ATTACHMENT L

Environmental Questionnaire

U.S. Army Corps of Engineers

ENVIRONMENTAL QUESTIONNAIRE

This is intended to supplement ENG Form 4345, Application for Department of the Army Permit, or the Joint Application for Permit used in the State of New York. Please provide complete answers to all questions below which are relevant to your project. Any answers may be continued on separate sheet(s) of paper to be attached to this form.

PRIVACY ACT STATEMENT

The purpose of this form is to provide the Corps of Engineers with basic information regarding your project. This information will be used to facilitate evaluation of your permit application and for public dissemination as required by regulation. Failure to provide complete information may result in your application being declared incomplete for processing, thereby delaying processing of your application.

GENERAL - APPLICABLE TO ALL PROJECTS

1. Explain the need for, and purpose of, the proposed work.

The Project consists of a 1,000 megawatt (MW) underwater/underground HVDC electric transmission system extending from the international border between Canada and the United States to Queens, New York. The Applicants propose to develop the CHPE Project to deliver clean sources of power to New York City.

The stated purposes of the Project include the following:

- Provide 1,000 MW of primarily carbon-neutral source electricity to New York City without contributing to additional congestion on the electric grid entering the city;
- Provide significant new transmission infrastructure into New York City without the aesthetic impacts associated with traditional overhead transmission projects;
- Place downward pressure on the price of electricity in the Location Marginal Price (LMP) spot markets operated by New York ISO in the New York City area;
- Reduce air pollution and greenhouse gas (GHG) emissions within and/or affecting New York City;
- Improve stability of the electric grid serving the New York City area due to the highly reliable and controllable nature of HVDC technology; and
- Reduce the dependency of the New York City region on fossil fuels, such as imported oil.

2. Provide the names and addresses of property owners adjacent to your work site (if not shown on the application form or project drawings).

(Please note that depending upon the nature and extent of your project, you may be requested to provide the names and addresses of additional property owners proximate to your project site to ensure proper coordination.)

See spreadsheet provided with the Supplemental Application submitted in February of 2012.

3. Photographs of the project site should be submitted. For projects in tidal areas, photographs of the waterway vicinity should be taken at low tide. Using a separate copy of your plan view, indicate the location and direction of each photograph as well as the date and time at which the photograph was taken. Provide a sufficient number of photographs so as to provide a clear understanding of conditions on and proximate to your project site.

The route is depicted on a series of aerial imagery maps included as Attachment C of the Supplemental Application submitted in February of 2012.

4. Provide a copy of any environmental impact statement, or any other environmental report which was prepared for your project.

As part of the settlement proceedings conducted pursuant to the State of New York's Article VII process, a report entitled "Environmental Impacts Associated with Routing Proposed in Joint Proposal" was prepared. This document is provided as Attachment N of the Supplemental Application submitted in February of 2012.

5. Provide a thorough discussion of alternatives to your proposal. This discussion should include, but not necessarily be limited to, the "no action" alternative and alternative(s) resulting in less disturbance to waters of the United States. For filling projects in waters of the United States, including wetlands, your alternatives discussion should demonstrate that there are no practicable alternatives to your proposed filling and that your project meets with current mitigation policy (i.e. avoidance, minimization and compensation).

The Applicants had previously discussed alternative routing in Appendix D of the Application submitted in December of 2010. An updated alternatives analysis is provided in Attachment I of the Supplemental Application submitted in February of 2012.

DREDGING PROJECTS

Answer the following if your project involves dredging.

1. Indicate the estimated volume of material to be dredged and the depth (below mean low water) to which dredging would occur. Would there be overdepth dredging?

As detailed in the Project Purpose and Description provided in Attachment A of the Supplemental Application, dredging will be required in seven locations where cofferdams are needed to facilitate the cables transition from water to land (vice-versa) via HDD installation techniques. Temporary cofferdams associated with the offshore entry/exit hole at HDD locations are expected to be rectangular in shape with dimensions of approximately sixteen (16) feet by thirty (30) feet or 480 square feet. The area inside the cofferdam will be dredged to create an entry/exit pit typically six (6) feet deep. Table 1 shows the expected impacts from dredging associated with cofferdams.

TABLE 1
IMPACTS OF COFFERDAM INSTALLATION AT HDD LOCATIONS ALONG THE SUBMARINE ROUTE

Corresponding Submarine Route Map	Milepost	Waterbody	Cofferdam Dimensions (Square Feet)	Volume of Dredged Material[1] (Cubic Yards)
26-27	101.3	Lake Champlain	480	107
28	228.4	Hudson River	480	107
45	295.5	Hudson River	480	107
46	302.8	Hudson River	480	107
53	330.3	Harlem River	480	107
54	331.6	East River[2]	480	107
54	332.5	East River	480	107
Total			**3,360**	**747**

[1] Volume of fill material at cofferdam locations is expected to be the same as the volume of dredged material at cofferdam locations. Fill will consist of clean sand.

[2] Currently there are 2 HDD locations proposed within the East River; however, 1 of the locations is located in an area characterized by deep, swift water. Therefore, a cofferdam may not be feasible and an alternative method may be utilized for this HDD location.

2. You can apply for a ten-year permit for maintenance dredging. If you wish to apply for a ten-year permit, please provide the number of additional dredging events during the ten-year life of the permit and the amount of material to be removed during future events.

No maintenance dredging is required for this Project.

3. Indicate of your drawings the dewatering area (if applicable) and disposal site for the dredged material (except landfill sites). Submit a sufficient number of photographs of the dewatering and disposal sites as applicable so as to provide a clear indication of existing conditions. For ten-year maintenance dredging permits, indicate the dewatering/disposal sites for future dredging events, if known.

Trench spoil will be brought to the surface and placed on barges for approved disposal. Trench spoil will not be used for backfill. This work will most likely occur from spud barges, although anchor-moored or jack-up barges may also be employed, depending upon equipment availability and site conditions. A typical spud dredge barge will be equipped with two or more legs, with one spud being a walk-away spud. The barge will have a crane, typically outfitted with a 6 to 9 cubic yard clamshell bucket. Alternatively, the barge may have a track hoe excavator working off the deck of the barge, possibly with an extended boom for areas of deeper water. Once a segment of trench is excavated, cable will be laid, and the clam-shell dredge or excavator will place clean backfill sediment back into the trench.

4. Describe the method of dredging (i.e. clamshell, dragline, etc.) and the expected duration of dredging.

A closed (i.e., sealed) environmental (clamshell) bucket with sealing gaskets or an overlapping sealed design at the jaws and seals or flaps positioned at locations of vent openings shall be used to minimize sediment suspension at the dredging site for fine

grained unconsolidated (silty) sediments and for dredging across or within Federal Navigation Channels. Seals or flaps designed or installed at the jaws and locations of vent openings will tightly cover these openings while the bucket is lifted through the water column and into the barge, and the closed environmental (clamshell) bucket dredge shall be equipped with sensors to ensure complete closure of the bucket before lifting through the water. Due to the relatively small size of the area to be dredged (approximately sixteen (16) feet by thirty (30) feet to a depth of six feet), dredging activities are expected to be completed in a week or less.

5. Indicate the physical nature of the material to be dredged (i.e. sand, silt, clay, etc.) and provide estimated percentages of the various constituents if available. For beach nourishment projects, grain size analysis data is required.

A marine route survey was conducted in the Spring of 2010 (see Attachment E of the December 2010 USACE Application). Physical and chemical characterization of the sediments at the proposed cofferdam locations indicates that the soils are expected to consist primarily of fine grain silts and clays.

6. Describe the method of dredged material containment (i.e. hay bales, embankment, bulkhead, etc.) and whether return flow from the dewatering/disposal site would reenter any waterway. Also indicate if there would be any barge overflow.

Trench spoil will be brought to the surface and placed on barges for approved disposal. This work will most likely occur from spud barges, although anchor-moored or jack-up barges may also be employed, depending upon equipment availability and site conditions. A typical spud dredge barge will be equipped with two or more legs, with one spud being a walk-away spud. The barge will have a crane, typically outfitted with a 6 to 9 cubic yard clamshell bucket. Alternatively, the barge may have a track hoe excavator working off the deck of the barge, possibly with an extended boom for areas of deeper water. Barge overflow is prohibited under the terms of the Applicants' settlement agreement under the New York State Public Service Commission's Article VII process.

BULKHEADING / BANK STABILIZATION / FILLING ACTIVITIES

Answer the following if your project includes construction of bulkheading (also retaining walls and seawalls) with backfill, filling of waters/wetlands, or any other bank stabilization fills such as riprap, revetments, gabions, etc.

1. Indicate the total volume of fill (including backfill behind a structure such as a bulkhead) as well as the volume of fill to be placed into waters of the United States. The amount of fill in waters of the United States can be determined by calculating the amount of fill to be placed below the plane of spring high tide in tidal areas and below ordinary high water in non-tidal areas.

In addition to the fill associated with the dredging of cofferdams, in areas where the cables cannot be buried based on existing geology of lake/river bed (i.e., exposed or near surface bedrock) or presence of existing infrastructure, the cables will be laid on the lake/river bed with protective coverings consisting of material such as grout pillows and/or concrete mattresses. Table 2 summarizes the estimates of permanent fill associated with each

existing utility crossings and areas of exposed or near surface bedrock known to the Applicants. The estimates for volume of permanent fill for utility crossings should be considered conservative as the Applicants do not know the precise location of the utilities within the designated utility area and it is likely that it will not be necessary to install non-burial protections for the entire length of the utility corridor. The Applicants believe that the impacts associated with fill for non-burial protection over natural bedrock should be classified as temporary, because, the functional (valuable) habitat that will develop on the mattresses will be similar in composition to pre-existing conditions (i.e., hard surface habitat). The assumptions that went into these estimates are provided in Section 5 of the Project Purpose and Description provided in Attachment A of the Supplemental Application

TABLE 2
IMPACTS FROM NON-CABLE BURIAL AREAS REQUIRING PROTECTIVE COVERINGS ALONG THE SUBMARINE ROUTE

Crossing	Number of Crossings	Area of Fill* (Square Feet)	Volume of Fill* (Cubic Yards)
Utility Crossings	26	1,286,948	22,343
Exposed/Surface Bedrock Crossings	13	863,255	32,953
Total	**39**	**2,150,203**	**55,296**

* Areas and volumes of permanent fill associated with non-burial cable protection is based on the assumed (conservative) dimensions (LxWxH) shown in Table 5.1.3.

In terms of expected fill in wetlands, to avoid thermal damage, the cables need to be surrounded by material with a low thermal resistivity. In locations where native material is suitable (e.g., fine grained material and material without organics), the excavated material will be replaced into the trench after boulders and large cobbles have been removed. Where the native material is unsuitable (wet clay, silt, organic matter or material having large cobbles), an appropriate backfill such as low thermal resistivity uniformly graded sand or low density concrete will be placed in the trench. In some locations where the risk of dig-in or damage is higher, a protective cover of Stork Board or a similar HDPE plate designed for utility protection and marking will be utilized. Marker tape will be placed one (1) to two (2) feet above the cables where Stork Board or a similar protection is not utilized. A layer of topsoil will be installed in the top six (6) inches of the trench.

To provide a reasonable estimate of permanent fill, overland trenches were assumed to have a width of four (4) feet and a depth of five (5) feet. Information from the National Resource Conservation Service (NRCS) Soil Series Maps was reviewed for individual wetlands to identify broad soil characteristics typical of soils having unacceptable thermal resistivity. For wetlands with a suitable thermal resistivity (e.g. soils classified as “PSS” types, fine sandy loam), it was assumed that two feet of thermal material would be layered in the trench and the remainder would be native soils and topsoil. For wetlands with other soil types, it was assumed that the trench would be filled with thermal material until the upper six (6) inches, where topsoil would be laid. Table 3 presents the expected impacts to wetlands due to the use of permanent fill during the cable installation activities. The assumptions that went into these estimates are provided in Section 5 of the Project Purpose and Description provided in Attachment A of the Supplemental Application

TABLE 3
EXPECTED PERMANENT FILL INTO WETLANDS DURING CABLE INSTALLATION ACTIVITIES ALONG THE OVERLAND ROUTE

Overland Route Segment	Permanent Fill (Cubic Yards)
Route 22	243
Whitehall to Rotterdam (CP Railroad)	3,192
Rotterdam to Selkirk (CSX Railroad)	3,629
Selkirk to Cementon (CSX Railroad)	12,160
Haverstraw Bay Bypass (CSX Railroad)	3
Total	**19,228**

2. Indicate the source(s) and type(s) of fill material.

All cofferdams and any other dredged area shall be backfilled with clean material.

3. Indicate the method of fill placement (i.e. by hand, bulldozer, crane, etc.). Would any temporary fills be required in waterways or wetlands to provide access for construction equipment? If so, please indicate the area of such waters and/or wetlands to be filled, and show on the plan and sectional views.

During construction, spoil will be stored within the construction corridor immediately adjacent to the trench or within designated extra work areas. The Applicants will avoid and/or minimize the storage of spoil within wetlands; however, due to the space constraints along the railroad ROW, it is anticipated that some spoil storage in wetland areas may be required. In these areas, soil to be used to backfill the trench will be stockpiled for a short period on construction matting or geo-textile fabric with a layer of gravel, which would represent temporary fill.

For the purposes of this calculation, the Applicants reviewed available data to determine the likely extent of the construction zone, spoil zone, or auxiliary access roadways which would be located within each wetland. The depth of temporary fill, which would include the anticipated geo-technical materials plus gravel, was assumed to be six (6) inches. However, it should be noted that construction will also be occurring during months when the wetlands will be frozen or not saturated. Table 4 presents the expected impacts to wetlands due to the use of temporary fill during the cable installation activities. The assumptions that went into these estimates are provided in Section 5 of the Project Purpose and Description provided in Attachment A of the Supplemental Application.

TABLE 4
EXPECTED TEMPORARY FILL INTO WETLANDS DURING CABLE INSTALLATION ACTIVITIES ALONG THE OVERLAND ROUTE

Overland Route Segment	Temporary Fill (Cubic Yards)
Route 22	169
Whitehall to Rotterdam (CP Railroad)	5,281
Rotterdam to Selkirk (CSX Railroad)	3,997
Selkirk to Cementon (CSX Railroad)	10,917
Haverstraw Bay Bypass (CSX Railroad)	0
Total	**20,364**