Environmental Management and Construction Plan (EM&CP)

Harlem River Marine Segment Cable Installation ("Segment 20B")

Case Number 10-T-0139

City of New York, Borough of the Bronx, Bronx County, New York

City of New York, Borough of Manhattan, New York County, New York

Champlain Hudson Power Express

TRC Project Number: 490523.0007.0000

Prepared For:

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ACRONYM AND ABBREVIATION LIST

2012 BMP	Best Management Practices document dated February 10th, 2012
ACHP	Advisory Council on Historic Preservation
ADZ	Allowed Deviation Zone
Application	Application for a Certificate of Environmental Compatibility and Public Need
BMPs	Best Management Practices
CC	Certificate Condition
Certificate	Certificate of Environmental Compatibility and Public Need
Certificate Holders	CHPE LLC and CHPE Properties Inc.
Certificate Order	Order granting the Certificate of Environmental Compatibility and Public Need
CHPE	Champlain Hudson Power Express or CHPE LLC and CHPE Properties Inc.
CHPE Project	Champlain Hudson Power Express Project
CI	Co-Located Infrastructure
CSB	Crane Support Barge
CLB	Cable Lay Barge
CMI	Caldwell Marine International, LLC
Commission	New York State Public Service Commission
CPS/APP	Cable Protection System/Articulated Pipe Protection (also may be referred to by its product name, UraGuard)
CRMP	Cultural Resources Management Plan
DC	direct current
DP	dynamic positioning
DMM	Document Matter Master
DOE	United States Department of Energy
DPS	New York State Department of Public Service
ECM	Environmental Compliance Manager
EHS	Environmental Health and Safety
EI	Environmental Inspector
EM&CP	Environmental Management and Construction Plan
EM&CP Guidelines	Guidelines for Environmental Management and Construction Plan(s)
EMF	electromagnetic fields
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
FO	fiber optic
HDD	horizontal directional drilling or drill
HDPE	high-density polyethylene
HPU	hydraulic power unit
HRY	Harlem River Yard
HVAC	high voltage alternating current
HVDC	high voltage direct current

HWMP	Hazardous Waste Management Plan
kV	kilovolt
LCMM	Lake Champlain Maritime Museum
LNM	Local Notice to Mariners
MW	megawatts
NKT	NKT Inc.
NMFS	National Marine Fisheries Service
NRA	Navigation Risk Assessment
NYNHP	New York Natural Heritage Program
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
NYSDPS	New York State Department of Public Service
OGS	Office of General Services
OSCP	Oil Spill Contingency Plan
OSRO	Oil Spill Removal Organization
PSC	New York State Public Service Commission
PSL	New York Public Service Law
PWS	Public Water Supply
ROW	Right of Way
ROV	remotely operated vehicle
SCFWH	Significant Coastal Fish and Wildlife Habitat
SHPO	State Historic Preservation Office
SOP	standard operating procedure
SOPEP	Shipboard Oil Pollution Emergency Plan
SPCP	Spill Prevention and Control Plan
SS	Site Superintendent
SSHASP	Site Specific Health and Safety Plan
TOY	Time of Year
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
VSQG	Very Small Quantity Generator
WQC	Water Quality Certification

1.0 Introduction

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 the US/Canadian Border to Queens, New York (the "CHPE Project" or "Project"). It will bring 1,250 megawatts (MW) of renewable energy into New York by Spring 2026 to replace the use of fossil fuels and reduce carbon emissions. The 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. The CHPE Project includes two, five-inch diameter power cables and a fiber optic bundle to be installed underwater or underground along the approximately 339-mile-long route, with aboveground facilities to include a voltage source converter station located in Astoria, Queens, New York.

The CHPE Project began the permitting process on March 30, 2010, when 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 or Commission) pursuant to Article VII of the New York Public Service Law (PSL) to construct and operate the electric transmission facility known as the Champlain Hudson Power Express Project (PSC Case 10-T-0139).

An Order granting the Certificate of Environmental Compatibility and Public Need (Certificate Order) was issued by the Commission on April 18, 2013 (the "Certificate"). In August 2020, Champlain Hudson Power Express, 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. (collectively "CHPE" and "Certificate Holders"). The Certificate was amended on March 20, 2020, August 13, 2020, September 21, 2020, January 26, 2021, May 14, 2021, February 17, 2022, March 16, 2022, December 15, 2022, October 13, 2023, April 18, 2024, and June 21, 2024, to reflect revisions in the alignment and other Certificate Conditions (CC). The Article VII review and certification process included the development of numerous documents which identified natural resources within the CHPE Project area and outlined best management practices (BMPs) to minimize impacts to those natural resources which might otherwise result from the construction or operation of the CHPE Project.

Relevant to this Segment 20B EM&CP is the March 20, 2020 Certificate Amendment (see DMM Item 776), which revised Certificate Condition 95(a)(i) to set the required installation depth in the Harlem River to correspond with that set forth in CHPE's United States Army Corps permit and as approved by the New York State Department of State's Coastal Consistency Determination. Further discussion of that Certificate Amendment is included in Section 3.3 below.

1.1 Purpose and Intent

This Environmental Management and Construction Plan (EM&CP) covers what is referred to as "Segment 20B" of the CHPE Project, which describes the installation and protection of underwater HVDC transmission cables in the Harlem River. This segment is approximately 6.2 statute miles long and begins at the cable landing in the Port Morris neighborhood of the Borough of the Bronx,

Bronx County, New York, and ends in the Hudson River, near the mouth of the Harlem River, several hundred feet west of the Spuyten-Duyvil Railroad Bridge.

This EM&CP has been developed to provide the plans and specifications for environmental protections and construction of Segment 20B that demonstrate compliance with applicable laws and regulations, including the Certificate. The EM&CP provides appropriate maps, illustrations, and text associated with underwater cable installation-related activities in the Harlem River. Submission of this EM&CP does not serve as an opportunity to relitigate the Project approval, routing, Certificate or general installation methods, as applicable permits authorizing construction and operation of the Project have previously been obtained.

1.2 Distribution and Notification of the Filing of this EM&CP

Appendix 1-A, EM&CP Filing Notices, includes copies of the notices circulated to various stakeholders via mail, electronically, or through publication in local newspapers serving the areas where the EM&CP Segment 20B work areas are located, in accordance with the Certificate. Proofs of service outlining in detail the distribution of this EM&CP in hard copy and/or electronic file formats, in addition to affidavits of service and publication for notices, will be provided under separate cover as soon as they become available.

1.3 EM&CP Segmentation and Filing Schedule

Certificate Condition 6 permits the Certificate Holders to develop the CHPE Project facilities in segments to facilitate construction sequencing and scheduling. Each segment, or grouping of segments, may be the subject of an EM&CP filed with the Commission for review and approval independent of other EM&CPs. Within the EM&CP for the first segment, submitted April 15, 2022, the Certificate Holders identified the anticipated segmentation of the Project and included a schedule for their construction. Subsequent EM&CPs have included updates to the segment identification and construction schedule provided in the first segment EM&CP. Table 1.1 contains an updated version of the Certificate Holders' current segmentation of the CHPE Project including an anticipated schedule with respect to EM&CP submission, EM&CP approval, and construction commencement. On October 13, 2022, the Commission approved the first CHPE EM&CP for Segments 1 and 2 of Project construction; subsequent approvals have been issued since that time, as outlined in the below table.

This document, the Harlem River Marine Segment Cable Installation EM&CP (Segment 20B), is the eighth and final planned marine EM&CP (see Table 1.1) that will be submitted to the Commission related to the preparation for and installation of submarine cables required for the marine segments of the CHPE Facility. The submarine cables in the Harlem River will link the submarine cables in the Hudson River (Segment 19B EM&CP, approved by the Commission on June 20, 2024) to the overland cables in the Bronx (Segment 13, 14, and 15 EM&CP, approved by the Commission on October 13, 2023), via the bulkhead penetration and tie-in landing site (Segment 20A EM&CP, approved by the Commission on August 19, 2024).

Table 1.1 – Overland and Marine Segments: CHPE Project Construction, Sequencing, and Scheduling

EM&CP Segment	Design Packages	Location Description	Approximate Segment Length (miles)	Anticipated *(Actual)* EM&CP Submittal	PSC Approval of EM&CP	Anticipated Construction Commencement
OVERLAND SEGMENTS (UPSTATE)						
1, 2	Packages 1A & 1B	Putnam to Dresden/Dresden to Whitehall	17.6	*4/15/2022*	10/13/2022	12/2022
3	Packages 1C & 2	Whitehall to Fort Ann/Fort Ann to Kingsbury	20.8	*12/23/2022*	5/18/2023	6/2023
4, 5	Package 3	Kingsbury to Milton	26.5	*4/24/2023*	8/18/2023	10/2023
6	Package 4A	Milton to Ballston	10.2	*8/4/2023*	9/14/2023	9/2023
7	Package 4B	Ballston to Schenectady/Rotterdam	9.6	*8/4/2023*	9/14/2023	9/2023
8	Package 5A	Rotterdam to Selkirk	16.99	*12/21/2022*	6/26/2023	9/2023
9	Package 5B	Selkirk Bypass	5.31	*12/21/2022*	6/26/2023	1/2024
10	Package 6	Ravena to Catskill	20.9	*9/29/2023*	12/18/23	1/2024
11	Package 7A	Catskill to Germantown	8.6	*3/30/2023*	8/18/2023	1/2024
12	Package 7B	Stony Point to Haverstraw/Clarkstown	7.6	*4/28/2023*	8/18/2023	5/2024
13, 14, 15	Package 8	Bronx to Queens	2.13	*8/11/2023*	10/12/2023	1/2024
Laydown Yards	3, 5B, 6	Fort Edward, Bethlehem, Coxsackie	N/A	*11/11/2022*	2/21/2023	3/2023
MARINE SEGMENTS						
16	Package 9	Transitional HDD (Stony Point)	N/A	*9/29/2022*	3/20/2023	6/2023
17	Package 10	3 Transitional HDDs (Putnam, Catskill, Clarkstown)	N/A	*12/14/2022*	4/20/2023	6/2023
18A	Package 11A	Lake Champlain (Pre-Lay Mattressing)	96	*4/4/2023*	7/20/2023	4/2024
18B	Package 11B	Lake Champlain (Cable Installation)	96	*1/26/2024*	4/18/2024	5/2024
19A	Package 12A	Hudson River (Pre-Lay Mattressing)	89.1	*8/4/2023*	10/12/2023	3/2024
19B	Package 12B	Hudson River (Cable Installation)	89.1	*4/8/2024*	06/20/2024	8/2024
20A	Package 13A	Harlem River (Bulkhead Penetration and Tie-In)	N/A	*6/6/2024*	08/19/2024	10/2024
20B	Package 13B	Harlem River (Cable Installation)	6.175	1/2025	TBD	2025

Table 1.1 – Overland and Marine Segments: CHPE Project Construction, Sequencing, and Scheduling

EM&CP Segment	Design Packages	Location Description	Approximate Segment Length (miles)	Anticipated *(Actual)* EM&CP Submittal	PSC Approval of EM&CP	Anticipated Construction Commencement
OVERLAND SEGMENTS (NEW YORK CITY)						
21	N/A	Astoria Annex/AC Interconnection	0.3	10/2024	TBD	4/2025
22	TBD	Converter Station, Astoria Complex (Queens)	N/A	*1/31/2023*	5/18/2023	6/2023
23	16	Astoria Rainey Cable HVAC System (Queens)	~3.5	*3/28/2024*	4/18/2024	7/2024

1.4 Applicable Permits

Of all permits applicable to the CHPE Project, the following permits contain conditions relevant and/or applicable to submarine cable installation in the Harlem River:

- Presidential Permit No. PP-481-3, United States Department of Energy.
- Order Granting Certificate of Environmental Compatibility and Public Need, PSC (issued in Case 10-T-0139).
- Water Quality Certification (WQC), PSC (issued in Case 10-T-0139).
- Permit NAN-2009-01089-M13, US Army Corps of Engineers (USACE) New York District.

This EM&CP has been developed in accordance with the conditions adopted in the PSC's Certificate Order. Certificate Conditions (CC) approved in the Joint Proposal were attached to the Certificate Order as Appendix C and are presented as currently amended in Appendix 1-B to this EM&CP. Certificate Conditions relate to, among other things, the preparation, content, filing, and review of an EM&CP; public health and safety; the handling of complaints; CHPE Project construction, operation, maintenance, and restoration; and environmental supervision.

This EM&CP has also been developed in accordance with the guidance document provided as Appendix E to the Joint Proposal titled Guidelines for Environmental Management and Construction Plan(s) (EM&CP Guidelines) and the document titled Best Management Practices dated February 10, 2012 (2012 BMP Document). Plan and Profile Drawings are provided as Appendix 3-A to this EM&CP and have been developed in accordance with Section A of the EM&CP Guidelines. This EM&CP narrative includes the information required in Section B of the EM&CP Guidelines.

1.5 Outreach and Stakeholder Consultations

The Certificate Holders have mobilized stakeholder involvement and consultations for over a decade since the beginning of the Project. Stakeholder considerations have been integrated into the design, siting, and development of the Project, and will continue to be assessed and implemented throughout the construction phase.

In this EM&CP, the following documents provide documentation of stakeholder consultation completed or provide procedures for future consultation:

- Appendix 1-A, EM&CP Filing Notices
- Appendix 1-C, Agency and Stakeholder Consultations
- Appendix 1-D, Public Involvement Plan and Complaint Resolution Plan

- Appendix 3-C, Co-Located Infrastructure Documentation
- Appendix 6-A, Compliance Assurance Plan

Appendix 1-D, Public Involvement Plan and Complaint Resolution Plan outlines outreach to be completed during the construction process. This plan will complement previous and ongoing outreach efforts by the Certificate Holders and includes a detailed community outreach schedule that continues throughout the progress of the Project.

2.0 EM&CP Segment 20B Overview

The following sections provide an overview of material provided in this Segment 20B EM&CP. Material not provided in this Segment 20B EM&CP, such as activities covered under previous EM&CP segments, are outlined for context.

2.1 Activities Covered in this EM&CP

As described in Section 1.1 above, this EM&CP Segment 20B describes the preparation, installation, and protection of underwater HVDC transmission cables in the Harlem River. The cables will be installed along a route approximately 6.2 statute miles long, beginning at a set of pre-installed landfall conduits in the Port Morris neighborhood of the Borough of the Bronx, Bronx County, New York, and ending in the Hudson River, near the mouth of the Harlem River, several hundred feet west of the Spuyten-Duyvil Railroad Bridge. This EM&CP segment will connect Segment 20A, the Harlem River Bulkhead Penetration, and Segment 19B, the Hudson River Cable Installation Segment.

The cable bundle to be installed will consist of two 400 kilovolt (kV) direct current (DC) power cables and one fiber optic cable. During installation, the cable bundle will be armored with a cable protection system/articulated pipe protection (CPS/APP) (also may be referred to by its product name, UraGuard) (see Section 3.4 below). The cable bundle will be surface laid on the riverbed with the CPS installed over its entire length. The cable bundle will be installed in a single continuous segment. The cable will be laid in a manner which can accommodate future USACE dredging activities in the Harlem River.

Post-lay activities will be performed where appropriate and may include remedial actions to correct freespans, provide additional protection in some areas, and provide additional stabilization to the cable bundle, as required.

Activities covered by this EM&CP Segment 20B are outlined below.

2.1.1 Cable Installation Activities

The following activities will be performed during cable installation, covered by this Segment 20B EM&CP:

- Immediate pre-installation surveys and debris removal (Refer to Section 4.5.1);
- Cable landing at the Harlem Bulkhead Penetration location (Segment 20A) (Refer to Section 4.5.2); and
- Cable laying (Refer to Section 4.5.3).

Permanent, underwater infrastructure will be installed as a result of these activities.

2.1.2 Post-Installation Activities

The following activities will be performed following cable installation, covered by this Segment 20B EM&CP:

- Temporary post-lay cable monitoring prior to cable protection (Refer to Section 5.5.1);
- Post-lay remedial actions (Refer to Section 5.5.2), which may include:
    - Post-lay mattress installation (Refer to Section 5.5.2.1);
    - Post-lay grout/rock bag installation (Refer to Section 5.5.2.2):
    - Diver intervention (Refer to Section 5.5.2.3);
    - Alternative remedial methodologies (Refer to Section 5.5.2.4);
- Temporary storage of cable (Refer to Section 5.5.3); and
- Clean-up and restoration of temporary work sites (Refer to Section 5.5.4).

Permanent, underwater infrastructure will be installed as a result of these activities.

2.2 Activities Covered in Previous EM&CPs

As described above in Section 1.3, multiple EM&CPs have been submitted for the CHPE Project. Construction activities approved in previous EM&CPs will not be discussed in this EM&CP Segment 20B. Descriptions of the relevant and related EM&CPs are described below for context.

2.2.1 EM&CP Segment 19B – Submarine Cable Installation in the Hudson River

The submarine cables in the Harlem River will link at their northern termination to submarine cables in the Hudson River, to be installed in the 2025 EM&CP Segment 19B installation campaign at Certificate milepoint 324.0. The Hudson River Marine Segment Cable Installation EM&CP Segment 19B details the installation of submarine HVDC cables in the Hudson River. EM&CP Segment 19B includes two segments of cables: the Cementon-Stony Point Hudson Marine Segment (under construction in 2024) and the Congers-Harlem Hudson Marine Segment (to be installed in 2025). The Congers-Harlem Hudson Marine Segment and the Harlem River Marine Segment will connect near the mouth of the Harlem River. Connection and splicing of the Congers-Harlem Hudson Marine Segment and the Harlem Marine Segment near the mouth of the Harlem River was covered by EM&CP Segment 19B, approved by the Commission on June 20, 2024.

As such, activities related to submarine cable installation of the Cementon-Stony Point and Congers-Harlem Hudson Marine Segments, including the marine splicing of cables at the northern terminus of the Harlem River Marine Segment to connect with the Congers-Harlem Hudson Marine Segment, are not described in this EM&CP for Segment 20B. Installation of the Cementon-Stony Point Hudson Marine Segment is currently underway. Installation of the Congers-Harlem Hudson Marine Segment is scheduled for completion in 2025.

2.2.2 EM&CP Segment 20A – Bulkhead Penetration & Tie-In of HDPE Conduits

The submarine cables in the Harlem River Segment 20B will link to the overland HVDC cables via two conduits pre-installed at a site in the Port Morris neighborhood of the Borough of the Bronx, Bronx County, New York. Installation of these conduits was covered by the Harlem River Marine Segment Bulkhead Penetration and Tie-In EM&CP Segment 20A, approved by the Commission on August 19, 2024.

Bulkhead penetration and tie-in construction activities are not described in this EM&CP for Segment 20B. Construction of the landing conduits will be completed in 2024 / 2025, prior to cable installation activities in the Harlem River.

2.2.3 EM&CP Segment 13, 14, and 15 – Overland Cable Installation

The submarine cables in the Harlem River will link at their southern termination to overland cables in the Bronx, New York. Terrestrial EM&CP Segment 13, 14, and 15 describes the installation of overland HVDC cables between Transition Vault 5 in the Bronx, New York and the Astoria Converter Station in Queens, New York. Construction of Transition Vault 5, which serves as the termination for the HDPE conduits proposed in EM&CP Segment 20A and the termination of cables proposed in EM&CP Segment 20B, is covered by EM&CP Segment 13, 14, and 15. Connection and splicing of the Terrestrial Segment 13, 14, and 15 in the Bronx and the Harlem River Marine Segment was covered by EM&CP Segment 13, 14, and 15.

As such, activities related to overland construction at and beyond Transition Vault 5, including the terrestrial splicing of cables at the southern terminus of the Harlem River Marine Segment to join the terrestrial and marine segments, are not described in this EM&CP Segment 20B. The EM&CP for Segments 13, 14, and 15 was approved by the Commission on October 12, 2023, and construction is currently underway.

2.3 Non-EM&CP Activities

Several activities related to the cable installation in the Harlem River are not required to be approved under an EM&CP and thus are not addressed herein. These activities include, but are not limited to:

- The transportation of HVDC and fiber optic cables to and within New York State via boat;
- The manufacture/assembly of installation barges and/or supporting equipment;
- Mobilization and demobilization of installation vessels and equipment; and
- The manufacturing of post-lay concrete mattresses, rock bags, grout bags or other materials.

As such, these activities are not described in this EM&CP Segment 20B.

2.4 Anticipated Schedule

Certain construction activities covered by the Segment 20B EM&CP are subject to work windows and time of year (TOY) restrictions as provided by the Order, WQC, and applicable federal permits. In accordance with the USACE permit, in-water work in the Harlem River may be conducted from June 1st through January 14th and shall not be conducted from January 15th through May 31st. In accordance with the WQC and the Order, underwater construction in the Harlem River may be conducted from May 15th though November 30th and shall not be conducted from December 1st to May 14th. Given existing federal and state TOY restrictions, in-water construction in the Harlem River may be conducted from June 1st through November 30th and shall not be conducted from December 1st through May 31st.

TOY restrictions also apply to the short segment of work to be performed in the Hudson River, at the terminus of Segment 20B. In accordance with the USACE permit, cable installation in the Hudson River between Rockland State Park and the Harlem River may be conducted from July 1st through October 31st and shall not be conducted from November 1st through June 30th. Combined, in-water cable installation in the southernmost portion of the Hudson River may be conducted from July 1st through October 31st and shall not be conducted from November 1st through June 30th.

Activities covered in this Segment 20B EM&CP are currently expected to be completed in 2025. In-water work, including cable installation, is anticipated to begin and be completed in Summer 2025. Refer to Sections 4.2 and 5.2 for additional details regarding anticipated schedule.

This Segment will require that CHPE have the ability to work 24-hours per day, 7-days per week and on State/Federal holidays, Sundays, and nights during the cable installation period.

This includes, but is not limited to, the following Federal holidays:

- Wednesday, June 19, Juneteenth National Independence Day
- Thursday, July 04, Independence Day
- Monday, September 02, Labor Day
- Monday, October 14, Columbus Day
- Monday, November 11, Veterans Day

Operations on holidays, Sundays, and nights are necessary to ensure timely completion of the Project within the regulatory work windows. Where possible, steps will be taken to minimize impacts to the community from work during these periods to the maximum extent practicable. However, timely completion of this Segment, especially given other seasonal time restrictions, is critical to ensuring the reliability of the New York State electric grid and necessitates allowing work on this Segment on a 24/7 basis. The Certificate Holders will contact the appropriate authorities of the City of New York to make the necessary arrangements for the extension of additional work hours

2.5 Notification and Reporting

Several CCs impose timing requirements for Project notifications and reports. The below table summarizes these CCs based on whether the notification is required before, during, or after construction, or at any point during those periods. Not all notices are required, and some notices may be required after the entire Project has been constructed. Refer to Sections 4.1 and 5.1 for information regarding communications prior to commencement of installation and post-installation activities, respectively.

Table 2.1 – Reporting and Notification Requirements and Schedule

Description	Submitted to	Approximate Due Date
BEFORE OR CONCURRENT WITH EM&CP FILING		
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.
The Certificate Holders will provide newspaper notices and written notice(s) of the filing of the segment EM&CP on all 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.	Relevant parties specified in CC 152.	Upon filing the applicable Segment EM&CP.
The Certificate Holders will provide 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, if any.
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 easement 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, if any.
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 Segment 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.

Description	Submitted to	Approximate Due Date
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 residents, businesses, and building and structure owners will be provided to the Secretary.	Chief executive officer of each affected municipality. Residences, Businesses, and Building/structure/ facility owners/ operators.	Concurrent with the filing of the Segment EM&CP.
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 Segment 10 (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.
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 5 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.

Description	Submitted to	Approximate Due Date
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.
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 City of New York, 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.	Prior to storage of chemicals.
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. (CC 33, 42).	Adjacent landowners & Tenants with copies to DPS Staff, if applicable.	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	DPS Staff as needed.	Upon commencement of construction. See Appendix 1-D Public Involvement Plan and Compliant Resolution Plan.

Description	Submitted to	Approximate Due Date
that cannot be resolved after reasonable attempts to do so. 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.
Should archaeological materials be encountered during construction, the Certificate Holders will notify and seek to consult with to determine the best course of action (CC 11).	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 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).	DPS Staff, NYDEC, USFWS, NMFS.	As soon as possible upon discovery.
Immediate notification of any petroleum product spills (CC 35).	DPS, NYSDEC, owners and operators of any CI within 100 feet (or 300 feet in the City of New York).	Immediately upon discovery of a spill of petroleum products.
POST-CONSTRUCTION		
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.
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.

Description	Submitted to	Approximate Due Date
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 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 5 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 9 months and 2 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.
The Certificate Holders will notify DPS Staff of any system trips incidents.	DPS Staff	If the HVDC transmission system trips offline (other than as a result of any Operational Measures).
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, NYPA, Con Edison	
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,	Call Bulk Electric System Section of DPS Staff. Submit report to Bulk Electric System Section of DPS Staff,	Call within 6 hours of any incident. Submission of report within seven days of the incident.

Description	Submitted to	Approximate Due Date
NYPA, NYISO, NPCC, NYSRC, NERC, and DPS Staff to prevent any future occurrences (CC 134).	Con Edison, and NYPA	
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 NYCRR 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 (CC 49)	OGS	Within 60 days of completing construction.
ANY PERIOD DURING PROJECT (PRIOR TO CONSTRUCTION, DURING CONSTRUCTION, POST-CONSTRUCTION)		
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 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).	DPS Staff	As needed within 45 days of notification by DPS Staff.
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 applicable procedures.	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	Owners and Operators of co-located infrastructure.	In the event of the emergency

Description	Submitted to	Approximate Due Date
cross any infrastructure or to use any associated property to address the emergency (CC 28g).		
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
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.

3.0 EM&CP Segment 20B Route Description and Design Considerations

The following sections provide a description of the permanent facilities to be installed associated with this Segment 20B EM&CP.

3.1 Certificated Route

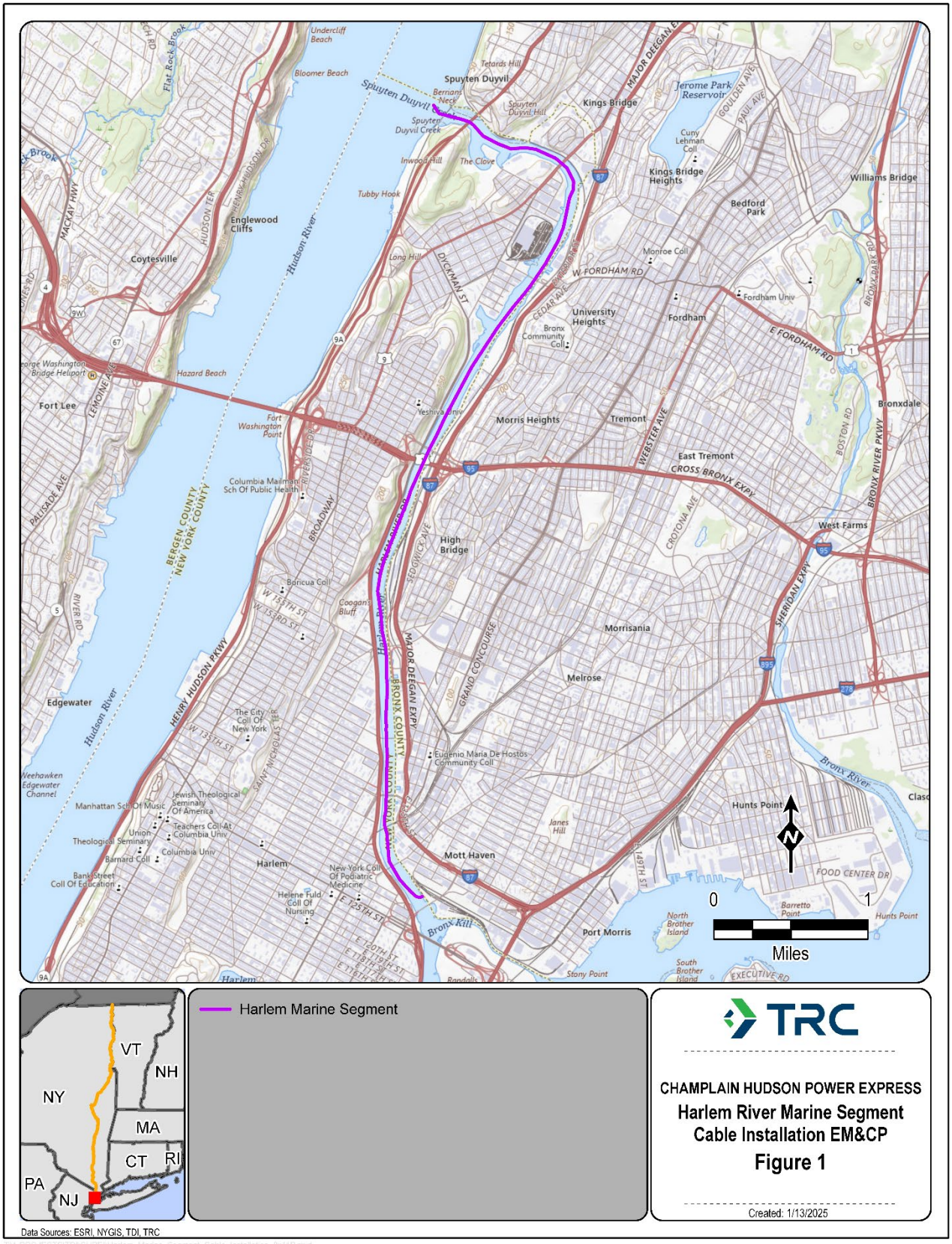
A Certificated Route for cable installation in the Harlem River, with an Allowed Deviation Zone (ADZ) set forth in CC 156, was approved by the PSC Order in April 2013. This route was subsequently modified in January 2021, as amended by Certificate Amendment 3. The route to be installed is discussed below in Section 3.2, while route design considerations are discussed below in Section 3.3. For locations where the route to be installed deviates from the Certificated Route and requires approval or acknowledgement in accordance with the Certificate Conditions, a description is provided in the Justification for Centerline and Allowed Deviation Zone Excursions, attached as Appendix 3-B to this EM&CP.

3.2 Route to be Installed

The route proposed for cable installation is shown in the Plan and Profile Drawings in Appendix 3-A, with an overview provided in Figure 1 below. The submarine cable route in the Harlem River begins in the south at the transitional land-to-water conduits in the Post Morris neighborhood of the Bronx, and ends in the north within the Hudson River, near the mouth of the Harlem River, several hundred feet west of the Spuyten-Duyvil Railroad Bridge.

Cable installation activities are currently anticipated to proceed from south to north. Cable installation will commence at the pre-installed landfall conduits on the northern shore of the Harlem River in the Port Morris neighborhood of the Bronx, north of the Willis Avenue Bridge. From there, the route proceeds north and west through the Harlem River, under the Third Avenue Bridge, Park Avenue Bridge, Madison Avenue Bridge, 145th Street Bridge/Harlem River Swing Bridge, Macombs Dam Bridge, High Bridge (pedestrian and bike bridge), Alexander Hamilton Bridge, Washington Bridge, University Heights Bridge, Broadway Bridge, Henry Hudson Bridge, and Spuyten-Duyvil Railroad Bridge. The cable route terminates in the Hudson River near the mouth of the Harlem River, several hundred feet west of the Spuyten-Duyvil Railroad Bridge.

Figure 1. Harlem River Cable Route Overview.



3.3 Route Design Considerations

The proposed route has been designed to avoid or minimize adverse conditions and impacts to the greatest extent practicable, based on recent surveys and further design and installation considerations. For locations where the route to be installed deviates from the Certificated Route and requires approval or acknowledgement in accordance with the Certificate Conditions, a description is provided in the Justification for Centerline and Allowed Deviation Zone Excursions, attached as Appendix 3-B to this EM&CP.

On March 20, 2020 the PSC approved a Certificate Amendment (see DMM Item 776) which revised Certificate Condition 95(a)(i) to set the required installation depth in the Harlem River to correspond with that set forth in CHPE's United States Army Corps permit and as approved by the New York State Department of State's (DOS) Coastal Consistency Determination. The route, as presently designed, complies with the Army Corps Permit. CHPE is in consultation with DOS regarding Coastal Consistency.

The route has been designed to accommodate restrictions, resources, and considerations, including the following:

3.3.1 Submerged Cultural Resources

The cable route in the Harlem River has been routed to avoid known submerged cultural resources to the extent practicable. An overall evaluation of underwater cultural resources identified in the vicinity of the proposed cable route was conducted by the Lake Champlain Maritime Museum (LCMM) and is provided in Appendix 7-C (Report for the Underwater Cultural Resource Review of the Champlain Hudson Power Express, Harlem River Marine Segment Investigations). A copy of this report is also provided in Appendix C of Appendix 7-D (Supplemental Cultural Resources Management Plan). The Certificate Holders requested consultation with the New York State Historic Preservation Office (SHPO) on November 12, 2024. SHPO provided a response on December 5, 2024, and concurred with proposed cultural resource avoidance and minimization. SHPO's letter of concurrence is provided in Appendix 1-C (Agency and Stakeholder Consultations).

There are no instances where a deviation in the cable route necessitates justification in the EM&CP due to proximity to a known cultural resource as per CC 156(b)(2). At the recommendation of the SHPO, a Supplemental Cultural Resources Management Plan (Supplemental CRMP) has been developed for the Segment 20B construction activities; this Supplemental CRMP is provided in Appendix 7-D. Refer to Section 7.2 for additional detail regarding submerged cultural resource protection.

3.3.2 Sensitive Habitats

The cable route in the Harlem River has been designed to avoid known sensitive ecological habitats where feasible. There are no New York State Department of Environmental Conservation (NYSDEC) Exclusion Zones along the route which trigger CC 156(b)(1). Near the northern

terminus of the Segment, the cable route traverses through one Significant Coastal Fish and Wildlife Habitat, the Lower Hudson Reach, which cannot be avoided and impacts to which were approved under the Certificated Route.

For all instances where a deviation in the cable route in proximity to a known sensitive habitat necessitates justification in the EM&CP, as required by CC 156(b)(3), an evaluation is provided in Appendix 3-B (Justification for Centerline and Allowed Deviation Zone Excursions).

3.3.3 Water Depth and Bottom Slope

The cable route in the Harlem River has been routed where feasible to avoid adverse water depth and bottom slope conditions. There are no instances where the cable route deviates beyond the bounds of the ADZ due to shallow water conditions, and therefore does not necessitate further justification in the EM&CP as per CC 156.

3.3.4 Navigation

The cable route in the Harlem River has been routed where feasible to minimize adverse impacts to public navigation in the river. Refer to Section 8.1 for detail regarding protection of navigation during construction, including discussion of the Navigation Risk Assessment (NRA) conducted for installation in the Harlem River. The NRA is provided in Appendix 3-E.

No relocation of federal aids to navigation is required for the Harlem River.

3.3.5 Co-Located Infrastructure

CC 27 defines CI as “electric, gas, telecommunication, water, wastewater, sewer, and steam infrastructure and appurtenant facilities and associated equipment, whether above ground, below ground, or submerged.” The cable route and design in the Harlem River has been routed where feasible to avoid adverse impacts to known CI assets. In accordance with CC 27 and agreements reached with CI Owners, the Certificate Holders will engineer, construct, and install the cables in the Harlem River to be fully compatible with the continued operation and maintenance of CI. The Certificate Holders intend to install the Segment 20B cable bundle in a single continuous segment with CI agreements in place prior to construction. The CHPE cable will not prevent the installation of future CI.

3.3.5.1 Survey of Co-Located Infrastructure

In accordance with CC 148, the Certificate Holders have performed surveys to identify CI assets along the proposed cable route and have initiated communication with these CI owners. Appendix 3-C (Co-Located Infrastructure Documentation) contains a summary table of the identified and potential infrastructure within the Harlem River that may interact with the CHPE alignment and states the status of each location and crossing. The Certificate Holders are currently working to resolve cases where the owner or utility type involved in a crossing or potential interaction is

unknown consistent with the Unknown CI Owner Amendment to CC 162(i) approved by the Commission on October 12, 2023.

Refer to Appendix 3-C (Co-Located Infrastructure Documentation) for additional CI survey information. Appendix 3-C also discusses consultation with CI owners, correspondence with CI owners, and status of CI Owner Crossing Agreements. Co-Located Infrastructure Crossing Packages will be provided in Appendix 3-D when available.

3.3.5.2 Protection of Co-Located Infrastructure

Utility and other infrastructure crossings will be completed consistent with site-specific design measures for each crossing as agreed with the respective CI owners. These site-specific design measures will be provided in the CI Crossing Packages in Appendix 3-D, to be provided once crossing agreements are final. CI crossings are also indicated on the Plan and Profile Drawings in Appendix 3-A.

For most CI crossings, protection will likely only consist of a cable protection system/articulated pipe protection (CPS/APP) (also may be referred to by its product name, UraGuard). In certain instances, as directed by the CI owner, post-lay concrete mattressing and/or grout/rock bags or similar may be required.

The Certificate Holders have registered or will register Project activities with “UDig NY,” and the construction Contractor will coordinate with “UDig NY” for locating buried utilities prior to any ground-disturbing construction work. The Certificate Holders or their construction Contractor will coordinate with the underwater utility owner(s) prior to any construction work. The Certificate Holders will comply with procedures identified by the CI owners and representatives including but not limited to obtaining relevant rights and permissions where applicable.

3.3.5.3 Reimbursement of Costs to Co-Located Infrastructure

Subject to the provisions of Certificate Conditions 29(b) and 29(c), the Certificate Holders will reimburse owners and/or operators of CI for the reasonable costs they incur in the following activities:

- Consulting with Certificate Holders as described in Certificate Conditions 28(a) and 28(b).
- Reviewing designs, construction methods, maintenance, and repair protocols, and means of gaining access to Potential CI or CI proposed by the Certificate Holders.
- Reviewing studies and design proposals described by Certificate Condition 28(d) and the EM&CP filings described in Certificate Condition 162.
- Conducting or preparing such additional studies and designs as may be agreed to by the Certificate Holders or approved by the Commission pursuant to Certificate Condition 29(a)(3).

- Coordinating with, and monitoring the activities of, the Certificate Holders during construction, maintenance, and repair of the CHPE Project.
- 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 CHPE Project.
- Repairing damage to Potential CI or associated property caused by the Certificate Holders or their representatives in connection with any studies, surveys, testing, sampling, preliminary engineering, construction, operation, maintenance, or repair of the CHPE Project.
- Scheduling and implementing electric system outages required by any studies, surveys, testing, sampling, preliminary engineering, preconstruction activities, construction, operation, maintenance, or repair of the CHPE Project.

Disputes concerning the Certificate Holders' cost reimbursement responsibility will be brought to the PSC for resolution. The time required to resolve any dispute arising will not be counted in the calculation of any limitation on the time available for commencement or completion of construction of the CHPE Project.

3.4 Installation Methodology (Surface Lay with CPS/APP)

The Certificate Holders and their contractors, together with experts and technical consultants working on the CHPE project, have undertaken an extensive evaluation of the cable installation methodology in the Harlem River to ensure that the final installation methodology selected appropriately avoids and minimizes impacts to various resources to the maximum extent practicable, while still ensuring the timely installation and safe and reliable operation of the CHPE Facility. Ultimately, the project team submits that the Harlem River cable installation plan outlined in this EM&CP is the best available method to achieve Facility installation in this waterbody, for the reasons outlined below.

First, CHPE has invested many years and significant dollars in studying the bed of the Harlem River and the extensive infrastructure present there. This included bathymetric, magnetometer, side-scan surveys, sub-bottom profiling, and diver probe surveys, as well as desktop analysis, review of land and infrastructure records, and consultations with infrastructure owners and stakeholders currently operating in the Harlem River. These data, gleaned from years of effort, were incorporated into a burial assessment study, which showed that, due to the presence of significant existing collocated infrastructure (approximately 80 crossings), as well as the presence of shallow bedrock, sand waves, large boulders, debris, and other geologic and/or topographic conditions, trenching via a towed jet-plow or similar trenching equipment (similar to that being used for project installation in Lake Champlain and the Hudson River) would be feasible in less than 20% of the Harlem River. Co-located infrastructure alone makes trenching technically infeasible in approximately 70% of the Harlem. This led the project team to carefully consider potential available alternative methods for installing the Facility's cables in the Harlem River, given the overall unsuitability of most of the river for trenching.

The CHPE team conducted an iterative design and means and methods process to consider the feasibility and potential impacts of such installation options as: articulated pipe protection methods; use of articulated concrete mattresses; use of rock cutting, chemical splitting, or explosives to create a trench in areas of shallow/exposed bedrock; and the limited use of trenching where possible. After considering the technical, environmental, and logistical feasibility of these solutions, the project team eliminated several based upon potential adverse impacts, lack of suitability for the Harlem River environment, risks the method would pose to nearby CI, and/or other feasibility concerns. For example, use of explosives was eliminated as an option due to high river currents, potential risks to nearby CI, bridges, tunnels or aqueducts, and potential impacts to the highly developed areas of the Hudson River shoreline, where there are numerous residences, businesses and other land uses which might be impacted by this method. Chemical splitting methods were technically infeasible and unsuitable for the rock formations found in the Harlem River. Rock cutting methods in an underwater environment rely on the use of large, highly specialized machines which would require use of a much larger marine construction spread unlikely to be feasible in the relatively congested urban environment involved; this method was determined to be logistically infeasible and was also estimated to improve the burial length in the Harlem by only approximately 1,900 feet because of the need for protective buffers around existing CI. The team also considered the use of articulated concrete mattresses or cast-iron half shells to be placed over the cables for protection, but ultimately concluded that these solutions were not feasible—over 1,000 concrete mattresses would be needed to protect the approximately 5 miles of the Harlem River where trenching was determined not to be feasible, and given the maximum projected useful life of cast-iron half shells is only 30 years, that solution was not viable long-term for a facility which is meant to last more than twice that duration.

Ultimately, the most feasible and least impactful alternative, and the method proposed in this EM&CP, is the use of a cable protection system/articulated pipe protection (CPS/APP) (may also be referred to by its product name, UraGuard), which will protect the Facility throughout its useful life; which can feasibly be installed in the Harlem River to largely avoid or accommodate existing geologic/topographic conditions, thereby limiting the need to disturb the Harlem River, including the need for blasting, breaking, and/or removal of significant quantities of rock sufficient to establish a trench in which to bury the cables; which avoids potential impacts to the environment and the community—including navigation, nearby residences, and river users—which could result from certain of the alternatives considered, such as blasting or significant rock removal; and which safeguards existing CI, bridges, tunnels and aqueducts already present in the Harlem River. The CPS/APP has previously been approved for use in Lake Champlain and CHPE has successfully installed this product in that waterbody. As demonstrated in this EM&CP, the use of this method will achieve compliance with various requirements of CHPE's applicable permits, such as meeting thermal standards near other CI, provide adequate protection of the Facility, ensure that the presence of the Facility in the Harlem River accommodates the United States Army Corps of Engineers' channel maintenance requirements, and contribute toward the timely installation of the Facility.

Table 3.1 below provides an overview of where specific installation methods are proposed. The distances in Table 3.1 are subject to adjustment. Cable surface lay is currently proposed for the

entire length of the cable route, approximately 6.2 statute miles. The majority of the length of the cable route will be protected by the CPS/APP. Two small sections of the cable route are planned to be installed without CPS/APP and will instead be protected by post-lay remedial actions, as described in Section 5.5.2 below. This includes an approximately 50' section at the cable landing at the southern terminus of the route (near the Harlem River bulkhead), and at the Hudson-Harlem splice location at northern terminus of the route in the Hudson River (west of the Spuyten-Duyvil bridge) to facilitate cable recovery for splicing.

Table 3.1 – Cable Lay

Location (MP)*	Section Length (miles)*	Cable Lay Method	Cable Protection Method
0.000 – 0.019	0.019	Surface Lay to Splice Location	Post-Lay Remedial Actions
0.019 – 6.140	6.140	Surface Lay	CPS/APP
6.1422 – 6.178	0.038	Surface Lay / Surface Float-in to Bulkhead Penetration	Post-Lay Mattressing

* Distances are subject to adjustment.

During installation, the cable bundle will be armored with a CPS/APP (refer to Appendix 6 of Appendix 4-A, Methodology Statement for Submarine Cable Installation). The CPS/APP material will provide the cable with protection against abrasion and potential impact loads (vessel anchors, dropped objects) and will be supplemented by articulated concrete mattresses (or other means described below in Section 5.5.2) where appropriate, such as for stabilization. The capacity of the CPS/APP to resist these types of impact has been incorporated in the design and will be demonstrated by specific testing procedures.

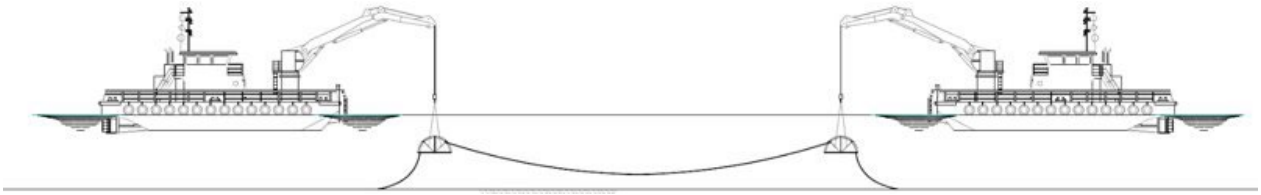
CHPE will minimize usage of post-lay concrete mattresses to the extent feasible. Post-lay concrete mattresses may be used in the following circumstances:

1. Post-lay concrete mattresses will be installed from the cable landfall exit until the cables are bundled as the route crosses the river from east to west (approximately 10 mattresses are expected to be used in this location).
2. Post-lay concrete mattresses may be installed in the vicinity of bridges for additional protection. These areas are currently being evaluated in conjunction with bridge owners. (A maximum of 160 mattresses is reserved for these locations).
3. Post-lay concrete mattresses may be installed at any location where determined necessary to ensure cable stability. Preliminary stability analyses have determined that the Project does not need to install mattresses to ensure cable stability. However, a further analysis will be undertaken post-installation based on as-laid survey data. (A reserve of 40 mattresses has been retained for a contingency in the unlikely event that the on-bottom stability analysis dictates their use).

The Certificate Holders will notify DPS and NYSDEC should concrete mattresses become necessary in locations beyond those currently prescribed. Final post-lay mattress installation locations will be provided in as-built documentation. Refer to Section 5.5.2.1 for additional detail regarding post-lay concrete mattress installation.

The cable will be laid in a manner that can accommodate future USACE dredging activities. During installation, in between bridges, the lay barge will shift nominally east-west off the route center line introducing slack to the cable system. In the event the cable bundle needs to be relocated to the east or west side of the navigation channel for dredging, two or more barges would be mobilized and quadrants would be used to lift a section of cable just off the riverbed to be shifted for access. Figure 2 below illustrates this process. The Certificate Holders will be responsible for any handling, repair or relocation of the CHPE cable bundle. Temporary relocation of the CHPE cable bundle for USACE dredging will not affect existing CI any more than a CI owners' request for relocation in the event that a CI owner has to carry out a repair or replacement. It is expected that USACE will provide the Certificate Holders with two or more years of notice prior to pursuing a dredging campaign. Detailed procedures will be outlined in the Cable Relocation Plan to be provided to the USACE and DPS.

Figure 2. Schematic of Cable Relocation.



3.5 Submerged Lands Easements

The Certificate Holders have obtained a construction permit from the New York State Office of General Services (OGS), which enables work to be completed in those portions of the Harlem River owned by New York State. Once work is completed, the Certificate Holders will obtain a permanent easement from the OGS. The Certificate Holders either have or will obtain necessary land rights for other portions of the Harlem River not owned by New York State. Lastly, the Certificate Holders are working to finalize Crossing Agreements with the owners of CI that will be crossed by the Project, where such agreements are required.

Signed Crossing Agreements, or compliant Unknown CI Owner Packages, will be submitted to the PSC prior to or concurrent with the request for a Notice to Proceed for this EM&CP.

4.0 Cable Installation Activities

The following sections describe construction activities to be performed during cable installation in the Harlem River. Refer to Appendix 4-A (Methodology Statement for Submarine Cable Installation) for additional information on installation methodology.

4.1 Communications and Notifications

Specific points of contact have been established for stakeholders and affected parties including, but not limited to:

- Private landowners and companies (if any);
- Mariners;
- Co-located utility owners;
- Bridge and tunnel owners; and,
- New York City stakeholder agencies with interests along the route.

Electronic notification will be made to designated contacts before crossing or passing an affected resource, on a schedule to be provided to stakeholders or as otherwise individually agreed with certain parties. For additional information regarding public communications, please see Appendix 1-D (Public Involvement Plan and Complaint Resolution Plan).

Required notification of the cable installation construction activities will be completed by the Certificate Holders prior to the commencement of construction. At the request of the USCG, the Certificate Holders or their contractors will notify the USCG Sector New York (SECNY) at least five weeks (35 days) prior to commencing cable installation activities. SECNY will provide a current list of USCG Division 1 personnel, USCG SECNY personnel, and Harlem River waterway users to receive Project notifications. Local Notice to Mariners (LNM) will be submitted to the USCG for issuance at least 30 days prior to the start of the marine field operations. A copy of the initial LNM request will be emailed to the Harlem River waterway users identified by the USCG SECNY. Daily work location, minimum passing clearance request, and all other relevant information will be broadcast via marine VHF radio as required by the USCG. Additionally, weekly and/or daily notifications with work location will be emailed to the Harlem River waterway users identified by the USCG SECNY. Courtesy notifications will be provided to emergency services and law enforcement that are local to Project operational sites (if any).

4.2 Schedule

Cable installation is currently anticipated to commence and conclude in Summer 2025. Both daytime and nighttime operations are currently proposed for this phase of construction to ensure the timely completion of cable installation in the Harlem River within one season, and in adherence to applicable seasonal work windows. Cable installation will operate on a 24/7 schedule. Although

splicing is not proposed for this Segment, should an unplanned splice be needed due to unforeseen circumstances, the cable splicing event is anticipated to last 7-10 days.

4.3 Temporary Facilities

To facilitate cable installation activities, temporary facilities will be utilized as described below.

4.3.1 Material and Equipment Staging

CMI will utilize its existing waterfront property on Staten Island, NY as an operational base, herein referred to as the Caldwell Marine Yard. This location has served as CMI's operational base for previous marine projects. CMI will mobilize equipment to this location in the early phases of the CHPE Project. The base will serve multiple support functions including, but not limited to:

- Mobilization and support of vessels
- Equipment transfer
- Personnel transfer staging point (primary)
- Emergency personnel transfer point
- Exchange / clean-out service point for sanitation equipment (portable toilets, construction waste, etc.)

Additional marinas may be used as crew and small equipment/materials transfer. CMI will privately arrange and secure the locations and review to ensure fit for purpose. Refer to Section 4.4.1 of Appendix 4-A (Methodology Statement for Submarine Cable Installation) for additional information on material and equipment staging.

If transportation of oversized loads via roadways is required for the delivery of oversized loads for this Segment, 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.

4.3.2 Construction Access

The Caldwell Marine Yard will be utilized as the primary staging point for personnel transfer and Harlem River access. Additionally, seven marinas may be utilized for access to various segments of the route: Alpine Marina, JFK Marina, Englewood Marina, Grand Cove Marina, Liberty Harbor Marina Boatyard, Liberty Landing Marina, and One°15 Brooklyn Marina. Parking will be available at these locations subject to agreements to be executed with each marina. Shuttle busses will be used where practical to reduce pressure on local marina parking. Crew will be transferred in accordance with the personnel transfer procedure. Daily travel to and from the installation sites will be managed by crew transfer vessels. Refer to Appendix 4 of Appendix 4-A (Methodology Statement for Submarine Cable Installation) for additional detail regarding marinas and construction access.

4.4 Vessels

Vessels to be used for cable installation in Harlem River include, but are not limited to, the following:

- Cable Lay Barge (CLB) – This vessel will be the primary operational platform for cable installation.
- CLB Support Tug - for the operational support of the CLB.
- Crane Support Barge (CSB) – for operational support of the CLB.
- CSB Support Tug - for the operational support of the CSB.
- Material Transport Barges and Tugs – for transport of materials.
- Crew Boat(s) – for transit of personnel.
- Truckable Work Vessels - for general support of operations.
- Work Boat(s) - for general support of operations.

The CLB will progress along the route from south to north as it lays cable, with minor moves to micro-route around any obstructions or debris as necessary. It will be supported by tugs and logistics barges which will be transporting the CPS/APP materials to replenish the stock on board the CLB. During the pull-in of the cables at the cable landing site, some additional small vessels will be used to support that operation. As the cables are laid, a small survey vessel will complete as-laid surveys in sections to determine any locations where corrective actions are required. On completion of cable lay, the CSB with its diving spread will be utilized to install free-span support, remove debris, and install the minimum number of mattresses required based on as-laid surveys. The final activity will involve a small vessel conducting the as-built survey required for documenting the installation.

Refer to Appendix 4-A for additional detail regarding vessels.

4.5 Work to be Performed

Construction activities included in this phase of work are described below.

4.5.1 Immediate Pre-Installation Surveys and Debris Removal

Immediately prior to installation, a survey will be completed along the route. Any debris identified which could negatively affect the cable, that cannot be resolved by micro-routing, will be relocated or removed by divers.

4.5.2 Cable Landing

Cables will be landed at the Harlem River Yard (HRY) via two HDPE ducts that will have been pre-installed in 2024 / 2025 under the Segment 20A EM&CP. Cables will be landed to shore by

means of an 'Initial' or first end type landing that will be performed at the start of cable lay operations.

The three CHPE submarine cables will be landed at the HRY as follows:

- Duct A: Power Cable A
- Duct B: Power Cable B + FO cable

Refer to Section 4.4.4.2 (Commencement of Cable Landing at HRY Bulkhead Penetration) of Appendix 4-A for additional detail regarding cable landing procedures.

4.5.3 Cable Laying

Cable laying will begin at the southern terminus of the cable route, at the HRY, and will progress north to the Hudson River. The cable bundle will be surface laid for the entire route, in a single continuous segment. The cable will be laid with the selected CPS/APP. The CPS/APP will be installed onto the cable bundle just prior to overboarding the cable. At the northern terminus of the cable segment, cable lay operations will continue through the Spuyten-Duyvil Rail Bridge and the end of cable will be overboarded at the proposed Hudson/Harlem splice location. Refer to Section 4.4.4 (Cable Lay & Protection) of Appendix 4-A for additional detail regarding cable installation operations.

4.5.4 Unplanned Cable Splicing

Although there is no planned cable splicing as part of this EM&CP, there is the potential that splicing may be necessary in the event of an emergency or other unforeseen circumstance (weather, etc.). Should an unplanned splice be required, the following procedures will be implemented.

Cable splicing will occur on the CLB with 24/7 operations lasting approximately 7-10 days, while the CLB needs to stay in the same location. Splicing operations are performed on the deck of the CLB inside a splicing habitat which provides a protected and controlled environment to ensure the quality of the work performed on the splices.

When a splice is initiated, the cable will be positioned inside the splicing habitat. The splicing is performed by skilled and certified NKT personnel following the sequence as per below:

- Cut the cable to the correct length
- Prepare cable ends for splicing
- Install the splice
- Install outer casing and bending restrictors

Figure 3. Preparation of Cable Ends Prior to Installation of Splice in Progress

Each cable splice will be tested prior to installing the next segment of cable.

Should unforeseen circumstances necessitate departure of the CLB from a worksite along the cable route (weather, mechanical breakdown, etc.), the cables need to be cut and sealed and placed on the bottom of the river until the CLB can return to the site and perform an additional splice of the fiber optic cable and the power cables.

4.6 Environmental Monitoring

Environment monitoring will be conducted during cable installation construction activities as outlined in Section 6.0 below.

5.0 Post-Installation Activities

The following sections describe activities to be performed following completion of cable installation in the Harlem River, which primarily consist of installation of post-lay remedial actions. Refer to Appendix 4-A for additional information.

5.1 Communications and Notifications

Specific points of contact have been established for stakeholders and affected parties including, but not limited to:

- Private landowners and companies (if any);
- Mariners;
- Co-located utility owners;
- Bridge and tunnel owners; and,
- New York City stakeholder agencies with interests along the route.

Electronic notification will be made to designated contacts before crossing or passing an affected resource, on a schedule to be provided to stakeholders or as otherwise individually agreed with certain parties. For additional information regarding public communications, please see Appendix 1-D (Public Involvement Plan and Complaint Resolution Plan).

LNM will be submitted to the USCG for issuance at least 30 days prior to the start of the marine field operations. A copy of the initial LNM request will be emailed to the Harlem River waterway users identified by the USCG SECNY. Daily work location, minimum passing clearance request and all other relevant information will be broadcast via marine VHF radio as required by the USCG. Additionally, weekly and/or daily notifications with work location will be emailed to the Harlem River waterway users identified by the USCG SECNY. Courtesy notifications will be provided to emergency services and law enforcement that are local to Project operational sites (if any).

5.2 Schedule

Post-lay activities are currently anticipated to commence and conclude in Summer 2025. No overnight operations are proposed during this phase of construction. Post-lay activities are currently anticipated to operate with 12-hour daytime shifts, seven days a week.

5.3 Temporary Facilities

To facilitate post-installation activities, temporary facilities will be utilized as described below.

5.3.1 Material and Equipment Staging

CMI will utilize its existing waterfront property on Staten Island, NY as an operational base, herein referred to as the Caldwell Marine Yard. This location has served as CMI's operational base for previous marine projects. CMI will mobilize equipment to this location in the early phases of the CHPE Project. The base will serve multiple support functions including, but not limited to:

- Mobilization and support of vessels
- Equipment transfer
- Personnel transfer staging point (primary)
- Emergency personnel transfer point.
- Exchange / clean-out service point for sanitation equipment (portable toilets, construction waste, etc.)

Additional marinas may be used as crew and small equipment/materials transfer. CMI will privately arrange and secure the locations and review to ensure fit for purpose. Refer to Section 4.3.1 of Appendix 4-A (Methodology Statement for Submarine Cable Installation) for additional information on material and equipment staging.

If transportation of oversized loads via roadways is required for the delivery of oversized loads for this Segment, 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.

5.3.2 Construction Access

The Caldwell Marine Yard will be utilized as the primary staging point for personnel transfer and Harlem River access. Additionally, seven marinas may be utilized for access to various segments of the route: Alpine Marina, JFK Marina, Englewood Marina, Grand Cove Marina, Liberty Harbor Marina Boatyard, Liberty Landing Marina, and One°15 Brooklyn Marina. Parking will be available at these locations subject to agreements to be executed with each marina. Shuttle busses will be used where practical to reduce pressure on local marina parking. Crew will be transferred in accordance with the personnel transfer procedure. Daily travel to and from the installation sites will be managed by crew transfer vessels. Refer to Appendix 4 of Appendix 4-A (Methodology Statement for Submarine Cable Installation) for additional detail regarding marinas and construction access.

5.4 Vessels

Vessels to be used for cable post-installation activities in the Harlem River include, but are not limited to, the following:

- Crane Support Barge (CSB) - This vessel will be the primary operational platform for diving, mattress and rock or grout bag installation as well as any other remedial works.
- CSB Support Tug – for the operational support of the CSB.
- Material Transport Barges and Tugs – for transport of materials.
- Crew Boat(s) – for transit of personnel.
- Truckable Work Vessels - for general support of operations.
- Work Boat(s) - for general support of operations.

Refer to Appendix 4-A for additional detail regarding vessels.

5.5 Work to be Performed

Construction activities included in this phase of work are described below.

5.5.1 Temporary Post-Lay Cable Monitoring

After cable lay, prior to post-lay remedial actions, monitoring will be conducted to temporarily protect vulnerable sections of cable. As described in Section 3.4 above, two sections of the Segment 20B cable bundle are planned to be installed without CPS/APP and will be protected by post-lay remedial actions, as described in Section 5.5.2 below. This includes an approximately 50’ section at the cable landing at the southern terminus of the route (near the Harlem River bulkhead), and at the Hudson-Harlem splice location at northern terminus of the route in the Hudson River (west of the Spuyten-Duyvil bridge). During the period that these sections of cable rest on the Harlem Riverbed unprotected, CHPE will operate unmanned remote monitoring until the cable is buried or protective concrete mattresses are installed. CHPE will install temporary cable monitoring systems where the cable will not be protected directly after installation. This monitoring will protect the cable from incidental vessel interactions. The locations under review (west of the Spuyten Duyvil bridge and near the Harlem River bulkhead) are considered low-risk areas for vessel interactions with the seabed.The equipment to be used during this time will monitor and deter vessel interaction with the subsea cable to ensure that the cable is adequately protected.

Further details on the monitoring methodology are provided in Appendix 6-B (Immediate Post-Installation Inspection Plan).

5.5.2 Post-Lay Remedial Actions

Following the immediate post-lay survey, areas of the cable requiring post-lay correction, stabilization, or additional protection will be remediated as appropriate. The Certificate Holders will document the locations and methods of post-lay remediation and provide that information to DPS, NYSDEC, and other relevant parties, as per permit requirements. A suite of remedial actions will be considered for each area requiring correction. These options are described below.

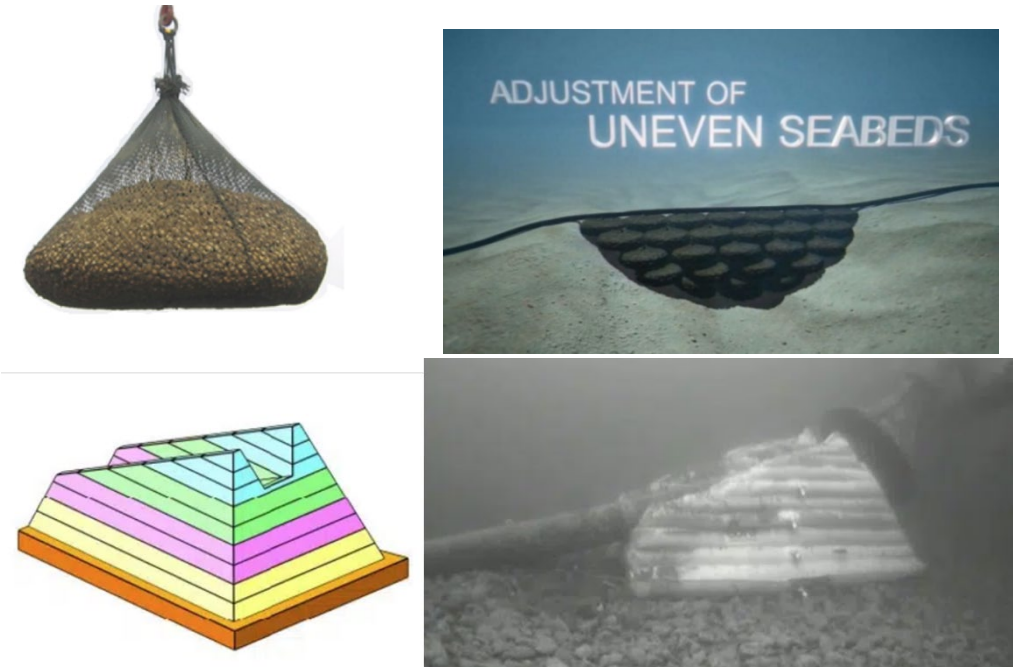
5.5.2.1 Post-Lay Mattress Installation

Post-lay concrete mattresses may be installed to provide cable protection, stabilization, anchoring, and/or free span correction, as appropriate. Installation of post-lay mattresses will be completed in accordance with Project permit and utility crossing agreement requirements. Post-lay concrete mattresses will be installed in the scenarios described in Section 3.4 (Installation Methodology) above. The Certificate Holders will minimize usage of post-lay concrete mattresses to the extent feasible. The Certificate Holders will notify DPS and NYSDEC should concrete mattresses become necessary in locations beyond those currently prescribed. Refer to Section 4.5.1 (Concrete Mattress Protection) of Appendix 4-A.

5.5.2.2 Post-Lay Grout and/or Rock Bag Installation

Post-lay grout bags and/or rock bags, or similar, may be installed to provide cable free span correction, as appropriate. Installation of post-lay grout/rock bags will be completed in accordance with Project permit and utility crossing agreement requirements. The use of grout/rock bags will be limited to small areas where free spans occur, such as in the vicinity of subway crossings and areas of scouring. There are four subway crossings that may require free span correction on each side due to steep approach angles. Additionally, there are a few locations where riverbed scouring due to changing bottom conditions (rock outcrops surrounded by softer material) may necessitate corrective action. It is currently anticipated that approximately 12 to 20 locations may require one or more rock/grout bags. Figure 4 below illustrates example grout and rock bag usage. Refer to Section 4.5.2 (Grout/Rock Bags) of Appendix 4-A.

Figure 4. Post-Lay Grout and Rock Bags



5.5.2.3 Diver Intervention

Diver intervention, including but not limited to jetting and/or water-lifting, may be performed to provide cable lowering, stabilization, and/or free span correction, as appropriate. Refer to Section 4.5.3 (Diver Lowering) of Appendix 4-A.

5.5.2.4 Alternative Methodology

At locations where it is impractical to use mattresses, grout/rock bags, or diver intervention to resolve the situation, the Project may assess alternative remediation methodologies to determine the best solution. The Certificate Holders will provide notification to DPS and NYSDEC in the event this becomes necessary.

5.5.3 Temporary Storage of Cable

A short segment of cable will be temporarily "wet stored" in the Hudson River after the completion of cable installation in the Harlem River. This length of cable will be temporarily stored in preparation for recovery by the Hudson River cable installation vessel. The cable will be monitored or otherwise protected, as required, during temporary storage.

5.5.4 Clean-up and Restoration of Temporary Work Sites

Upon completion of construction, temporary staging areas and work sites will be restored to their original condition and character as much as possible. Debris resulting from construction will be disposed of at a State-approved solid waste disposal site in compliance with all applicable environmental regulations. Usable construction equipment and materials may be collected and transported to off-site storage facilities or to other Facility segments for use in later phases of construction.

Vessels and barges will be demobilized from Harlem River or via road transport following disassembly at the Caldwell Marine Yard.

5.6 Environmental Monitoring

Environmental monitoring will be conducted during post-installation construction activities, as outlined in Section 6.0 below. Refer to Section 6.0 for information regarding environmental monitoring.

6.0 Monitoring and Compliance

The following sections describe procedures for monitoring and compliance before, during, and following installation of the submarine cable in the Harlem River. Facility inspections and maintenance procedures are also discussed. Refer to the Compliance Assurance Plan in Appendix 6-A for additional information.

6.1 Environmental Supervision and Construction Oversight

During construction of the Project, the Certificate Holders will employ construction oversight staff as required by the Certificate and to ensure that regulatory requirements, plans, and specifications are appropriately met. The construction oversight staff will perform a variety of functions. The duties of each are described below.

Inspector(s) and monitor(s) may perform multiple inspection roles if each is qualified to serve in these roles.

The Certificate Holders will submit the name and qualifications of the Construction Inspectors(s) and/or Environmental Inspector(s) to New York State Department of Public Service (DPS) Staff at least two weeks before construction starts.

6.1.1 On-board Representatives

For offshore operations executed by a subcontractor, two NKT Inc. (NKT) representatives will be present onboard any unit working 24/7 to supervise the works. Where a unit only works 12/7 a single NKT representative will suffice.

CHPE will also provide Client oversight on board each unit.

These personnel will usually be Site Managers or Project Engineers but may be other positions with suitable offshore experience.

The NKT representatives will perform the following tasks on board the vessels:

- Supervise the operation;
- Give instructions to the subcontractor;
- Work as the main contact for communication with the subcontractor’s on-board personnel;
- Communicate with the on-board CHPE representatives;
- Ensure that the works is carried out in a safe manner;

- Serve as the Project Preservation Office (PPO), as defined in the Supplemental CRMP (see Appendix 7-D);
- Write daily progress reports and communicate with the land-based Project organization;
- Ensure that Environmental Health and Safety (EHS) standards and regulations are followed on the vessel; and
- Report incidents to land-based Project organization and on-board CHPE representatives.

6.1.2 Site Manager

There will be a full-time Site Manager during cable installation; for other post-cable installation activities, the Site Manager will be full- or part-time as appropriate to the level of activity. The Site Manager will be responsible for managing the construction Contractor's performance for the successful completion of construction activities. The Site Manager will provide proactive leadership and direction to the Contractors for safety, security, schedule, and environmental compliance; confirm that assigned personnel are properly directed, trained, licensed, and evaluated within the Certificate Holders' guidelines and procedures; and maintain a thorough understanding of emergency response procedures to help arrange and provide resource support as needed.

6.1.3 Construction Manager(s)

There will be full-time Construction Manager(s), who will report to the Site Manager, during cable installation for this Segment; for other post-cable installation activities, the Construction Manager(s) will be full- or part-time as appropriate to the level of activity. The Construction Manager(s) will support the Site Manager by overseeing the Contractors' performance of construction work; reinforcing that contractors must maintain safety, security, schedule, and environmental compliance at all times; verifying that construction field work complies with the criteria per the Certificate Holder's construction specifications; writing and publishing reports detailing results of field construction audits; issuing and tracking non-conformances for items found not meeting the required specification; and requiring submission of corrective and preventive action for non-conformances found.

6.1.4 Environmental Compliance Manager

The Environmental Compliance Manager (ECM) will serve as the Certificate Holders' point of contact for information related to the environmental compliance status of the work. The ECM will be responsible for coordinating with the Site Manager, Construction Manager(s), the Certificate Holder's environmental staff, and the environmental inspecting team regarding compliance matters. This position will coordinate monitoring and staffing needs to ensure appropriate monitors are present during construction. The ECM, with assistance from Environmental

Inspector(s), will be responsible for environmental oversight throughout the construction, and restoration phases, and for monitoring compliance with environmental protection provisions of the Certificate and the EM&CP. Additionally, the ECM will be responsible for performing quality assurance/quality control of the daily reports and compiling a weekly summary report for the Certificate Holders. The ECM will provide guidance to the Environmental Inspector(s) on interpretation of requirements of the Certificate, EM&CP, and other permits and approvals.

6.1.5 Environmental Inspector(s)

The number of Environmental Inspector(s) (EI) will be commensurate with the level of Project activity at any given time. The Environmental Inspector(s) will monitor environmental compliance with environmental requirements of the Project during construction activities by working directly with the construction crews daily to reinforce and encourage a team approach, and to develop a compliance culture that is understood and executed by Contractor staff and personnel. Environmental Inspector(s) will meet the requirements of a "Qualified Inspector" as defined by GP-0-20-001. In addition, the Environmental Inspector(s) will be responsible for understanding the requirements of the Certificate, EM&CP, and other permits and approvals. They will assist and report to the ECM, complete daily site inspection reports, participate in pre-job briefings and tailboards as part of the construction team to help develop and maintain the Project-wide culture of environmental compliance and to help contractors understand compliance requirements, and address potential areas of non-compliant conditions. Any items identified to be non-compliant or with the potential to be non-compliant if not addressed immediately will be communicated to the site superintendent or foreman prior to leaving the site. The Environmental Inspector(s) shall have stop work authority over aspects of the Project that could create an adverse impact to the environment. The EI(s) will be responsible for completing daily inspections and submitting weekly status reports; refer to Section 6.2 for a discussion of compliance reporting requirements.

6.1.5.1 Aquatic Inspector

At least one Aquatic Inspector will be on the main vessel or barge during construction activities. It is the Aquatic Inspector's job to monitor compliance with regulatory and permit requirements for the underwater portions of the cable installation. The Aquatic Inspector will monitor construction activities on, above, or below the State's waters. If construction and installation appear to be in violation of the Certificate of Environmental Compatibility and Public Need, the Aquatic Inspector may direct the field crews to stop the specific potentially harmful activity immediately and attempt to assist in preventive or remedial action.

6.1.6 Safety Inspector

At least one Safety Inspector will be responsible for providing professional safety and health oversight, conducting work area inspections, and confirming compliance with the Certificate Holders' safety requirements. The Safety Inspector will be on site when any higher-risk activities are being conducted and will inspect construction activities for hazards that could be eliminated.

Any incidents that may occur will be reported to and analyzed by the Safety Inspector. The Safety Inspector will conduct Project specific on-site safety training.

6.1.7 Quality Assurance Inspector

At least one part-time Quality Assurance Inspector will perform quality audits on the Project facilities and components purchased for the Project to make sure the material is consistent with the specifications described in the EM&CP and Plan and Profile Drawings (Appendix 3-A). If materials fail to meet the criteria outlined in the Quality Control Plan, the Quality Assurance Inspector will be responsible for issuing and tracking non-conformances for the Project facilities and components as well as requiring submission of corrective and preventive action for the identified non-conformances. The Quality Assurance Inspector will work closely with the Construction Manager(s) to verify Project personnel are adhering to the quality control procedures.

6.2 Reporting Requirements

The Certificate Holders will conduct the compliance inspections and reporting, detailed below, for the Project. In addition, the Certificate Holders will organize and conduct site-compliance audit inspections and reporting for DPS as needed, but not less frequently than once per month during the installation and post-installation phases. Additionally, the Environmental Inspector(s) is responsible for completing daily inspections and submitting weekly status reports.

6.2.1 Monthly Status Reports

A monthly EHS Report will be completed for each month the Project has ongoing installation related activities in the Harlem River. The report will include a review of Project performance, safety performance, incident rate, lost time incident rate, safety inspections and action items completed, and safety training and meetings completed. The Certificate Holders will provide a written record of the results of the monthly review, including resolution of issues and additional measures to be taken, to agencies involved in the inspection audit and as part of its scheduled construction update reports. Scheduled construction activities and locations for the following month will be included in the status report.

6.2.2 Environmental Inspection Reports

Following each environmental inspection, an environmental inspection report will be completed by the Environmental Inspector(s) performing the inspection, detailing compliance of the inspection location with all applicable environmental requirements. Deficiencies will be noted and reported to the Construction Manager(s) responsible for the noted Project location. Deficiencies should be corrected prior to the inspector leaving the site if feasible. Any deficiency not immediately corrected will be listed in an “Open Items” log and its status will be confirmed during the next site inspection. This process will be repeated until the deficiency is appropriately addressed. The Construction Manager(s) will be notified of deficiencies prior to the environmental compliance personnel leaving the site. The contractor must initiate correction of the deficiency

within one business day and the correction must be completed in a reasonable and expeditious timeframe. The Environmental Inspector(s) will submit their reports to the ECM daily. The ECM will be responsible for reviewing and archiving the inspection reports.

6.3 Worksite Health and Safety

Measures will be taken by the Certificate Holder and Project personnel to protect the health and safety of all parties throughout the duration of the Project. Detailed worksite health and safety procedures are described in the sections below. A full-time Safety Inspector will be on site during cable installation to provide safety and health oversight and confirm compliance with the Certificate Holder's safety requirements (see Appendix 6-A, Compliance Assurance Plan); for other post-cable installation activities, the Safety Inspector may be full- or part-time as appropriate to the level of activity.

6.3.1 Safety Training & Education

Training, instruction, and periodic briefings will be provided by the Certificate Holders and their contractors to all Project-related personnel, as appropriate, to verify that environmental, health, and safety precautions and measures are followed during construction. Training will be provided before employees or subcontractors are assigned to new or different work activities and periodically to reinforce their awareness. Where required, annual refresher training will also be provided. Each party's management is responsible for ensuring that safety training is made available to its employees or subcontractors as required by their specific work activities. The Site Superintendent (SS) will be responsible for assuring that employees or subcontractors have the required training to perform their work safely. This training will include specific information on how work is conducted as well as the hazards the workers may be exposed to in relation to their own specific craft and work procedures. Daily tailboard meetings will be held at the start of each construction day to refresh awareness of general safety topics.

6.3.2 Stop Work Procedures

Any Project personnel can stop work for health and safety reasons by notifying the Project Superintendent or Captain of the Vessel. All Project personnel will also be encouraged to notify any of these individuals if they observe conditions that could potentially be in non-compliance so appropriate corrective action(s) can be taken. Any stop work notice will be reported to the Site Manager who will report it to the Certificate Holders management in a timely manner noting the incident specific information, such as time, date, location, details of the incident, person observing the incident, and response taken. DPS representatives may issue a stop-work order were permitted by the Certificate for any construction or maintenance activities that violate or may violate the terms of the Certificate or any other valid order.

6.4 Supporting Monitoring Studies

In accordance with CC 159(k), 159(ee), and 159(ff), and conditions 12 and 14 of the WQC, several monitoring studies will be conducted before, during, and/or after installation of the cables in the

Harlem River. These monitoring studies are outlined below, and related study plans are provided in the Segment 18B and 19B EM&CPs.

6.4.1 Suspended Sediment / Water Quality Sampling and Monitoring Study

A suspended sediment/water quality monitoring Standard Operating Procedure was developed pursuant to Certificate Condition 159 of the Certificate and the 401 WQC issued and effective on January 18, 2013. A draft Standard Operating Procedure (SOP) or study plan was submitted to the DPS Staff for review, comment, and approval in consultation with New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of State (NYSDOS) (see DMM Item 752, filed October 18, 2013). The final version was provided in the Segment 18B and 19B EM&CPs and is incorporated by reference herein (see DMM Item 1637, filed April 8, 2024).

As per CC 159(ff), suspended sediment and water quality monitoring is only required where the installation method to be used is trenching (jet and shear plow) or where there is large debris being removed. Given the installation method for the Harlem, which does not involve these methodologies, water quality monitoring is not required. As jet plow and shear plow are not proposed in the Harlem River, pre-installation trials will not be conducted.

6.4.2 Bathymetry, Sediment Temperature, and Magnetic Field Study

A pre- and- post-energizing bathymetry, sediment temperature, and magnetic field SOP (or study plan) was developed in accordance with CC 163 of the Certificate (see DMM Item 751, filed October 18, 2013). The final SOP was provided in the Segment 18B and 19B EM&CPs and is incorporated by reference herein (see DMM Item 1637, filed April 8, 2024).

Pre-energizing bathymetry surveys have been conducted along the submarine cable installation route and post-installation bathymetric surveys will be used to monitor recovery of the bottom substrate after cable installation. The bathymetry survey will be repeated one year after the cable installation and then three years after cable installation. Initially (year one), the entire cable route will be surveyed to compare with the bottom elevations of the pre-installation survey. Where the substrate has returned to the pre-installation configuration, these segments will not be resurveyed during any subsequent survey. If a cable segment has not returned to pre-installation condition after three years, it will be resurveyed after five years (total of eight years after cable installation).

Surveys of sediment temperature and thermal resistivity along the cable route will be conducted along the route at approximately five-mile intervals. As currently planned, the post-energizing survey will occur three years after completion of cable installation, assuming cable energizing, or when the transmission system is operating at 500 to 1,000 MW if it is not doing so three years after installation.

At selected locations along the cable route a pre-installation and post-energizing magnetometer survey will be conducted. In the Harlem River, the monitoring sites will include sensitive habitats where the cable route encroaches into small portions of SCFWH. Once the routing for a segment

has been approved, the Certificate Holders will review existing data to determine survey locations. The final proposed locations will be provided to the NYSDEC, NYSDOS, and NYSDPS in tabular and map form for review. The Certificate Holders will survey approximately 30% of the total length of the in-water cable. The post-energizing survey will occur three years after installation, assuming cable energizing, or when the transmission system is operating at 500 to 1,000 MW if it is not doing so three years after installation. The post-installation survey will be conducted within the same season as the pre-installation survey.

6.4.3 Benthic and Sediment Monitoring Study

A pre- and- post-energizing benthic monitoring and sediment sampling SOP (study plan) was developed in accordance with CC 163 of the Certificate. It was submitted to DPS Staff for review, comment, and approval in consultation with NYSDEC and the NYSDOS (see also DMM Item 751, filed October 18, 2013). In addition, the benthic study must be conducted in accordance with Special Conditions HH and II of the USACE permit (Permit Number NAN-2009-01089-M7). The SOP was provided in the Segment 18B and 19B EM&CPs and is incorporated by reference herein (see DMM Item 1637, filed April 8, 2024).

Sediment chemistry surveys will be conducted to characterize existing and post-energizing sediment conditions proximate to the cable in the Harlem River. In the Harlem River, up to three samples will be collected during each sample event. Sediment post-energizing sampling will be conducted three years after installation.

6.5 Cable Operation, Maintenance, and Inspection

As the owner, CHPE LLC will be responsible for ensuring the long-term successful operation of the Project over its design life. System performance will be continuously monitored from several locations by a dedicated O&M Team to ensure proper operation of the system. This monitoring will allow for immediate fault detection and instantaneous feedback on any operational deviations which may prevent the system from functioning optimally.

The Astoria (NY) and Hertel (Quebec) Converter Stations will be continuously staffed by the O&M Team with notifications, monitoring, and control protocols established and integrated as part of the overall automated operation of the system.

The CHPE Project is projected to come online in Spring 2026.

The transmission line's facilities in Canada, including an HVDC converter station in Hertel, Quebec, will be constructed, operated, and maintained by Hydro Quebec and its affiliates. CHPE LLC will construct, operate, and maintain the U.S. facilities including marine and terrestrial cable sections, the Astoria Converter Station, and the Operations Control Center.

An overall Facility Operation and Maintenance Plan shall be developed during construction and submitted to the relevant authorities prior to operations. As described in Section 3.4 above, a Cable Relocation Plan will be developed and submitted to relevant authorities.

6.5.1 Operations and Monitoring

A fiber-optic cable monitoring system is being integrated into the cable bundle to actively monitor the HVDC cables along the entire HVDC power cable route, both terrestrial and submarine. In addition to the main stations in Hertel and Astoria, there are 5 land-based monitoring stations linked to both.

HVDC-system-related control functions are coordinated by both converter stations (Hertel and Astoria), such as starting/stopping power transmission, power/current reference value setting, and controlling DC voltage.

6.5.2 Scheduled Inspection and Maintenance (Marine)

6.5.2.1 Post-Installation Cable Inspection, Short-term

In accordance with CC 161, the Certificate Holders have developed an Immediate Post-Installation Inspection Plan which will be mobilized following cable installation. This plan includes the method for determining the actual cable location upon completion of installation, standards to be used to determine what remedial actions are warranted consistent with Good Utility Practices (e.g., additional protection efforts) in all locations where the cable free spans or deemed at risk from falling objects. 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 the method and timing for undertaking such efforts. The Immediate Post-Installation Inspection Plan is attached as Appendix 6-B.

6.5.2.2 Post-Installation Cable Inspection, Long-term

In accordance with CC 161, the Certificate Holders will develop a Maintenance and Emergency Action Plan to be implemented following cable installation. The Maintenance and Emergency Action Plan will be provided as a part of the overall facility Operations and Maintenance Plan prior to operation.

In accordance with CC 161 and USACE permit NAN-2009-01089-M7, the Certificate Holders will conduct inspections of the installed subaqueous cable at least once every five (5) years. Such inspections will verify the cable's location, determine the durability of protective concrete mattresses and CPS/APP, and determine whether maintenance of any kind would be required on any installed structures. The findings of the inspections will be provided in a report to the USCG, USACE, and NYSDEC. The report will contain evaluations and supporting documents demonstrating that the cable, in its then-existing condition, is still protected by the cable protection system and concrete mattress armament. Additionally, this report will specify the Project contact who will be responsible for verifying the cable location.

6.5.3 Unscheduled Maintenance (Marine)

Prior to commercial operation, repair equipment storage facilities will be established to store and maintain an inventory of long lead items and equipment required for repairing possible cable faults. Storage facilities are not yet identified but will be included in the post-installation Operations and Maintenance Plan to be provided prior to commercial operation.

Repair scenarios in the vicinity of CI will be further described in Appendix 3-D (Co-Located Infrastructure Crossing Packages) when available. Dedicated repair procedures and plans will be shared in the event of a required repair in proximity to these facilities.

As described in Section 3.4 above, a Cable Relocation Plan will be developed and submitted to relevant authorities.

7.0 Environmental and Cultural Resource Protection

The following sections describe procedures for environmental and cultural resource protection to be implemented before, during, and following installation of the submarine cable in the Harlem River.

7.1 Pollution Prevention

The following plans discuss pollution prevention, spill response, waste management, and safety for EM&CP Segment 20B construction activities:

- Spill Prevention and Control Plan (SPCP), Appendix 7-A
- Oil Spill Contingency Plan (OSCP), Attachment 1 to Appendix 7-A
- Shipboard Oil Pollution Emergency Plan (SOPEP), Attachment 3 to Appendix 4-A
- Very Small Quantity Generator (VSQG) Hazardous Waste Management Plan (HWMP), Appendix 7-B
- Site Specific Health and Safety Plan (SSHASP), Attachment 2 to Appendix 4-A

The procedures to be implemented to avoid the release of pollution during Project construction are summarized in the sections below. For additional detail regarding any specific prevention or response procedure, please refer to the appropriate plan listed above.

7.1.1 Potential Pollutant Sources

At the construction/installation sites for the Harlem River Marine Segment, potential pollution or hazardous material can be generated by worksite activities. Some of the common types include carbon monoxide from vehicle and generator exhaust, different types of fuels and lubricants, and miscellaneous hazardous materials.

The Certificate Holders will inform local fire department and emergency management teams of on-site chemicals and waste and will also advise owners and operators of CI as to on-site chemicals and waste stored within one hundred (100) feet of their CI.

7.1.2 Material Handling, Storage, and Use

The following procedures provide a process for waste management planning and promote the development of more coherent and appropriate waste management. It is the responsibility of each individual on site to follow policies and procedures for managing waste.

- The Contractor will estimate the waste that will be generated prior to work being performed so that the need for containers and waste removal can be properly determined.

- Any waste materials will be properly stored and handled to minimize the potential for a spill or impact to the environment.
- The Contractor will properly segregate waste materials to ensure opportunities for reuse or recycling.
- All site personnel will be instructed on the proper disposal method for waste. This training will be conducted during the site orientation and conducted by the Site Manager, Construction Manager, or their designee.
- Waste management planning will be continuously reviewed and revised to ensure site safety and to meet regulatory requirements.

7.1.3 Waste Disposal

Waste handling and disposal procedures will be conducted in conformance with the SSHASP provided in Attachment 2 to Appendix 4-A.

7.1.3.1 Sanitary Waste

Portable sanitary facilities will be present on the CLB and at the Caldwell Marine Yard, at a minimum. The Caldwell Marine Yard will serve as an exchange and clean-out service point for portable sanitary facilities. Sanitary waste from portable sanitary facilities will be collected by a licensed sanitary waste management contractor, as required by NYSDEC regulations.

7.1.3.2 Solid Waste

The CLB will be equipped with temporary storage for waste materials. Scrap will be periodically offloaded to shore, for onward transportation to, and proper disposal at, an approved environmental waste handling facility. To further reduce environmental risks associated with construction materials, the following procedures will be implemented:

- Construction materials will be stored in a manner that minimizes exposure to precipitation and runoff.
- Construction materials will be stored in a neat, orderly manner in appropriate containers with appropriate labels.
- Construction waste material and rubbish from the work area will be removed and disposed of at properly licensed facilities.

7.1.3.3 Hazardous Waste

Hazardous waste is not currently anticipated to be produced during construction operations for this Segment. However, in the event that an emergency cable splice is needed, small amounts of hazardous waste, including lead waste, may be produced and will be collected, labeled

appropriately, stored and disposed of in accordance with all applicable regulations. The CLB will be equipped with temporary storage for hazardous waste materials. Details regarding the type, anticipated quantities and disposal protocols for hazardous wastes are included in the VSQG HWMP provided in Appendix 7-B.

To reduce the risks associated with generating hazardous wastes, contractors will be in conformance with the NYSDEC Hazardous Waste Rules and Regulations, and the following procedures will be followed:

- Train and instruct employees and other handlers of hazardous waste on the proper reporting, storage, inspection and handling requirements.
- Separate hazardous waste from normal waste through the segregation of storage areas and proper labeling of containers.
- Use appropriate storage and, when necessary, use NYSDOT-approved transportation containers, along with secondary containment measures.
- Prior to shipping hazardous wastes, verify that the hazardous waste transporters servicing the Project have required licenses, registrations and/or USEPA identification number that the waste is disposed at an approved/licensed facility.
- Transport hazardous waste under a properly completed manifest.
- Follow accurate record keeping requirements as to the quantity and nature of hazardous wastes generated onsite.

7.1.4 Hazardous Vapors Releases

Marine vessels that will be used to facilitate installation of the submarine cable have the potential to release hazardous vapors, such as fuel vapor. In the event of a hazardous vapor release, the appropriate emergency procedures should be followed in accordance with the Contractor's emergency response plans and policies. If the vapors released do not pose an immediate risk to crew members, the vessel should be safely moved to a suitable shore location or anchorage location prior to further action.

7.1.5 Petroleum Pollution Prevention

To prevent potential releases of petroleum in the river or other inland waters, the Certificate Holders and their contractors will adhere to the SPCP, provided as Appendix 7-A to this EM&CP, during construction to ensure that proper authorities are informed of any incident giving rise to pollution, or threat of pollution, of the aquatic environment, as well as the need for assistance and salvage measures, so that the appropriate action may be taken. Petroleum pollution prevention measures are also summarized in the OSCP, provided as Attachment 1 to Appendix 7-A, and the SOPEP, provided as Attachment 3 to Appendix 4-A. Petroleum pollution prevention measures implemented by the Contractor include, but are not limited to:

- Readily available emergency ‘spill kit(s)’ on all operational barges (including the CLB), crew boats, and tug boats.
- Fuel stocks onboard will be kept to a practical minimum.
- Equipment and storage tanks will be designed to minimize discharge or release potential and will be equipped with secondary containment.
- Petroleum products and chemicals will be stored in original, properly labeled, containers.
- SDS for petroleum products and chemicals will be maintained on each vessel.
- Employees and other handlers of petroleum products and chemicals will be trained on proper reporting and handling requirements.
- Vessels will be monitored and maintained to reduce the risk of potential leakage.
- Any vessels or equipment that are leaking oil, fuel, or hydraulic fluids will be removed or immediately repaired.
- Washing active vessels of any oils or chemicals into the surrounding waterbody will not be allowed.

As an emergency contingency measure, the Contractor has pre-arranged that Clean Harbors, a US based Oil Spill Removal Organization (OSRO) will be available on ‘call-out’ basis to provide professional clean up support.

7.1.6 Operational Spills

An “operational spill” is any potential spill of petroleum, hazardous material, or other reportable waste directly released by the Construction Contractor during construction activities. Immediately following an operational spill, the Site Manager and crew members will initiate action to protect the crew, secure the vessel, stop the flow, control or contain the spill, and notify as per contact instructions. The Contractor’s emergency response team will provide practical support required to assist the vessel team in dealing effectively with the incident. Emergency spill response is outlined in the SPCP (Appendix 7-A), OSCP (Attachment 1 to Appendix 7-A), and SOPEP (Attachment 3 of Appendix 4-A), and summarized in Section 7.1.7 below.

7.1.7 Spill Response and Cleanup Procedures

In the event of a spill release, the appropriate spill response and cleanup procedures should be followed in accordance with the Contractor’s emergency response plans and policies. The NYSDEC Spill Hotline (1-800-457-7362), the EPA National Response Center (1-800-424-8802), and DPS Staff (Chase Chaskey; Chase.Chaskey@dps.ny.gov), as appropriate, will be called as

soon as possible following identification of a spill. In the event of a spill, the following general procedures shall be followed:

- Ensure safety;
- Stop the flow;
- Secure the area;
- Contain the spill;
- Notify and report;
- Clean-up.

Petroleum spills must be reported to the NYSDEC unless they meet all of the following criteria:

- The spill is known to be less than 5 gallons; and
- The spill is contained and under the control of the spiller; and
- The spill has not and will not reach the State's water or any land; and
- The spill is cleaned up within 2 hours of discovery.

All reportable petroleum spills and most hazardous materials spills must be reported to NYSDEC hotline (1-800-457-7362) within New York State.

Refer to the SPCP (Appendix 7-A), OSCP (Attachment 1 to Appendix 7-A), and SOPEP (Attachment 3 of Appendix 4-A) for additional spill response procedures.

7.1.8 Unanticipated Hazardous Material Discovery

During construction activities, incidental discovery of hazardous material not directly released by the Construction Contractor may occur. If evidence of unanticipated hazardous materials are found during construction, construction activities will be stopped immediately in that immediate area, and the Environmental Inspector will be notified. The Environmental Inspector will report the unanticipated encounter of contaminants to CHPE personnel, who will notify the NYSDEC, NYSDPS staff, the landowner (if applicable), and the EPA National Response Center (1-800-424-8802), as appropriate. All reportable petroleum spills and most hazardous materials spills must be reported to the NYSDEC Spill Hotline (1-800-457-7362) within New York State. Construction will not be resumed until the appropriate authorities have issued an approval to continue construction activities in that area. Any future construction activities at the referenced site will be conducted in accordance with all conditions specified by NYSDEC.

7.1.9 Notification and Reporting

In the event of a spill, the appropriate Project contacts and regulatory agencies must be notified. Notification and reporting of the spill will be completed in accordance with the Contractor's emergency response plans and policies, as well as applicable laws and regulations and the

Certificate. Refer to the SPCP (Appendix 7-A), OSCP (Attachment 1 of Appendix 7-A), and SOPEP (Attachment 3 of Appendix 4-A) for additional notification and reporting procedures.

7.2 Cultural Resource Impact Mitigation

The route has been designed to avoid submerged cultural resources, as previously described in Section 3.3.1. An overall evaluation of underwater cultural resources identified in the vicinity of the proposed cable route is provided in Appendix 7-C (Report for the Underwater Cultural Resource Review of the Champlain Hudson Power Express, Harlem River Marine Segment Investigations). A copy of this report is also provided in Appendix C of Appendix 7-D (Supplemental Cultural Resources Management Plan). The Certificate Holders requested cultural resource consultation with SHPO on November 12, 2024. SHPO provided a response on December 5, 2024, and concurred with proposed cultural resource avoidance and minimization. SHPO's concurrence letter is provided in Appendix 1-C (Agency and Stakeholder Consultations). Construction activities will follow the procedures outlined in the Cultural Resources Management Plan (CRMP), attached as Attachment D to Appendix 7-D (Supplemental CRMP) of this EM&CP. At the recommendation of the SHPO, a Supplemental CRMP has been developed for the Segment 20B construction activities; this Supplemental CRMP is provided in Appendix 7-D (Supplemental CRMP). Should an unanticipated cultural resource discovery be encountered during Project construction, the procedures outlined below will be implemented.

7.2.1 Unanticipated Cultural Resource Discovery

The Unanticipated Cultural Resource Discovery Plan, included in Appendix D to Appendix 7-D (Supplemental CRMP), outlines the procedures to be implemented during underwater cable installation in the Harlem River should potential cultural resources be incidentally discovered. The specific procedures for the unanticipated discovery of archaeological resources and human remains during the Project's construction were developed in accordance with federal and state guidelines, as outlined in the Supplemental CRMP (Appendix 7-D). The Certificate Holder will respond promptly to any complaints of negative archaeological impacts during the Project's construction and will consult with the SHPO, the Advisory Council on Historic Preservation (ACHP), Native nations, and other appropriate parties identified in the CRMP to resolve adverse effects on historic properties and determine the appropriate avoidance, treatment, or mitigation measure.

7.3 Invasive Species Management

Invasive aquatic plant and animal species have been observed within or in the vicinity of the Harlem River Marine Segment route. Invasive species that may be present within or surrounding the Harlem River Marine Segment are listed below:

Harlem River Invasive Species:

- Animal: Zebra mussel (*Dreissena polymorpha*), Atlantic rangia (*Rangia cuneata*), Asian shore crab (*Hemigrapsus sanguineus),* European green crab (*Carcinus maenus*), and Chinese mitten crab (*Eriocheir sinensis*)

- Insect: Spotted lanternfly (*Lycorma delicatula*)

Numerous invasive aquatic plant and insect species, both terrestrial and aquatic, may occur within or in the vicinity of the Harlem River Marine Segment route, beyond those listed above. The Certificate Holders have developed an Aquatic Invasive Species Management Plan, included as Attachment 5 to Appendix 4-A of this EM&CP, which identifies invasive species monitoring and control measures to be implemented along marine portions of the CHPE Project.

Per Article VII BMP Section 21.4 in the Aquatic Invasive Species Management Plan, the Certificate Holder will ensure careful inspection and wash-down of construction equipment and vessels to prevent or control the transport of Zebra Mussels. Refer to Attachment 5 of Appendix 4-A for additional invasive species management procedures.

7.4 Rare, Threatened, and Endangered Species Impact Mitigation

Previous consultations between the United States Department of Energy (DOE) and National Marine Fisheries Service (NMFS) conducted in 2014 and updated in 2021 concluded that the effects of the proposed Project will be insignificant or discountable and that the CHPE Project is not likely to adversely affect any Endangered Species Act (ESA)-listed species or critical habitat.

The potential presence of aquatic threatened or endangered species along the cable route was identified as part of the Article VII proceeding. For the Harlem River, no specific listed species were identified or discussed. For the Hudson River, the aquatic species discussed included the Shortnose sturgeon (Acipenser brevirostrum) and the Atlantic sturgeon (Acipenser oxyrinchus). If any rare, threatened, or endangered species are identified during the Project, all appropriate avoidance and mitigation actions recommended by the NYSDEC will be undertaken by the Certificate Holders to protect the identified species.

On October 8, 2024, the Certificate Holders submitted a Project screening request to the New York Natural Heritage Program (NYNHP) for information on State-listed rare, threatened, or endangered species that may occur along or near the Segment 20B cable installation route. On November 19, 2024, a response from the NYNHP was received. The NYNHP provided a list of animals listed by NYS as endangered, threatened, or special concern, as well as rare and listed plants, significant natural communities, significant animal assemblages, and rare unlisted animals, that occur in proximity to the proposed cable route in the Harlem River, including the short segment of work to be performed in the Hudson River. The NYNHP correspondence and complete list of identified species can be found in Appendix 1-C, Agency and Stakeholder Consultations.

Based on the nature of Segment 20B cable installation activities, and due to the existing urban and industrial nature of the surrounding area, impacts to rare, threatened, or endangered species are not anticipated. Installation activities will take place within the Harlem and Hudson Rivers with little to no disturbance occurring above the water surface. Mattresses and/or rock bags will be installed away from the river shore. Should any concerns arise during Project construction, appropriate avoidance and mitigation actions will be taken to protect any identified species as recommended by the NYSDEC.

Consistent with CC 52, the Certificate Holders will 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 or any rare, threatened or endangered plant species under 6 N.Y.C.R.R. Part 193 are observed to be present in the Facility. The agencies notified will 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.

Further, the Certificate Holders will 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, in accordance with CC 51.

Protection measures, as generally described below, will be implemented to ensure minimization and mitigation of impacts to environmentally sensitive aquatic species and their habitats. These measures were taken from the 2013 BMP Document and Certificate Conditions.

- The Certificate Holders have worked closely with federal and state agencies to establish measures prior to construction to minimize impacts to aquatic species.
- All in-water work will be conducted within the applicable time window where applicable and weather permitting (or as amended and approved by the applicable regulatory agencies, as noted above).
- Environmental training for contractors and construction crews will be required.
- Spill response and mitigation procedures will be implemented in the case of any accidental spills of chemical, fuel, or other toxic materials, as discussed in Section 7.1 through 7.1.9 above.
- The Environmental/Aquatic Inspector will have the authority to modify or suspend construction if any threatened or endangered species are impacted in any way by construction activities.
- Construction machinery and equipment will be well maintained and checked daily for leaks.

Finally, in accordance with the Joint Proposal and Certificate, CHPE has established 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 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" (CC 165). This $117 million trust will provide significant environmental protection funding over a 35-year period to improve and enhance the Hudson River, among other water bodies. Thus, to the extent that construction associated with this Segment results in impacts to aquatic species or their habitat, those impacts have been mitigated as required by the Certificate.

8.0 Public Health and Safety

The following sections describe procedures for the protection of public health and safety to be implemented before, during, and following installation of the submarine cable in the Harlem River.

8.1 Protection of Navigation

Underwater activities will be undertaken in a manner that minimizes the potential for interference with navigation. To protect navigation in the Harlem River, the following measures will be implemented:

- At the request of the USCG, the Certificate Holders or their contractors will notify the USCG Sector New York (SECNY) at least five weeks (35 days) prior to commencing cable installation activities. SECNY will provide a current list of USCG Division 1 personnel, USCG SECNY personnel, and Harlem River waterway users to receive Project notifications.
- LNM will be submitted to the USCG for issuance a minimum of 30 days prior to the start of the marine field operations. A copy of the initial LNM request will be emailed to the Harlem River waterway users identified by the USCG SECNY.
- Daily work location, minimum passing clearance request, and all other relevant information will be broadcast via marine VHF radio as required by the USCG. Additionally, weekly and/or daily notifications with work location will be emailed to the Harlem River waterway users identified by the USCG SECNY.
- Courtesy notifications will be provided to emergency services and law enforcement that are local to Project operational sites (if any). Construction vessels will monitor VHF channels 13, 16, and the Project work channel during Project-related activities.
- Vessels will post standard day shapes and lighting in accordance with USCG regulations.

The Certificate Holders will continue to work with the USCG to avoid and minimize potential impacts to navigation traffic, or risks among vessel traffic, during construction. Where appropriate, CHPE will utilize additional activities to mitigate navigation risk, such as: automatic identification system (AIS) on key vessels; a 2-week look ahead schedule with VTSNY; posting the construction schedule to a public website and additional communication (email) to affected mariners beyond that already required by CHPE's federal permits.

8.2 Bridge Crossings

In accordance with CC 27, the Certificate Holders will engineer, construct, and install the cables in the Harlem River to be fully compatible with the continued operation and maintenance of affected railroads, railways, highways, roads, streets, or avenues. As defined in CC 27(c), and discussed in Section 3.3.5 (Co-Located Infrastructure) above, railroads, railways, highways, roads, streets, and avenues are not considered CI under the Certificate.

The cable route to be installed in the Harlem River traverses beneath twelve active bridges: the Third Avenue Bridge, Park Avenue Bridge, Madison Avenue Bridge, 145th Street Bridge/Harlem River Swing Bridge, Macombs Dam Bridge, High Bridge (pedestrian and bike bridge), Alexander Hamilton Bridge, Washington Bridge, University Heights Bridge, Broadway Bridge, Henry Hudson Bridge, and Spuyten-Duyvil Railroad Bridge. In the event a movable bridge needs to be opened, it will be requested during the posted operational windows of the bridge, or within a window agreed upon with the bridge operator.

Permitting requirements and specifications vary by bridge owner. The Certificate Holders are working with the various bridge owners using their internal permitting processes to obtain the necessary permits, letters of no objection, and/or crossing agreements prior to construction.

8.3 Public Water Supply Intakes

In accordance with CC 102 and 150, the New York State Department of Health (NYSDOH) was contacted to identify Public Water Systems (PWS) within the vicinity of the Harlem River Marine Segment. No water intakes were identified within the Harlem River. No PWS were identified within one mile of the CHPE alignment in the Harlem River and therefore no consultation or further action is required pursuant to CC 103, 104 105, 106, or 150.

8.4 Noise

During construction, there will be a temporary increase in noise levels; however, there will be no permanent increase to noise levels once construction is complete. Noise due to cable installation will be temporary in nature and primarily will occur at and surrounding the cable route. In addition, the Harlem River construction is occurring in a very urban area with existing noise sources surrounding the river.

Temporary noise impacts will vary due to the type of equipment in use at any given time, and due to the existing ambient noise at any given working hour and location. Table 8.1 summarizes the types of equipment to be used during construction and their standard noise level. Residents and businesses may be temporarily affected by noise from construction activities, but such impacts will be temporary and minimized to the extent practicable for the type of work involved, as confirmed in the Article VII Certificate Order.

Table 8.1 – Noise Impact Summary

Type of Equipment	Equipment Noise Level at 50 feet, dBA
Crane	81
Compressor	67
Generator	78
Winch	78

All noise generated by the construction of the Project will be temporary and, therefore, impacts on any noise receptors will also be temporary.

The following noise control measures will be employed during construction to minimize noise related impacts to nearby noise sensitive receptors:

- The installation barge is equipped with factory standard mufflers and/or best available technologies for noise-related purposes. In addition to factory standards, the following equipment has been optimized to reduce noise effects:
    - Generators with large mufflers and sound attenuated enclosures;
    - Engine and hydraulic power unit (HPU) for dynamic positioning (DP) thrusters employed with large mufflers and within enclosures;
    - Sound attenuated enclosure for water pumps; and
    - HPU for loading arms and carousels within enclosure.

Furthermore, equipment such as generators, pumps and winches are located on the interior of the barge spread(s), as feasible, which provides barriers and/or enclosures which dampen or block sound produced by that equipment. The surrounding perimeter of the barge spread is generally occupied by offices, tool containers, and other pieces of equipment or structures that may act as a barrier to reduce the "direct line of sound" to receptors.

Crane and winch operation is not expected to be utilized for extended durations at the potential maximum noise level. As such, this equipment will only produce noise during specific operations as required, which further reduces the duration of potential noise impacts from this equipment.

The Contractor will be responsible for ensuring that all construction tools and equipment have been maintained such that they operate at normal manufacturer's operating specifications, including at peak loading. The Contractor will also be responsible for identifying the schedule of activities that will take place during Project construction.

Installation operations will occur on a 24/7 schedule. Appropriate mitigation and noise suppression measures, as outlined above, will be employed to minimize impacts to surrounding areas. Appropriate mitigation and noise suppression measures, as outlined in the bulleted list above, will be employed to minimize impacts to nearby sensitive receptors if combined noise levels and proximity to sensitive receptors necessitate mitigation.

During review and approval of the CHPE Project, the PSC and the parties to the Joint Proposal acknowledged that construction of the Facility will result in temporary noise impacts, and that reasonable noise mitigation measures will be employed to minimize these impacts to the maximum extent practicable, such as by limiting noise-producing activities to daytime hours where practicable. Those minimization measures are reflected in this section of the EM&CP and are consistent with the BMPs developed for the Project during the Article VII process (see BMPs

Section 25 and Joint Proposal Paragraph 89). Certificate Condition 159(ll)'s requirement of a noise mitigation plan refers to developing such a plan to address noise sensitive sites along the Facility Right of Way (ROW) to address noise impacts during clearing, construction, and operation. The Certificate Holders submit that the scope of this EM&CP—installation of HVDC cable in the Harlem River, work which is temporary and located within an urban area—does not warrant further development of a noise mitigation plan beyond the measures already identified within the EM&CP (installing improved mufflers on equipment, utilizing low noise technologies as appropriate, etc.), and that the measures proposed are consistent with the Certificate, Joint Proposal, and BMPs as written.

8.5 Lighting

Construction operations are expected to be completed during both daylight and nighttime, as required by scheduling, safety, and/or operational purposes. Construction is taking place in a very urban environment where lighting sources are prevalent all twenty-four hours per day. During nighttime operations, deck lighting will be used to illuminate the cable installation barge. This lighting is necessary to ensure safety and security of the crew onboard the vessel. Appropriate mitigation measures will be employed as necessary to minimize impacts to abutters and nearby sensitive receptors. Lighting will be positioned and oriented inward and downward to avoid and minimize impacts to surrounding areas to the greatest extent feasible (e.g., light towers will be set up to illuminate the work area but not shine light directly in the direction of sensitive receptors adjacent to the vessel). The vessel will be equipped with all required navigation lights for safe nighttime operation which are not anticipated to impact sensitive receptors.

8.6 Electromagnetic Fields (EMF)

The transmission facility in the Harlem River has been designed and will be constructed such that, to the extent applicable, operation of the Facility will 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). The Certificate Holders will submit 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 will comply with these standards to the extent applicable. With regard to the EMF calculations for the Project, refer to 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). Refer to Appendix 8-A (Electric and Magnetic Field Assessment) and Appendix 8-B (Thermal Analysis) for an assessment of EMF and thermal discharges given the currently proposed riverbed surface installation of the Segment 20B HVDC cables.

9.0 Decommissioning

The permanent Project components involved in the Segment 20B EM&CP are below-water infrastructure, including submarine cables, CPS/APP, concrete mattresses, and grout/rock bags or similar. As such, the Certificate Holders will not remove these below-water components in the event that the Project is deenergized at some future date (CC 162k), particularly given that removal of these components may have a greater adverse impact on the environment than leaving these components in place. Given the size and scale of the proposed HVDC facility in the Harlem River, the continued presence of below-water infrastructure is not anticipated to pose a concern to the environment, future land use, and/or future utility uses following de-energizing of the Project. Therefore, the decommissioning plan for the HVDC facility in the Harlem River will be to leave all components in place (CC 162k).