



## **Appendix 3-B: Justification for Centerline and Allowed Deviation Zone Excursions**

**Champlain Hudson Power Express**

**Case 10-T-0139**

**Segment 20B EM&CP**

**Justification for Centerline and Allowed  
Deviation Zone Excursions**

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# 1 Scope and Purpose

Champlain Hudson Power Express's (CHPE's) Article VII Certificate established an Approved Facility Route, as depicted on Appendix B to the Joint Proposal, as well as an Allowed Deviation Zone (ADZ) defined in Certificate Condition 156. For the Harlem River, the ADZ shall be anywhere within the river where the water depth exceeds 10 feet at mean low water (MLW). Within the ADZ, the Certificate as written allows movement of the line away from the Approved Facility Route in any direction, so long as that movement does not bring the Facility within certain designated zones outlined in CC 156(b). However, deviations from the Approved Facility Route either in waters under 10 feet in depth or which bring the Facility within certain designated zones enumerated in CC 156(b)(1), 156(b)(2), 156(b)(3), and 156(b)(4) must be further explained and justified in the Environmental Management & Construction Plan (EM&CP) consistent with the requirements of Certificate Condition 157 for the Public Service Commission (Commission or PSC) to approve them as part of the EM&CP process.

As set forth in CC 156(b), the ADZ in the Harlem River is limited in the following circumstances:

- **New York State Department of Environmental Conservation (NYSDEC) Exclusion Zones** [CC 156(b)(1)]: The ADZ is limited to 150 feet on either side of the Approved Facility Route centerline where the high voltage direct current (HVDC) transmission system enters any of the Exclusion Zones identified on the maps contained in Appendix B to the Joint Proposal. The Certificate Holders' rights to enter into such Exclusion Zones are as follows:
  - The EM&CP must include an analysis demonstrating that there are no reasonable and feasible underwater alternatives outside of Exclusion Zones that would allow for burial to the target depth of 6 feet below present bottom; and
  - Written consent from NYSDEC must be received.
- **Cultural Resources** [CC 156(b)(2)]: Deviations greater than 150 feet from the Approved Facility Route centerline may not come within 160 feet of cultural resources identified by Lake Champlain Maritime Museum (LCMM)/CHPE in cultural resource investigations of the Harlem River segment identified in Appendix B to the Joint Proposal without the following:
  - An analysis in the EM&CP demonstrating that there are no reasonable and feasible underwater alternatives; and
  - Written consent from the New York State Office of Parks, Recreation and Historic Preservation (OPRHP)/State Historic Preservation Office (SHPO) must be received.

- **New York State Department of State (NYSDOS) Significant Coastal Fish & Wildlife Habitats (SCFWH)** [CC 156(b)(3)]: Deviations greater than 150 feet from the Approved Facility Route centerline may not result in the HVDC transmission system being located or relocated within any designated SCFWH without the following:
  - An analysis in the EM&CP demonstrating that there are no reasonable and feasible alternatives that would allow for burial to the target depth of cover of 6 feet;
  - Written consent from the NYSDEC; and
  - A written statement from the New York State Department of State (NYSDOS) stating that the deviation would not result in coastal effects that differ significantly from the coastal effects reviewed by NYSDOS in the Certificate Holders' original federal Coastal Consistency Certification or written concurrence from NYSDOS for changes requiring an amendment to the Certificate Holders' Coastal Consistency Certification.
  
- **Critical Infrastructure** [CC 156(b)(4)]: Deviations may not result in significant increase in adverse effects to critical infrastructure (CI) or other infrastructure.

Per CC 157, deviations from the location of the HVDC transmission system are allowed for appropriate environmental or engineering reasons as part of EM&CP approval so long as an explanation of the proposed deviations with supporting documentation is provided in the EM&CP.

In the Harlem River, adjustments to the Approved Facility Route centerline are necessary to achieve safe and effective installation of the submarine cable. This document describes the changes in the Harlem River route and offers the appropriate environmental or engineering reasons and/or further analysis required in CCs 156 and 157 to enable Commission approval of these excursions from the approved ADZ.

CHPE is presenting these deviations with appropriate engineering and environmental reasons (such as avoidance of impacts to identified sensitive resources, design/construction constraints, avoidance of co-located infrastructure conflicts, and the like) provided herein below.

## **2 Deviations from Approved Facility Route >150 feet Proximate to Resources Specified in CC 156(b)**

This section describes deviations of over 150 feet from the centerline as currently approved by the Commission which may cause the HVDC transmission system proximate to resources specified in CC 156(b). For the Harlem River Marine Segment, there is one deviation of over 150 feet from the centerline within a SCFWH (CC 156(b)(3)). No deviations from the centerline are proposed within Exclusion Zones, as there are no Exclusion Zones located within the Harlem River (CC 156(b)(1)). No deviations over 150 feet from the centerline are proposed within 160 feet of cultural resources identified by the Lake Champlain Maritime Museum (LCMM) (CC 156(b)(2)). No deviations over 150 feet from the centerline are proposed that would result in significant increase in adverse effects to CI or other infrastructure (CC 156(b)(4)).

The proposed departures from the Approved Facility Route centerline are justified by appropriate environmental and engineering reasons (as identified in more detail by location) and include maintaining a safe distance from Aids to Navigation (ATON) and minimizing burial within the Maintained Federal Navigation Channel (MFNC). These departures from the Approved Facility Route centerline do not create a conflict with the Certificate, and do not change the overall character or location of the Facility. For these reasons, approval of these changes is warranted under CC 156(b) and CC 157.

Table 1 below provides an overview of the route deviations for one location within the Harlem River.

The following pages provide the legend for all figures, and a figure and description of each of the proposed deviations within the Harlem River Marine Segment.

**Table 1: Route Deviations Overview**




ID	Location	MP-start	MP-end	Nearest River Mile	Length (Miles)	Reason		Unlimited ADZ Applies (i.e., Water Depth >10 FT at MLW)	Limited ADZ Applies					Justification Required in EM&CP	Written Consent Required From		
						Engineering	Environmental		>150 FT from Approved Centerline	CC 156(b)(1) New Exclusion Zone Entry	CC 156(b)(2) <160 FT from Cultural Resource	CC 156(b)(3) Within SCFWH	CC 156(b)(4) Adverse CI Effects		NYSDEC	NYSHPO	NYSDOS
HAR #1	Spuyten Duyvil Bridge	0.058	0.073	14 (Hudson)	0.015	•		Yes	Yes	No	No	Relocated Within	No	Yes	(b)(3)		•







## Legend / Symbology:

### LEGEND




#### ROUTE

-  Proposed Route
-  Permitted Route
-  +/- 150 feet Permit Corridor

#### CONSENTS AND PERMITTING

-  New York State Border
-  Significant Coastal Fish Wildlife Habitat
-  DEC Exclusion Zones
-  Navigation maintained channels


#### EXISTING ASSETS AND RESOURCES

-  Heritage Resources / Avoidance Areas
-  Water Intake
-  Utility Crossings
-  HDD Design ~~Cementon~~
-  Splice Locations
-  Navigational USCG Buoy
-  Potential Dredging Area

#### BATHYMETRY

Bathymetry - Water Depth (feet)




Value

-  -177.529 - -150
-  -149.999 - -120
-  -119.999 - -90
-  -89.999 - -60
-  -59.999 - -30
-  -29.999 - 0

#### NAVIGATIONAL RISK ASSESSMENT




NRA between 0 and 3500 DWT

7ft

-  0.000001 - 41.000000
-  41.000001 - 101.000000
-  101.000001 - 1001.000000




NRA between 15000 and 40000 DWT

F7ft

-  0.000001 - 41.000000
-  41.000001 - 101.000000
-  101.000001 - 1001.000000




NRA between 3500 and 15000 DWT

F7ft

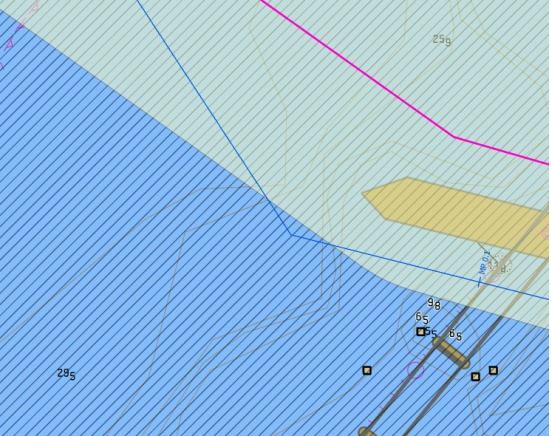
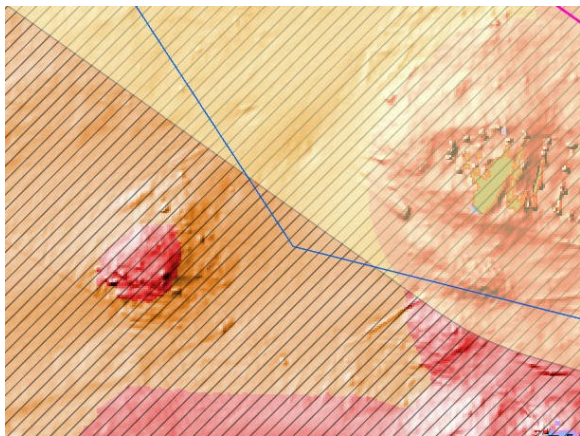
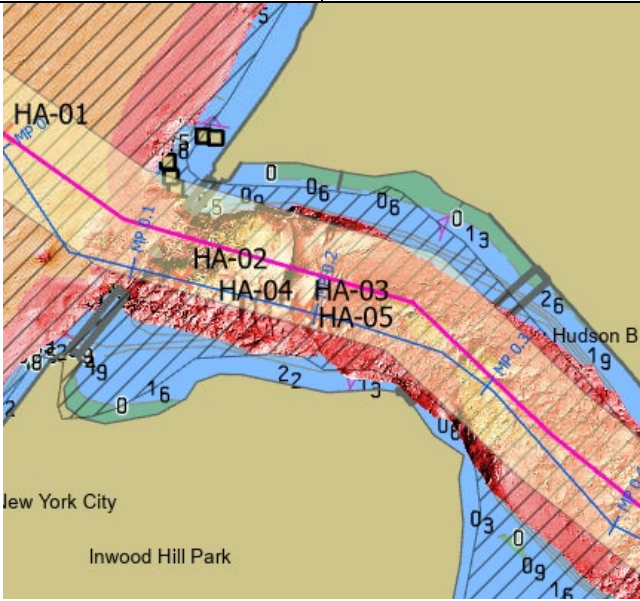
-  0.000001 - 41.000000
-  41.000001 - 101.000000
-  101.000001 - 1001.000000

NRA between 40000 and 60000 DWT

F7ft

-  0.000001 - 41.000000
-  41.000001 - 101.000000
-  101.000001 - 1001.000000

<b>ID:</b>	<b>HAR #1 Lower Hudson Reach SCFWH</b>		
Location	MP Start	MP End	Length (Miles)
Spuyten Duyvil Bridge	0.058	0.073	0.015
Image: Spuyten Duyvil Bridge		River Mile: 14 (Hudson)	



**Description:**

Near the northern terminus of the Segment, the cable route traverses through one SCFWH, the Lower Hudson Reach. Installation through this SCFWH cannot be avoided and was approved under the Certificated Route—however, because this relocation within the previously approved SCFWH is greater than 150 feet, CHPE is requesting approval of this deviation out of an abundance of caution.

The proposed route is moved to the south of the Certificated route, south of the Spuyten-Duyvil center bridge pier/abutment. The riverbed on the north side of the center bridge pier is uneven, presenting challenges to installation. On the south side of the center bridge pier, survey data shows smooth bathymetry, which allows the cable to be installed in a stable area where relatively high currents are present. The smooth riverbed is preferred from an engineering and installation feasibility standpoint.

The installation vessel requires ample space relative to the Spuyten-Duyvil Bridge pier to make the turn to the east, resulting in a deviation from the Certificated Route >150 feet.

This deviation is justified by engineering reasons (avoidance of uneven river bottom).

**Figure A HAR #1 Lower Hudson Reach SCFWH**

## 4 List of References

<b>Ref.</b>	<b>Distributor</b>	<b>Document Title</b>	<b>Document Number</b>
[01]	NKT	Route Position List_D – CHPE-RPL-Rev10.4	1AA0595332