NEW YORK STATE PUBLIC SERVICE COMMISSION
401 WATER QUALITY CERTIFICATION

Pursuant to:	Section 401 of the Federal Water Pollution Control Act, 33 U.S.C. § 1341, and Article VII of the New York Public Service Law
Certification Issued to:	Champlain Hudson Power Express, Inc. CHPE Properties, Inc. Pieter Schuyler Bldg. 600 Broadway Albany, New York 12207

Location of Facility

Champlain Hudson Power Express, Inc. and CHPE Properties, Inc. (collectively, "CHPE") proposes to construct, operate, and maintain a new 1,000 megawatt ("MW") high-voltage direct current ("HVDC") underwater/underground electric transmission facility ("HVDC Transmission System"). The HVDC Transmission System will interconnect with the transmission system of Hydro Quebec and will run from the Canadian border east of the Town of Champlain, New York to Astoria, Queens, New York ("Astoria"). The approximately three hundred thirty two (332) mile HVDC Transmission System will connect with an HVDC converter station at Astoria to be owned by CHPE. From the converter station will be connected by an underground 345 kV HVAC circuit to a gas insulated switchgear substation owned or to be owned by the New York Power Authority on property owned by the Consolidated Edison Company of New York, Inc. at Astoria. A 345 kV HVAC circuit will extend from the GIS Substation to Con Edison's 345 kV Rainey Substation located on the corner of 36th Avenue and Vernon Boulevard in Queens, New York (the "Astoria-Rainey Cable"). The HVDC Transmission System and the Astoria-Rainey Cable are referred to collectively herein as the "Facility." The details and justification for the Facility are contained in the administrative record in Case 10-T-0139.

Facility Description

The record in the proceeding on CHPE's application, as supplemented, for a Certificate of Environmental Compatibility and Public Need under Article VII of the New York Public Service Law ("PSL") has fulfilled the requirements necessary to determine whether the Facility will qualify for issuance of a Water Quality Certification ("Certification") pursuant to § 401 of the Clean Water Act (33 U.S.C. §§ 1251-1387). The Facility cables will be located primarily underwater within the lake- and riverbeds of New York waterways, including Lake Champlain and the Hudson, Harlem and East Rivers, with some segments of the Facility route being sited overland. Overland Facility segments will consist primarily of cable installations buried along: (a) existing railroad rights-of-way; and (b) existing roadway rights-of-way. In addition, to cross the Hudson

River at Fort Edward, the Mohawk River at Schenectady and Catskill Creek, the cables will be located in conduits to be attached to existing railroad bridge structures.

For the overland segments of the Facility, the cables will be buried via excavated trenches or Horizontal Directional Drilling ("HDD") methods. For underwater cable installation, the primary methods for installation will be jet plowing and/or shear plowing. Underwater cable installation techniques will vary based on a number of factors, including, but not limited to, sediment type, bathymetry, and existing infrastructure crossings.

Where the overland segments of the Facility route encounter streams and/or wetlands, the following methods may be used to minimize impacts: (a) flume crossing; (b) dam and pump; (c) HDD or Jack and Bore ("J&B"); and (d) open cut. The waterbody crossing methods are further described in the Facility's Best Management Practices documentation, which is used in the preparation of the Environmental Management and Construction Plan ("EM&CP"). Adherence to the EM&CP, required to be filed for approval by the New York State Public Service Commission ("Commission") as a condition of the Public Service Law Article VII Certificate of Environmental Compatibility and Public Need ("Article VII Certificate") in Case 10-T-0139, will serve to protect these resources.

Construction of the Facility will be in accordance with the Article VII Certificate and approved EM&CP.

Certification

The Commission hereby certifies, pursuant to § 401 of the Clean Water Act (33 U.S.C. § 1341(a)(1)) and Article VII of the PSL, that the Facility, as conditioned herein, complies with applicable requirements of §§ 301, 302, 303, 306 and 307 of the Clean Water Act as amended, and applicable New York State water quality standards, limitations, criteria, and other requirements set forth in 6 NYCRR § 608.9(a) and Parts 701 through 704, provided that all of the conditions listed herein are met. This Certification is issued in conjunction with the Article VII Certificate sought by CHPE in, and based on the record of, Case 10-T-0139.

Conditions

1. No in-water work shall commence until all pre-construction conditions related to such work contained in the Article VII Certificate and any Order approving the EM&CP for each affected Segment EM&CP have been met to the satisfaction of the New York State Department of Public Service ("DPS").

2. Construction and operation of the Facility shall at all times be in conformance with: (a) the Application (as amended and supplemented) and Joint Proposal of Settlement filed in Case 10-T-0139 to the degree not superseded by the Article VII Certificate, (b) all conditions of approval contained in the Article VII

Certificate, (c) the EM&CP, and (d) all conditions incorporated in any Order approving the EM&CP in Case 10-T-0139, to the extent such documents referenced in (c) and (d) above pertain to CHPE's compliance with New York State Water Quality Standards necessary and appropriate for issuance of, and compliance with, this Certification.

3. CHPE shall provide a copy of this Certification to the United States Army Corps of Engineers ("USACE"), as well as a copy of the Application, Joint Proposal, Article VII Certificate (when issued) EM&CP and Order(s) approving the EM&CP (when issued) in Case 10-T-0139, so that the USACE will have a complete record of the conditions that apply hereto.

4. CHPE shall provide all construction contractors performing work on the Facility complete copies of this Certification, the Article VII Certificate, the approved EM&CP, and Orders(s) approving the EM&CP for each Facility segment.

Classified Streams and Wetland Crossings Installation

5. For overland installation, no site preparation work shall be undertaken until all required erosion control measures have been installed.

6. During overland cable installation in all waters of the State, including classified streams and wetlands, there shall be no visible increase in turbidity that causes a visible contrast to background conditions forty (40) feet downstream of the installed cable centerline.

7. CHPE shall employ measures sufficient to prevent contamination of the waters of the State by silt, sediment, fuels, drilling fluids, concrete, leachate or any other pollutant associated with the installation of the Facility.

8. All in-stream work, as well as any work that may result in the suspension of sediments, is prohibited in all streams designated as "C(T)" and "C(TS)" streams during the trout spawning and incubation period commencing October 1 and ending May 31st.

9. Any debris or excess materials caused by the construction of the Facility shall be immediately and completely removed from the bed and banks of all water areas and transported to an appropriate upland area for disposal.

Lake and River Installation

10. Underwater construction in Lake Champlain and the Hudson, Harlem and East Rivers (including jet-plow and shear-plow trials) and pre-installation route clearing activities (including pre-lay grapnel run and associated obstruction and debris removal) shall occur within the construction windows set forth in Table 1 in the Article VII Certificate.

11. The following in-water activities may be undertaken at any time: physical, biological, geotechnical and cultural resource sampling, surveying and testing; marine surveys, mobilization and demobilization of vessels and equipment used for cable installation and cofferdam construction; cofferdam and steel casing rise pipe construction; dredging of cofferdams provided that the walls of the cofferdam extend above mean high water during dredging; HDD associated with either of the two foregoing items; post-installation surveys and sampling; locating and marking utility crossings and work to effect utility crossings; and, with prior notice to the DPS, the New York State Department of Environmental Conservation ("NYSDEC"), and the New York State Department of Health ("NYSDOH") emergency maintenance work.

12. During the jet plow and shear plow trials and underwater cable installation, CHPE shall implement the Suspended Sediment/Water Quality Monitoring Plan (hereinafter the "Water Quality Monitoring Plan"), to be developed pursuant to the approved Suspended Sediment / Water Quality Monitoring Plan Scope of Study included as Attachment 1 to the Article VII Certificate . CHPE shall operate the jet plow and shear plow in accordance with the operating conditions determined through the jet plow and shear plow trials described in the Water Quality Monitoring Plan to minimize suspension of *in situ* sediment, subject to the limitation of Condition 14(c), below.

13. If the jet plow trials demonstrate that the preferred operating conditions result in real-time, total suspended solids ("TSS") concentrations, measured five hundred (500) feet down-current of the jet plow, exceeding the TSS concentrations at an up-current background station by more than two hundred (200) milligrams per liter ("mg/L"), CHPE shall report such conditions to the Aquatic Inspector and work with DPS and NYSDEC to evaluate and implement modifications to the plow operating conditions to further reduce *in-situ* sediment suspension associated with the single pass installation procedure. If the shear plow trials demonstrate that the preferred operating conditions result in real-time TSS concentrations, measured five hundred (500) feet down-current of the shear-plow in the southern portion of Lake Champlain (south of Crown Point), exceeding the TSS concentrations at an up-current background station by more than one hundred (100) mg/L, CHPE shall report such conditions to the Aquatic Inspector and work with DPS and NYSDEC to evaluate and implement modifications to the plow operating conditions to further reduce in-situ sediment suspension associated with the single pass installation procedure. CHPE shall not utilize the jet plow or shear plow until they have demonstrated to the satisfaction of DPS staff their ability to achieve the TSS standards established herein through test trials.

14. Water Quality

    a. During jet plow and shear plow cable installation, CHPE shall sample and

measure turbidity (in units of Nephelometric Turbidity Units ("NTU")), TSS, hardness, and the concentrations of the chemical constituents identified in the table provided in Condition 14(d) below, within the water column of Lake Champlain and the Hudson, Harlem and East Rivers outside the effects of the installation event (the up-current background station) and down-current of the operating jet plow and shear plow described in the Water Quality Monitoring Plan. Up-current samples shall be collected at a location five hundred (500) feet up-current of the cable installation outside the effect of the jet plowing and shear plowing. Down-current samples shall be collected five hundred (500) feet down-current of the jet plow and shear plow. Samples shall be collected at near-surface, mid-depth, and near-bottom at each sampling location. Measured levels of metals shall be reported both as totals and as dissolved fractions, except mercury, which shall be reported as total mercury.

b. Suspended sediment plume monitoring and water quality monitoring shall be conducted at the locations and frequency set forth in the Water Quality Monitoring Plan.

c. If, during underwater cable installation, TSS concentrations monitored or measured at five hundred (500) feet down-current of the installation exceed TSS concentrations at an up-current background station by more than two hundred (200) mg/L or more than one hundred (100) mg/L in the southern portion of Lake Champlain (south of Crown Point), the Aquatic Inspector shall be immediately notified. CHPE also must attempt to notify the NYSDEC and DPS within twenty four (24) hours of any such TSS exceedance. CHPE shall immediately employ one or more of the following environmental protection measures: changing the rate of advancement of the jet plow or shear plow, modifying hydraulic pressures, or implementing other reasonable operational controls that may reduce suspension of *in-situ sediments*. If CHPE proposes to employ mitigation measures not otherwise provided for in this paragraph, they must first consult with the DPS, NYSDEC, and the Aquatic Inspector. In the event that DPS determines that the mitigation techniques are unable to reduce TSS concentrations below the maximum allowable threshold, underwater cable installation shall be suspended and CHPE shall consult with DPS and NYSDEC regarding alternative cable installation techniques. Nothing in this subsection is intended to require that cable installation methods be modified to prevent burial of the cables in a single trench to the depths specified in the Article VII Certificate through a single installation pass.

d. During underwater cable installation, the concentrations of the chemical constituents listed below (Table 1), as measured in the samples collected five hundred (500) feet down-current of the cable installation activities, shall not exceed the greater of: (A) the levels set forth below or (B) 1.3 times the highest ambient background level measured during the prior twenty four

(24) -hour sampling period up-current of the installation at the same depth as the down-current sample.

Table 1. Underwater Cable Installation Water Quality Standards

Route Mile	Water Body Class	Contaminant	Standard	Unit	Method	Reporting Limit
0-73.5	AA	Dissolved Arsenic	340	ug/l	EPA 200.7	10
		Dissolved Copper	calculate using measured hardness and (0.96) exp(0.9422 [ln (ppm hardness)] - 1.7)	ug/l	EPA 200.7	2
		Dissolved Zinc	calculate using measured hardness and 0.978 exp(0.8473 [ln(ppm hardness)] + 0.884)	ug/l	EPA 200.7	2
73.5-101.7	B	Dissolved Arsenic	340	ug/l	EPA 200.7	10
		Dissolved Copper	calculate using measured hardness and (0.96) exp(0.9422 [ln (ppm hardness)] - 1.7)	ug/l	EPA 200.7	0.1*
		Dissolved Zinc	calculate using measured hardness and 0.978 exp(0.8473 [ln(ppm hardness)] + 0.884)	ug/l	EPA 200.7	2
228.5-272.3	A	Phenanthrene*	45	ug/l	EPA 8270C	0.02
		Dissolved Cadmium	5	ug/l	EPA 200.7	0.02*
		Dissolved Copper	200	ug/l	EPA 200.7	0.1*
		Dissolved Lead	50	ug/l	EPA 200.7	0.02*
		Total Mercury	0.7	ug/l	EPA 1669	0.001
		Total PCBs	0.09	ug/l	EPA 8082	0.005*
272.3-290.3	B	Dissolved Arsenic	340	ug/l	EPA 0.7	10
		Dissolved Cadmium	calculate using measured hardness and (0.85) exp(1.128 [ln (ppm hardness)] - 3.6867)	ug/l	EPA 200.7	0.02*
		Dissolved Copper	calculate based on measured hardness using (0.96) exp(0.9422 [ln (ppm hardness)] - 1.7)	ug/l	EPA 200.7	0.1*

		Dissolved Lead	calculate using measured hardness and {1.46203 - [ln (hardness) (0.145712)]} exp (1.273 [ln (hardness)] - 1.052)	ug/l		0.02*
		Phenanthrene*	45	ug/l	EPA 8270C	0.02
		Dissolved Mercury	1.4	ug/l	EPA 1669	0.001
		Total PCBs	0.2 per aroclor	ug/l	EPA 8082	0.005*
290.3-324.0	SB	Dissolved Arsenic	63	ug/l	EPA 200.7	10
		Dissolved Cadmium	7.7	ug/l	EPA 200.7	0.02*
		Dissolved Copper	7.9	ug/l	EPA 200.7	0.1*
		Dissolved Lead	204	ug/l	EPA 200.7	0.02*
		Phenanthrene*	14	ug/l	EPA 8270C	0.02
		Total Mercury	0.05***	ug/l	EPA 1669	0.001
		Total PCBs	0.2 per aroclor	ug/l	EPA 8082	0.005*
324.1-332.5	I	Dissolved Arsenic	36	ug/l	EPA 200.7	10
		Dissolved Cadmium	7.7	ug/l	EPA 200.7	0.02*
		Dissolved Copper	7.9	ug/l	EPA 200.7	0.1*
		Dissolved Lead	204	ug/l	EPA 200.7	0.02*
		Phenanthrene*	14	ug/l	EPA 8270C	0.02
		Total Mercury	0.05***	ug/l	EPA 1669	0.001
		Total PCBs	0.2 per aroclor	ug/l	EPA 8082	0.005*

* Assumes low level analysis, compared to standard level
** Phenanthrene will be used as an indicator for the total concentration of Polycyclic Aromatic Hydrocarbons (PAHs).
*** Standard based on General Level Currently Achievable described in TOGS 1.3.10.

e. All water quality laboratory analyses required in this Certification must be conducted by a laboratory certified by the NYSDOH.

f. If the compliance criteria described in clause 14(d) above are exceeded at any time during the installation, additional water quality sampling shall take place at the location of the exceedance as described in the Water Quality Monitoring Plan.

g. Hardness shall be measured in each water quality sample collected. The analytical results for hardness shall be applied to calculate the standards for dissolved copper, dissolved zinc, dissolved cadmium, and dissolved lead where necessary, as described in clause 14(d) above.

15. Changes in the Conditions of the Water Quality Certification, if proposed by the date on which the proposed Environmental Management and Construction Plan (EM&CP) is filed, shall be reviewed together with the proposed EM&CP. Changes in the Conditions of the Water Quality Certification shall be governed by Condition 158 of the Article VII Certificate governing changes to the approved EM&CP.

16. Nothing in this Certification shall limit either (i) the authority of the DEC to monitor the environmental and health impacts resulting from the construction and operation of the Facility and to enforce applicable provisions of the Environmental Conservation Law (including those which provide for summary abatement authority) and applicable implementing regulations governing the environmental and health impacts resulting from such construction and operation, or (ii) any defenses to such enforcement that CHPE may be able to assert under applicable law.

Certified by:

1-18-2013
Date

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