiana bat and the northern long-eared bat. Due to the up-listing of the species to endangered, effective March 31, 2023, the Certificate Holders will continue to coordinate with USFWS if tree clearing is required outside of the seasonal windows.

9.3.1 Unanticipated Discovery of Threatened and Endangered Species

In the event RTE species are encountered during the preconstruction or construction phases of the Project that were not identified previously, the following measures will be implemented (BMP Document Section 16.3):

1) The Environmental Inspector will identify the area of the sighting or encounter, flag the boundaries of the newly identified occupied habitat or locations where RTE plants have been observed to be present along the overland portions of the cable route, and record GPS locations of the likely habitat boundary.

2) Any unanticipated sightings of observation of RTE plants will be reported as soon as possible to DPS Staff, NYSDEC, NYNHP, or USFWS. The Certificate Holders will consult with applicable resource agencies for measures to avoid and/or minimize impacts to RTE species and their occupied habitat.
3) If RTE species or their occupied habitats are discovered during construction activities, the Certificate Holders and associated contractors will temporarily halt construction activities, excepting any activity required for immediate stabilization of the area, to avoid and/or minimize impacts to the species or habitat. Construction activities in the area will resume once protective measures, developed in consultation with DPS Staff, NYSDEC, or USFWS, are implemented.
4) If new RTE wildlife species occupied habitat is identified or RTE plants are observed and verified, EM&CP Plans will be updated to show the new TE occupied habitat(s) and locations of RTE plants. Areas of TE occupied habitat and locations of RTE plants along the overland route will also be flagged in the field.
5) Construction personnel will be updated on the locations of any new RTE species or occupied habitats or locations that are identified. These areas will be reported to the applicable resource agencies.

Environmental training for the Contractor and construction crews will include training on the identification of any rare, threatened, or endangered species that the NYSDEC has identified as possibly occurring within the area, especially bald eagles and peregrine falcons and location of their nests. Construction personnel will be instructed to report any sightings of potential eagle/falcon nests that were not previously identified by the NYNHP. If any previously unidentified eagle/falcon nests are discovered, the Certificate Holders will report findings to the NYNHP as soon as possible and consult with the NYSDEC and USFWS for guidance to avoid and/or minimize the potential for disturbance, if needed (BMP Document Section 16.2).

9.4 INVASIVE SPECIES MANAGEMENT

No Invasive species have currently been identified at the Converter Station. Should invasive species be identified at the Site or nearby laydown areas, clearing will be performed in accordance with the Invasive Species Control Plan (Appendix K). Invasive species are typically nonindigenous and include both terrestrial and aquatic species that can spread rapidly in the environment, resulting in the displacement of native species, and potentially causing economic impacts. Additionally, areas that have been disturbed by human activity may provide opportunity for the colonization and spread of invasive species, which are often more disturbance-tolerant than the native communities.

The movement of vehicles, equipment, and personnel, and the transport of materials and/or construction debris to and from areas that are inhabited by invasive species could result in the unintentional spread of these species. The Certificate Holders have included BMPs to control the transport of invasive plant species from areas where they may occur. Measures such as training personnel in the identification of invasive species, inspecting and cleaning vehicles and equipment, and practices to encourage rapid stabilization,

restoration, and revegetation of disturbed work areas have been incorporated to minimize any adverse impacts due to invasive species, as guided by the Environmental Energy Alliance of New York (EEANY), New York Utility Company Best Management Practices for Preventing the Transportation of Invasive Species (2015).

9.4.1 Invasive Species Within Converter Station

The Astoria Converter Station is sited on a previously disturbed site. Any potential work within areas containing invasive species will be completed in accordance with the Invasive Species Control Plan (Appendix K).

9.4.2 Measures to Prevent or Control the Transport of Invasive Species

On a Project-wide basis, the Certificate Holders will perform the following measures (BMP Document Section 21.1.1) to prevent or control the transport of invasive species in accordance with applicable regulations and guidance from NYSDEC and the New York Invasive Species Council. Measures are also specified under the EEANY, New York Utility Company Best Management Practices for Preventing the Transportation of Invasive Species (2015) (Appendix K):

1) Prior to construction, training will be conducted to educate the Project contractor(s) and subcontractor(s) on identifying invasive plant species and the site-specific protocol for preventing or controlling their transport throughout or out of the Converter Station. These protocols include the various cleaning or decontamination methods to be used for the Project. In addition, the contractors will be instructed to stay within access paths and work areas that are designated on the Site Plan and Construction Drawings (Appendix C) to minimize ground disturbance.
2) Sediment and erosion control devices (Appendix F) will be installed across the construction right-of way on slopes leading into wetlands and along the edge of the construction ROW to prevent spoil from migrating into these areas. This will also help to prevent the dispersion of seeds from invasive plant species into un-infested wetlands during construction.
3) Vehicles (including trailers) machinery, equipment, and materials (including swamp mats) will be inspected for, and cleaned of, any visible soils, vegetation, and debris before bringing them to the Site or moving them to the next wetland along the construction right-of-way. As specified under NYSDEC's General Permit for Routine ROW Maintenance Activities, DEC No. 0-0000-01147/00001:

    a. Equipment used in areas containing invasive plant species will be mechanically brushed before leaving the invasive infested area or Facility ROW for another project, to prevent the spread of seeds, roots or other viable plant parts. The debris will not be discharged within 100 feet of any stream, existing or proposed wetland or adjacent area, or stormwater conveyance (ditch, catch basin, etc).

b. Loose plant and soil material that has been removed from clothing, boots and equipment, or generated from cleaning operations will be rendered incapable of any growth or reproduction, disposed of off-site, or handled as follows: If upon completion of work, the area remains infested with invasive plant species, the invasive material cleaned from equipment used within the same construction area may remain within the infested area, provided that no filling of a wetland will occur.
c. If disposed of off-site, the plant and soil material will be transported in a secure manner. Any off-site disposal must occur at either a landfill-incinerator or a state-approved disposal facility.

4) Revegetation of wetlands will be expedited by stripping the topsoil from over the trench, except in areas with standing water or heavily inundated soils, or where no topsoil layer is evident or where it exceeds the depth of the trench. Topsoil will then be stockpiled separately from subsoil to insure preservation of the native seed bank.
5) Following cable installation, the disturbed areas will be backfilled and the area recontoured to its original grade. Segregated topsoil will be replaced, and natural drainage patterns restored to facilitate natural re-establishment of native vegetation.
6) The restored ROW will be seeded with an invasive species free seed mix and mulched (See Appendix F) immediately after final regrading to create a rapid cover over the disturbed ROW and help to prevent establishment of invasive species which typically colonize disturbed sites.
7) Expediting construction in and around wetlands and limiting the amount of equipment and construction activities within wetlands will reduce the amount and duration of disturbances. In addition, equipment used will be tracked or balloon-tired, operating on top of timber mats or corduroy. This will minimize the amount of heavily disturbed soils in which invasive species might colonize.
8) To the extent practicable, water for dust control and other uses will come from municipal water supplies or other potable sources. If surface waters are used, equipment will be disinfected afterwards.
9) To the extent practicable, the movement of invasive-plant-infested soils, gravel, rock, and other fill materials to relatively-invasive-plant-free locations will be avoided. Soil, gravel, rock, and other fill material will come from invasive-plant-free sources on and off the Site, if such sources are available.
10) Where the NYSDEC has identified the presence of Rock Snot or Didymo (Didymosphenia geminata), any footwear used in streams or waterbodies will be soaked in a 1 percent solution of Virkon® Aquatic for 10 minutes before leaving the area adjacent to the affected waterbody (BMP Document Section 21.3).

The Asian longhorned beetle (*Anoplophora glabripennis*) and the emerald ash borer (*Agrilus planipennis*) are two invasive insects that the NYSDEC has identified as a potential problem to native trees and vegetation. If, during construction, these insects are found, they will be reported to the NYSDEC regional forester. In addition, prior to construction, training will be conducted to teach Project Contractor(s) and subcontractor(s) to identify invasive insect species and the Project-wide protocol for reporting to the

NYSDEC regional forester. Unmerchantable timber will be provided as firewood to interested parties pursuant to the substantive requirements of NYSDEC's firewood restrictions found in 6 NYCRR Part 192.5 to protect forests from invasive species (BMP Document Section 21.2).

10.0 NOISE, LIGHTING, AND VISUAL MITIGATION

Construction of the Converter Station is anticipated to cause a temporary increase in noise levels consistent with general construction activities, and consistent with the general industrial usage and character of the sites upon which they are to be located. The Project will not result in any permanent increases to noise levels or visual impacts to the surrounding areas. The sections below summarize the noise and visual characteristics of the Converter Station and outline the noise control and mitigation measures to be implemented.

10.1 NOISE MITIGATION PLAN

Converter Station construction and usage requires a wide range of construction activities and equipment that generate temporary noise increases. Table 10-1 summarizes the types of equipment and activities that are anticipated during construction of the Project as well as their typical associated noise level. Some of the equipment listed may have multiple uses during the construction phase but is listed under its primary use.

Table 10-1. Noise Impact Summary

Use	Type of Equipment	Equipment Noise Level at 50 feet, dBA
Site clearing and earth moving operations.	Bulldozer	86
	Loader	78
	Excavator	80
	Dump Trucks	84
Compaction during earth moving operations.	Vibratory Drum Compactor	73
Vegetation and tree clearing.	Kershaw mower	85
	Mower	75
	Hydro-ax	85
	Chainsaw	85
Resurfacing	Crawler Tractor	82
	Sandblaster	85
	Asphalt paver	85
Cable and conduit installation.	Backhoe	80
	Cable puller	85
HDD	Directional drilling rig	85

Data are compiled from FHWA 2006 Handbook.

Note: Data are provided for illustrative purposes only and may not be representative of final equipment used during Project construction.

The Converter Station construction and activities will generally occur approximately 2,600 feet from residences. The Certificate Holders will implement several measures to minimize such impacts including equipping construction equipment with appropriate sound-muffling devices (e.g., Original Equipment Manufacturer [OEM] or better), always maintaining equipment in good operating condition, and limiting high-noise construction activities to daylight hours (i.e., 7:00 a.m. to 7:00 p.m.) in areas with sensitive noise receptors. Construction of the Converter Station will comply with applicable noise policies and laws of the CNY (CC 23a), unless otherwise waived by the Commission. A Noise Mitigation Plan will be developed for the construction of the Astoria HVDC Converter Station in compliance with Section 24-220 of the NYC Administrative Code. The Certificate Holders will notify residents ahead of time regarding construction activities within 100 feet of residences, though none is anticipated in connection with the Converter Station.

10.2 NOISE CONTROL MEASURES

10.2.1 Noise Control Measures for Equipment

Noise control measures for general construction activities that the Certificate Holders will implement include the following (BMP Document Section 25.2.1):

- Locate equipment yards and marshalling areas away from sensitive noise receptors as practical.
- Install improved mufflers on heavy construction equipment when used within 100 feet (30 meter) of sensitive noise receptors.
- Utilize low-noise technologies (e.g., vibratory pile drivers), as appropriate.
- Limit high noise level construction activities (e.g., wood chipping, pile driving, rock drilling, blasting, excavation and loading) to daylight hours as much as possible when construction is conducted in proximity to noise-sensitive receptors.

10.2.2 Noise Control Measures for Point Source Producers

Noise control measures for point sources (e.g., HDD, or other activities that remain in a single location for an extended time) include the following (BMP Document Section 25.2.2):

- Limit construction to daylight hours (i.e., 7:00 a.m. to 7:00 p.m.) as much as possible when construction is conducted within 100 feet of noise-sensitive receptors.[6]

[6] There may be instances when construction will be required outside of these working hours for safety or operational purposes. The Certificate Holders and/or Contractor will inform the DPS and local municipalities 24 hours in advance of these activities to the maximum extent practicable. However, the Converter Station is located over 2,000 feet from the nearest residence, so noise impacts to sensitive noise receptors are anticipated to be minimal.

10.3 SOUND EMISSIONS CHARACTERISTICS

A review of the sound emission characteristics of the high-voltage transformers selected for the Astoria Converter Station was completed to review the potential noise impact on the community due to future operation of the Converter Station (see Appendix N). The review includes typical and maximum noise levels generated from the transformers that evaluates the maximum noise levels generated from the transformers operating at 100% capacity. Additionally, a tonal analysis based on one-third octave bands will supplement the report to determine the potential for tonal sound generation, including pure tones. The tonal analysis will be added to the report once the one-third octave band sound level information is available from the equipment manufacturer.

10.3.1 Converter Station Equipment

The Converter Station is comprised of a number of electrical high-voltage main circuit apparatus and mechanical equipment. The Converter Station transformers, transformer cooler plant, and valve cooling towers are the primary sound generating exterior equipment. The above-mentioned equipment will be in continuous operation without impulsive or intermittent characteristics.

10.3.2 Sound Assessment

Continuous long-term and short-term exterior sound level measurements were performed around the nearest residential properties on 20th Avenue to quantify the existing exterior sound levels. The measured daytime and nighttime equivalent continuous sound levels are lower than 65 dBA, LA_{eq}, 1-hour (averaged over the entire measurement period).

A three-dimensional exterior sound predication model was created to estimate exterior sound conditions at the nearest residential properties on 20th Avenue and around the Converter Station site boundary due to future operation of the Project. The predicted sound levels at the nearest residential properties were compared to various applicable noise standards, including the NYSDEC Noise Policy, NYC Zoning Resolution §42-21 Manufacturing District Regulations, NYC Noise Code §24-218 General Prohibitions and §24-232 Allowable Decibel Levels - Octave Band Measurement, NYC Environmental Quality Review (CEQR). The assessment results indicate that requirements of the above-listed noise standards are satisfied at the nearest residential properties on 20th Avenue (see Appendix N)

Exterior sound levels were estimated at the Converter Station site boundary due to future operation of the Project equipment at 100% capacity This represents the worst-case scenario. The predicted levels satisfy the NYSDEC Policy noise limits of 79 dBA at all project site boundaries (Table 17, Appendix N).

The predicted levels due to the future operation of the Converter Station are far lower than the noise limit requirements at the nearest residential properties on 20th Avenue. Even with the residential windows fully open, the predicted levels at the residential properties on 20th Avenue satisfy the NYC Zoning Resolution §42-21 requirements (Tables 12 through 16, Appendix N). Based on the predicted levels at the nearest residential properties on 20th Avenue, no acoustical impact is anticipated at these residential properties due to the future operation of the Converter Station.

10.4 SENSITIVE NOISE RECEPTORS

Sensitive noise receptors include, but are not limited to, recreational areas, residences, schools, hospitals, businesses, and libraries. The nearest residential properties are located on 20th Avenue, approximately 2,600 feet from the Converter Station southern site boundary.

Section 42-21[1] of the New York City of Planning Zoning Resolution Article IV *Manufacturing District Regulations* sets maximum allowed sound levels in all octave bands from for 31.5 Hz to 8 kHz any activities associated with a project(s) in Manufacturing District, such as this Project (categorized as M3-1 Zoning District), at any point on or beyond any project lot line. Section 42-21 continues to set the noise limits at a Residence District that adjoins a Manufacturing District such that maximum allowed sound levels in all octave bands from 31.5 Hz to 8 kHz should be reduced by 6 dB from the maximum allowed levels that are set forth for the Manufacturing District.

See Table 2 in Appendix N for more detail regarding the noise limit requirements at the nearest residential properties along 20th Avenue.

10.5 LIGHTING PLAN AND CONTROL MEASURES

The exterior lighting of the Converter Station was designed to provide illumination necessary for worker safety and site security purposes, considering energy conservation, glare, and the minimization of light trespass. The installed lights will shield the lamp filaments from direct view. The lighting selected for the Converter Station complies with minimum electrical, lighting and worker safety requirements, that include:

- U.L. Underwriters Laboratories – applicable standards
- 2011 NYC Electrical Code, based on 2008 NEC with Amendments.
- NFPA 101 - Life Safety Code (2018)
- National Electric Safety Code (NESC)
- ANSI/IES RP-1 Office Lighting

[1] Last amended on 12/15/1961.

- ANSI/ RP-7 Industrial Lighting
- NFPA 780 – Lightning Protection
- NFPA 20: Standard for Installation of Stationary Pumps for Fire Protection (2010)

The site plan includes a lighting plan that complies with NYPA O-ENG-SD-015 in terms of illumination levels, and functions for outdoor general lighting, indoor general lighting, local lighting, emergency lighting, and security lighting. The lighting plan includes a combination of pole-mounted area lights, wall-mounted area lights, linear lights, and wall packs to illuminate the area of the site. LED lights were chosen to consider energy conservation. The locations and fixtures used are listed below:

- GALN Galleon II area lights are used to illuminate the roadway and station gates. A combination of pole-mounted and wall-mounted fixtures is used.
- VWP Vertical architectural wall packs are used to illuminate building exits.
- LXEM linear lights are used to illuminate the transformer bays and the tops of the transformers.
- SA6SL and SA6FT pole lights are used to illuminate the roadway and other areas of the site.
- WP1 wall pack lights are used to illuminate the exterior of the buildings in the site.

The laydown areas will be illuminated with temporary generator-powered area lighting or temporary light fixtures connected from an existing power source to ensure worker safety and site security. Appropriate mitigation measures will be employed to minimize impacts to abutters and nearby sensitive receptors. Lighting will be positioned and oriented to avoid and minimize impacts to nearby sensitive receptors to the greatest extent feasible (e.g., light towers or fixtures will be set up to illuminate the work site but not shine light directly onto adjacent properties).

10.6 VISUAL IMPACTS

The Astoria HVDC Converter Station is proposed to be located on a 7.8-acre parcel in Astoria, Queens, formerly used as a fuel oil storage and distribution facility. The proposed site is located approximately 730 feet north of the Facility Site that was evaluated in the Visual Assessment Report completed by TRC in June 2011, currently used as an overflow parking area. The second amendment to the Certificate[7] states that "*The relocated site will increase the separation distance from the nearest residences, and no increase in environmental impacts is expected to result from the relocation of the Converter Station within the Astoria site.*" The fourth amendment to the Certificate[8] ordered that *"No significant increase in visual impacts is*

[7] *Order Granting Amendment of Certificate of Environmental Compatibility and Public Need Subject to Conditions* for Case 10-T-0139, Issued and Effective August 13, 2020

[8] *Order Granting Amendment of Certificate of Environmental Compatibility and Public Need Subject to Conditions* for Case 10-T-0139, Issued and Effective May 13, 2021

expected because the height of the Converter Station will be comparable to the one approved in the CECPN. Other visual impacts of the Preferred Transmission System are expected to be identical to those of the Certificated Project because the HVDC and HVAC cables will be installed in the same locations and manner as the Certificated Project." Refer to Figure 1 below, for an aerial rendering demonstrating the current and previously proposed Astoria HVDC Converter Station locations.

Figure 10-1. Aerial Rendering of Astoria HCDC Converter Station

The current design will utilize an existing utility infrastructure site which will be demolished to accommodate the Converter Station. This location will allow for visual impacts to be concentrated within an area already established for industrial land use. Additionally, the new location being further north than previously proposed, is closer to existing, large-scale industrial infrastructure limit the perceived changes in land use where views are available from the surrounding area. This current location also places the facility further away from residential areas to help reduce the scale where it will be visible.

The Main Converter Building will be cladded with an exterior panel of a neutral color to minimize glare and avoid unusual visual contrast with the existing visual environment. The other components of the Facility will utilize galvanized steel that, although shiny at the time of installation, becomes dull over time.

As described in Section 10.4, the proposed site will require permanent exterior lighting for security and maintenance purposes, which will be provided by a combination of pole-mounted and wall-mounted fixtures and wall packs to illuminate building exits. Lighting for the Facility is designed to use the lowest

intensity required to assure safety and security and minimize off-site light trespass and impacts (glare and skyglow) with shielded fixtures without drop-down optics that will be downwardly directed. With exception to emergency lighting, all installed exterior lighting will be controlled with photocell for automatic on/off with manual control override option.

11.0 CULTURAL RESOURCES

Cultural resources include archaeological and historic architectural resources that are listed on, eligible, or potentially eligible for listing on the National Registry of Historic Places (NRHP).

Table 11-1 summarizes the generalized locations of cultural resources and the protection measures that will be implemented for the construction of the Converter Station. All impacts to cultural resources identified within the Converter Station site as well as associated protection and mitigation measures are described in the Cultural Resource Management Plan (CRMP) included in Appendix L (BMP Document, Section 17).

Table 11-1. Astoria HVDC Converter Station Cultural Resources

Cultural Resource Name	Location	Impact	Protection Measure
NYSM Site 4539	Converter Station	Within site, but the site is likely mis-mapped as this portion of Queens is mostly made land created after 1898	Project activities will not extend to a depth that might include natural or non-fill deposits. No additional archeology or protective measures are recommended.

11.1 IMPACT AVOIDANCE

The CRMP (Appendix L) includes provisions for identifying traditional cultural properties in consultation with Native Americans whose ancestorial land may potentially be affected by Project construction or operation. The procedures for determining the appropriate treatment, avoidance, or mitigation of Project effects on these resources have been developed in consultation with the affected Native Americans, the New York State Historic Preservation Office (NYSHPO), and the other Consulted Parties, as appropriate. The project wide CRMP (Appendix L) has been approved by the NYSHPO.

The Certificate Holders will avoid creating adverse impacts on heritage resource sites, archeological sites, historic structures, and underwater cultural resources in the vicinity of the Project by implementing location, design, vegetation management, resource protection, and construction scheduling measures as specified in the CRMP (Appendix L) and Certificate Condition 107.

11.2 CONSULTING ARCHAEOLOGIST

Hartgen Archeological Associates will act as the Consulting Archeologists (CA) and will work closely with the Project Preservation Officer (PPO). The CA will be responsible for training the PPO construction personnel on the identification of archaeological remains and the procedures for notification of the PPO when archaeological remains have been discovered or are believed to have been uncovered. The CA will develop a mandatory, hands-on workshop to familiarize construction personnel with examples of the types of artifacts that may be uncovered in the ground. The PPO and the construction team will understand cultural resources present in different areas as well as an understanding for the potential of unknown cultural deposits.

Per the CRMP (Appendix L), the PPO will be present for all ground disturbing activities and will have "stop work" authority as described in Section 3. The PPO will have the authority to cease excavation or construction work. In the event of encountering cultural materials or human remains, it is the responsibility of the PPO to halt construction activities and contact and coordinate with the CA to visit the location of the discoveries as quickly as possible. In the event of these discoveries, the CA will have up to three workdays to excavate and remove cultural material before the construction continues. The Consulting Archaeologist, in consultation with the PPO and the NYSHPO, may request additional archeological field assistance to complete the necessary work in a timely manner. It is the responsibility of the PPO to work with the appropriately trained archeologists to ensure that the survey and assessment of any change in the APE is completed prior to construction taking place.

The Certificate Holders will refrain from undertaking construction in areas where archeological surveys have not been completed and until such time as the appropriate authorities, including NYSHPO and DPS Staff, have reviewed the results of any additional historic properties and archeological surveys that are required (CC 108).

11.3 UNANTICIPATED DISCOVERY OF ARCHAEOLOGICAL RESOURCES

The specific procedures for the unanticipated discovery of archaeological resources during the Project's construction were developed in consultation with the necessary state, federal, and local agencies and described in the CRMP (Appendix L). As specified in the CRMP, should archeological materials be encountered during constructions, the Certificate Holders will stabilize the area and cease all construction activities in the immediate vicinity of the find, and protect the site from further damage (BMP Document Section 17.1).

As stated in the BMP Document, typically, measures and barriers to avoid known archaeological sites include installation of temporary fencing, and site delineation of Facility maps. Where needed Specific control measures and barriers will be developed in consultation with the NYSHPO and other Consulted Parties, as appropriate. In addition, cultural resources sensitivity training will be provided to all contractors and others that will be working on the Converter Station in a capacity that has the potential to cause ground disturbing activities in areas of known historic properties or areas where construction preparation work is being conducted prior to archaeological assessment of the area (BMP Document Section 17.1).

Within 24 hours of an unanticipated archaeological discovery, the Certificate Holders will notify and seek to consult with DPS Staff and OPRHP Field Services Bureau to determine the best course of action. The Project PPO must be notified immediately upon discovery of cultural resources and the PPO must notify the CA. No ground-disturbing activities will be permitted in the vicinity of the archeological materials until such time as the significance of the resource has been evaluated and the need for and scope of impact mitigation have been determined (CC 110).

11.4 UNANTICIPATED DISCOVERY OF HUMAN REMAINS

As described in the CRMP (Appendix L), should human remains or evidence of human burials be encountered during the conduct of archeological data recovery fieldwork or during construction, all work in the vicinity of the find will be halted immediately and the site will be protected from further disturbance. Within 24 hours of any such discovery, the Certificate Holders will notify the DPS Staff and NYSHPO Field Services Bureau. Treatment and disposition of any human remains that may be discovered will be managed in a manner consistent with the Native American Graves Protection and Repatriation Act (NAGPRA); the Advisory Council on Historic Preservation's Policy Statement Regarding Treatment of Burial Sites, Human Remains, any Funerary Objects (February 2007); and NYSHPO's Human Remains Discovery Protocol. All archaeological or remains-related encounters and their handling will be further reported in the status reports summarizing construction activities and reviewed in the site-compliance audit inspections (CC 111).

The following measures will be implemented in accordance with the BMP Document (BMP Document Section 17.3):

1) Any human remains discovered will be treated with the utmost dignity and respect.
2) Work in the general area will stop immediately, and the area will be physically secured and a barrier prohibiting vehicles, equipment, and unauthorized persons from accessing the discovery site will be put in place. The site will be protected from damage and disturbance to the fullest extent possible.

3) Human remains and associated artifacts will be left *in situ* and not disturbed. No human remains or materials associated with the remains will be collected or removed until appropriate consultation has taken place.
4) The Certificate Holders will contact local law enforcement, the county coroner's office, the NYSHPO, and Native tribes, as appropriate. Local law enforcement officials, and the county coroner's office will examine the remains to determine if the remains are forensic or archaeological.
5) Within 24 hours of any such discovery, the Certificate Holders will notify the DPS Staff and OPRHP Field Services Bureau/NYSHPO. Treatment and disposition of any human remains that may be discovered will be managed in a manner consistent with the Native American Graves Protection and Repatriation Act ("NAGPRA"); the Council's Policy Statement Regarding Treatment of Burial Sites, Human Remains, and Funerary Objects (February 2007); and OPRHP/NYSHPO's Human Remains Discovery Protocol. All archaeological or remains-related encounters and their handling will be reported in the status reports summarizing construction activities and reviewed in the site compliance audit inspections.
6) If the remains are determined to be Native American, the remains will be left *in situ* and protected from disturbance until a plan for their protection or removal can be generated. The Certificate Holders will notify the NYSHPO and Native tribes within 24 hours (during normal business hours) or as soon as possible after the discovery has been determined to be archaeological rather than forensic. The Certificate Holders will consult with the NYSHPO and Native tribes to develop a plan of action, consistent with the guidance provided in the NAGPRA, the Council's 2007 Policy Statement, and the OPRHP/NYSHPO's Human Remains Discovery Protocol. Avoiding further disturbance of the remains is the preferred option.
7) If the human remains are determined to be non-Native American, the remains will be left *in situ* and protected from disturbance until a plan for their avoidance or removal can be generated. The Certificate Holders will consult with the NYSHPO and other appropriate parties to determine a plan of action.
8) Work will resume only after the completion of the necessary consultation and treatment.

The Certificate Holders will respond promptly to any complaints of negative archeological impacts during the Project's construction and will consult with NYSHPO, the Advisory Council on Historic Preservation (ACHP), Native Americans, and other appropriate parties identified in the CRMP to resolve adverse effects on historic properties and determine the appropriate avoidance, treatment, or mitigation measure (CC 112).

12.0 PRE-CONSTRUCTION PLANNING

During the life of this project, minor and temporary impacts to existing local roadways will occur in and around the Astoria Converter Station. These impacts will be mostly due to construction vehicles entering and exiting the Astoria Complex to access the Converter Station, material deliveries, and equipment deliveries The Certificate Holders have coordinated with state and local authorities and owners when developing the construction schedule for the Project in order to avoid any construction conflicts to minimize disruption of existing features to the greatest extent possible. Section 4.0 summarizes the various construction methods that will be utilized during Project construction. See Section 1.4 for permitting related to the construction of the Converter Station.

12.1 CONSTRUCTION PERMITTING

All anticipated work permits that have been or will be applied for are described in Table 12-1 (CC 18).

Table 12-1. Astoria Converter Station Work Permits

Description	Agency	Status	Anticipated Approval
Air Permit	NYC Department of Air Resources (DAR)	Not yet Submitted	June 2023
Construction Permit - per building	NYC Department of Buildings (DOB)	See Table 4-1 for DOB Permits	June 2023
Special Hauling Permit	NYS Thruway Authority	Not yet Submitted	June 2023
Special Hauling Trip and Annual Oversize/Overweight Loads Permit	NYS Department of Transportation (DOT)	Not yet Submitted	June 2023
MS4 Construction Permit	NYC Department of Environmental Protection (DEP)	SWPPP Prepared. NOI Drafted. To be filed in Q2 2023	June 2023
State Pollutant Discharge Elimination System (SPDES) Permit	NYS Department of Environmental Conservation (DEC)	SWPPP Prepared. NOI Drafted. To be filed in Q2 2023	June 2023
Solid Waste Management Permit	Department of Sanitation NYC	Not yet Submitted	June 2023
Divisible Load Overweight Permit	NYS Department of Transportation (DOT)	Not yet Submitted	June 2023
Construction Trailer Permit - per trailer	NYC Department of Buildings (DOB)	Not yet Submitted	June 2023

Description	Agency	Status	Anticipated Approval
Site Mobilization Permit	NYC Department of Buildings (DOB)	Not yet Submitted	June 2023
Site Preparation Permit	NYC Department of Buildings (DOB)	Approved	June 2023
Crane and Derricks Permit	NYC Department of Buildings (DOB) - Crane and Derrick	Not yet Submitted	June 2023
Hot Work Permit	Fire Department of New York	Not yet Submitted	June 2023
Shoring Permit	NYC Department of Buildings (DOB)	Not yet Submitted	June 2023
Concrete Permit	NYC Department of Buildings (DOB)	Submitted and under review as part of DOB Foundations Package submitted in Table 4-1	June 2023
Flood Zone Requirement Permit	NYC Department of Buildings (DOB)	Part of DOB permits submitted in Table 4-1	June 2023
Building Foundation Permit(s)	NYC Department of Buildings (DOB)	See Table 4-1 for DOB Permits	June 2023
Fire Protection System Permit - Permanent	NYC Department of Buildings (DOB) + Fire Department of New York	See Table 4-1 for DOB Permits	June 2023
Fire Sprinkler Installation Permit	NYC Department of Buildings (DOB) + Fire Department of New York	See Table 4-1 for DOB Permits	June 2023
Fire Alarm System Permit - Permanent	NYC Department of Buildings (DOB) + Fire Department of New York	See Table 4-1 for DOB Permits	June 2023
Mechanical Installation Permit	NYC Department of Buildings (DOB)	See Table 4-1 for DOB Permits	June 2023
Plumbing Permit	NYC Department of Buildings (DOB)	See Table 4-1 for DOB Permits	June 2023
Connection to Water Supply	NYC Department of Environmental Protection (DEP)	Not yet Submitted	June 2023
Private Fire Main Permit	NYC Department of Environmental Protection (DEP)	Not yet Submitted	June 2023
Clean Agent Installation Permit	NYC Department of Buildings (DOB) + Fire Department of New York	Not yet submitted	June 2023
Fire Suppression Permit	NYC Department of Buildings (DOB) + Fire Department of New York	Not yet submitted	June 2023
Fire Standpipe Installation Permit	NYC Department of Buildings (DOB) + Fire Department of New York	Not yet submitted	June 2023
Operating Permit	NYC Department of Buildings (DOB)	Not yet Submitted	2026
Commissioning Permit	NYC Department of Buildings (DOB)	Not yet Submitted	2026
Pavement Plan and Permit	NYC Department of Buildings (DOB) + Fire Department of New York	Approved	June 2023

Description	Agency	Status	Anticipated Approval
Access Road Permit	NYC Department of Buildings (DOB) + Fire Department of New York	Approved	June 2023
Central Monitoring Station Permit	Fire Department of New York	Not yet Submitted	June 2023
Oversized Equipment Hauling Permit	NYC Department of Transportation (DOT)	Not yet Submitted	June 2023
FAA Review	Federal Aviation Administration	FAA Review Complete. See Appendix A for Agency Correspondence	January 2023

12.2 MAINTENANCE AND PROTECTION OF TRAFFIC PLAN, ACCESS, AND TRUCK ROUTING

The maintenance and protection of traffic plan for the Converter Station utilizes normal use and operation of the private roadways within the Astoria Complex; because the complex is closed to the traveling public, potential traffic-related impacts or public safety concerns arising from movement around the Astoria Complex (such as between the Converter Station and the Laydown areas) are expected to be limited. Construction vehicles will enter and exit the Converter Station construction site and laydown areas via the existing private roads within the Astoria Complex. Vehicles will leave the Astoria Complex and enter the public right-of-way onto 20th Avenue at 31st Street and adhere to the normal traffic patterns. Trucks and commercial vehicles accessing the Converter Station will follow the New York City Truck Route maps and adhere to all New York City Traffic and Highway rules to minimize impacts on traffic.

13.0 CO-LOCATED INFRASTRUCTURE

During Project construction, minor and temporary impacts to existing utilities and/or Co-located Infrastructure (CI) may occur where they will be crossed or paralleled by the Project. CI consists of electric, gas, telecommunication, water, wastewater, sewer, and steam infrastructure, appurtenant facilities, and associated equipment, whether above ground, below ground, or submerged that are located within the Construction Zone approved in this EM&CP (CC 27abc). There is one utility considered co-located infrastructure related to the construction of the Converter Station. See table 13-1 for Converter Station co-located infrastructure consultation summary.

13.1 Co-Located Infrastructure Consultations

The Certificate Holders have consulted with all applicable CI owners and representatives when developing the construction schedule for the Project in order to coordinate system outage requirements and avoid any construction conflicts with these agencies (CC 28b). Section 13.1.2 summarizes the outreach and consultation efforts that have been performed by the Certificate Holders.

The Certificate Holders' Construction Contractor will join "UDig NY" and DigNet and will coordinate with them for any underground construction work (BMP Document Section 10.0). The Certificate Holders will comply with all procedures identified by the CI owners and representatives including but not limited to obtaining relevant rights and permissions where applicable.

13.1.1 Pre-Installation Outreach of Co-located Infrastructure

The Certificate Holders have conducted a pre-installation survey that has documented the location and condition of CI within the Converter Station parcel and identified the parties owning and operating such CI and the agencies exercising regulatory jurisdiction over the same. The physical condition of CI within the Converter Station parcel will be further evaluated prior to construction, during potholing in the area of each CI. The procedures that will be followed to avoid damages to the CI documented are described in the sections below.

13.1.2 Summary of Consultations with Co-Located Infrastructure

The Certificate Holders notified owners of CI of its plans to develop detailed construction plans for this EM&CP. Table 13-1 below lists the CI owners that were identified. Emails were sent to the CI owners listed who were identified through a variety of methods including Dig Safe record requests, computer search of available records and discussions with known and potential CI owners.

Since the initial email notification, the Certificate Holders' representatives have had additional telephone and email communications with CI owners to discuss their processes and requirements for engaging in the review of the Project's construction plans, initial conditions for crossing the respective CI owner's infrastructure, providing as-built drawings, and fees for engaging in the review process. A summary of those activities is included in Table 13-1.

Since the initial email notification, the Certificate Holders' representatives have had additional telephone and email communications with CI owners to discuss their processes and requirements for engaging in the review of the Project's construction plans, initial conditions for crossing the respective CI owner's infrastructure, providing as-built drawings, and fees for engaging in the review process. A summary of those activities is included in Table 13-1, and sample engagement materials, and documentation of CI consultation and associated correspondence are included in Appendix M (CC 162j).

Table 13-1. Converter Station Co-Located Infrastructure Consultation Summary

Owner	Utility	Initial Contact Date	CI- Owner Response	Outreach Mailing #2	Outreach Mailing #3
Eastern Generation	Electric	5/12/2021	Ongoing	Coordination Ongoing	Coordination Ongoing

13.1.3 Reimbursement of Costs to Co-located Infrastructure

The Certificate Holders will reimburse owners and/or operators of CI for the reasonable costs they incur in the following activities (CC 29a):

1. Consulting with Certificate Holders as described in Section 13.1.2.
2. Reviewing pre-construction activities, designs, construction methods, maintenance and repair protocols, and means of gaining access to Potential CI or CI proposed by Certificate Holders.
3. Reviewing studies and design proposals described by Certificate Condition 28d and 162.
4. Conducting or preparing such additional studies and designs as may be agreed to by Certificate Holders or approved by the Commission.
5. Coordinating with and monitoring the activities of the Certificate Holders during pre-construction activities, construction, maintenance and repair of the Project.
6. Conducting maintenance and repair work on CI property or facilities, but only to the extent of increases in such costs that result from the presence of the Project.
7. Repairing damage to CI or associated property caused by Certificate Holders or their representatives in connection with any studies, surveys, testing, sampling, preliminary engineering, pre-construction activities, construction, operation, maintenance or repair of the Project.

8. Scheduling and implementing electric system outages required by any studies, surveys, testing, sampling, preliminary engineering, preconstruction activities, construction, operation, maintenance, or repair of the Project.

Cost shall be deemed to be reasonable if in the case of each separate review of a study or design proposal described below, the total cost to be borne by the Certificate Holders is five thousand dollars ($5,000) or less (CC29b) .Any CI owners or operators who intend to incur costs as described above must provide the Certificate Holders with a written description of the scope of the planned studies or activities and a good faith estimate of the expected costs, except where such studies or activities are undertaken in a situation involving unscheduled electric outages or an imminent risk to health, safety, property, or the environment, in which case Certificate Holders' reimbursement obligations shall be limited to reasonably incurred costs. Within 60 days of the expenditure by the owners and/or operators of affected CI of any funds which are eligible for reimbursement by the Certificate Holders under this Certificate, the CI owner or operator shall present the Certificate Holders with a final invoice for the actual costs incurred, but not to exceed 25 percent over the good faith estimate unless approved by Certificate Holders in advance in writing or, in the case of a dispute between the Certificate Holders and the CI owners or operators, by the Commission. Certificate Holders shall pay the authorized invoice amount within 30 days of receipt (CC 29c).

To date, there have been no disputes concerning the Certificate Holders' cost reimbursement responsibility. Any that arise will be brought to the PSC for resolution. The time required to resolve any dispute arising will not be counted for the purpose of any limitation on the time available for commencement or completion of construction of the Project (CC 29d).

13.2 UTILITY CROSSINGS

All known utilities such as water, sewer, electric, telecommunication, etc. facilities and infrastructure that occur within the Converter Station are indicated on the Site Plans in Appendix C. The procedures that will be followed to minimize impacts on any utilities that may be crossed are described in the sections below.

Existing utility owners have been contacted and will continue to be consulted throughout the construction process. Consultations will include protection measures and specifications for existing utility facilities.

13.2.1 Underground Crossings and Parallel Subsurface Utilities

The Converter Station site was surveyed for the presence of existing underground utilities to be crossed or run parallel to, and the results of this survey are included on the Site Plan drawings in Appendix C.

Whether CI is privately or publicly owned, standards for "Good Engineering Practices" will be followed and levels of investigative Subsurface Utility Engineering (SUE) efforts performed per ASCE 38-02 and as set forth in 16 NYCRR Part 753, entitled "Protection of Underground Facilities." The basis of design for paralleling or crossing any CI by the proposed duct bank will be used throughout the entire alignment, unless otherwise revised based on:

1) CI owner specific requirements
2) Site conditions
3) Utility condition
4) Material compatibilities.

In general, and as shown on Typical Separation Details presented on Sheets C-901 and C-902, the horizontal and vertical separation standards used within the proposed design is 5' (H) and 2' (V). To date, no additional guidelines have been received for the Converter Station. The established process and continued communications with CI owners leave the discussion open for possible additional crossing guidelines to be provided and included within the developed Plan and Profile Drawings. Separations proposed outside these standards will be highlighted on the Plans (Appendix C) and conditions warranting the variance will be documented.

At least 30 days prior to construction, CI owners will be contacted and will be given all reasonable opportunity to be present during excavation and construction (BMP Document 10.3.2). The CI owners will identify and mark their facilities in the field.

The following specifications will apply where the cable will parallel to an underground electric line right-of way (BMP Document Section 10.3.2):

1) In situations where this segment will parallel an underground electric line ROW, the Certificate Holders will contact the owner or operator of the underground utility to determine appropriate safety precautions and minimum clearance requirements.

2) Owners/operators of other underground utilities in the area will be consulted and notified no less than 30 days prior to the start of construction.

14.0 CLEANUP AND RESTORATION

14.1 CLEANUP STANDARDS AND PRACTICES

In accordance with the BMP Document, clean-up, restoration, and revegetation procedures will be ongoing during construction. During construction, road and construction ROWs will be kept free of debris and discarded material to the greatest extent possible. As construction continues, each Segment of the ROW will be thoroughly cleaned after construction is completed on that section. Vegetation clearing, and disposal methods are summarized in Section 8.0 of this EM&CP. All cleared vegetation will be disposed of in accordance with the appropriate disposal techniques described in Section 8.0 (BMP Document Section 11.1).

At the end of all construction, the construction and rail ROWs and respective work areas will be thoroughly cleared of debris such as nuts, bolts, spikes, wire, pieces of steel, and other assorted items (CC 88). All man-made debris including piping, fencing, wiring, and any other materials used during construction, will be disposed of at an approved disposal site in compliance with all appropriate environmental regulations. No man-made debris will be burned or buried, and all trucks leaving the construction area will be loaded and covered in accordance with applicable regulations as needed (BMP Document, Section 11.1).

14.2 RESTORATION AND PLANTING

The final stage of construction will consist of restoring the ROW to its original condition and character to the extent practicable, unless doing so would interfere with the safe or reliable operation and maintenance of the Project. Restoration activities may vary with the specific area to be restored but will consist predominantly of restoring topography to original gradients and reseeding excavated areas over the trench as identified herein (BMP Document, Section 11.2).

14.2.1 Restoration in Non-Agricultural and Non-Urban/Residential Areas

14.2.1.1 Grading

The surface of the Converter Station site disturbed by construction activities will be graded to match the original topographic contours and to be compatible with surrounding drainage patterns, except at those locations where permanent changes in drainage will be required to prevent erosion that could lead to possible exposure of the cable. Where the trench areas have settled below ground level, it may be necessary to import topsoil to return an area to grade.

14.2.1.2 Lime Application

Lime will be applied to the soil surface where necessary to achieve conditions favorable for seed establishment and development. Lime will be applied under the direction and supervision of the Environmental Inspector (BMP Document Section 11.2.1.2).

14.2.1.3 Fertilizing

In areas where construction has affected the soil nutrient levels, fertilizer will be applied to restore soil productivity. Fertilizer will be applied under the direction and supervision of the Environmental Inspector (BMP Document Section 11.2.1.3).

14.2.1.4 Aerating and Raking

Soil compaction in construction areas frequently occurs as a result of the movement of heavy equipment over soil. Soil compaction in the right-of-way is expected to be minimal because most vehicles and equipment will either be mounted on the track or operating from existing access roads or fill associated with the railroad embankment. However, if compaction occurs, soils will be aerated. Aeration in grassy areas will be accomplished using a mechanical power aerator. Following use of the aerator, the area will be thoroughly raked. If soil is compacted below trees, the area below the tree canopy will be aerated by probing holes in the soil, which then will be backfilled with clean sand (BMP Document Section 11.2.1.4).

14.2.1.5 Seeding and Planting

Seeding operations will commence only after an acceptable seedbed has been established, as described above. Seed will be applied by hand, cyclone seeder, drill, or culti-packer-type seeder at a depth of 0.25 to 0.5 inch. The seedbed will be firmed following seeding operation with a roller or light drag, except where culti-packer-type seeders or hydroseeders are used. The entire seeded area will be watered with a fine spray until a uniform moisture depth of 1 inch has been obtained. Mulching and anchoring of the mulch may be necessary in some areas unless a hydromulch/seed slurry is used. On steep slopes, jute net will be used to provide stabilization. Fertilizer will be added at the appropriate rates after seed is applied. Seeding will take place under the supervision of the Environmental Inspector (BMP Document Section 11.1.2.5).

The seed mixture and rate of application will depend on the soil type, land use, available moisture, and season at the time of application. All seed mixes will be free of invasive species. All seed bag tags will be provided to the Environmental Inspector as either original tags or scanned copies. The seed mixtures will follow the technical specifications included on the SWPPP (Appendix F) for uplands and wetland buffer zones. Seeded areas will be monitored following restoration until a minimum vegetative cover of 80% is achieved (BMP Document Section 11.1.2.5).

Where tree or shrub plantings are prescribed in the EM&CP, a post construction survival survey will be performed one year after the plantings. If any tree or shrub has not survived or is in poor health, the tree/shrub will be replaced (BMP Document Section 11.1.2.5).

Vegetation throughout the temporary ROW will be cut to ground level and root systems will remain intact to allow for resprouting following construction, unless resprouting would interfere with the safe and reliable operation of the Project.

All trees over 2 inches in diameter at Breast Height or shrubs over 4 feet in height damaged or destroyed by activities during construction, operation, or maintenance will be replaced within the following year by the Certificate Holders with the equivalent type of trees or shrubs except if the following conditions are met (CC 66):

a) equivalent type replacement trees or shrubs would interfere with the proper clearing, construction, operation, or maintenance of the Project or would be inconsistent with State-invasive species policy; or
b) replacement would be contrary to sound ROW management practices, or to any approved long-range ROW management plan applicable to the Project or adjoining ROW; or
c) the owner of land where the damaged or destroyed trees or shrubs were located (or other recorded easement or license holders with the right to control replacement) declines replacement.

14.2.2 Restoration in Urban/Residential Areas

Construction in urban or residential areas may require a variety of restoration activities. The Certificate Holders will consult, where applicable, the municipal road or highway department and/or the Regional Office or County Engineer of the NYSDOT in order to identify and incorporate applicable specifications for curb, sidewalk, or street restoration (BMP Document Section 11.2.2). Guide Rails will be removed and replaced in accordance with NYSDOT Standard Sheet 606-01.

Except where replacement would inhibit or impair the safe operation of the cables, shade trees and ornamental shrubs disturbed or damaged by construction will be repaired or replaced, following construction. All vegetation replaced will have a minimum two-year survival guarantee. Limbs damaged by construction activities will be pruned to arboricultural specifications. Root loss or damage due to construction or construction-related soil compaction will be addressed by a trained arborist, and any prescribed treatments will be followed (BMP Document Section 11.2.2).

Groundcover will be restored in areas such as yards and lawns. Restoration work will include the spreading of topsoil, planting of native grass mixtures, and replacement of any damaged extant vegetation, if necessary (BMP Document Section 11.2.2).

14.2.3 Plant Inspection, Guarantee and Maintenance

Vegetation restoration also includes the maintenance of plantings for specified time periods and the replacement of unsuccessful plantings. Prior to planting, the Environmental Inspector will inspect all plants in containers. Plantings will be performed by a qualified landscape or nursery contractor. The Environmental Inspector will also inspect all plants after competition of planting to ensure proper planting procedures and the correct plant species were used. Additionally, the Environmental Inspector will conduct a final inspection of all revegetated areas after the end of the monitoring period to ensure final stabilization. All vegetation replaced will have a minimum two -year survival guarantee (BMP Document Section 11.2.2). Where tree or shrub plantings are needed, a post construction survival survey will be performed one year after the plantings. If any tree or shrub has not survived or is in poor health, the tree/shrub will be replaced (BMP Document Section 11.2.1.5).

SWPPP inspections will be performed by the Environmental Inspector on a weekly basis until all disturbed areas have achieved the 80% revegetation required for final restoration. Following final restoration, erosion and sediment control measures will be removed from the site and disposed of appropriately.