Comment 819

"CHPE Draft EIS" Comments / Public Notice NAN-2009-01089-EYA

Susan Filgueras
87 Mott Farm Rd
Tomkins Cove, NY 10986
845-429-3229

"CHPE Draft EIS" Comments / Public Notice NAN-2009-01089-EYA

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Mr. Brian Mills
Office of Electricity Delivery and Energy Reliability (OE-20),
U.S. Department of Energy,
1000 Independence Avenue, SW,
Washington, DC 20585;

via e-mail to Brian.Mills@hq.doe.gov;
by facsimile to (202) 586-8008;
Please mark envelopes and e-mail subject lines as **"CHPE Draft EIS Comments."**

Written comments must be received by **January 15, 2013**. Comments submitted after that date will be considered to the extent practicable.

Please Title your response: USACE: Public Notice #NAN-2009-01089-EYA & DOE: "CHPE Draft EIS Comments"

Your e-mail or phone call or fax or e-mail can be sent to:

Mr. Brian Mills
Department of Energy
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Washington, DC 20585
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Brian.Mills@hq.doe.gov

Jodi M. McDonald
USACE Chief, Regulatory Branch
New York District
U.S. Army Corps of Engineers
26 Federal Plaza, Room 1937
New York, NY 10278
917-790-8092
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Susan Filgueras

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Just Say No! to the Champlain Hudson Power Express, **Susan Filgueras, 845-429-3229**

"CHPE Draft EIS" Comments / Public Notice NAN-2009-01089-EYA

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BEFORE THE
PUBLIC SERVICE COMMISSION
STATE OF NEW YORK

1-16-2014 Case 13-ET

Verified Petition Of Champlain Hudson Power Express, Inc. And CHPE Properties, Inc. Requesting A Declaratory Ruling That The Companies Are Subject A Lightened Regulatory Regime, And A Declaratory Ruling That A Prior Transfer Of Ownership Did Not Require Commission Approval Or In The Alternative Approving Such Transfer

VERIFIED PETITION OF CHAMPLAIN HUDSON POWER EXPRESS, INC. AND CHPE PROPERTIES, INC. REQUESTING A DECLARATORY RULING THAT THE COMPANIES ARE SUBJECT TO A LIGHTENED REGULATORY REGIME, AND A DECLARATORY RULING THAT A PRIOR TRANSFER OF OWNERSHIP DID NOT REQUIRE COMMISSION APPROVAL OR IN THE ALTERNATIVE APPROVING SUCH TRANSFER

Rockland County Resolution

2010-Public Hearing Notices

2012 Public Hearing Notices – April 12, 2012

Ownership Documents, verification of Canadian ownership

2-27-2012 CSX Design and Construction Standard Specifications (Joint Proposal exhibit)

3-6-2012 Preferred Alternative Trajectory- e-mail William S. Helmer to Dr. Pell

6-14-2012 -USACE to Brian Mills DOE- how many other transmission lines on row?

6-19-2012 Rockland County Resolution –Opposing CHPE

7-2012- CHAMPLAIN HUDSON POWER EXPRESS PROJECT, ENVIRONMENTAL IMPACTS ASSOCIATED WITH ROUTING PROPOSED IN JOINT PROPOSAL
Case 10-T-0139 Joint Proposal Hearing Exhibit 121, Page 1 of 503

CSX claims to offer a right of way on property *they do not own*

9-12-2012- E-mail (2) to Brian Yates – New York State Historic Preservation –regarding Waldron Revolutionary War and War of 1812

.9-12-2012 Letter to Jeffery Earle for injunction against CHPE to save the Waldron Cemetery

10-23-2012 NYS Senate Hearing on Energy & Telecommunications

4-18-2013 NYS Order Granting Certificate of Environmental for Compatibility and Need - pgs 31 to 36

4-18-2013 NYS Order Granting Certificate of Environmental for Compatibility and Need --- pgs 83 to 85

Just Say No! to the Champlain Hudson Power Express, **Susan Filgueras, 845-429-3229**

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"CHPE Draft EIS" Comments / Public Notice NAN-2009-01089-EYA

Background January 15, 2014

Mr. Mills,

I have repeatedly tried to find a reply portal or person for the Army Corps of Engineers. Jodi McDonald ran out of business cards at the DOE's Public Hearing in November, so I have never had her contact information. I find it very difficult to even find her listed at the USACE's headquarters. 819-01

I am somewhat confused as to the process, I had thought I had found all of the documents and then stumbled onto the USACE filing on the Champlain Hudson Power Express and they are a whole set of additional documents. They were not filed on the USACE's web site the maps were but not the documents. Is it usual for the USACE to file their DEIS documents on the applicants web site? I want to note that on this response. 819-02

The Champlain Hudson Power Express (aka "CHPE") proposed 333 mile transmission line has been a roller coaster of incorrect information, deliberately misled, and in some cases a study of totally incorrect information. To the novice trying to navigate State and Federal procedures this is simply overwhelming. When I began to research the Champlain Hudson Power Express (aka "CHPE") application three years ago I did not believe it had any value to New York State, especially Rockland County. All along the route, are abandoned Power Plants, tax challenges on these plants, their owners claiming the property no longer has the value, unemployment from Plant closures, the projected trajectory heavily residential and well established.

The main points I would like to make are:

1- You do realize that the route is not settled, and the delivery end point may very well be the Ravenswood Plant in Queens NY, owned by Trans Canada. There has been little environmental review on that end , but as it is simply an attachment to the Joint Proposal was it evaluated fairly and equally along with all other parts of this proposal? This delivery point is not mentioned in any of the documentation with the exception of Attachment J to the Joint Proposal. 819-03

2- The Desecration of the Stony Point Battlefield, where we know that soldiers are buried where they fell.

3- The Destruction of the Waldron Revolutionary War and War of 1812 Cemetery. 819-04
   a. Con Ed I believe accidently purchase the land and then built a sub-station on the outer fringes,
   b. I have spoken to them about the Cemetery but they were embroiled in their own debate with CHPE over the Luyster Creek site.

4- Eminent Domain- CSX row is not big enough in Rockland has anyone really checked the rest of NYS. 819-05

5- No Jobs- Joint Proposal, Order Granting Certificate of Environmental for Compatibility and Need, DOE DEIS all agree MIMINUAL JOBS.
   a. Each of these documents state but do not expand that CHPE may be given a higher ranking in the electric pool that is purchased, thereby cutting NYS production , closing NYS Power Plants 819-06

6- Savings- each of the controlling documents show a significantly "LESS"/ different savings than CHPE, it is not quantified clearly- the JP and Order state the savings are Production area savings not Stake Holders. 819-07

7- No Environmental Impact Statement done on the Rockland County Land Installation 819-08

I really do not want to be disrespectful to the fish but….. what about the humans who live on the line, don't we count?

Just Say No! to the Champlain Hudson Power Express, **Susan Filgueras, 845-429-3229**

819-01: Jodi McDonald, Chief of the USACE New York District Regulatory Branch, can be contacted at 26 Federal Plaza, New York, NY 10278-0900.

819-02: The EIS was developed cooperatively among multiple Federal and state agencies to address the potential impacts of issuing the Presidential permit for the proposed CHPE Project. Two of the agencies involved in the preparation of the EIS are the DOE, the lead Federal agency, and the USACE, a cooperating agency. The EIS for the proposed CHPE Project and related documents are available for review in the Document Library on the CHPE EIS Web site (http://www.chpexpresseis.org), and a subset of the EIS documents are available on the DOE NEPA Web site (http://energy.gov/nepa/eis-0447-champlain-hudson-power-express-transmission-line-project-new-york). The Draft EIS was not available on the USACE and Applicant Web sites.

In addition to being a cooperating agency for the preparation of the EIS, USACE is responsible for reviewing the Section 10 of the Rivers and Harbors Act of 1899 and Section 404 of the CWA permit applications submitted by the Applicant for the proposed CHPE Project. As such, the USACE's Web site for the CHPE project (http://www.nan.usace.army.mil/Missions/Regulatory/RegulatoryPublicNotices/tabid/4166/Article/18814/nan-2009-01089-eya.aspx) consists of documents related to their review of the Applicant's Section 10 and Section 404 permit applications.

819-03: See response to Comment 109-04.

819-04: See response to Comment 121-03.

819-05: Yes. The maps provided as Appendix B to the Joint Proposal show a number of deviation areas along the terrestrial portions of the route outside Rockland County.

819-06: The New York State electricity market is regulated by the NYSPSC and the NYISO and, therefore, the pricing mechanisms for power purchases in the New York State electricity market are outside the scope of this EIS. As presented in Section 1.2 of the EIS, the purpose and need for DOE's Proposed Action is whether or not to issue a Presidential permit for the proposed transmission line crossing of the U.S./Canada international border (i.e., proposed CHPE Project). Continued operation of other in-state electric power sources is not the subject of the application for a Presidential permit and, therefore, is outside the scope of the EIS.

819-07: See response to Comment 803-09.

819-08: Section 5.3 of the EIS provides a full analysis of the potential environmental impacts associated with installing the buried transmission line on land through Rockland County.

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I object to CHPE's portrayal of the CSX ROW within Rockland County. Except for a few small areas it does not exist. See attached 10-23-12 Presentation to the NYS Senate Energy and Telecommunications Committee, Hearing held in Stony Point NY. The majority of CHPE's proposed trajectory within Stony Point and Haverstraw is Eminent Domain,
CSX claims to offer a right of way on property *they do not own.*

819-09

Case 10-T-0139 Joint Proposal Hearing Exhibit 121
Page 1 of 503

CHAMPLAIN HUDSON POWER EXPRESS PROJECT, ENVIRONMENTAL IMPACTS ASSOCIATED WITH ROUTING PROPOSED IN JOINT PROPOSAL

Comment: Page 2- last pp- CSX installation Guide lines for HDD drilling- the installation must be 25 ft from the centerline of the outside rails

1.1.1 Overland Installation Methodology

For the overland portions of the Facility route, the cables will be buried via excavated trenches or trenchless technology (e.g., Horizontal Directional Drilling ("HDD") or Jack and Bore (J&B)) methods. For underwater cable installation, the primary methods utilized for installation will be water jetting, jet plowing, plowing, and dredging, with shoreline crossings completed by HDD. Further details of the cable installation methods and equipment are described below. The majority of the overland portion of the Facility route is located within or immediately adjacent to the existing CP, CSX Railroad ("CSX"), and NYS Route 22 rights-of-way. A minimum separation distance is required from the rails to the cables by each railroad; CP requires a minimum separation of 10 feet from the centerline of the outermost track to the cable trench, and **CSX requires a minimum separation of 25 feet from the centerline of the outermost track.** The typical and preferred layout is to have the bipole (2 cables) installed on one side of the railroad tracks. With this layout, the limits of construction activity extend 40 feet beyond the required minimum setback of the railroads. This 40-foot area will include the area needed for excavation of the trench, installation of erosion and sediment control measures, installation of the two cables and stockpiling of excavated material. Along the railroad, the construction corridor will generally be 40 feet wide on one side of the track. There are areas that will require different configuration and pose additional engineering challenges, such as steep slopes, environmentally sensitive areas, and existing structures. These areas will be identified and site-specific engineering solutions will be developed as part of the EM&CP. A minimum construction **corridor of 25 feet will be required along the edge of Routes 22 and 9W for installation** of the HVDC bi-pole cables, although a wider width may be employed to allow for more efficient construction and quicker completion of the work in these areas

Volume 1 Impact Analysis S-6.2 Proposed CHPE Details page S-12

Comment: Donald Jessome, Vice president CHPE and Board Member of TDI-Canada, specifically stated in the June 26, 2012 Stony Point Meeting that there would be no cooling stations, simply more misdirection- apparently he did not expect us to have read the actual documents.

Cooling Stations. In certain situations where there is a long segment of cable installed by HDD, heat can accumulate in the HDPE conduit and reduce the performance of the transmission system. The Applicant has identified 16 sections of underground cabling where the potential for heat accumulation could require that a cooling equipment station be installed at each section. Each of the 16 cooling stations would consist of a chiller unit and pumping system within a building and this equipment would circulate chilled water through tubing in a closed-loop system alongside the HVDC cable to cool the cables.

819-10

Just Say No! to the Champlain Hudson Power Express, Susan Filgueras, 845-429-3229

819-09: See response to Comment 816-04 regarding transmission line lengths in ROWs in Stony Point and Haverstraw and Comment 105-04 regarding the ROW and the use of eminent domain.

819-10: Cooling stations are proposed and are discussed in detail in Section 2.4.5 of the EIS, and an impact analysis for construction and operation of such is included in resource areas in Chapter 5.

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3.3.15 Hazardous Materials and Wastes
Section 3.1.15 **Page 3-111 pp-2**

Comment: **There is a cursory glance at the sites mentioned below; shouldn't CHE have mentioned the 285ft. coal ash pile that is leaching into our ground water? It is mentioned prominently in the DEC letter dated 11-5-2011. Is this what passes for an Environmental Review, I have many of the records for 3 of the 4 sites listed below and the blithe fashion that CHPE has addressed these sites is appalling. Where does the Haverstraw Land Fill stand? What happens if CHPE starts HDD drilling, are there gases trapped? Is there chemical waste intermingled with the debris? If CHPE start HDD drilling will contaminated waste escape out into the Hudson River? The Temco site is in a heavily populated residential area, if they disturbed that area will the gases become air borne? How will that affect the Health of the residents? Isothere a plan in place to evacuate in case of a disaster? The same questions will apply to Kayfries.** 819-11

I think we can say there has been NO Environmental Impact Statement for the Rockland County Land Installation.

1- **Letter dated 11-5-2011 DEC to town of Stony Point concerning the Lovett Power Plant Site (attached)**
2- **The Haverstraw Landfill is a Brown field at the very least**
3- **Temco Uniform Factory**

Regarding the terrestrial portions of the Hudson River Segment, as noted in **Section 3.2.15**, railroad ROWs are areas with high potential for environmental contamination. Additionally, environmental contamination is possible in the vicinity of railroad and roadway ROWs from adjoining industrial and commercial facilities. Examples of adjacent facilities where soil and groundwater contamination is present or potentially present in this segment are the former Mirant-Lovett Electric Generating Station, Haverstraw Landfill, Kay-Fries National Priorities List **Superfund site (USEPA Identification Number NYD980534564),** the former Temco Uniform Factory site, and automobile repair facilities located along U.S. Route 9W in Clarkstown. The former Temco Uniform Factory is a **NYSDEC Class 2 Inactive Hazardous Waste Site located at MP 298.4** of the proposed CHPE Project transmission line route in West Haverstraw. This site currently is being investigated by the NYSDEC for environmental contamination resulting from industrial uniform manufacturing, washing, and dry cleaning that occurred from 1985through 2002 (TRSA 2012).
What they are not mentioning is the

See cover Picture in front of my reply it shows all of the projects in this area of 7.2 miles.

SPECTRA AIM Project- a 42in High Pressure Gas Main being fracked across the Hudson in the Ramapo Fault. CHPE's plans are to lay their "HOT" Transmission line on top of the 42in High pressure gas main. Then the West Point power Express will do the same thing as it comes out of the ground at Indian Point. Are you nervous yet? 819-12

The worst is – is that they are I believe 3 existing and 1 new (42inc.) Natural Gas High Pressure Mains that cross to Westchester in front of the Lovett site, mile marker just north of mile market 295.5

Iona Island

Iona Island is an American Eagle sanctuary. CHPE will need to blast ledge along Iona Islands riverfront to proceed, Has anyone told CHPE that this island was once used as an ARMORY and there may still be ordnance on the island ? 819-13

Just Say No! to the Champlain Hudson Power Express, **Susan Filgueras, 845-429-3229**

819-11: See response to Comment 819-07. Section 5.3.15 of the EIS addressed the potential impacts of constructing the proposed CHPE Project in the vicinity of the former Mirant-Lovett Electric Generating Station, Haverstraw Landfill, the Temco Uniform Factory, and Kay-Fries National Priorities List Superfund site. During construction and operation of the proposed CHPE Project, the Applicant would implement environmental and construction management procedures and plans included in the EM&CP and other Applicant-proposed measures to minimize potential impacts during construction. Other plans, such as the Health and Safety Plans and the Emergency Contingency Plan, would also be implemented to ensure construction activities are conducted in a safe manner.

819-12: A description of the Spectra AIM Natural Gas Pipeline project has been incorporated into Section 6.1.1.4 of the Final EIS. The West Point Transmission Project is discussed in Section 6.1.1.4 of the EIS. The Applicant would design, construct, and install the proposed CHPE Project to be compatible with existing utilities, including natural gas and electric power system infrastructure, in both aquatic and terrestrial portions of the route. The Applicant would consult with utility owners prior to construction to design protection measures and specifications to account for existing utility facilities. The Applicant would also implement various additional BMPs to minimize potential impacts on utilities (see Appendix G of the EIS).

819-13: Blasting would not be conducted in the vicinity of Iona Island during installation of the proposed CHPE Project.

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Desecration of the Stony Point Revolutionary War Battlefield, where we know there are soldiers buried where they fell.

Waldron Revolutionary War and War of 1812 Cemetery

The final insult to common decency, Donald Jessome, Vice President of the Champlain Hudson Power Express's utter contempt for the Waldron Revolutionary War and War of 1812 Cemetery, stated at a June 26, 2012 meeting in Stony Point, don't worry we will shoot a bullet through the Cemetery, how deep will your bullet be- Jessome "oh about 3ft". I guess they bury Canadians in shallow graves.

819-14

Joint Proposal, approved on a trajectory they have agreed not to use, and agreed to in the Joint Proposal.

A Joint Proposal negotiated and approved on an installation route in the HUDSON RIVER,

Do we know where CHPE is going?

The final loss of all common sense is that the New York State Public Service Commission approved a project to …… WHERE? In an e-mail from William Helmer to Dr. Pell dated 3-6-2012, he states that the preferred route is the one that was submitted with the Joint Proposal. You need to read ALL 5000+, pages to know that on

Volume 1 IMPACT ANALYSIS, Page S-17

S.7 Alternatives Considered but Eliminated from Further Detailed Analysis
Several technology, alignment, and construction alternatives were considered but eliminated from further detailed study for various reasons. Alternatives considered but dismissed are discussed in the following paragraphs, along with the reasons for dismissal.

S.7.1 Alternative Upland Transmission Line Routes
The Applicant considered a range of terrestrial routes for the transmission line. These alternatives included consideration of transmission line alternatives that would have been installed either on overhead structures or buried within a new or existing terrestrial ROW, rather than in Lake Champlain or the Hudson, Harlem, and East rivers. An alternatives analysis report documenting the evaluation of alternative routes was submitted by the Applicant to the USACE in July 2013 as part of the Applicant's Clean Water Act (CWA) Section 404 permit application. This report is included in the EIS as **Appendix B**. DOE determined that these alternative transmission routes were not reasonable due to engineering feasibility, cost, and logistical considerations (e.g., legal limitations), and, therefore, they have been eliminated from further consideration in the EIS.

Alternatives considered included the following:

- Constructing the transmission line in and along existing electrical transmission line ROWs from the U.S./Canada border to New York City
- Constructing the transmission line in and along existing highway and roadway ROWs
- Constructing the transmission line within existing railroad ROWs beyond those identified as part of the proposed CHPE Project
- Using combinations of railroad, electrical, and roadway ROWs
- Development of a new electrical transmission line ROW

Comment: **All of these documents finally hint at it will be the route as stipulated within the Joint Proposal, CHPE once again has mislead the Stake Holders in this case, he had promised our Supervisor that the Cememtery would not be invaded.**

Just Say No! to the Champlain Hudson Power Express, **Susan Filgueras, 845-429-3229**

819-14: See response to Comment 121-03 regarding details about the installation of the transmission line under the Stony Point Battlefield Historic Site via HDD, the siting of the transmission line at Waldron Cemetery, and the CRMP that would manage such (also see EIS Section 5.3.10).

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CHPE's Environmental Trust Fund http://www.chpexpress.com/environmental-trust-fund.php

Comment: 2003 to March of 2007- the Blackstone Group was the financial manager for the Mirant – Bowline and Lovett Power Plant bankruptcy they had plenty of time to study the interaction of the various groups of the Hudson Valley (while Rocklanders paid them to decimate our towns with the closure of the Power Plants) once again Blackstone found a weakness and exploited it. Blackstone, offered the Riverkeeper, Scenic Hudson and the NYS Council of Trout Unlimited an Environmental Trust Fund.

When the people along the trajectory of this transmission line begin to develop diseases and die, just like they did in Buffalo at the Love Canal, do you think that these groups will say at least we protected the fish?

Public Notice

As hard as it is for the layperson to understand the process, it is even more difficult for me to believe that the DOE, the USACE, and the NYS PSC, simply skipped over the Towns of Haverstraw and Stony Point during their public input sessions in 2010. The one meeting in 2012 held in Haverstraw was poorly attended. I cannot find where the meeting was publicized in the Local paper, I only knew because my Dad went into the Haverstraw Town Hall. There has been no local outreach. 819-15

Bilingual Populations

We have two communities that have a bi-lingual population yet no outreach has been done for those communities. 819-16

Congresswoman Lowey

Had it not been for Congresswoman Lowey's letter of July 1, 2013 requesting that the Department of Energy schedule a hearing here in Stony Point, our voices would never have been heard.

What CHPE tells to the Stake Holder

Rockland County was introduced to the Champlain Hudson Power Express the hard way, the deal was already done. We have been defending our Town from CHPE for almost three years. CHPE has come to Stony Point three times and each time the story changes. On June 6, 2012 Donald Jessome, Vice President CHPE-USA and Board Member of TDI Canada, came with his team, and stated for the record,

CHPE's Marketing Claims	Addressed by one or the other or All 3- DOE– DEIS/, Joint Proposal- Order Approving
No Eminent Domain	States clearly Eminent Domain will need to be used
Savings,	Each of the documents state clearly – Production Area Savings, not rate payers
Jobs	NO JOBS- DEIS is clearest – 26 jobs, Construction-labor would be imported due to specialization of work-Order Approving - states –applicant's submission was

Just Say No! to the Champlain Hudson Power Express, **Susan Filgueras, 845-429-3229**

819-15: As stated in Section 1.7.1 of the EIS, DOE conducted seven EIS public scoping meetings in 2010, although none were in Haverstraw or Stony Point. DOE's 2010 Scoping Summary Report is in Appendix D of the EIS. DOE did not conduct separate scoping meetings after it published an amended Notice of Intent in April 2012, but it did accept scoping comments. DOE's 2012 Scoping Summary Report Addendum is in Appendix D of the EIS. The NYSPSC held six public statement hearings on the Joint Proposal in April 2012, of which one was held at the Haverstraw Town Hall. DOE reviewed the public statement hearing transcripts from the NYSPSC public statement hearings and considered them, in addition to scoping comments submitted directly to DOE on the EIS, as potential scoping comments for purposes of the EIS. The public hearing for the Draft EIS held in Stony Point in November 2013 was attended by over 200 people.

819-16: See response to Comment 109-03.

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	wholly inadequate in this area
Support Local Economies	CHPE devalues ALL of the properties it crosses,
Taxes	the taxes collected will be a Utility formula as is standard practice in NYS - will be far less than what we lose as CHPE crosses multiple properties
Will help close Indian Point	This project was not mentioned in the " Order Instituting Proceeding and Soliciting Indian Point Contingency Plans" – until the correct infrastructure is in place in WESTCHESTER Indian Point cannot be closed for good, short term outages work but stress the GRID- CHPE does nothing to address that stress

Submitted on Nov 18, 2013 to Brian Mills, and to be made a part of this testimony:

The Just say No, committee gave to Brian Mills on Nov 18, 2013 a Disk of the Feb 5, 2013 CHPE meeting in the Town of Stony Point. (We had to insist they come back)

Ownership

The "NRE Transaction" (2009),

1 day after all comments are due to the DOE and USACE, CHPE has filed, with the NYS PSC *"Requesting A Declaratory Ruling That The Companies Are Subject A Lightened Regulatory Regime, And A Declaratory Ruling That A Prior Transfer Of Ownership Did Not Require Commission Approval Or In The Alternative Approving Such Transfer". (Case 13 -ET)* This sale took place in 2009. The "NRE Transaction" (2009), has been in all of the financial documents that CHPE has submitted to the FERC and the NYS PSC. What is the importance of this filing, who will it impact, does it have any financial, integrity or liability issues?

(Attached is the Ownership documentation submitted to the PSC by CHPE for their application)
Department of Energy web site- Document Library http://chpexpresseis.org/library.php – Bottom of page (the Presidential Permit document is too big to attach)

For verification purposes – the Champlain Hudson Power Express is a wholly owned Canadian Company,

"CHPEI is a joint venture of TDI-USA Holdings Corporation (TUCH), a Delaware Corporation, and National Resources Energy, LLC (NRE). TUHC, the majority shareholder in CHPEI, is a wholly owned subsidiary of Transmission Developers Inc. (TDI) a Canadian Corporation. NRE is a wholly owned subsidiary of National RE/sources Group, a limited liability corporation duly organized under the state of Connecticut,"

Presidential Permit, bottom of page 2- states

1.4 Foreign Ownership and Affiliations

Neither the applicant not its proposed transmission facilities are owned wholly or in part by any foreign government or instrumentality thereof.

Just Say No! to the Champlain Hudson Power Express, **Susan Filgueras, 845-429-3229**

819-17

819-18

819-17: See response to Comment 105-06.

819-18: See response to Comment 105-06.

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Has the Department of Energy verified that CHPE's relationship with Hydro –Quebec will simply be that of a shipper? That Hydro-Quebec has no other ties to the Blackstone Group that will allow them to influence the transactions on this transmission line. 819-19

Financing

Repeatedly CHPE has said that they will not take public money to build this transmission line. As reported by *Scott Waldman in Capitol News,11-18-13* "Hydro-Quebec is a Canadian state-owned utility that has received approval to sell power through the Champlain Hudson Power Express a 330 mile long transmission line, It recently requested access to State money to help fund the $2 billion project. The states pot of money to support renewable project's, currently comes from a utility bill surcharge on New York residents…."

Just Say No! to the Champlain Hudson Power Express, Susan Filgueras, 845-429-3229

819-19: As presented in Section 1.2 of the EIS, the purpose of and need for the DOE's action is whether or not to issue a Presidential permit for the proposed transmission line crossing of the U.S./Canada international border. Transactions in the New York State electricity market are regulated by the NYSPSC and the NYISO and are outside the scope of the EIS.

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Volume 1 Impact Analysis

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SUMMARY

Someone said to me have you followed the process. Yes we have, please note these are not the original Public Hearing dates, Stony Point nor Haverstraw was on the list. We were behind before we got started.

July 8, 2010 City Hall, Bridgeport, CT 10
July 9, 2010 Federal Building, Manhattan, New York City 25
July 12, 2010 Royal Regency Hotel, Yonkers, NY 27
July 13, 2010 Holiday Inn, Kingston, NY 28
July 14, 2010 Holiday Inn, Albany, NY 31
July 15, 2010 Ramada Inn, Glens Falls, NY 18
July 16, 2010 North Country Chamber of Commerce, Plattsburgh, NY 28

Table S-1 Summary of Potential Impacts Associated with the Proposed CHPE Project page S-21

(middle of page) *Impacts on Resource areas form Construction and Operations, Maintenance and Emergency Repairs of the Proposed CHPE Project*

Comparison Factor/ Resource Area	Lake Champlain Segment	Hudson River Segment
Land Use	**Construction:** Temporary, non-significant increase in limitations on water-based uses. **Operations:** *Potential for future limitations on water based uses or access during inspection activities; use limitations from maintenance and emergency repairs would be shorter-term and more localized than for construction	**Construction/Operations:** Same temporary use and access limitations or disruptions and potential future land use restrictions as Lake Champlain and Overland segments.

Comment: **I believe that this is the first hint that Rockland County and New Yorkers in General will have limited access to the Hudson River along the trajectory of CHPE. If approved CHPE, a wholly owned Canadian Corporation can use our property as a high voltage "Hot " electric transmission line corridor creating a CANAL of transmission lines (I believe that CSX and CHPE have an agreement to solicit more transmission lines for this row) to one of the world most lucrative electric markets NEW YORK CITY.**

In essence reducing our majestic Hudson River to a flowing waste land of leaking fluids from these transmission lines, making this route the "LOVE CANAL" of the 21st CENTURY!

819-20

Just Say No! to the Champlain Hudson Power Express, **Susan Filgueras, 845-429-3229**

819-20: The proposed CHPE Project would not prevent, prohibit, or inhibit access to the Hudson River in Rockland County. As discussed in Section 5.3.1 of the EIS, short-term, water-based limitations in the Hudson River would occur in areas directly adjacent to transmission line installation activities, and would include temporary localized limitations on boats entering a work area during periodic inspection and emergency repair (if necessary) for vessel safety reasons.

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Impacts from Operations, Maintenance and Emergency Repairs Pg-S-34&S-41

Impacts on land use would result from operation of the proposed CHPE Project **because future use of the land within the transmission line ROW would be limited for the lifespan of the transmission line**. The **Applicant would be granted either exclusive control** of (via fee or easement for private property), or other appropriate interest or rights to use (via revocable consent or use and occupancy permit for public ROWs such as roadways or state land or lease for the railroad ROWs) **a 20-foot (6-meter)-wide transmission line ROW**. Property owners granting the use of portions of their lands as the transmission line ROW would be prohibited from taking any action on that land that would damage or interfere with the Applicant's maintenance, inspection, and emergency repair activities with the ROW. It is anticipated that easements negotiated with private landowners would be bilateral easements in which the Applicant and landowner mutually agree to the easement provisions. While use of eminent domain would be avoided to the maximum extent practicable, limited easements or leases for the transmission line ROW in areas outside of the roadway and railroad ROWs might need to be obtained via eminent domain as part of the NYSPSC Article VII approval process. **However, property owners would receive just compensation for this loss of use.**

Comments: **Within Rockland County the amount of ROW is questionable, simply put**

CSX does not own the land it is offering for the ROW!

Is what CSX proposes to do Legal?
Can CSX offer land for a ROW that they do not own?

Frankly this is simply a "Land Grab" by both CSX and the Blackstone Group, so that they may have enough land to lease on the row to other transmission lines per the USACE letter dated June 14, 2012, "how many other transmission line will fit on this row?"

819-21

Impacts from Operations , Maintentaince and Emergency Repairs S-34 pp 2

Activities impacting transportation and traffic operations along the terrestrial portion of the proposed CHPE Project route would include those associated with operation, regular inspection, maintenance, and possible emergency repairs of the transmission line. Regular inspection of the terrestrial portions of the transmission line and aboveground infrastructure (i.e., cooling stations and converter station), and routine preventive maintenance of the aboveground infrastructure would generally be non-intrusive and not disrupt (i.e., delay, temporarily cancel, or otherwise change) transportation operations or traffic. If necessary, emergency repairs of the transmission line or aboveground infrastructure would be expected to result in temporary construction-related disturbances (e.g., temporary lane rerouting or closures from the presence of emergency repair activities) that would impact transportation uses along the proposed CHPE Project route.

Comment: **CHPE also down plays their request for access roads, which will become a "LAND GRAB" they justify the so called access roads as, needed for inspections and maintenance, then they state there is little to no maintenance.**

819-22

S.8.7 Terrestrial Protected and Sensitive Species

Impacts from Construction S-45 pp2

Transmission line construction in the Overland Segment would directly impact approximately 67 acres (27 hectares) of wetlands within the construction corridor. **The Hudson River Segment of the proposed CHPE Project would have an 8-mile (13-km) terrestrial segment that would cross three additional wetland areas**

Just Say No! to the Champlain Hudson Power Express, Susan Filgueras, 845-429-3229

819-21: See response to Comment 105-04.

819-22: Access roads would be sited to the extent possible within existing road and railroad ROWs, and would be limited to the minimum space necessary. Where practical and with landowner and NYSDPS approval, existing private roads, driveways, and farm lanes would be used. If access roads would be required outside of the existing road and railroad ROWs, the Applicant would obtain authorization (e.g., leases, easements, construction permits, revocable permits/consent, highway work permits, use and occupancy agreements/permits, or other agreements) from the public or private landowners. See response to Comment 803-02 regarding use of eminent domain.

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in Stony Point and Haverstraw totaling 0.8 acres (0.3 hectares). The transmission line would cross a 0.03-acre (0.01-hectare) wetland in Haverstraw; the other two crossings would be by HDD. No delineated wetlands are present in the construction corridor of the New York City Metropolitan Area Segment.

Comment: What will happen to the Stony Point Trunkline Sewers within this trajectory which have not been identified within the DEIS by CHPE.

We have two –

Just north of MILE MARKER 296.5,

Between MILE MARKERS 297.3 and 297.4 819-23

Stony Point is part of Governor Cuomo's Community Reconstruction Zone Program, and this area figures heavily into storm mitigation. The CHPE transmission line is in direct conflict with Stony Points participation in the Governors Community Reconstruction Program.

CHPE has not addressed the new FEMA Flood Zones and how will their proposed trajectory disables Stony Point's ability to develop a plan for Resiliency when CHPE negates all that we can or could do. CHPE is taking ownership of a 20ft ROW smack in the middle of the Community Reconstruction Zone, NOW WHAT! 819-24

S 8.10 Cultural Resources Impacts from Construction S47 whole page

Ground-disturbing activities associated with construction could damage archaeological features and would disturb the context of artifacts of terrestrial archaeological sites, underwater sites, and historic cemeteries. In the case of terrestrial and underwater archaeological sites that are listed or eligible for listing in the NRHP, this could constitute an adverse effect under 36 CFR 800.5(a)(1) and, therefore, require mitigation. Because the transmission line would be underground or underwater and would avoid any standing structures, the adverse effects from construction on the NRHP-listed and –eligible architectural properties in the APE would be limited to exposure to temporary noise, dust, and vibrations and short-term visual effects from the proximity of construction activities and equipment. The effects would not require mitigation. HDD would be used to install the transmission line under Stony Point Battlefield Historic Park. As specified in the conditions

Comments: I cannot under any circumstances condone this leg of the project- within the Battlefield there are soldiers buried where they fell on the property, THIS IS DESCREATION of a burial ground and a National Treasure. It is offensive to me as a Catholic, and to my Native American Heritage! 819-25

I personally hold Governor Cuomo responsible for this desecration. I will consider this a personal challenge to make sure that I communicate the fact that Governor Cuomo has approved and supports a project that totally dismisses and dishonors our the very soldiers who died for his right to be elected! I have to ask myself the question – does NYS need a Governor who has no respect for our Veterans?

Impacts from Operations, Maintenance, and Emergency Repairs

2nd pp S-49

Where the proposed CHPE Project route would cross aesthetic resources such as Stony Point Battlefield State Park and Rockland Lake State Park, the Applicant would use HDD techniques, which would allow installation of the transmission line without disturbing the surface features of the parks. This would eliminate any potential impacts on these aesthetic resources from construction activities. Construction equipment would be visible during construction at the HDD staging area sites.

Just Say No! to the Champlain Hudson Power Express, Susan Filgueras, 845-429-3229

819-23: The referenced infrastructure is identified in Section 3.3.12 of the EIS, which identifies a storm water drainage pipe at approximate MP 296.6 and a sewer line at approximate MP 297.3. Section 5.3.12 of the EIS states that there would be no impacts on the storm water drainage pipe or the sanitary sewer line because both would be avoided by using HDD technology. See Appendix G of the EIS and the response to Comment 102-010 regarding additional impact minimization measures applicable to utility infrastructure that would be implemented during construction.

819-24: The Floodplain Statement of Findings appendix in the Final EIS (Appendix S) reflects the best available FEMA-approved flood zone data. See the response to Comment 803-04 regarding the proposed CHPE Project route near developable areas.

819-25: The proposed CHPE Project transmission line would be installed using HDD technology under the Stony Point Battlefield State Historic Site (see EIS Section 5.3.10). The proposed route would be installed under the railroad ROW using HDD through the battlefield. No cemeteries or gravesites have been identified along this portion of the railroad ROW, and the transmission line would be installed via HDD at such a depth under the battlefield that any features near the surface would not be disturbed.

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Comment: First there has to be a staging area (a fairly large installation with fuel, tools, parking for truck storage) and within a reasonable distance of the installation. There are no roads within the Battlefield –Park. How does the DOE and USACE foresee managing the issue of CHPE wanting to cut in access roads, which would be HIGHLY DETRIMENTAL an d destructive to the Battlefield-Park. Worse they will want to keep their access roads for the life of the transmission line, appox 30 years. — 819-26

5th PP

Cooling stations would be present along the proposed CHPE Project route within aesthetic resources, such as Saratoga Spa State Park and Spensieri Park. However, the cooling stations would not result insignificant visual impacts or would have impacts on aesthetic resources because the cooling stations would be small and only minimally change the character of the existing view shed

Comment: Donald Jessome said and I quote "there would be no cooling stations" How does CHPE propose to go from a submarine cable to a land cable in the Stony Point Battlefield without a cooling station? The transference of HEAT will be enormous!

SEE BELOW COMENT

S-8.13 Recreation page S-50, pp6

Use of HDD would avoid adverse impacts on recreational users by allowing installation of the transmission line without disturbing the surface features or uses of park lands. Staging areas for HDD would be outside of park boundaries, though equipment could be visible during construction; however, no permanent impacts on recreational resources would be anticipated. **No cooling stations would be constructed on park lands or in recreational areas, and access to recreational areas would be maintained during construction**

Comment: Within the Joint Proposal and the Order Granting Certificate of Environmental Compatibility and Public Need issued- 4-18-13, they state clearly there will be cooling stations placed within the Battlefield-park. I believe that it will be a physical necessity that a cooling station be built on Park property as CHPE will be transitioning from submarine cable to land cable- there will be an enormous transfer of heat. How does the DOE and USACE plan to make sure that enormous damage is not done to the Battlefield with this installation? — 819-27

S.8.14 Public Health and Safety page 51 pp-1

Comment: This is a difficult topic to address, especially as I have tried to read the majority of the 5000 plus pages, (and the USACE file on CHPE's web site) and frankly the entire proposal makes me ill. I do not believe that any Government Agency has really looked at the Health and Welfare of the Stake Holders. I believe Governor Cuomo has allowed the Canadians to New Yorkers as guinea pigs. — 819-28

S.8.18 Socioeconomics page 55 pp-5

Construction and operation of the proposed CHPE Project would require relatively few specialized workers and laborers over the lifetime of the project. Project requirements for non-specialized construction workers and local housing units along the CHPE Project corridor should be adequate to meet labor demands associated with the project. Tax receipts and revenue associated with construction expenditures would increase for local municipalities and an annual reduction in wholesale electrical energy market prices would occur.

Just Say No! to the Champlain Hudson Power Express. Susan Filgueras, 845-429-3229

819-26: The proposed CHPE Project transmission line would be installed using HDD technology under the Stony Point Battlefield State Historic Site. No staging areas, including those for the HDD drilling rig, or access roads would be constructed within Stony Point Battlefield State Historic Site.

819-27: The NYSPSC Certificate does not state that there would be a cooling station in Stony Point Battlefield State Historic Site, but rather indicates that Exhibit 117 of the Joint Proposal includes a list of cooling equipment at locations along the proposed CHPE Project route. Exhibit 117 identifies that a cooling station might be required at MP 296 for the portion of the proposed CHPE Project route installed using HDD technology under the Stony Point Battlefield State Park. The cooling station would be located outside of Stony Point Battlefield State Historic Park. Section 2.4.5 of the EIS states that a cooling station would be installed at approximate MP 296.

819-28: Comment noted. Sections 5.1.14, 5.2.14, 5.3.14, and 5.4.14 of the EIS address potential impacts of the proposed CHPE Project on public health and safety.

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Comment:

Once again CHPE has managed to misinform the Stake Holders, jobs if any will be minimal due to the specialization needed for the installation. That means NO JOBS under any scenario.

If in fact your document is correct, then that makes CHPE's assertions about Jobs, false, how does the USACE and the DOE reconcile this fact, one of you (DOE&USACE or CHPE) has to be wrong. — 819-29

CHPE states ratepayers will receive significant savings, HOW. The Devaluation of our personal properties as CHPE crosses them, fear of a 1,000 MW transmission line will prevent residents from selling their homes, essentially reducing the homeowner's net worth and overall wealth by …… Would you buy a home with a 1,000 MW transmission line on the property, especially if you had children, Ummmm I don't think so. — 819-30

Would you buy a home in a Town that allowed a foreign nation, for self-serving profit to totally obliterate a Revolutionary War Cemetery? — 819-31

The proposed CHPE transmission line will take over our shore line and then claim National Security due to their transmission line and Stony Point will lose access to the shore line and the last bastion of hope for economic development within Stony Point. — 819-32

Stony Point is part of Governor Cuomo's Community Reconstruction Zone Program- specifically developed for those communities that Hurricane Irene and Sandy battered. It is an opportunity for a $3 million dollar grant to *Build Back Bigger and Better with more Resiliency*.

It has enabled Stony Point to work with "AKRF, INC. Environmental, Planning, and Engineering Consultants" as part of the program. To develop a flood mitigation plan, and at the same time develop an economic plan for community growth.

I guess you need to be a New Yorker to see the irony in Stony Point belonging to such a program, what Governor Cuomo gives to Stony Point CHPE will come in and tear it asunder.

Page S-55

Impacts from Construction

Over the approximated 4-year construction period, the proposed CHPE Project would result in an ***Estimated average 300 direct construction jobs***. Additionally produced indirect and induced jobs would be associated with supplying materials and providing other services for construction of the proposed CHPE Project.

Comment: **Once again CHPE has managed to misinform the Stake Holders, jobs if any will be minimal due to the specialization needed for the installation. That means NO JOBS under any scenario. See below they tell you in section S. 8.18 Socioeconomics, there are minimal jobs. This entire paragraph is deliberately misleading.** — 819-33

"S.8.18 Socioeconomics

Construction and operation of the proposed CHPE Project would require relatively few specialized workers and laborers over the lifetime of the project"

Page S-56

Relatively few (i.e., approximately 20) specialized workers would be required during construction activities and would be on site only for the duration of those activities (i.e., 2 weeks or less) in any given location. Non-specialized workers would be hired from the existing construction workforce along each segment of the proposed CHPE Project corridor. Therefore, it is unlikely that large numbers of workers would permanently

Just Say No! to the Champlain Hudson Power Express, Susan Filgueras, 845-429-3229

819-29: See response to Comment 101-02.

819-30: See response to Comment 105-06 and Section 5.3.18 of the EIS.

819-31: See response to Comment 121-03 and Section 5.3.10 of the EIS.

819-32: See response to Comment 803-04 regarding the proposed CHPE Project route near developable areas.

819-33: See response to Comment 101-02.

"CHPE Draft EIS" Comments / Public Notice NAN-2009-01089-EYA

migrate to the area to meet the labor demands of the project. The few specialized workers travelling to the area for construction of the proposed CHPE Project would likely be housed either in local hotels or other short-term boarding units. Given the low number of specialized workers required for construction, existing housing options along each segment of the proposed project corridor should be adequate to meet the temporary increase in demand.

Comment: **NO JOBS< NO JOBS< NO JOBS< NO JOBS< NO JOBS- what are we missing I think it is clear one of the entities is wrong, CHPE, DOE or the USACE,** 819-34

Spending associated with construction (e.g., purchase of building materials, construction workers' wages, and purchases of goods and services) would temporarily increase tax receipts and revenue for local economies. Building materials required for the proposed CHPE Project would be purchased as needed from local sources. Construction activities within roadways could interfere with access to local businesses. However, construction zones would be established in a given location for 2 or less weeks at a time and a Maintenance and Protection of Traffic Plan would be developed to ensure continuous road access to businesses.
Easements would be acquired by the Applicant, where appropriate, along the proposed CHPE Project corridor and the Applicant would pay for any associated land restoration costs following construction activities in these areas. Since construction activities would be temporary and property would be returned to pre-construction conditions once completed, it is unlikely that property values would be impacted.

Comment: **This is EMINENT DOMAIN-, as for the properties being impacted – again I ask would you purchase a home with a 1,000 MW transmission line buried under your back yard, driveway? The CHPE transmission line has the ability to crush North Rockland and surrounding communities, as this is not about 1 transmission line but several. (USACE Ltr dated 6-14-12) CHPE will be a legislated monopoly and Rockland will be forced to allow (EMINENT DOMAIN- really no choice at all) additional transmission line installations creating a "LOVE CAMAL" area within Rockland County. DEMOLISHING Stony Point and Haverstraw's access to the Hudson River, CHPE's exit strategy is abandonment, with no thought to what the environmental impact will be.** 819-35

Page S-56

Impacts from Operations, Maintenance, and Emergency Repairs

Approximately 26 direct, full-time employees would be hired to operate the proposed CHPE Project; of this total, 21 employees would be located in the New York City metropolitan area. A negligible number of indirect jobs could also be created for maintenance inspections and possible emergency repairs that, if needed, would be conducted by contractors. Considering the low number of jobs that would be created, the existing workforce within the project area would be able to meet the employment and housing demands of the proposed CHPE Project. The Applicant would pay fees, as appropriate, to New York State agencies for use of state lands occupied by the proposed CHPE Project. Some elements of the proposed CHPE Project transmission system facilities would be taxable as real property. Local municipalities would impose a tax on the facilities and the Applicant would pay the tax. Tax receipts are estimated to be 2 percent of the annually assessed municipal property value; this percentage is calculated per New York State tax regulations and is subject to change.

Comments: **I challenge CSX's statement of ROW, it is not big enough for CHPE to be installed on the ROW. Though the majority of Rockland the ROW is 50ft wide, 25ft from the center line of the rail . The minimum construction guidelines for installation on CSX ROW is 25ft from the centerline of the rail. –NO ROW OUT OF PROPERTY_ CSX DOES NOT HAVE the PROPERTY.** 819-36

Just Say No! to the Champlain Hudson Power Express, **Susan Filgueras, 845-429-3229**

819-34: See response to Comment 101-02.

819-35: See response to Comment 803-04 regarding the proposed CHPE Project route near developable areas, and response to Comment 105-04 regarding the use of eminent domain.

819-36: See response to Comment 105-04.

"CHPE Draft EIS" Comments / Public Notice NAN-2009-01089-EYA

age S-58

Tappan Zee Hudson River Crossing Project, and possibly the **Grande Isle Intertie** across Lake Champlain and the West Point Transmission Project in the Hudson River (though the timing of these projects are unknown). Multiple activities occurring at the same time and vicinity would have greater impacts than just one project. If construction activities overlap in this area, then the construction-related impacts, such as disturbed substrate, temporary water quality degradation, sediment redeposition, increased turbidity, increased noise and vibration, and the potential for spills could be greater than for just one project. However, construction of the proposed CHPE Project would not affect any one area for long (i.e., no more than 2 weeks), so the short temporal overlap would limit cumulative impacts.Construction activities along terrestrial portions of the proposed CHPE Project route could result invegetation clearing, disturbances to wildlife, localized degradation of wildlife habitat, possible

Comment: **The following installations are ongoing and will converge on the Haverstraw/ Stony Point Boarder:**

1- **SPECTRA AIM Project**
2- **West Point Power Express**
3- **Haverstraw Desalization Project**
4- **CSX $26 Million dollar expansion**
5- **CHPE**

To an extent each of the above mentioned projects will at any one point in time be dregging, fracking and performing construction activities within the Hudson River and on land in Stony Point and Haverstraw.

The cumulative effect of these projects is not addressed with any of the documents. CHPE just ignored all and when SPECTRA applied to FERC and received approval for their project CHPE was not thought of. (SPECTRA is a 2 phase project, we are in the second phase)

Per the Picture on the cover page, Please note that both CHPE and the West Point Power Express will lay on top of 3 if not 4 High Pressure Natural Gas Mains. The newest of them will be SPECTRA AIM's 42 in High Pressure Natural Gas Main.

What is especially disturbing shouldn't CHPE have known what projects are being installed along the trajectory. Yet if they didn't, then we really nee d to ask ourselves if this is the type of company we want dragging a "HOT" extension cord behind them. If they knew and deliberately left it out of the application, that is a whole differ issue, so which is it frankly neither answer is a good one.

A decision needs to be made, depending on how much you are willing to turn a blind eye on CHPE's professionalism, their intelligence, their knowledge of the transmission line business and the area in which they want to install their transmission lines,

Rockland County really needs to know if we can trust CHPE to install a high tension transmission line. The absence of these High Pressure Natural Gas Mains especially the SPECTRA AIM, 42 ins pipeline, CHPE should have known about them, , do we really want to see how high a pipe like that go blow?

All of the attachments and referred to documents will be mailed tomorrow on a disk as they were to large to attached.

Thank You
Susan Filgueras

Just Say No! to the Champlain Hudson Power Express, Susan Filgueras, 845-429-3229

819-37

819-37: Section 6.1.2 of the EIS discusses potential cumulative impacts from other past, current, and foreseeable future activities, including the West Point Transmission Project, Haverstraw Water Supply Project, and CSX Track Expansion projects, when combined with the proposed CHPE Project. A description and analysis of the Spectra AIM project has been incorporated into Section 6.1.1.4 of the Final EIS.

"CHPE Draft EIS" Comments / Public Notice NAN-2009-01089-EYA

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Tomkins Cove, NY 10986 **Ph: 845-429-3229**

Just Say No! to the Champlain Hudson Power Express, Susan Filgueras, 845-429-3229

Comment 820

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January 15, 2014

VIA ELECTRONIC MAIL and
UPS OVERNIGHT DELIVERY

United States Corps of Engineers
New York District
Jacob K. Javits Federal Building
New York, New York 10278-0090
ATTN: Regulatory Branch
Public Notice No.: NAN-2009-01089-EYA
(jun.yan@usace.army.mil)

Mr. Brian Mills
Office of Electricity Delivery and Energy Reliability (OE-20)
U.S. Department of Energy
1000 Independence Avenue SW
Washington, D.C. 20585
(Brian.Mills@hq.doe.gov)

Re U.S. Army Corps of Engineers Application No. 2009-01089-EYA
United States Department of Energy, Office of Electricity Delivery and Energy Reliability -- Presidential Permit Application No. PP 362

Draft Champlain Hudson Power Express Transmission Line Project
Environmental Impact Statement (issued September 2013)

Dear Sir/Madam:

We write on behalf of Entergy Nuclear Indian Point 2, LLC, Entergy Nuclear Indian Point 3, LLC, and Entergy Nuclear Operations, Inc. (collectively, for the purpose of this filing, "Entergy-IP") to provide comments regarding the sufficiency of (i) the above-referenced permit application submitted by Champlain Hudson Power Express, Inc. and CHPE Properties, Inc. (collectively, "CHPE") to the U.S. Army Corp of Engineers ("USACE") for authorization to construct and operate portions of a 336-mile high-voltage, direct-current ("HVDC") transmission line and affiliated facilities in the waters of the United States (collectively, "Proposed Project"), and (ii) the associated Draft Environmental Impact Statement ("DEIS"), dated September 2013, prepared by the U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability ("DOE"), as lead agency under the National Environmental Protection Act ("NEPA"), 42 U.S.C. §§ 4321, *et seq*. The DOE is considering whether to issue a Presidential Permit authorizing the Proposed Project to interconnect with yet unidentified electric generation sources located across the international border in Quebec, Canada.

As discussed below, CHPE's permit application pending before USACE should be denied for failure to comply with the Rivers and Harbors Appropriation Act of 1899 ("RHAA"), and based on the Proposed Project's inability to satisfy the stringent requirements of Clean Water Act ("CWA") § 404(b), 33 U.S.C. § 1344. Moreover, the DOE should withhold the Presidential Permit because the DEIS fails to take the requisite "hard look" at all environmental impacts associated with, and reasonable alternatives to, the Proposed Project, largely due to the DEIS's reliance on outdated and/or inapposite studies and findings generated during the related CHPE siting proceeding conducted under Article VII of the N.Y. Public Service Law ("PSL").[1] For all of these reasons, no permits or authorizations should be granted for the Proposed Project until the administrative record is supplemented in the manner discussed below, and in the accompanying Expert Report titled, *Technical Review of Environmental Impact Assessments of the Hudson River Segment of the Champlain Hudson Power Express* (Normandeau Associates, 2013), which Entergy-IP hereby submits for the record.[2]

820-01

Background

A. Entergy-IP's Interest in the Proceedings

Affiliates of Entergy-IP own and operate three of the six operating nuclear-electric generating units located in New York: Indian Point Units 2 and 3 (together, "Indian Point"), located on the Hudson River in Westchester County, and the James A. FitzPatrick Station ("FitzPatrick;" collectively, the "Stations"), located on Lake Ontario. The three units have a cumulative capacity of approximately three thousand (3,000) megawatts ("MW"), and collectively produce approximately 16% of New York's electricity. On a day-in, day-out basis, Indian Point alone provides a substantial percentage of metropolitan New York City's electricity, and therefore anchors the base load supply that advances the electric-system reliability and affordability goals that underpin the New York economy. The operation of Indian Point furthers federal and State goals of reducing emissions of criteria pollutants in New York State, especially in the non-attainment area of downstate New York, as well as advancing New York's Climate Change goals.

Entergy Corporation ("Entergy") and its affiliates, including Entergy-IP, are committed to environmental stewardship, as evidenced by the recognition it has received for its environmental performance and work to promote sustainability. On the strength of its industry-leading environmental performance, Entergy was named to the 2013/2014 Dow Jones Sustainability World and North America Indices. Entergy is the only U.S. company in the electric utility sector named to the World Index for 2013/2014. This is the 12th consecutive year the Dow Jones Sustainability Index, which measures the sustainable value companies provide to stakeholders, has included Entergy. Entergy also was named to the CDP S&P 500 Climate Performance Leadership Index. CDP, formerly known as the Carbon Disclosure Project, is an international, not-for-profit organization providing the only global system for companies and

[1] See NYPSC Case No. 10-T-0139, *Application of Champlain Hudson Power Express, Inc. and CHPE Properties, Inc. for a Certificate of Environmental Compatibility and Public Need Pursuant to Article VII of the PSL for the Construction, Operation and Maintenance of a High Voltage Direct Current Circuit from the Canadian Border to New York City*, "Order Granting Certificate of Environmental Compatibility and Public Need" (issued April 18, 2013).

[2] A true and correct copy of the Normandeau technical report is annexed hereto as Exhibit 1.

2

GREENBERG TRAURIG, LLP ▪ ATTORNEYS AT LAW ▪ WWW.GTLAW.COM

820-01: Comment noted. The analysis of impacts on the environment from implementing the proposed CHPE Project provided in the EIS is based upon best available information which includes, but is not limited to, the documentation submitted as part of the CHPE Article VII siting proceeding. Other recent, relevant sources of information used in the analyses included the Tappan Zee Hudson River Crossing Project EIS, the USACE Environmental Assessment for Maintenance Dredging of the Hudson River Channel, NMFS's Biological Opinion on the effects of the continued operation of the Indian Point Nuclear Generating Units 2 and 3, the U.S. Department of Interior Bureau of Ocean Energy Management, Regulation, and Enforcement study on the Effects of EMFs from Undersea Power Cables On Elasmobranchs and Other Marine Species (Normandeau et al. 2011), and numerous other technical studies.

cities to measure, disclose, manage and share vital environmental information. Entergy is the only utility added to the performance index during the year just ended. Entergy was also named to the CDP S&P 500 Climate Disclosure Leadership Index. The disclosure index highlights companies with a strong approach to providing information on climate change. Only the top 10 percent of companies assessed are included on the index, with 53 companies making the list for 2013. These diverse awards underscore the Entergy companies' commitment to sustainability and the environment.

As related to the above referenced proceedings, Entergy-IP is particularly concerned about ensuring that any excavation and/or construction activities associated with the Proposed Project, to the extent conducted in the Hudson River adjacent to Indian Point, are undertaken with the utmost care and concern for public safety and the environment. Entergy-IP's operations are potentially affected during the CHPE project's construction phase, when dredging and cable-laying activities, with associated cable and support vessels, will occur just beyond the federally designated Safety and Security Zone at Indian Point. During the CHPE Project's operational phase, moreover, water temperature changes caused by the emanation of heat from the HVDC cables could alter the riverine environment in front of Indian Point in such a way as to directly impact critical operations at Indian Point. In other words, Entergy-IP's operations, which occur directly adjacent to an underwater portion of the Proposed Project, may be directly and adversely affected by the activities that would be authorized by CWA § 404(b) and other approvals CHPE seeks in these proceedings.

820-02

820-03

B. Description of Proposed Project

The Proposed Project includes: (i) an approximately 336-mile, HVDC transmission line that would run from the New York State border with Quebec to a new converter station in Astoria, Queens, largely via an underwater route; and (ii) an approximately five mile, underground alternating-current ("AC") line running from the Astoria converter station site to the existing Rainey Substation. *See* USACE, Public Notice, dated Oct. 2, 2013 ("October Notice"), Attachments 1, 3-4. In addition to being buried in or laid on the beds of Lake Champlain and the upper Hudson River, the HVDC Line would pass through multiple towns and cities along the 336-mile route, and be buried within two State-owned parks in Rockland County, prior to reentering and passing under the Hudson River, then the Harlem and East Rivers, and making landfall in Astoria, Queens. Upon making landfall, the HVDC Line would terminate at a converter station where the Direct-Current ("DC") power transmitted over the line from Canada would be converted into AC power for distribution to New York City customers. *See* DEIS, § 2.4.1.

The HVDC Line would be installed along the following route: From the Quebec border, the HVDC Line would enter into, and run under (or be laid on the bed of), Lake Champlain for approximately 101 miles, and would occupy the Federally-maintained navigation channel for part of that length. *See* October Notice, Attachment ("Att.") 2; Att. 3, Sheets 2-26. The HVDC Line would exit at the southern terminus of Lake Champlain in the Town of Dresden, Washington County, via Horizontal Directional Drilling ("HDD") – the practice of boring a hole with drilling equipment directionally into the ground to acceptable levels, and then gradually orienting the drill bit to run parallel to the surface of the earth. October Notice, p. 6. From there, the HVDC Line would be buried underground, first for approximately 11 miles within the Route

820-02: As noted in the EIS, work in the proximity of any single location along the segment would likely last no more than a few days to up to 2 weeks. Measures would be implemented to ensure that construction vessels avoid impacts on vessel traffic along the construction corridor. Further, construction activities would not preclude access to or from the federally designated Safety and Security Zone at Indian Point, and no dredging activities associated with the proposed CHPE Project are proposed in this location.

820-03: As indicated in the EIS, the Applicant calculated thermal impacts on water quality from operation of the transmission line based upon a burial depth of 4 feet (1.2 meters). The source methodology for this analysis was provided by Worzyk, T. 2009. *Submarine Power Cables: Design, Installation, Environmental Aspects*, Springer-Verlag, Berlin, as cited in Exhibit 24 of the 2012 CHPE Joint Proposal. At a burial depth of 4 feet (1.2 meters), the predicted increase in temperature at the sediment surface directly above the cables, with no cable separation, was estimated to be 1.8 °F (1.0 °C), and the temperature change in the water column would be less than 0.01 °F (0.004 °C). Based upon this analysis, impacts are expected to be negligible because this very small temperature change would be quickly dissipated in the water column. Further, the transmission line would be installed at revised depths prescribed in the October 2013 USACE New York District Public Notice (NAN-2009-01089-EYA) for the proposed CHPE Project, which are greater than the depths assumed in the EIS. Therefore, the heat that would be emitted into the water column would be less than that analyzed in the EIS. The burial depth information has been clarified in Sections S.6.2 and 2.4.10.1 of the Final EIS.

22 right-of-way through several towns in Washington County, and then for 65 miles along a railroad right-of-way owned by Canadian Pacific Railway, and running through the Town of Whitehall and several towns in Saratoga and Schenectady Counties until it would reach the City of Schenectady. October Notice, Att. 4, Sheets 1-194.

From the City of Schenectady, the HVDC Line would pass underground southwest through various private properties and rights-of-way until it would reach the City of Rotterdam, from which it would run through a railroad right-of-way owned by CSX that travels through the Towns of Bethlehem and Coeymans in Albany County, and then through the Village of Athens and the Town of Catskill in Greene County. October Notice, Att. 4, Sheets 195 *et al*. At that point, the HVDC Line would enter the Hudson River via a tunnel excavated by means of HDD. The HVDC Line would then travel 67 miles under (or be laid on the bed of) the Hudson River, until it would reach a point north of Haverstraw Bay. *Id.*, Att. 3, Sheets 29-46. The HVDC Line would bypass Haverstraw Bay for approximately 7.66 miles, via a combination of trenching and no less than three additional excavations by HDD that would enable the line to run under the Stony Point State Historic Park and the Rockland State Park. *Id.*, Att.3, Sheets 46-47.

The HVDC Line would then re-enter the Hudson River via further HDD and run approximately 21 miles to the Spuyten Duyvil Creek, and then into the Harlem River for 6.6 miles, where it would again occupy the Federally-maintained navigation channel. October Notice, Att. 2; Att. 3, Sheets 47-54. After leaving the Harlem River, the line would run along a 1.1 mile right-of-way until it enters and crosses under the East River, and then onto land in Astoria, Queens. *Id.*, Att. 3, Sheet 53. The submarine portions of the HVDC Line would collectively span almost 200 miles in length, making it the longest submarine transmission line in the United States.[3]

In July 2010, the Federal Energy Regulatory Commission ("FERC") granted CHPE's request for market-based rate authority, and authorized CHPE to pre-subscribe as much as 75% of the HVDC Line's transmission capacity to one or more "anchor tenants."[4] HQ Energy Services (US) Inc. ("HQUS"), the power-marketing subsidiary of Hydro-Quebec (a Canadian, state-owned utility), has identified itself as the most likely purchaser of those pre-subscription rights, and is actively seeking changes to New York's Renewable Energy Portfolio Standard ("RPS") eligibility criteria to obtain State subsidy of that purchase.[5] Because the HVDC Line

[3] The Proposed Project also includes the "Astoria-Rainey Cable" – an approximately five mile long, underground AC transmission line, which would connect the Astoria Substation to the Consolidated Edison Company of New York, Inc.'s existing Rainey Substation.

[4] *See* FERC Docket No. ER10-1175, "Order Authorizing Proposal and Granting Waivers" (issued July 1, 2010). Additionally, as noted below, Transmission Developers Inc. ("TDI") – an affiliate of CHPE – and Hydro-Quebec each submitted responses in another State proceeding noting Hydro-Quebec's proposal to become the anchor tenant for the CHPE project.

[5] NYSPC Case 13-M-0412, *et al.*, *Petition of New York State Energy Research Development Authority to Provide Initial Capitalization for the New York Green Bank*, "Comments of HQ Energy Services (US) Inc." (filed October 28, 2013) at p. 3 ("In addition to the direct economic and environmental benefits intrinsic to hydropower, incentives for hydropower could enhance the prospects for successful completion of the proposed Champlain Hudson Power Express ('CHPE') transmission facilities as well as future AC transmission investments currently being pursued to relieve upstate congestion by promoting increased hydropower deliveries over these facilities.").

has no intermediate access points in New York – *i.e.*, "on ramps" – it is designed and intended to inject Canadian power directly into the New York City load pocket.[6]

C. Construction Methodology

The aspects of the Proposed Project requiring underwater cable installation activities would be undertaken 24-hours per day/7-days per week in most areas, with nighttime shutdowns occurring only in select sensitive receptor areas. The continual construction schedule would thus result in the operation of heavy machinery and equipment (*e.g.*, generators, water pumps, and vessel engines) during all hours of the day and night. *See* Supplement to Dec. 10, 2010 Application & Responses to Additional Information Request for the CHPE Project ("Supplemental Application"), Appendix ("App.") A-3, pp. 9-10, 15.[7] The primary method for laying and burial of the underwater HVDC cable would be by jet plowing – a process that can simultaneously trench, lay and embed the cable with one device. This process is used in areas where the sediments are sufficiently soft, without significant rocky material. *Id.*, pp. 16-18. For sections where jet plowing is not possible, "plowing" and "dredging" of the lake and/or river bed would be necessary. *Id.*, p. 19. The decision regarding the type of equipment necessary to lay and bury the cables underwater would depend on precise field conditions that are unknown at this time. *Id.*, p. 15. 820-04

The application shows that installation of the submarine portions of the HVDC Line would cumulatively affect as much as 347 acres of USACE jurisdictional waters of the United States. October Notice, p. 6. Additionally, in areas of hard substrate on lake and river bed, and in instances where the HVDC Line would cross over existing underwater utility infrastructure, the record shows that work crews would lay the cable on the bed underlying the applicable water body and cover it with concrete mats. Supplemental Application, p. 21. CHPE only recently acknowledged the precise locations of these concrete mats and the fact that such matting would cover approximately 4.45 miles of the HVDC Line.[8] Moreover, while the October Notice specifies that the Proposed Project would permanently affect 10.5 acres of forested and non-forested wetlands and temporarily affect 67.4 acres of such wetlands, October Notice, pp. 7-8, the application shows that the impact would be much greater. Indeed, as explained in the 820-05

[6] After the conclusion of the Proposed Project's State level Article VII proceeding, the New York Public Service Commission ("NYPSC") initiated a new proceeding, the purpose of which is to examine AC upgrades to New York's Bulk Transmission System that would relieve existing transmission constraints affecting electric transfers between New York's "Central East" and "UPNY-SENY" electrical interfaces. The relief of such constraints is intended to increase the flow of electricity from upstate and western New York into the New York City load pocket. NYPSC Case 12-T-0502, *Proceeding on Motion of the Commission to Examine Alternating Current Transmission Upgrades*, "Order Instituting Proceeding" (issued November 30, 2013). Numerous overland AC alternatives have since been filed and are under active consideration in that proceeding. *See generally*, NYPSC Case 13-E-0488, *In the Matter of AC Transmission Upgrades – Comparative Proceeding*. In essence, those newly proposed AC projects serve exactly the same function, from a transmission system perspective, as the Proposed Project.

[7] Although the Supplement is not dated, it appears that it was provided to USACE via a letter from HDR Engineering, Inc., dated February 29, 2011. Based on the information in the Supplement, however, the date specified on the letter must be incorrect; it should be dated 2012, not 2011. Of note, USACE has not posted any of CHPE's application documents on its website, or provided an appropriate website link to the application documents. In its October Notice, USACE provided a link to DOE's website but that website does *not* provide any information related to the application with USACE. 820-06

[8] *See* Supplemental Application, App. A-3, Table 5-1.4.

820-04: Subsequent to their initial filings with the USACE and the October 2013 Public Notice, the Applicant has continued to provide more detailed information concerning transmission line burial depths, the equipment and methodologies that would be used as part of the cable installation process, and the locations and extent of concrete mats that could be used to cover the transmission line where full burial is not possible. The environmental analyses contained in the EIS are based on reasonable understanding of the likely construction methods to be employed in the installation of the transmission line.

820-05: Based on refined analysis of concrete mat requirements provided by the Applicant (see response to Comment 820-04), up to approximately 3.0 miles (4.8 km) of the transmission line, representing approximately 1.5 percent of the aquatic portion of the entire route, may require the use of concrete mats to cover the portions of transmission line that could not be buried.

820-06: The USACE Public Notice Web site for the proposed CHPE Project (http://www.nan.usace.army.mil/Missions/Regulatory/RegulatoryPublicNotices/tabid/4166/Article/18814/nan-2009-01089-eya.aspx) provides information on the CHPE Section 404 Permit Application.

annexed Expert Report, the application appears to show that approximately 25.4 acres would be permanently impacted and 168 acres temporarily impacted in the Hudson, Harlem and East Rivers. *See* Expert Report, Table 1. The record needs to be clarified for a better understanding of the extent to which wetlands would be impacted by the Proposed Project. However, given the discrepancy in impacts to wetlands, the compensatory mitigation identified in the October Notice appears to be far too minimal and needs to be supplemented.

820-07

I. The Proposed Route for the HVDC Line Does not Comply with the Rivers and Harbors Appropriation Act of 1899

Section 10 of the RHAA prohibits "the creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States." 33 U.S.C. § 403. Section 10 also provides that it shall be unlawful to (i) "build or commence the building of . . . structures . . . in any . . . navigable river, or other water of the United States," or (ii) "excavate or fill . . . the channel of any navigable water of the United states, unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of War prior to beginning same." *Id.* Three aspects of the submarine routing of the HVDC Line included in CHPE's application are prohibited under in this provision: (a) 9-miles of cable that would run coincident with federal navigation channels in Lake Champlain and the Harlem River; (b) a 4.45-mile portion of the cable that would be anchored to the Hudson River sediment by concrete matting; and (c) all aspects of the transmission cable to be routed under Lake Champlain to the extent (i) the HVDC Line is to be surfaced laid with no covering at depths of greater than 150'; and (ii) the burial depth is less than four feet elsewhere in Lake Champlain.[9]

820-08

A. Aspects of the Proposed Project Route That Coincide with Federal Navigation Channels Are Prohibited Under RHAA § 10

Attachment 3 of the October 2013 Notice provides a detailed map-set of the underwater aspects of the CHPE's proposed cable route. The map-set shows that the proposed cable would be located directly within Federal navigation channels or their side slopes in the following areas: (i) mile markers 98 through 101 – in Lake Champlain near the Town of Dresden; and (ii) mile markers 324-30 – which correspond to the entire Harlem River. Attachment 2 of the October 2013 Notice provides a proposed cable route description table, which also indicates that the aspects of the cable route identified in (i) and (ii) above would be located within Federal navigation channel or side slopes.

Stacey M. Jensen, USACE Section Chief of the Eastern Permits Section, provided a letter to CHPE, dated July 5, 2011 ("July 2011 Letter"), in which she explained that construction of permanent structures, such as a transmission cable, linearly within a federal navigation channel is prohibited under RHAA § 10:

> The Corps of Engineers does not permit permanent structures with the length of the right of way, including side slopes, of a Federal navigation

[9] An affiliate of Entergy's raised the legality of these aspects of the Proposed Project in the proceedings held before the NYPSC. The NYPSC specifically deferred to USACE. *See* NYPSC Case 10-T-0139, *supra*, "Order Granting Certificate of Environmental Compatibility and Public Need," at p. 72 ("It is simply premature to guess the outcome of USACE's review.").

820-07: Comment noted. As indicated in the 2013 USACE Public Notice for the proposed CHPE Project and Section 5.2.8 of the EIS, the proposed CHPE Project would directly impact a total of 77.7 acres (31 hectares) of wetlands, including temporary impacts on 67.4 acres (27.2 hectares) and permanent impacts on 10.3 acres (4.2 hectares). In reference to Table 1 in the comment, areas designated as SCFWH might contain a range of habitats, including wetlands, that support fish and wildlife; however, SCFWH areas are not synonymous with wetlands. Although the proposed CHPE Project would transect SCFWH areas (as noted in Section 3.1.4.1 of the EIS), the Project would not cross or impact any wetlands contained therein. Crossings of wetlands located within SCFWHs have been clarified in Section 3.3.8 of the Final EIS.

820-08: Installation of the transmission line within federally managed navigation channels was and continues to be coordinated with the USACE and is addressed in the USACE Public Notice. A total of 3.0 miles of the transmission line (representing approximately 1.5 percent of the entire aquatic portion of the installation route) would be covered by concrete mats. The extent to which concrete mats would be used has been clarified in Section 2.4.2 of the Final EIS. The Applicant continues to coordinate with the USACE on burial of the transmission line.

> channel (perpendicular crossings are permitted). . . . For this project to be deemed acceptable from a navigation perspective, the cable alignment must remain outside the Federal right of way. Minimal utility crossings perpendicular to the Federal navigation channel will be evaluated on a case by case basis in consultation with the regional harbor operations committees for navigation impacts when such crossings are unavoidable.

See Exhibit B, p. 1.[10] After identifying the portions of the proposed route located within federal navigation channels, including along mile markers 98-101 and mile markers 324-30, the letter requested that CHPE "[p]lease correct" the deficiency. Id., p. 5.[11]

In its Supplemental Application (at p. 3), CHPE acknowledged "propos[ing] to align the cables within close proximity to the Federal navigation channels located in the narrows of Lake Champlain . . . and the Harlem river." Rather than amending the proposed cable route to fully avoid the noted federal navigation channels, however, CHPE "request[ed] a meeting with USACE engineering staff to review this proposed configuration." *Id.* The record provides no evidence of whether such a meeting was scheduled and, if so, the matters discussed at the meeting, or its outcome. It would be inappropriate for the USACE to base its determination on private agreements reached at a non-public meeting, particularly since the basis and justification for any such agreements appear nowhere in the written record of this proceeding and thus cannot be subjected to public scrutiny. Nevertheless, whether or not such a meeting occurred, the final application documents conclusively show that the proposed route would coincide with the length of two federal navigation channels in clear violation of RHAA § 10.

B. Use of Concrete Matting to Anchor Transmission Cables to the Bed of the Hudson River is Prohibited

In its original application, dated December 6, 2010, CHPE explained that protective covering, such as concrete matting, would be mounted on top of the transmission cables in certain areas where the cable is surface laid because submarine burial is not feasible:

> In limited areas along the Project route, surficial geology may not permit adequate cable burial depths to ensure adequate cable protection. In these areas, the cables will be laid on the lake/riverbed with protective coverings, such as rip-rap, articulated concrete mats, grout/stone filled mattresses, or within a protective duct. Areas where these methods may occur are at existing pipeline or cable crossings, small unavoidable bedrock areas, and potentially in areas of highly contaminated sediments.

[10] This requirement is consistent with Nationwide Permit No. 52 (Water-Based Renewable Energy Generation Pilot Projects), which provides that "[s]tructures may not be placed in established danger zones or restricted areas as designated in 33 CFR part 334, Federal navigation channels, shipping safety fairways or traffic separation schemes established by the U.S. Coast Guard (see 33 CFR part 322.5(l)(1)), or EPA or Corps designated open water dredged material disposal areas."

[11] The July 2011 Letter also insists that CHPE take measures to avoid Haverstraw Bay – which also corresponds with a federal navigation channel. CHPE has since modified the route to avoid Haverstraw Bay, although it still affects other Significant Coastal Fish and Wildlife Habitats ("SCFWHs").

See Application, dated December 6, 2010, § 4.2.4. In response to this aspect of CHPE's application, USACE notified CHPE in the July 2011 Letter (at p. 2) that the use of concrete matting for this purpose is prohibited: "Laying cables in lake/river bed in limited areas with protective coverings would not be acceptable. All cables must be buried."[12]

Nevertheless, as noted above, it appears that CHPE's final application includes requests to (1) surface lay the cable in Lake Champlain at depths of greater than 150' with no protective covering (other than the cable sheath); and (2) place approximately 4.45 miles of concrete matting over the HVDC Line in the Hudson River. Although CHPE's Supplemental Application (at p. 4) directly quotes USACE's notification that "protective coverings would not be acceptable," it provides a response that fails to address the matting question, noting only that certain parties in the completed proceeding before the NYPSC have "agreed that non-burial within Lake Champlain would be acceptable provided a report prepared by a recognized authoritative technical consultant demonstrated and concluded that public health and safety can be appropriately protected without such burial, and that the proposed installation method was approved by the Commission."

CHPE also included with its Supplemental Application an appendix – Appendix K – that purports to identify instances where surface laying transmission cable within Lake Champlain may be appropriate; however, nothing in the appendix addresses the appropriateness of using concrete matting to anchor transmission lines on the bed the Hudson River. Rather than providing any further written information in response to USACE's notification, CHPE again "requested a meeting with USACE staff to discuss this issue." Supplemental Application, p. 4. As previously stated, it would be inappropriate for the USACE to base its determination on private agreements reached at a meeting with CHPE that was not the subject of a public notice.

C. The Portions of Transmission Cable to Be Buried under Lake Champlain to a Depth of Less than Four Feet are Prohibited

Finally, with respect to the aspect of the HVDC Line to be situated within Lake Champlain, CHPE requested in its Supplemental Application (at p. 4) that USACE waive the requirement that the cable be covered at depths of greater than 150', and waive the requirement that, in all other cases in Lake Champlain, the cable be buried to a depth of no less than four feet. *See also id.,* App. A-3., p. 15 (the underwater transmission cables will be manufactured with armoring and buried primarily . . . from zero to four feet within Lake Champlain north of Crown Point, and three to four feet deep within Lake Champlain south of Crown Point").[13] USACE rejected this request in the October Notice (at p. 4), which specifies that "[t]he proposed burial

[12] The prohibition against the use of protective covering is consistent with Condition (b)(2)(iii) of the New York District's Nationwide General Permit No. 12 (Utility Line Activities), which requires instead that all transmission cable must be buried and to a certain depth: "In cases where the channel's existing bottom is already deeper than the authorized project depth, the utility line shall be located a minimum of 4 feet below the existing bottom in sediment .

[13] CHPE had also requested a meeting with USACE staff to discuss this issue. The results of that meeting, if any, have not been made public.

would be 4 feet below the bottom of Lake Champlain . . ."[14] Should USACE decide to waive this requirement, Entergy-IP requests that the record be reopened so that such a waiver may be properly evaluated and subjected to public comment.

II. The Application Fails to Meet the Minimum Requirements Specified under Section 404(b) of the Clean Water Act

A. Applicable Legal Standard

Section 404 of the CWA requires a permit for the discharge of "dredged or fill materials" into "waters of the United States." 33 U.S.C. § 1344(a). To issue a Section 404 permit, the USACE must ensure that the Proposed Project complies with the Guidelines established by the U.S. Environmental Protection Agency ("EPA") under 40 C.F.R. Part 230. The critical provision of the Guidelines is the requirement that "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem." 40 C.F.R. § 230.10(a). USACE must deny a permit application under Section 404 if the application does not contain "sufficient information" for the agency "to make a reasonable judgment as to whether" the proposed project constitutes the least environmentally damaging practicable alternative ("LEDPA"). *Id.*, § 230.12(a)(3)(iv).

The purpose of LEDPA is to *avoid* environmental impacts; *i.e.*, mitigation is required only after a showing that environmental impacts could not be avoided. *See* 75 Fed. Reg. 85,336, 85,340 (Dec. 24, 1980) ("if destruction of an area of water of the United States may be avoided, it should be avoided"). Under the terms of § 230.10(a), the ultimate project alternative approved by USACE must be *both* (i) the least environmentally damaging and (ii) practicable. The burden of demonstrating that no such alternative exists "is the sole responsibility of the applicant." *See* USACE, "HQUSACE Review & Findings: Old Cutler Bay Permit 404(q) Elevation" ("*Old Cutler*"), dated Sept. 13, 1990, p. 5.

In addition to the LEDPA test, Section 230.10(a)(3) establishes a rebuttable presumption with respect to a *non-water dependent activity* undertaken within a *special aquatic site*:

> [w]here the activity associated with a discharge which is proposed for a *special aquatic site* . . . does not require access or proximity to or siting within the special aquatic site in question to fulfill its basic purpose (*i.e., is not 'water dependent'*), practicable alternatives that do not involve special aquatic sites are presumed to be available . . ."

Id. (emphasis added). Under §§ 230.3(q)(1), and 230.40-.43, the term "special aquatic site" is defined to include all wetlands, mudflats, vegetated shallows, and all sanctuaries and refuges designated under State and federal laws or local ordinances to be managed principally for the preservation and use of fish and wildlife resources. In this respect, the October Notice estimates – albeit inaccurately (see Part C below) – that 10.5 acres of wetlands would be permanently impacted and 67.4 acres of wetlands would be temporarily impacted because of the Proposed

[14] USACE informed CHPE in its July 2011 Letter (at p. 4) that "[o]utside of channel areas, the burial depth requirement is four feet." This requirement is also consistent with Condition (b)(2)(iii) of New York District's Nationwide General Permit No. 12 (Utility Line Activities).

Project. To obtain approval for the Proposed Project, CHPE must show by "clear and convincing evidence" that there are no practicable alternatives that would not cause a discharge of dredge and fill material into those wetlands. *See* USACE, In re: Plantation Landing Resort, Inc. ("*Plantation Landing*"), p. 12;[15] *see also* 40 C.F.R. § 230.10(a)(3) (practicable alternatives to non-water dependent activities are presumed to be available "unless clearly demonstrated otherwise"); 45 Fed. Reg. 85,336, 85,339 (Dec. 24, 1980) ("where an applicant proposes to discharge in a special aquatic site it is his responsibility to persuade the permitting authority that . . . these presumptions have clearly been rebutted").

Notably, the rebuttable presumption under the existing version of § 230.10(a)(3) replaced a "special, irrebutable presumption" that existed in the original 1975 regulation. *See* 45 Fed. Reg. at 85,339/col. 2. EPA made this change based upon its "experience" that (i) it was "not always the case" that "alternatives to wetlands were always less damaging to the aquatic ecosystem," and (ii) "there could be substantial impacts on other elements of the environment and only minor impacts on wetlands." *Id.* In other words, EPA replaced the "irrebuttable presumption" with a "rebuttable presumption" in recognition of the fact that a proposed non-water dependent project to be located within a special aquatic site may not always be the most environmentally damaging alternative. Accordingly, this aspect of the regulation was changed to acknowledge that, with respect to a non-water dependent project to be located within a special aquatic site, one water-based alternative may be preferable to other water-based alternatives. The change was not intended to make a water-based alternative preferable to land-based alternatives.

Here, USACE appropriately determined in its July 7, 2010 letter to CHPE (at p. 2) that "[t]he proposed power line project is not a water dependent use." It appears that USACE based this determination on the commonsense finding that transmission power lines, by their very nature, are not water dependent. This fact is further evidenced by the submissions in the NYPSC's ongoing AC Transmission proceeding (NYPSC Case 12-T-0502; Case 13-E-0488, *supra*), in which all but one of the proposals to relieve congestion on New York's bulk transmission system would occupy existing, overland rights of way.[16] Accordingly, the rebuttable presumption under Section 230.10(a)(3) is applicable to *all* aspects of the Proposed Project that affect a "special aquatic site," and cannot be overcome in this instance.

CHPE has also failed to consider that the aspects of the Hudson River through which the Proposed Project would be routed also constitute a "special aquatic site." Specifically, the State of New York enacted the Hudson River Estuary Management Act ("Act"), which establishes a "Hudson River estuarine district" that includes "the tidal waters of its tributaries and wetlands from the federal lock and dam at Troy to the Verrazano-Narrows." *See* N.Y. Envtl. Conserv.

[15] As noted in the *Plantation Landing* decision, the presumption under Section 230.10(a)(3) is intended to "increase the burden on an applicant for a non-water dependent activity to demonstrate that no practicable alternative exists to his proposed discharge in a special aquatic site." *Id.*, p. 3; *see also Old Cutler*, p. 5 ("presumption should have the effect of forcing a hard look at the feasibility of using environmentally preferable sites to discourage avoidable discharges in special aquatic sites") (internal quotes omitted); "USACE, HQUSACE Findings: Hartz Mountain Development Corp.," August 17, 1989, at 3 ("if a 404 discharge may reasonably be avoided, it should be avoided") (internal quotes omitted);

[16] A diagram of the competing proposals in the NYPSC AC Transmission proceeding, drawn from the record of that proceeding, is annexed hereto as Exhibit 2.

Law ("ECL") § 11-0306(1). The purpose of the Act is to "protect, preserve and, where possible, restore and enhance the Hudson River estuarine district," *id.* § 11-0306(2). Since enactment of the Act, five sites have been designated as part of the Hudson River National Estuarine Research Reserve. Additionally, included within the Hudson River are numerous areas that have been formally designated as SCFWHs, several of which would be adversely affected by the HVDC Line. CHPE's failure to appropriately consider the Hudson River as a "special aquatic site" in its permit application is grounds to deny the application. Moreover, as shown below, CHPE has failed to show why practicable measures are not available to *avoid* both the wetlands that would be impacted by the Proposed Project, as well as the Hudson River.

B. CHPE's Application Fails to Show That The Proposed Project is the Least Environmentally Harmful Practicable Alternative

1. The Proposed Project Constitutes the Most Environmentally Harmful Alternative

CHPE has selected the *most* environmentally harmful alternative from among the range of alternatives. Deeming alternatives that avoid the Hudson River Estuary as "not practical" eliminates them from further consideration in the alternatives analysis. Thus, according to CHPE, the only remaining practicable alternative was the submarine route through the Hudson River Estuary. The environmental impacts of reasonable alternatives are therefore not considered as part of CHPE's alternatives analysis in making this selection, and a full environmental cost benefit analysis was not performed as it would be for a water dependent use project to monetize the value of the aquatic resources affected as both direct use and non-use benefits (and costs). By default, the submarine alternative appears to be the "least environmentally damaging" merely because it is the *only remaining* alternative. However, the 404(b)(1) guidelines stipulate that the project proponent must demonstrate there is no "practicable alternative . . . which would have less adverse impact on the aquatic ecosystem" and "*does not have other significant adverse environmental consequences*." 40 C.F.R. § 230.10(a) (emphasis added).

There is simply no way for CHPE to meet this standard. CHPE's application advances the claim that no other reasonable, non-water dependent alternatives to the Proposed Project exist, when in fact numerous examples of such alternatives are currently under active consideration by the NYPSC in the AC Transmission proceeding (NYPSC Case 12-T-0502, Case 13-E-0488, *supra*). At the least, CHPE's Section 404(b) application, and the DEIS, must be supplemented to include a meaningful consideration of these alternative means of meeting the overall DOE goal of relieving congestion in the New York State bulk transmission system. 820-09

2. CHPE Has Failed to Make the Requisite Showing that Each of the Alternatives it Rejected is Impracticable

An alternative is practicable where "it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." 40 C.F.R. § 230.10(a)(2). Here, CHPE has essentially acknowledged that each of the overland alternatives it evaluated is feasible. *See* "Updated Least Environmentally Damaging Practicable Alternative Evaluation," dated July 3, 2013, attached as Att. I to Application (hereinafter,

820-09: As presented in Section 1.2 of the EIS, the purpose of and need for the DOE's action is whether or not to issue a Presidential permit to the Applicant for their proposed transmission line crossing of the U.S./Canada international border, not to identify methods of relieving congestion in the New York State bulk electric power transmission system. Continued operation or development of other new in-state power sources or transmission lines is not the subject of the Presidential permit application and is outside the scope of the EIS.

"LEDPA Evaluation"), § 3. Moreover, none of the identified logistical challenges associated with routing the HVDC Line overland are insurmountable as evidenced by the fact that *virtually all transmission lines in New York have historically been routed overland.* Indeed, the notion that no practicable overland alternative routes for the HVDC Line exist is belied by the history of New York's bulk transmission system as it has developed over the last 100-plus years. Virtually all bulk transmission lines operating at 230 kilovolts and above in New York are routed overland. *See* N.Y.S. Energy Planning Bd., "Transmission & Distribution Reliability Study & Report" dated Aug. 2012, at p. 11, Figure 2.[17]

This point is reinforced by the pending submissions in the NYPSC's AC Transmission proceeding, in which a group of electric distribution utility companies calling itself the "New York Transmission Owners" ("NYTOs") has filed for permission to construct two new transmission projects, both of which would be routed overland: (i) Second Ramapo to Rock Tavern 345 kV Line; and (ii) Second Oakdale to Fraser 345 kV Line. Several merchant transmission companies, including NextEra Energy Transmission, LLC, Boundless Energy NE, LLC, and North America Transmission, LLC, have each submitted overland transmission alternatives to what the NYTOs' submitted, including a proposal to construct a Marcy to New Scotland 345 kV Line. Thus, irrespective of CHPE's evaluation, it is just not credible to conclude that overland routes are impracticable.[18]

Nor is it credible, as CHPE suggests, to find that overland alternatives are too costly – another of the elements of impracticability. LEDPA Evaluation, pp. 3-3 to 3-5. The standard to be applied when examining the cost of an alternative under Section 230.10(a) is whether the alternative is "unreasonably expensive" (45 Fed. Reg. at 85,343), which, in turn, is based on "whether the projected cost is substantially greater than the costs normally associated with the particular type of project." *See* EPA, "Memorandum: Appropriate Level of Analysis Required for Evaluating Compliance with the Section 404(b)(1) Guidelines Alternatives Requirements."[19] Again, given that *only* overland alternatives are being examined in the context of the NYPSC's AC Transmission Proceeding, the suggestion that overland alternatives are *unreasonably* expensive when compared to the Project is groundless.

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[17] The Report can be found at http://www.nysenergyplan.com/Reliability-Study-and-Report/reliabilitystudy.aspx. There are two submarine transmission lines that provide electricity to Long Island (the Neptune and Cross-Sound lines) and one that provides electricity to New York City (the Bayonne line). About two-thirds of the 65 mile long Neptune line – or 44 miles – extends under New York's waters. *See* Map of Project at http://neptunerts.com/ the-project/. About half of the 24-mile Cross-Sound line – or 12-miles – is located in New York's waters. *See* http://www.crosssoundcable.com/. The Bayonne line extends approximately 2.5 miles under New York waters. *See* http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId= {8BF803F7-E587-439E-AB32-83C01BB41401}. By contrast, there are currently 4,000 miles of bulk transmission lines operating at 230 kilovolts and above in New York. Report, p. 10. Thus, submarine transmission lines represent about 1.5% of the bulk transmission system in New York.

[18] CHPE also refers to the discontinued proceedings related to the New York Regional Interconnection ("NYRI") project, apparently to imply that construction of overland bulk transmission cables is logistically problematic. *See* LEDPA Evaluation, pp. 1-3 to 1-5. The NYRI project, however, is irrelevant to a determination of logistics here, given that the route that would have been traversed by the NYRI project is entirely different from any of the overland alternative routes considered by CHPE. Furthermore, consideration of the difficulty in obtaining political support for overland transmission projects would set a bad precedent in that it would create an incentive for future transmission projects to be routed through New York's waterways.

[19] The Memorandum can be found at http://water.epa.gov/lawsregs/guidance/wetlands/flexible.cfm.

In any event, to address the cost issue, CHPE also makes an inapposite comparison of the HVDC Line to four other submarine transmission lines constructed in the United States. For example, CHPE points to the Juan de Fuca Project, which connects power sources on View Royal, British Columbia, to Port Angeles in the State of Washington. LEDPA Evaluation, p. 3-4. However, that line had to be routed under the Strait of Juan de Fuca for the simple reason that View Royal is located on an island.[20] Additionally, the submarine route selected in the context of the Juan de Fuca Project constituted the shortest distance between View Royal and Port Angles, and the line was routed across the Strait, rather than along the length of a lake and river, which would be the case here. Each of the other projects identified by CHPE similarly was routed across, rather than along the length of, the applicable water body, and vastly shortened the distance between power source and end point. *Id.* Here, by contrast, CHPE went out of its way to ensure that the HVDC Line would be routed through the length of waterways.

Moreover, CHPE makes an inapt comparison between the costs per MW of the Proposed HVDC Line versus the cost per MW of the submarine transmission lines installed in the context of the four referenced projects. The appropriate comparison should be cost per mile, not cost per MW, for the simple reason that there is nothing that requires the HVDC Line to be connected to a power source in Canada. The fact is that CHPE has proposed to construct a transmission line that is close to two times the length of the Northern Pass line (the longest one on the list). Again, as the submissions in the NYPSC AC Transmission proceeding show, the HVDC Line is not the only solution to congestion relief. The incredibly long span of the HVDC Line serves to prove only that the project itself is impracticable. A more appropriate cost per mile comparison shows that the CHPE project is by far the *least* expensive of the projects evaluated.

	CHPE Project	Neptune	Port Angeles-Juan de Fuca	Trans Bay	Northern Pass
Overall Cost	~$ 2.0 billion	$600 million	$750 million	$505 million	$1.1 billion
Distance	336 miles	65 miles	31 miles	57 miles	180 miles
Cost per Mile	$5.95 million	$9.2 million	$24.2 million	$8.9 million	$ 6.1 million

CHPE is proposing to build the longest submarine HVDC transmission line in the country's history. Unlike the projects CHPE evaluates for comparison purposes, there is simply no compelling reason why the Proposed Project needs to be routed through New York's waters to the extent proposed. As evidenced by the lengthy discussion in the LEDPA Evaluation regarding the NYRI proceeding, CHPE intended from the beginning to route the HVDC line through State waterways specifically because of perceived political – not environmental or feasibility – problems related to routing transmission lines overland. LEDPA Evaluation, pp. 1-3 to 1-5. That simply cannot form the basis of a project that the USACE acknowledges does not qualify as a water dependent use. The waterways of New York should not be used as a mechanism to make an impracticable project less expensive.

[20] A map of the project can be found at http://jdfcable.com/maps.shtml.

C The Proposed Compensatory Mitigation Recommended by USACE is Far Too Minimal as a Matter of Law

EPA's CWA § 404(b) Guidelines also require compensatory mitigation associated with the loss of any aquatic resources, including wetlands. *See* 40 C.F.R. Subpart J. Specifically, pursuant to 40 C.F.R. § 230.93(a)(1), the required compensatory mitigation "must be commensurate with *the amount* and type of impact that is associated with a particular [] permit." (Emphasis added). Again, as explained in the annexed Expert Report (Table 1), information from CHPE's application shows that approximately 25.4 acres would be permanently impacted in the Hudson, Harlem and East Rivers – much greater than the 10.5 *total* acres identified in the October Notice. Thus, because CHPE's proposed compensative mitigation is based on an incorrect amount of wetlands impacted, it must be rejected. At minimum, USACE must require additional compensatory mitigation, and another opportunity for public comment to ensure that the mitigation is appropriate.

III. The DEIS Fails To Take the Requisite "Hard Look" At the CHPE Project's Environmental Impacts

NEPA "is our basic national charter for protection of the environment." 40 C.F.R. § 1500.1(a). It is a procedural statute that requires federal agencies to assess the environmental consequences of their actions before those actions are undertaken. In *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360 (1989), the United State Supreme Court noted that "NEPA promotes its sweeping commitment to prevent or eliminate damage to the environment and biosphere by focusing Government and public attention on the environmental effects of proposed agency action" so that the "agency will not act on incomplete information, only to regret its decision after it is too late to correct." *Id.* at 371 (internal quotation marks and citations omitted).

"At the heart of NEPA is a requirement" that for every "major Federal action[] significantly affecting the quality of the human environment," the agency involved must prepare a "detailed statement" regarding, among other things, (i) "the environmental impact of the proposed action," (ii) "any adverse environmental effects which cannot be avoided should the proposal be implemented," and (iii) "alternatives to the proposed action." *Dep't of Transp. v. Pub Citizen*, 541 U.S. 752, 763 (2004) (quoting 42 U.S.C. § 4332(2)(C)). In *Winter v. Natural Resources Defense Council, Inc.*, 55 U.S. 7 (2008), the Supreme Court reiterated that "[p]art of the harm NEPA attempts to prevent in requiring an EIS is that, without one, there may be little if any information about prospective environmental harms and potential mitigating measures." *See also Monsanto v. Geertson Seed Farms*, 130 S. Ct. 2743 (2010) (Stevens, J., dissenting) (noting that an EIS is especially important where, as here, the environmental threat is novel). Ultimately, federal agencies must take a "hard look" at the potential environmental consequences of their actions. *Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976). Conclusory presentation of data and "general statements about possible effects and some risk" do not satisfy the "hard look" standard. *Ocean Advocates v. U.S. Army Corps of Engineers*, 361 F.3d 1108, 1118 (9th Cir. 2004).

As explained more fully in the accompanying Expert Report of Normandeau Associates, Inc., titled, *Technical Review of Environmental Impact Assessments of the Hudson River Segment of the Champlain Hudson Power Express*, the DEIS is inadequate when measured

against NEPA's exacting standards.[21] The CHPE project is of unprecedented scale in New York, and proposes to convert more than 80 miles of the Hudson River – a critical natural resource – into a transmission cable right of way approximately 30 feet wide. Whether viewed in the context of impacts to fish (including ESA-listed sturgeon), and/or their habitat from cable construction, which will be significant and long-lasting, or the impacts to recreational and commercial use of the Hudson River caused by a new, 88-mile long "no anchor" zone that will render 320 acres of river bottom unavailable for anchorage,[22] the CHPE project requires the utmost in environmental scrutiny, not a rehash of insufficient and outdated studies generated for a State-level siting proceeding, which is all the DEIS contains. *See Klamath-Siskiyou Wildlands Center v. Bureau of Land Management*, 387 F.3d 989, 998 (9th Cir. 2004) ("A non-NEPA document – let alone one prepared and adopted by a state government – cannot satisfy a federal agency's obligations under NEPA.").

A. The DEIS Fails to Take a Hard Look at the Proposed Project's Potential Environmental Impacts

The tidal Hudson River possesses regionally and globally rare communities in one of the largest freshwater tidal river systems in the northeastern United States. The Hudson River Estuary contains about 130 species of fish, and supports nearly 100 species of special emphasis, including federally and state-listed endangered or threatened species of fish, birds, and plants. It provides habitat for spawning and nursery of commercially and ecologically important fish and shellfish species such as Striped Bass, American Shad, Alewife, Blueback Herring, and Blue Crab. In addition, it hosts two federally listed endangered fish species, the Atlantic Sturgeon and Shortnose Sturgeon, and an expanding population of nesting bald eagles.

Within the Hudson River Estuary are several SCFWHs designated under the federal Coastal Zone Management Act and New York Coastal Management Program, and an additional five sites constituting the Hudson River National Estuarine Research Reserve.[23] The proposed CHPE Project route within the 88-mile Hudson River Segment will directly intrude upon several of these SCFWHs, yet the direct and indirect impacts of selecting the submerged route through

820-10

[21] See Normandeau Associates, Inc., Technical Review of Environmental Impact Assessments of the Hudson River Segment of the Champlain-Hudson Power Express (dated January 15, 2014), Exhibit 1 hereto.

[22] The DEIS indicates that "[v]essel anchorage would be prohibited in the transmission line ROW," which is further described as being "approximately 30 feet (9 meters) in width in most underwater areas." *See* DEIS, p. S-34, 2-31. Thus, the acreage amount is based upon a simple conversion of area to acreage: 88 miles x 5280 feet/mile x 30 feet x 1 acre/43,560 feet^2. Additionally, the DEIS (at S-34) recognizes that "local authorities" would be relied upon "to prevent the possibility of anchor damage" to the HVDC Line. It seems entirely inappropriate and unreasonable for a safety issue of this dimension to be based upon local enforcement shared between the numerous municipalities having jurisdiction along the 88-mile Hudson River route.

[23] In a combined Article 78/declaratory judgment action currently pending in the New York State courts, affiliates of Entergy have challenged the designation of the four-mile stretch of the Hudson Highlands SCFWH adjacent to Indian Point as a Habitat. That challenge, which does not pertain to the entire Hudson Highlands SCFWH, was denied by a trial court judge on November 20, 2013. The appeal of that decision was filed on December 26, 2013, raising multiple grounds why the New York Appellate Division should reverse or vacate the decision of the trial court, and nothing in this letter or the annexed Expert Report should be deemed a waiver of the position taken in that proceeding. Importantly, even if the particular portion of the Hudson Highlands SCFWH challenged in that proceeding should be dedesignated, the points made above in text remain in force with respect to the balance of the Hudson Highlands SCFWH and the other Habitats mentioned.

820-10: As indicated in Section 3.3.4 of the EIS, the proposed CHPE Project would transect SCFWHs along the Hudson River; however, the proposed CHPE Project would not impact any wetlands contained therein. Impacts on wetlands in SCFWHs have been clarified in Section 3.3.8 of the Final EIS. Sufficient analysis of impacts on SCFWHs is otherwise provided in EIS Section 5.3.4 and other similar sections. The transmission line route that transects five SCFWHs was approved by state agencies (including NYSDEC and NYSDOS) during the NYSPSC Article VII process culminating in the issuance of the NYSPSC Certificate in April 2013.

the sanctuary and these SCFWHs is inadequately addressed in the DEIS and CWA § 404(b) Application. For example, the CHPE Project route intentionally selected an overland route to avoid the Haverstraw Bay SCFWH, but failed to afford the same protections for other SCFWHs (Catskill Creek, Esopus Estuary, the Kingston-Poughkeepsie Reach, the Hudson Highlands, and the Lower Hudson River Reach). Because reasonable alternate overland routes along existing utility and transportation corridors are both available and obvious, prudent management practices warrant avoiding the uncertainties of an underwater route to protect all SCFWHs within the Hudson River Estuary. 820-10

The DEIS does not adequately address the cumulative environmental impacts associated with the Hudson River Segment of the CHPE Project, when combined with other, reasonably foreseeable construction projects affecting the Lake Champlain and Hudson River environments. Other projects proposed coincident with the CHPE Project include the West Point Transmission Project (77.6 miles of underwater buried cable) and the TDI New England Clean Power Link Project (100 miles in Lake Champlain, apparently on the same route as CHPE), yet the cumulative impact of these projects when combined with the CHPE have not been adequately addressed in the DEIS.[24] This can be demonstrated by comparison to another massive construction project, the Tappan Zee Bridge Construction Project, the impacts of which will overlap with those of the CHPE. The impacts from the CHPE Project are spatially extensive and of a similar magnitude of disturbance (185 acres) compared to the spatially and temporally restricted Tappan Zee Project (246 acres), yet the Tappan Zee project has undergone, and will undergo, far more detailed environmental study, analysis and mitigation than is offered in the DEIS. Further, new information arising from studies of endangered species and their habitat use required by the Tappan Zee Project must be considered in the DEIS here to adequately assess the incremental and cumulative impacts of the CHPE Project, when added to the Tappan Zee Bridge Project. 820-11 820-12

There is also a convergence of existing and proposed projects in the Hudson River near Indian Point that warrant a more thorough cumulative impact analysis than is found in the DEIS. The Hudson River near Indian Point is an area of a high level of anthropogenic use, including the existing Spectra gas pipeline and proposed expansion, and the proposed underwater West Point transmission cable that would exit the river at Con Edison's Buchanan North Substation, located adjacent to the Indian Point Energy Center. These existing and proposed uses are all within the recently (August 2012) expanded lower reach of the Hudson Highlands SCFWH, which extended the former Hudson Highlands SCFWH from Hudson River miles (HRM) 44-56 by four miles downstream to Stony Point and by an additional four miles upstream to Denning Point to now encompass HRM 40-60.[25] The CHPE Project will bisect this newly designated SCFWH for several river miles. 820-13

[24] As reported on the website established by TDI New England, the company proposes to construct a 1,000 MW HVDC transmission to Vermont and the New England marketplace by, in part, routing the line under Lake Champlain. *See* http://necplink.com/docs/New_England_Clean_Power_Link_Map.pdf. Upon information and belief, TDI New England is a sister-company to CHPE's parent, TDI.

[25] As noted in footnote 23, nothing in this letter or the annexed Expert Report should be deemed a waiver of the position taken in the court proceeding related to the designation of the four-mile stretch of the Hudson Highlands SCFWH adjacent to Indian Point as a Habitat.

820-11: The West Point Transmission Project is already addressed in Section 6.1.1.4 of the EIS and in the cumulative impacts analysis in Section 6.1.2. The New England Clean Power Link Project is now addressed in Sections 6.1.1.2 and 6.1.2 of the Final EIS. Section 6.1.2 also includes a consideration of the potential for cumulative impacts in the Hudson River from the USACE Hudson River maintenance dredging project, the Spectra-AIM Project, the West Point Net Zero Project, the Tappan Zee Hudson River Crossing Project, among others.

820-12: Analysis and development of the Draft EIS was based upon best available information, and EIS Chapter 6 presents an analysis of the cumulative impacts of the proposed CHPE Project, the Tappan Zee Bridge Project, and other projects in the vicinity. In addition, DOE has prepared a BA in consultation with NMFS and USFWS, and this is included as Appendix Q of the EIS. Among the sources used in the preparation of the CHPE BA were the BA and the Biological Opinion issued by NMFS for the Tappan Zee Project. DOE and the Applicant continued coordination with NMFS and the USFWS to address potential impacts on protected species.

820-13: The potential impact to the Hudson Highlands SCFWH are addressed in Section 5.3.4 of the Final EIS.

The organic fraction of the sediments that will be redistributed by dredging will likely be transported even further than the inorganic fraction, potentially exacerbating the spread of anoxic or low oxygen concentration waters that are in violation of numeric and narrative water quality standards for waters of the Hudson River Estuary. Blasting, HDD activities, and the use of drilling fluids have the potential to increase turbidity and contaminants in nearby groundwater wells due to bedrock fracturing and an increase in pore volume. Due to a slow rate of groundwater exchange, these alterations to groundwater quality are rarely "temporary" as described in the DEIS and CWA § 404(b) Application. Furthermore, the Spill Prevention, Controls, and Countermeasures ("SPCC") and/or an Environmental Management and Construction Plan ("EM&CP") proposed in the DEIS rely on subjective visual and operational management, and not on quantitative best management practices like volume or pressure metrics, and thus are inadequate for a project of this magnitude and potential impacts. While the DEIS provides rudimentary information on the heat dispersion properties of the HVDC cable at depth and in varying types of sediments, there is insufficient information to determine whether this thermal input to the Hudson River will have no significant individual or cumulative impact on the Hudson River Estuary or on the permitted existing permitted uses.

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The annexed Expert Report also demonstrates how the DEIS's evaluation of magnetic fields and induced electrical fields is incomplete, particularly regarding the potential effects on two federally-listed endangered fish species, Atlantic Sturgeon and Shortnose Sturgeon. These are both bottom oriented fish species that spawn over the soft substrates, use the near bottom areas as nursery habitat for their larvae and juveniles, forage for benthic invertebrates, and in general spend nearly all of their estuarine life within 3 feet of the Hudson River substrate and therefore in close proximity to the CHPE transmission cable whether buried or covered by rip rap mats. Studies of other sturgeon species suggest that these two endangered species may be sensitive to both magnetic and induced electrical fields and avoid contact with these fields. Recent (2012-2013) Hudson River Biological Monitoring Program trawl catch data from 2012-2013 demonstrate relatively high abundance of juvenile Atlantic Sturgeon and Shortnose Sturgeon caught directly on the proposed cable route in the upper portion of the Hudson Highlands CHPE. As noted in the Report, a concentration of Atlantic and shortnose sturgeon overwintering in the expanded northern portion of the Hudson Highlands SCFWH was recently revealed through analysis of fisheries monitoring data from August 29, 2012 through August 29, 2013 and reported to the National Marine Fisheries Service. Displacement of sturgeon from this habitat was not addressed in the DEIS or CWA § 404(b) Application, and must be adequately addressed to determine the impacts of the proposed CHPE cable route for these two endangered species. Furthermore, the evaluation of fish exposure to magnetic fields generated by the AC cable and to induced electrical fields, although superficially addressed in the DEIS for electrosensitive species, is incomplete because it does not consider species other than those with documented electrosensitivity.

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B. The DEIS Fails to Take a Hard Look at All Reasonable Alternatives

As previously stated, an EIS must assess, *inter alia*, "alternatives to the proposed action." 42 U.S.C. § 4332(2)(C). An agency's assessment of alternatives "sharply defin[es] the issues and provid[es] a clear basis for choice among options by the decisionmaker and the public." 40 C.F.R. § 1502.14. Agencies must "[r]igorously explore and objectively evaluate all reasonable alternatives." *Id.*, § 1502.14(a). Although agencies have discretion to identify the

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820-14: As noted in the EIS Sections 2.6.3, 5.2.3, and 5.3.3, impacts on groundwater quality could occur from HDD and drilling fluids and if blasting of bedrock is required. These impacts would be short-term in the sense that the potential exposure period would only occur during construction activities. As explained in Section 5.2.3, there is a low likelihood of groundwater impacts from drilling fluids due to the characteristics of the fluid and natural soil filtration processes, and any groundwater impact would be localized to the area immediately adjacent to the construction area. Blasting activities would be performed in strict adherence to all industry standards applicable to control of blasting and blast vibration limits as specified in a blasting plan to be developed by the Applicant as part of its EM&CP. The Applicant is also developing a private well response plan to address relevant impacts (see Section 5.2.9 of the EIS).

820-15: As identified in Joint Proposal Appendix F, Best Management Practices (see EIS Appendix C), a Drilling Fluid Management and Disposal Plan would be developed as part of the EM&CP. This plan would establish the procedures to be used during HDD operations and include, for example, both visual and quantitative monitoring of the drilling fluid. The Applicant would also use sheet pile cofferdams at the HDD exit points in waterbodies to minimize the risk of a drilling fluid release to the aquatic environment. Such measures are described further in Sections 5.1.9 and 5.1.15 and Appendix G of the EIS.

820-16: See response to Comment 820-03.

820-17: Impacts on sturgeon species that overwinter in the expanded northern portion of the Hudson Highlands SCFWH is sufficiently addressed in the BA included as an appendix to the Final EIS. Also see response to Comment 204-28 regarding how construction windows for the project were developed to minimize impacts on overwintering and spawning grounds.

820-18: As addressed in Section 5.3.4 of the Final EIS, the present state of knowledge about the impacts on fish from magnetic and

electric fields emitted by underwater transmission lines is variable and inconclusive. The analysis of impacts of exposure to magnetic and electric fields on aquatic species was based upon best available information and covered a range of species on which scientific data were available, including sunfish, minnows, bass, sturgeon, flounder, sharks, and eels. This analysis demonstrated that the potential effect of magnetic fields or induced electric fields on fish or their prey would not be significant.

range of "reasonable" alternatives, they must "include the alternative of no action." *Id.*, § 1502.14(c)-(d). As DOE noted in the DEIS (at p. S-3), "[i]n determining whether a proposed action or a reasonable alternative is in the public interest, DOE considers the potential impacts of the proposed action and any reasonable alternatives on the environment pursuant to NEPA, the Proposed Action's impact on the reliability of the U.S. electric power supply system, and any other factors that DOE considers relevant." The ostensible justification for the Proposed Project is to by-pass existing system congestion problems and inject presumably lower-cost Canadian power directly into the constrained New York City load pocket. *Id.* A fundamental flaw in the DEIS's alternatives analysis, however, is its sole focus on alternative means of sourcing *Canadian* power to achieve that purpose. As evidenced, again, by the NYPSC's ongoing AC Transmission proceeding (NYPSC Case Nos. 12-T-0502 and 13-E-0488), there are numerous other more local and potentially less environmentally harmful means of relieving those system constraints and increasing the deliverability of power to the New York City load pocket, yet the DEIS impermissibly fails to consider them as alternatives to the Proposed Project. It also fails to consider those projects as part of the "no action" alternative, *i.e.*, the likelihood that, should the Proposed Project not be authorized, congestion relief could still be accomplished through the AC transmission projects. In other words, the Proposed Project may be unnecessary and redundant of other projects.

820-19 **820-19:** See response to Comment 820-08.

C. The Proposed Project Does Not Serve the Public Interest

"Applications for Presidential Permits are evaluated based on the potential impacts that a proposed project could have on the environment, the operating reliability of the U.S. electric power supply, and any other factors relevant to the public interest." DEIS, at p. S-3. With a project of this magnitude, the possibility that New York consumers will be forced to subsidize the Proposed Project's costs, directly or indirectly, is a matter directly "relevant to the public interest." Here, although denominated a "merchant" transmission project (DEIS, at p. S-3), *i.e.*, one in which the project's investors assume all financial risk, it is now quite clear that CHPE's business model will impose at least some of the Proposed Project's costs on New York consumers.

On May 30, 2012, CHPE (by and through their affiliate TDI) and Hydro-Quebec separately submitted their respective responses to Governor Andrew Cuomo's "Energy Highway Initiative" ("Energy Highway") Request for Information ("RFI").[26] The first proposal contained in Hydro-Quebec's EHI submission is titled "Hydro-Quebec participation in Champlain Hudson Power Express." The accompanying text states, *inter alia*, "[Hydro-Quebec] proposes to become the 'anchor tenant' for the [TDI] project by committing up to a 40-year purchase of 75% of the transmission rights, effectively paying for the construction of the line."[27] TDI's companion EHI submission states, "TDI will enter into a 35-40 year Transmission Service Agreement with [Hydro-Quebec] or other entity for 750 MW of transmission capacity."[28]

[26] A true and correct copy of CHPE's and Hydro-Quebec's Energy Highway submissions are annexed hereto as Exhibit 2.

[27] Id., Hydro-Quebec EHI submission at 3 of 13 (footnote omitted).

[28] Id., TDI EHI submission at 11 of 26.

Read together, as they are intended to be, TDI's and Hydro-Quebec's RFI submissions reveal a business model under which Hydro-Quebec may finance the Project, in whole or in part, "effectively paying for the construction of the line," in return for the right to 75% of the Project's transmission capacity for a term of years. As evidenced by, *inter alia*, Hydro-Quebec's recent entreaty to the NYPSC to amend the qualifying criteria of the RPS program to include hydropower imports, Hydro-Quebec would likely only be willing to undertake such an obligation if the costs could be offset by some extra-market mechanism that would allow recoupment of the price paid to secure long-term transmission rights on the HVDC Line. Under the RPS program, and/or through an out-of-market contract with a New York load serving entity, that offset would come through payments made by New York consumers, not the Proposed Project's investors. If that were to occur, the Proposed Project would actually harm, not advance, the public interest.

CONCLUSION

Entergy-IP is seeking to ensure through submission of this comment letter, as well as the annexed Expert Report, that all entities that have filed permit applications to undertake energy-related activities in New York are held to an appropriate-level of scrutiny. However, for the reasons specified above, given the high standard of environmental review to which USACE and DOE are held under applicable law, the permit applications submitted by CHPE to the two agencies should be denied.

Respectfully submitted,

GREENBERG TRAURIG, LLP

William A. Hurst

Robert M. Rosenthal

WAH/rsb
Enclosure
ALB 1746671v1

EXHIBIT 1

Technical Review of Environmental Impact Assessments of the Hudson River Segment of the Champlain-Hudson Power Express

Prepared For:
Entergy Indian Point 2, LLC,
Entergy Indian Point 3, LLC and
Entergy Nuclear Operations,
Inc.

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Executive Summary

A technical review was performed of the September 2013 Draft Environmental Impact Statement (DEIS) and the Clean Water Act Section 404 Permit Application Alternatives Analysis Report (404 Application) for the Champlain Hudson Power Express, Inc. (CHPE) proposal to construct, operate and maintain an approximately 336-mile long 1000 MW high-voltage, direct-current (HVDC) transmission line and related facilities from Quebec to New York City (CHPE Project). The objective of this technical review was to assess the selection of an 88-mile long Hudson River Segment of the CHPE Project as the Least Environmentally Damaging Practicable Alternative (LEDPA) based on the temporary, permanent, and cumulative impacts to the natural environment identified and described in the DEIS.

The Hudson River Estuary is classified as the length of river from the Verrazano Narrows – the tidal strait separating Staten Island and Brooklyn, to the Troy Dam just north of Albany, is a variable habitat that represents the overlap between southern and northern ecological zones, traverses saline, brackish and fresh waters, and includes many important natural resources, including a substantial recreational fishery and nursery areas for many important commercial species. The Hudson River drainage has more than 200 species of fish, with 129 of those being found in the tidal portion of the estuary (Daniels et al. 2005). In addition, the Hudson River Estuary supports nearly 100 species of special emphasis, including federally and state-listed endangered or threatened species of fish, birds, and plants.

Within the Hudson River Estuary are many Significant Coastal Fish and Wildlife Habitats (SCFWHs) designated by the New York State Coastal Zone Management Act, and an additional five sites constituting the Hudson River National Estuarine Research Reserve. While the proposed CHPE Project route within the 88 mile Hudson River Segment avoids direct contact with all but five SCFWHs, the direct and indirect impacts of selecting the submerged route through this area and these five SCFWHs are problematic in that they are inadequately addressed in the DEIS and 404 Application. It appears the CHPE Project route intentionally selected an overland route to avoid the Haverstraw Bay SCFWH, but did not afford the same protections for five other SCFWHs (Catskill Creek, Esopus Estuary, the Kingston-Poughkeepsie Reach, the Hudson Highlands, and the Lower Hudson River Reach). Prudent management practices warrant avoiding the uncertainties of an underwater route for the CHPE Project to protect all SCFWHs within the Hudson River Estuary when overland routes along existing corridors are both available and obvious, low-environmental impact alternatives.

The 88 miles of CHPE Project transmission cable proposed for installation within the Hudson River Segment would either be installed over the hard bottom substrate or be buried in a shallow trench beneath the soft bottom habitat of the Hudson River Estuary through a mechanism known as a jet or hydraulic plowing. Jet plowing uses a pressurized water jet to displace the bottom sediment from the trench in which the cable is placed, allowing the suspended sediment to re-settle on top of the cable. Although use of jet plowing was included in the Best Management Practices (BMP) guiding this project, detailed model input parameters were not provided, sediment dispersion was not modeled, and assumptions may have been overstated. For these reasons it is unclear if the specific displacement of sediments within the five SCFWHs of the Hudson River Estuary by jet plowing represents a temporary disturbance, or if the suspended material could have

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820-20: The transmission line route that transects five SCFWHs (and that avoids the Haverstraw Bay SCFWH) was approved by state agencies as identified in the response to Comment 820-10, and the EIS analysis on impacts in SCFWHs is considered sufficient.

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820-21: The Final EIS included an evaluation of the potential impacts in the Hudson River that would be associated with the planned jet plow method for installing the transmission line. Information related to water quality and sediment transport modeling efforts and compliance with water quality standards is located in Section 5.3.3 and information concerning the potential impact to aquatic species is presented in Sections 5.3.4 and 5.3.5 of the Final EIS, Section 5 of the BA (EIS Appendix Q), and Section 4 of the EFH Assessment (EIS Appendix R).

substantial long-term detrimental impacts on biota in the water column. Key potential impacts for a project of the scale addressed here include de-oxygenation of potentially large areas of the water column by re-suspended organic materials, turbidity above known tolerances for certain species, and smothering. Sufficient overland routes along existing transportation or transmission corridors exist to make the selection of 88 miles within the Hudson River Estuary the most environmentally damaging alternative, particularly since the CHPE Project is not a water-dependent use.

The DEIS and 404 Application have not adequately demonstrated that the submerged CHPE Project route within the Hudson River Estuary is significantly less costly than overland routes. The DEIS and 404 Application have not adequately demonstrated that an overland route is logistically impracticable compared to the 88 miles of submerged cable within the Hudson River Estuary. To the contrary, the potential for significant adverse effects of the Hudson River Segment of the CHPE Project to "waters of the United States" clearly demonstrate that it fails to be the LEDPA.

The DEIS and 404 Application also have not adequately addressed cumulative impacts or imposed sufficient mitigation measures associated with the Hudson River Segment of the CHPE Project. By comparison, the level of study and mitigation (both in-kind and out-of-kind) required for the Tappan Zee Bridge Construction Project far exceeds that related to the proposed CHPE Project. The impacts from the CHPE Project within the Hudson River Segment are spatially extensive along 88 miles of river bottom and greater in magnitude (168 acres of temporary disturbance and 25 acres of permanent change estimated by the DEIS) compared to the spatially constrained Tappan Zee Project (139 acres total disturbed and 107 acres permanently changed). New information arising from studies of endangered sturgeon species and their habitat use required by the Tappan Zee Project should be considered to adequately assess the incremental and cumulative impacts of the CHPE Project. Other projects proposed coincident with the CHPE Project include the West Point Transmission Project (77.6 miles of underwater buried cable) and the TDI New England Clean Power Link Project (100 miles in Lake Champlain), and these cumulative impacts have not been adequately addressed in the DEIS or 404 Application.

In addition, the area of Hudson River permanent impact based on Table 5.1-4 "Locations of non-burial cable installation and associated area of impact and volume of permanent fill" in the CHPE Project Description and Purpose Attachment A, Part 3 is much greater (25.4 acres) than the value given in the Public Notice table "Obstacles encountered: impacts from non-cable burial along the submarine route" (8.8 acres). Regarding in-water cable burial (temporary) impacts as illustrated in the public notice, some of these values could not be reproduced based on the information contained within the table, and therefore one or more of the source documents are believed to contain errors which should be reconciled to validate the final estimated areas and volumes of impact.

Surface and groundwater quality considerations should be included in the permit applications as they are filed. Water quality aspects of the CHPE Project were not sufficiently modeled in the DEIS or 404 Application to provide reasonable certainty regarding the magnitude of impacts from sediment disturbance, redistribution of sediments, sediment contamination including PCBs, biological oxygen demand, groundwater quality, hazardous wastes, and electrical and magnetic fields. The process specified for burying the CHPE Project cable in the soft sediment portions of the Hudson River Estuary would not

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820-22: Section 2.5 of the Final EIS presents the analysis of alternatives considered while Sections 5.3.3, 5.3.4, 5.3.5, and 5.3.8 of the Final EIS identify that the construction, operation, and maintenance of the transmission line in the Hudson River would not have significant environmental impacts on water quality and SCFWHs.

820-23: Comment noted. See EIS Section 2.5.2 for an explanation of why the alternative upland transmission line routes were dismissed from further evaluation.

820-24: A list of measures to minimize potential impacts is presented in EIS Appendix G. The Applicant continues to coordinate with agencies, as appropriate, to ensure the proposed CHPE Project design and associated mitigations are in accordance with regulations and that the analysis addresses not only individual impacts, but also cumulative impacts of the Project along the installation route.

As indicated in Section 5.3.8 of the EIS, 0.03 acres of wetlands would be temporarily impacted by the proposed CHPE Project in the Hudson River Segment. A Conceptual Wetland Mitigation Plan has been prepared by the Applicant and is available for review on the CHPE EIS Web site at http://www.chpexpresseis.org.

Analysis provided in the Draft EIS on the impacts of the proposed CHPE Project on endangered species and their habitats was based upon best available information. Additional details on the impacts of the proposed CHPE Project on endangered species are included in the BA. The Applicant continues to coordinate with the NMFS and the USFWS regarding impacts on endangered and otherwise protected species and their habitats.

The proposed CHPE Project combined with other reasonably foreseeable projects, including the Tappan Zee Project, are sufficiently addressed in the cumulative impacts analysis in Chapter 6 of the EIS. The West Point Transmission Project is already addressed in Section 6.1.1.4 of the EIS and in the cumulative impacts analysis for each resource area in the same section. The New England Clean Power Link Project is now addressed in Sections 6.1.1.2 and 6.1.2 of the Final EIS.

820-25: As indicated in the EIS, water quality impacts would be within regulatory standards as estimated through water quality modeling processes. See Sections 5.3.3, 5.3.4, 5.3.5, 5.3.9, and 5.3.12 of the EIS for more information on the analysis and impacts of the proposed CHPE Project on water quality, aquatic species, sediment quality, hazardous wastes, and public health in the Hudson River Segment.

include containment of sediments and thus would result in re-suspension of up to 242,257 cubic yards (6.5 million cubic feet) of bottom material for some unknown distance from the trench (assumed to be at least 15 feet laterally). The potential re-suspension of sediments remains unquantified by the modeling as described in the available documents at the level of detail required for a project of this magnitude. Presumably natural currents, bed load transport, and wave action will return a portion (up to 70% or 80%) of the displaced material to fill back into the trench. However CHPE's calculation of the amount of original material that would be returned to the trench and the rate of filling is largely speculative and should be thoroughly delineated to best quantify the habitat disturbance and whether that disturbance is temporary or permanent for each component of the aquatic community. For example, the organic fraction of the sediments redistributed by dredging would likely be transported even further than the inorganic fraction, potentially exacerbating the spread of anoxic or low oxygen concentration waters that may violate numeric and narrative water quality standards for waters of the Hudson River Estuary.

Likewise, blasting, shear plowing, conventional dredging, horizontal directional drilling activities, and the use of drilling fluids associated with transition zones between overland and underwater segments of the CHPE Project have the potential to increase turbidity and contaminants in nearby groundwater wells due to bedrock fracturing and an increase in pore volume. Due to a slow rate of groundwater exchange, these alterations to groundwater quality are rarely "temporary" as described in the DEIS and 404 Application. Furthermore, although the DEIS specifies that either a Spill Prevention, Controls, and Countermeasures (SPCC) Plan and/or an Environmental Management and Construction (EM&C) Plan would be prepared in the future to address potential discharges of hazardous materials related to the Project, the DEIS also makes clear that whatever plan is chosen would rely on subjective visual and operational management, and not on quantitative BMPs like volume or pressure metrics. Implementation of such subjective measures is wholly inadequate for a project of this magnitude and potential impacts.

Further, the evaluation of magnetic fields and induced electrical fields in the record is incomplete, particularly regarding the potential effects on two federally-listed endangered fish species, Atlantic Sturgeon and Shortnose Sturgeon. These are both bottom oriented fish species that spawn over the soft substrates, use the near bottom areas as nursery habitat for their larvae and juveniles, forage for benthic invertebrates, and in general spend nearly all of their estuarine life within three feet of the Hudson River substrate and therefore in close proximity to where the CHPE Project transmission cable would be buried or covered by rip rap mats. Studies of other sturgeon species suggest that these two endangered species may be sensitive to both magnetic and induced electrical fields and avoid contact with these fields. The most recent Hudson River Biological Monitoring Program trawl catch data reported from 2012-2013 also demonstrate high abundance of juvenile Atlantic Sturgeon and Shortnose Sturgeon caught on the river bottom directly along the proposed cable route in the upper portion of the Hudson Highlands SCFWH. The sturgeon use of this expanded portion of the Hudson Highlands SCFWH and the expansion of the State's SCFWHs are both recent phenomena. Neither phenomenon was taken into account in the State level Article VII proceeding, the record of which closed long before the discovery of this new habitat use and the designation of additional SCFWH habitat. Nor are these new

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820-26: The quantities of suspended material generated and its distribution in the Hudson River Segment is addressed in Section 5.3.9 of the Final EIS. The potential sediment concentrations and impact on the water column are presented in Section 5.3.3.

820-27: The CHPE Project would involve HDD operations at four locations along the Hudson and Harlem Rivers where the cable would transition between land and water. As cited in Section 2.4.3 of the EIS, the drilling process would use bentonite clay as a lubricant. A monitoring program would be established to determine whether this drilling fluid is leaking from the borehole, and if so, whether any response action is needed. Due to the limited area that could potentially be impacted, and the low likelihood that the bentonite clay could flow to a nearby drinking water well, the EIS concludes in Section 5.3.3 that significant impacts on groundwater quality are not anticipated.

820-28: As stated in Section 2.4.3, "The monitoring program would consist of visual observations in the surface water at the targeted drill exit point and monitoring of the drilling fluid volume and pressure within the borehole. Visual observations of drilling fluid in the water, or excessive loss of volume or pressure in the borehole would trigger response actions by the HDD operator, including halting drilling activities and initiating cleanup of released bentonite." Monitoring the borehole pressure and measuring the amount of bentonite are quantitative measures used to identify when losses are occurring and are standard industry procedures. Detailed plans and procedures for monitoring, agency notifications, and remedial actions would be developed by the Applicant as part of the EM&CP.

820-29: See response to Comment 820-18.

820-30: See response to Comment 820-17.

developments addressed in the DEIS or 404 Application, as they must be to determine the impacts of the proposed CHPE Project cable route on these two endangered species.

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1.0 Introduction

Normandeau Associates, Inc. (Normandeau) undertook a technical review of the September 2013 Draft Environmental Impact Statement (DEIS) and the Clean Water Act Section 404 Permit Application Alternatives Analysis Report (404 Application) for the Champlain Hudson Power Express, Inc. (CHPE) plan to construct a 330-mile long 1000 MW high voltage direct current (HVDC) transmission line and related facilities from Quebec directly to New York City. The objective of this technical review was to assess the selection of an 88-mile long Hudson River Segment of the CHPE Project as the Least Environmentally Damaging Practicable Alternative (LEDPA) based on the temporary, permanent, and cumulative impacts to the natural environment identified and described in the DEIS.

Many of the references to the available biological information related to the Hudson River Estuary are associated with specific locations measured along the centerline of the Hudson River from New York City to Albany. These locations within the Hudson River Estuary are labeled by Hudson River Miles (HRMs), which denote one-mile long segments of the river between successive mile marks measured along the river's centerline progressing upstream from Battery Park at the southern tip of Manhattan Island in New York City to the Troy Dam near Albany. Each HRM segment is named according to the mile mark at the boundary furthest from Battery Park, so there is no HRM 0. For example, HRM 1 in the Battery region of the Hudson River is from mile mark 0 at Battery Park to mile mark 1, HRM 2 is from mile mark 1 to mile mark 2, etc. The Troy Dam forms the upstream boundary of HRM 152 and the upper boundary of the Hudson River Estuary. This document will refer to HRM and distinguish these segments of the Hudson River Estuary from the mile points designated by the CHPE (CHPE MP) that were measured south from the CHPE MP 0 at the Canadian-New York border along the proposed HVDC cable route.

With respect to the DEIS, this review evaluates if the route selected for the Hudson River Segment of the CHPE Project is adequately supported by findings of no, low, or temporary impacts; i.e. if the selected route is indeed the LEDPA. With respect to the 404 Application, this review considers if the LEDPA recommendation for the Hudson River Segment in the DEIS adequately avoided or minimized impacts, and proposes sufficient mitigation for those impacts not avoided. This review relies on Normandeau's areas of expertise in water quality certification (Section 401), wetlands, dredge and fill regulations (Section 404) of the Clean Water Act, and aquatic ecology, based on the unparalleled technical information derived from approximately 40 years of performing annual environmental monitoring in the Hudson River Estuary for both the Hudson River power generators (including Entergy Nuclear Operations, Inc., "Entergy") and on behalf of the New York State Department of Environmental Conservation (NYSDEC).

The specific documents reviewed include:

- Department of Energy Draft Environmental Impact Statement (DOE 2013)
- United States Army Corps of Engineers (USACE) 404 Permit Application, as supplemented in February, 2012 (CHPE 2012b), and relevant Appendices

- New York State Public Service Commission 401 Water Quality Certificate Conditions (PSC 2013a)
- New York State Certificate of Environmental Compatibility and Public Need Conditions (PSC 2013b)
- New York State Department of State Conditional Coastal Zone Consistency Determination (DOS 2011)
- Army Corps of Engineers Public Notice (USACE 2013).

2.0 Water Quality and Hazardous Materials

2.1 Water Quality

As acknowledged in all documents reviewed, submarine cable installation in the beds of all water bodies will result in "increased turbidity and downstream sedimentation and re-suspension of contaminated sediments in surface water." The specific form of cable embedment via jet plow proposed for the CHPE Project presents particular habitat and aquatics concerns. Sufficient quantities of displaced material can have substantial detrimental impacts on biota in the water column from increased turbidity and downstream displacement of sediments, as well as the biota buried by jet plowing within the trench. Key potential impacts for a project of the scale addressed here include de-oxygenation of potentially large areas of the water column, turbidity above known tolerances for certain aquatic species, and smothering. Key questions include whether this technology is appropriate for work of the scale of the CHPE Project, why other routes that result in far lower impacts are not considered and preferred, the implications of sediment loading on aquatic organisms, particularly for species of heightened susceptibility. None of these topics are adequately addressed at a sufficient level of detail in the CHPE application documents for a project of this magnitude.

Disturbance of the top layer of sediments for a project of this magnitude will mobilize a considerable organic fraction into the overlying water. This mobilization would increase the biological activity within the water column for extended periods during the resettlement time, and can cause or contribute to a locally significant increase in biological oxygen demand. Because organic material would likely be transported greater distances than inorganic material due to its lower density, the area of potential reduced dissolved oxygen could extend to far beyond the 15 feet lateral zone centered on the HVDC cable path that is assumed to be the zone of impact, and therefore the zone of sediment redistribution (CHPE 2012d). Newly decaying biological loads may serve as substrate for benthic bacteria and algal growth which could increase the benthic metabolism and associated oxygen demands, creating blooms that further exacerbate the spread of hypoxic or anoxic zones. These conditions would in turn jeopardize survival of benthic invertebrates, shellfish and fish within the affected zone, particularly some of the less mobile forms like bivalve and some gastropod mollusks. It is unclear whether the temporal and spatial extent of the impact on dissolved oxygen was investigated through the modeling activities or through any other investigation conducted by the applicant.

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820-31: Given the short term nature of the transmission line installation process, the water quality analysis focused on acute rather than chronic effects. Impacts to dissolved oxygen levels are typically assessed using the biochemical oxygen demand (BOD5) parameter, which assesses the impact on oxygen levels over a 5-day period. Measurement of total suspended solids (TSS) includes the organic materials that would contribute to BOD5, and assessing and controlling TSS levels is an accepted method of managing the potential impact on dissolved oxygen levels for construction projects. See EIS Section 5.3.3 for a discussion on the TSS analysis for the proposed CHPE project.

Cable embedment via jet plow is considered in the DEIS and in the 404 Application to cause no violation of water quality standards for any regulated water quality parameters. It is not clear, however, where those predictions were made along the 88 miles of Hudson River Segment, and at what level of spatial resolution. Furthermore, the complete set of input parameter and results of the DHI MIKE3 model were not disclosed in any of the review documents. 820-32

Without a detailed review of the input data, only generalized assessments can be made. We note that there was no attempt to model sediment dispersion during cable installation. But there was reference in the DEIS to sediment re-deposition not being significantly distant from the point of disturbance under average Hudson River water velocity of less than three (3) miles per hour. However, a peer-reviewed publication by Neff and Geyer (1996) indicates velocities of approximately 2 meters per second (or 4.4 miles per hour) within the Hudson River under normal flow conditions. Thus, the analysis is incomplete, even in terms of normative Hudson River conditions. 820-33

Theories of hydraulic flow assume a no-slip condition at the interface of the water and conduit merely for mathematical simplicity. By assuming that the disturbance of material is occurring below the interface, velocities that may be influential in disturbing sediments are minimized to potentially unrealistically low magnitudes, hence further under-estimating the potential for sediment transport. Additionally, despite the use of a three-dimensional model, there is no indication that cross-directional flow, confluences, or empirically-determined turbulence caused by the highly uncharacterized bathymetry of the water bodies were included, which may have led to an incorrect conclusion that 70% to 80% of the sediments would "settle back into the trench". 820-34

There is no indication of the particle size and density distribution used to predict the sediment disturbance. Estuarine and deep-riverine sediments may be much smaller than anticipated. Moreover, the return of sediments disturbed by jet plowing to their initial position in the water column can take several hours to days, as shown through the utilization of laboratory Imhoff cone experiments conducted in introductory level water quality courses. 820-35

The proposed dredging activities will mobilize up to 242,257 cubic yards (6.5 million cubic feet) along the entire 88 miles of Hudson River Segment (including the Hudson, Harlem and East Rivers; USACE 2013). Exacerbated disturbance of this volume of material with water velocities reaching a known normal velocity of 4.4 miles per hour (and the potential for considerably greater velocities) could result in turbidity that exceeds the water quality standard, specifying that "there is to be no increase that will cause a substantial visible contrast to natural" for the water quality classifications of the surface waters found along the Hudson River Segment of the CHPE Project (Class SB, Class B, Class A; http://www.dec.ny.gov/chemical/23853.html). Even with 70% to 80% of the sediments returned to the trench through gravity settling, as claimed in the DEIS, there is the potential for the remaining 1.3 to 2.0 million cubic feet of bottom sediments and its associated contaminant load to be displaced from the trench and dispersed widely over previously undisturbed portions of the Hudson River. The above concerns are exacerbated where known contamination or species of particular susceptibility to those contaminants exists, as discussed below. 820-36

820-32: The Applicant's Water Quality Modeling Report for the Hudson, Harlem, and East Rivers (CHPEI 2012oo) provides the inputs for the DHI MIKE3 model and reports the results by CHPE Project route mile. According to the Applicant, the model and its inputs were calibrated and verified and was approved by the USACE, the USEPA, and an independent panel of experts as part of the USACE Harbor Navigation Study in 1995. In addition, the methodology for the water quality modeling was reviewed by the NYSDEC. This report was provided as Exhibit 85 to the NYSPSC Article VII application and is available at http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?Mattercaseno=10-T-0139.

820-33: As stated in the response to Comment 820-32, studies of sediment suspension and dispersion during the transmission line installation process in Lake Champlain, and in the Hudson, Harlem, and East rivers were completed by the Applicant and provided to NYSDEC for review during the Article VII process. These analyses specifically evaluated the release of sediment to the water column during the transmission line installation process and concluded that construction activities would comply with the identified guideline of 200 milligrams per liter (mg/L) of TSS. On the basis of this evaluation, and in turn accepting its parameters and results, the NYSDPS and NYSPSC issued the Section 401 Water Quality Certificate and the Article VII Certificate respectively for the proposed CHPE Project. The NYSPSC Certificate for the proposed CHPE Project limits the potential for the project to exceed TSS concentrations by requiring CHPE to conduct test trials to demonstrate its ability to achieve TSS standards before using the jet plow or shear plow.

820-34: As cited in the two previous responses, the Mike3 model was selected and set up for analyzing sedimentation impacts in the Hudson River on behalf of the USACE and USEPA. The results of the analyses, which are reported in EIS Section 5.3.3, have been accepted by NYSDEC and NYSDOS as part of the NYSPSC Certificate and the Section 401 Water Quality Certificate issued for the CHPE Project.

820-35: The particle size and density distribution of the sediments used in the model were based on actual core samples obtained along the transmission line route. See Section 5 (Pages 20–21) of the Water Quality Modeling Report (CHPEI 2012oo) for these parameters.

820-36: The transmission line installation would be carried out by a jet plow, not by dredging as stated in the comment. The water quality impacts presented in the EIS were based on the use of the jet plow, which limits the release of sediment to the water column, relied on site-specific physical and chemical sediment quality data and were based on an agency-approved water quality model. In addition, a Section 401 Water Quality Certificate has already been issued for the proposed CHPE Project.

2.1.1 Modeling of Expected Contaminant Concentrations

As acknowledged in all documents, submarine cable installation in the beds of all water bodies will result in "increased turbidity and downstream sedimentation and re-suspension of contaminated sediments in surface water", with the contaminants cited including "mercury, PCBs [polychlorinated biphenyls], and other toxins that could include dioxins/furan, PAHs [polycyclic aromatic hydrocarbons], pesticides, and other heavy metals". The jet plow may disturb contaminants attached electromagnetically or through molecular forces to sediments. This disturbance could , in turn, cause a contaminant plume that may be transported to areas much farther than estimated as the temporary impact zone in the DEIS, and at potentially higher concentrations.

2.1.2 PCBs and Metals

While the Project Applicant has taken steps to mitigate impacts to areas impacted by polychlorinated biphenyls (PCBs), the DEIS acknowledges that concentrations of PCBs exist at varying levels throughout the Hudson River Estuary outside of remediation areas (Levinton and Waldman 2006). Furthermore, the DEIS acknowledges that there remain concentrations of cadmium in some sediments above remedial action levels. There appears to be no specific plan for interaction and potential mobilization of this metal, which leaves an unacceptable exposure risk unaddressed.

2.1.3 Turbidity

Localized increased turbidity in the Hudson River Estuary is an expected impact from jet plowing and shear plowing. The DEIS concedes that increased turbidity "could include smothering, reduction of filtering rates, toxicity from exposure to anaerobic sediments, reduced light intensity, and physical abrasion," including mortalities (DOE 2013). However the review of these potential impacts to all life stages of fish, macroinvertebrates, and plankton is incomplete and no attempt at quantifying these impacts, including potential mortality, has been attempted. Fish are particularly sensitive to increased turbidity (Kemp et al. 2011), and many species will avoid using habitat disturbed by increased turbidity, while some benthic macroinvertebrates (e.g., attached clams and mussels) are not capable of moving and will become embedded or buried, where they smother and die. Presumably, natural currents, bed load transport, and wave action will return a portion (up to 70% or 80%) of the displaced material to fill back into the trench; however the amount of original material returned to the trench, the amount of material redistributed away from the trench, and the rate of settling and filling are largely speculative and should be thoroughly delineated in the DEIS to best quantify the amount of habitat disturbance and whether that disturbance is temporary or permanent for each component of the aquatic community.

2.2 Electrical and Magnetic Fields

The presence of an electrical field may pose a small increase to the immediate water temperature as calculated by the applicant; however, within the sediments surrounding the cable and in areas where the transmission line will remain exposed (where covering is not possible due to impenetrable surfaces at the bottom of the water bodies), this temperature increase will be perpetual and potentially significant. Based on the material presented in the

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820-37: See response to Comment 820-25.

820-38: While page 3-111 of the Draft EIS stated that "some of the sediment samples included contaminants above remedial action levels", it is not apparent from the comment where in the EIS it is acknowledged that cadmium levels in sediment would be above remedial action levels. With respect to cadmium, the water quality modeling evaluated the potential release of cadmium into the water column during cable installation and found that cadmium concentrations would remain well below the NYS cadmium water quality standard. The analysis concluded that there would be no exceedances of New York State water quality standards for arsenic, cadmium, mercury, benz(a)anthracene, pyrene, 4,4-DDE, copper, lead, phenanthrene, naphthalene, fluorine, nickel, dioxin, acenaphthene, or PCBs established for protecting aquatic life from acute toxicity.

820-39: The EIS conclusions regarding the potential impact of Project-related turbidity on fish is based on analyses presented in the Essential Fish Habitat Assessment contained in Appendix R of the Final EIS. This evaluation was prepared in consultation with NMFS.

820-40: As noted in the Section 5.1.3 of the EIS and other similar sections, the impacts of suspended sediment deposition would not be significant because suspended sediment concentrations well below thresholds (based on accepted suspended sediment modeling) in average waterbody currents and tides of less than 3 miles (5 km) per hour would be redeposited immediately upstream or downstream of the site of sediment disturbance. In Lake Champlain, the model results show higher deposition values in areas of the lake where the bathymetry has local depressions. At no point does the depth exceed 3 millimeters (mm). Sediment deposition in the southern part of Lake Champlain would be substantially lower than the rest of the lake because the sediment resuspension caused by shear plow installation would be lower than by water jetting installation. Therefore, such an additional level of analysis is not warranted. Impacts of sedimentation on the aquatic community are summarized in EIS Section S.8.4, and are provided in greater detail in EIS Sections 5.1.3, 5.3.3, and 5.4.3.

820-41: See response to Comment 820-03.

DEIS, there has been no investigation as to the long-term temperature impacts of the perpetual addition of heat. Increased temperatures can cause modifications to the character of deposited metals and volatile organic compounds, potentially creating spontaneous mobilization and unanticipated chemical reactions.

The introduction of a non-dissipating magnetic field via HVDC cable to environments that are potentially contaminated with a myriad of metals could cause spontaneous mobilization of these metals, attraction to and agglomeration on the transmission cable, and the potential and unexpected corrosion and/or deterioration of the protective surface of the transmission line. The magnetic field may also cause an electrostatic agglomeration of sediments and contaminants, increasing localized concentrations that may result in exceedances of state and federal water quality criteria.

In Section 5.1.4 of the DEIS, the proponent cites two documents (Fisher and Slater 2010; Cada et al. 2011) as evidence that high magnetic field strengths did not elicit "effects" on several aquatic species. First, Fisher and Slater (2010) is a synthesis report, so it would have been appropriate to examine the primary literature so that experimental design could have been considered. Cada et al. (2011) was reporting on a toxicological experiment designed to evaluate mortality, not to examine subtle nonlethal effects. In addition, the magnetic field was generated by a magnet, not a current, and so did not reflect conditions that would occur in the vicinity of an energized underwater cable.

Also in Section 5.1.4 of the DEIS, discussion of potential effects on Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) and Shortnose Sturgeon (*Acipenser brevirostrum*) was based on studies of exposure to magnetic fields generated by AC cables. Given that the physics of AC current are different from DC current in that AC currents reverse roughly 60 times per second whereas DC current flow continuously in one direction, the ability of organisms to sense the resultant magnetic fields differs as well (Normandeau, et al. 2011). The use of studies designed to examine mortality during exposure to AC magnetic fields do not provide sufficient evidence needed to conclude that exposure to DC magnetic fields would have no impact on these two federally-listed endangered species.

The DEIS discussion on induced electric fields is incomplete. First, any movement through a magnetic field, whether it be a water current, a particle, or large object (e.g., fish or vessel), induces a secondary electric field. It is not restricted to electrosensitive organisms as suggested in the DEIS. Although Section 5.3.4 directs the reader to Section 5.3.5 for discussion on the effects of induced electric fields on sturgeon, in fact, there is no discussion in the latter section other than a dismissal of the issue and a referral back to Section 5.1.5. In turn, Section 5.1.5 provides no substantive additional information and concludes that "the current state of knowledge about the magnetic fields emitted by aquatic transmission lines and induced electric fields is sometimes considered too variable and inconclusive to make an informed assessment of the effects on these species (Cada et al. 2011)."

The DEIS does not make a strong enough case to dismiss exposure to EMF as a source of impact to the two species of sturgeon that use the Hudson River segment for critical stages in their life cycle. By incorporating information on AC currents without clearly acknowledging how they differ from the DC currents that would flow through the CHPE aquatic cable, the DEIS clouds the issue.

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820-42: Based on comments received on the DEIS, additional analyses of the potential impact of magnetic fields and induced electric fields on aquatic species including Atlantic and shortnose sturgeon have been included in Section 5.3.5 of the Final EIS and in the BA included as Appendix Q. These analyses demonstrate that the potential effect of magnetic fields or induced electric fields on fish or their prey would not be significant.

820-43: See response to Comment 820-18.

2.3 Groundwater Quality

The DEIS acknowledges (1) the possible necessity to use blasting to penetrate bedrock, and (2) that "(b)edrock blasting has the potential to increase bedrock fracturing near the blasting zone". The associated conclusion that "(b)lasting could result in changes in local hydrology and temporarily increased levels of turbidity in nearby groundwater wells" greatly underestimates the potential adverse impact of blasting. For example, the inclusion of the statement that "short-term impacts on groundwater quality could occur if blasting of bedrock is required" should be adequate recognition that such activities should not be permitted. The DEIS further acknowledges that "drilling fluid would be used and has the potential to percolate to groundwater", which is an indication that blasting of bedrock may cause an immediate threat to human health. Moreover, the DEIS acknowledges that "the bentonite clay particles would become trapped, through absorption, by the soil and would aggregate within soil pore spaces" but then offers no explanation of the long-term impact of such an occurrence. Indeed, it is highly likely that soil permeability will be reduced and diminished groundwater recharge capacity will occur, resulting in adverse impacts to groundwater resources that may extend in perpetuity.

2.4 Hazardous Waste

In addition to the potential mobilization of hazardous substance discussed above, the use of horizontal directional drilling (HDD) at the entry and exit points to the river utilizes hazardous materials, as acknowledged by the DEIS. The US EPA and many state environmental agencies have issued guidance documents regarding how to manage inadvertent discharges from HDD, illustrating the real potential for such an unauthorized discharge. These agencies recommend that use of HDD in wetlands and sensitive ecological systems should be avoided due to the potential for irreparable impacts. As indicated in the DEIS, several wetlands and other sensitive ecological systems will be encountered during the installation, operation, and maintenance of the transmission line, suggesting that there could be unauthorized discharge of hazardous materials in these sensitive areas.

The DEIS indicates that the applicant will be issuing a Spill Prevention, Controls, and Countermeasures (SPCC) Plan and/or an Environmental Management and Construction (EM&C) Plan prior to commencing installation of the transmission line. The DEIS states that "visual and operational monitoring" will be associated with the program, which indicates that subjective and fallible human observation will be the stop-gap measure employed by the contractors to detect "excessive loss of volume or pressure", which is not a "Best Management Practice (BMP)". The contractor will use judgment - not specified volume or pressure metrics - to determine whether a response would be triggered.

The cofferdams to be constructed around the HDD exit areas will be designed to contain certain fluids, including "hazardous materials and petroleum products such as gasoline, diesel, oils, hydraulic fluids, and cleaners", meaning that the applicant has an expectation that drilling fluids will be discharged to the environment. However, there are no pre-defined clean-up activities associated with these anticipated discharges, which suggests that the discharges will be addressed *ad-hoc*, and, despite the presence of a barge to collect fluids, there is no explanation of how the contractor will determine scientifically that discharged fluids have been collected, which does not constitute a "Best Management Practice".

820-44

820-44: The comment is speculative and the analysis in Section 5.2.3 of the EIS is considered sufficient. Also see response to Comment 820-14.

820-45: As cited in the Draft EIS, the HDD operations would use a non-hazardous bentonite clay mixture during the drilling operations, which would be conducted in accordance with the terms of the NYSPSC Certificate, the Section 401 Water Quality Certification, and the USACE Section 10/404 permit.

820-46: See response to Comment 820-28.

820-45

820-46

820-47

820-47: The comment uses the phrase "hazardous materials and petroleum products such as gasoline, diesel, oils, hydraulic fluids, and cleaners" out of context. The Draft EIS only used this phrase to indicate that these materials would be used during normal transmission line installation activities, such as in the operation and maintenance of equipment and vehicles. The Draft EIS did not suggest that these hazardous materials would be released into the cofferdam during HDD operations. It is anticipated that only drilling mud and sediment from water-to-land HDD transitions would be released into the water column. As per industry BMPs, and in accordance with NYSDEC and USACE guidance, a full cofferdam enclosure would be constructed around the drill exit point to contain any release of mud and sediment. In addition, a floating silt curtain would be employed around the cofferdam to ensure that any releases of mud or sediment that escape the cofferdam would be contained to the work area. These BMPs are appropriate for preventing drilling mud and sediment releases, and would avoid and minimize any potential impact during HDD operations.

Despite the inclusion of the information on activities proposed by the applicant (in Appendix G of the DEIS, DOS 2013), there is no ability to assess if those measures will be adequate to completely mitigate the potential for increased risk or remediate any unauthorized release. As each SPCC (or EM&CP) is site-specific, each should be prepared and submitted based on scientifically measurable parameters for the installation, operation, and maintenance of the transmission line prior to the issuance of a permit for construction. Moreover, since the activities will be conducted upon public lands, these documents should be made available for public review.

3.0 Aquatic Ecosystem

This section examines the 88 miles of the CHPE Project referred to as the Hudson River Segment that is located on or under the substrate in the Hudson River Estuary between Catskill and New York City. Mile Points (CHPE MPs) designated along the CHPE Project route are measured from the New York-Canadian Border at CHPE MP 0 to New York City at CHPE MP 336. The submerged or aquatic section of the CHPE Project route enters the Hudson River Segment at CHPE MP 228 and continues along the bottom of the Hudson River Estuary downstream (south) for 67 miles to Stony Point (CHPE MP 295) where it exits the river on the west side. The CHPE Project runs overland to avoid the Haverstraw Bay SCFWH, re-enters the Hudson River Estuary at CHPE MP 303, and continues south along the bottom of the Hudson River for another 21 miles until it reaches the end of the Hudson River Segment at Spuyten Duyvil Creek (CHPE MP 324). From there it enters into the Harlem River for 6.58 miles, goes overland in the Bronx (CHPE MP 330) and finally enters the East River briefly before exiting at the terminal Luyster Creek Converter Station (CHPE MP 332).

3.1 Hudson River Estuary Background

The Hudson River Estuary consists of the tidal waters s from the Federal Dam at Troy, NY to the Verrazano Narrows in New York City. The tidal Hudson River possesses regionally and globally rare communities in one of the largest freshwater tidal river systems in the northeastern United States. The estuary supports nearly 100 species of special emphasis, including federally and state-listed endangered or threatened species of fish, birds, and plants. It is a spawning and nursery ground for commercially and ecologically important fish and shellfish species such as Striped Bass (*Morone saxatilis*), American Shad (*Alosa sapidissima*), Alewife (*Alosa pseudoharengus*), and Blueback Herring (*Alosa aestivalis*) (Alewife and Blueback Herring are referred to collectively as "river herring"), and Blue Crab (*Callinectes sapidus*). In addition, it hosts two endangered fish species, the Atlantic Sturgeon and Shortnose Sturgeon, and nesting bald eagles (*Haliaeetus leucocephalus*).

The Hudson River Estuary is highly diverse, and more than 200 species of fish have been recorded within the estuary and is tributaries (Daniels et al. 2005; Levinton and Waldman 2006). The only freshwater tidal wetlands in the state of New York occur in the Hudson River Estuary. It is a unique and valuable state and local resource, and has been recognized as such by the NYSDEC New York Natural Heritage Program, which identified numerous sites with rare plant and animal species and exemplary ecological communities. Recognizing the river's wealth scientifically, the Hudson River National Estuarine Research

820-48

820-48: EIS Appendix G includes BMPs and mitigation measures that were incorporated into the EIS analysis and that formed part of the basis for the finding that no significant environmental impact would occur during construction or operation of the proposed CHPE Project. Additional detailed construction and operational BMPs would be developed prior to construction by the Applicant when more site-specific information is available, and made available to regulatory agencies and the public for review and comment as part of the EM&CP. Also see response to Comment 820-15.

Reserve was established to "[i]mprove the health and vitality of the Hudson River Estuary by protecting estuarine habitats through integrated education, training, stewardship, restoration, and research programs." Nearly 5,000 acres of tidal wetlands and upland buffer represent the diverse plant and animal communities of the Hudson River National Estuary Research Reserve, which is headquartered at Norrie Point within the Mills-Norrie State Park, and include the Stockport Flats in Columbia County, Tivoli Bays in Dutchess County, Piermont Marsh and Iona Island in Rockland County. In addition, the New York Department of State (NYDOS) has designated numerous SCFWHs in areas that provide living and feeding areas for organisms in the estuary (see Section 3.2).

The wealth of knowledge and resources provided by the Hudson River Estuary makes it both important and unique. While the impacts as summarized in the DEIS are largely considered to be temporary, the CHPE Project is of a substantial magnitude. Further explanation of environmental reasoning behind the rejected overland alternatives is needed to justify such a large-scale impact to the Hudson River Estuary.

820-49

3.2 Significant Coastal Fish and Wildlife Habitats

The NYDOS Office of Communities and Waterfronts has identified several SCFWHs along the length of the Hudson River. NYSDEC also identified certain "exclusion zones" in the Hudson River during the N.Y. *Public Service Law* Article VII review process conducted at the State level.

The CHPE Project footprint and dredging plan illustrate how the project will encounter each SCFWH in the Hudson River from Catskill to Manhattan. A total of five different SCFWHs are directly transgressed by the CHPE Project. They are, from north to south, Catskill Creek, Esopus Estuary, Kingston-Poughkeepsie Deepwater Habitat, Hudson Highlands, and Lower Hudson Reach. Based on plan view maps provided in Attachment 3 of the USACE public notice, approximately 36 miles of SCFWH will be directly impacted, which is 40 percent of the total length of the project's Hudson River reach including the Harlem and East Rivers (88 miles, Table 1).

820-49: Such reasoning is sufficiently provided in the alternatives analysis from the Applicant's CWA Section 404 Permit Application. The analysis is also provided in EIS Appendix B.

Table 1. DEIS and Army Corps In-Water Impacts to Significant Coastal Fish and Wildlife Habitats (SCFWH) Identified Within the Entire Hudson River Segment of the CHPE.

SCFWH Name	Approx. Location (CHPE MP)	Approx. Location (HRM)	Approx. Length (Mi)	Length of Impact (Ft)	Temporary Impact[3]		Permanent Impact	
					(Sq. Ft)	(Acres)	(Sq. Ft)	(Acres)
Catskill Creek[1]	221.4	112	0.06	317	4,755	0.1	-	-
Esopus Estuary	232.5-236	99-103	3.5[2]	18,480	277,200	6.4	-	-
Kingston-Poughkeepsie	244-270	65-92	6.0[2]	31,680	475,200	10.9	307,977	7.1
Hudson Highlands	276-295.7	40-60	19.7[2]	104,016	1,560,240	35.8	239,277	5.5
Lower Hudson Reach	317-324	0-22	7.0[2]	39,960	554,400	12.7	13,117	0.3
Total SCFWH[5]	-	-	**36.3**	**191,453**	**2,311,424**	**53.1**	**560,371**	**12.9**
Total Hudson River Reach (including Harlem and East Rivers)	-	-	**88.5**	**467,280**	**7,357,860[6]**	**168[6]**	**1,107,668[4]**	**25.4[4]**

1 Source: CHPE 2012e. Revised Wetland Delineation Report, Table 4-2.

2 Source: CHPE 2012f. Length of CHPE Project cable through SCFWH measured from "Plan View Maps – Submarine Route."

3 Assumed jet plow impact zone width of 15 feet as used by CHPE in impact calculations (DOE 2013).

4 Source: CHPE 2012c. Tables 5.1-3 and 5.1-4. The values in these tables differ from what is presented in the Public Notice (USACE 2013) and we were unable to determine how the 8.8 acres of permanent impact was derived. The area of Hudson River impact based on Table 5.1-4 "Locations of non-burial cable installation and associated area of impact and volume of permanent fill" is much greater (25.4 acres) than the value given in the Public Notice table "Obstacles encountered: impacts from non-cable burial along the submarine route."

5 Square foot and acre values do not sum within this table because permanent impacts were estimated by subtraction from total impacts in each SCFWH.

6 The values for total Hudson River (including Harlem and East Rivers) temporary impacts were taken from the tables labeled "Impacts from In-Water Cable Burial" from the CHPE Project Description and Purpose (CHPE 2012d) and Public Notice (USACE 2013). Some of these values could not be reproduced here based on the information contained within the table, and therefore the source documents are believed to contain errors which should be reconciled before the Project moves forward.

Coastal Fish and Wildlife assessment documents created for each SCFWH assess criteria including ecosystem rarity, species vulnerability, human use, population level, and replaceability. Each of these five SCFWHs was declared unique and valuable for protection, and the NYDOS has routinely advised that SCFWHs should be avoided during construction. Where avoidance of SCFWHs is impracticable, DOS requests siting of any new disturbance within areas that are previously disturbed including dredged navigation or other channels. The proposed CHPE Project cable line does not appear to have been routed through previously disturbed areas except at roughly CHPE MP 239 near the town of Ulster, NY.

The CHPE Project includes both temporary disturbance of and long-term permanent impact on these important areas described above. The criteria used to determine practicability and the results of the required habitat impairment tests presented in the DEIS are ambiguous and do little to quantify the net ecological impacts on the affected SCFWH compared to the rejected overland alternatives. The areas impacted as stated in these comments were calculated based on information found in the DEIS and supporting documents, but nowhere

820-50 **820-50:** See response to Comment 820-10.

820-51 **820-51:** See response to Comment 820-10.

in the available public record are these values made clear. A more thorough quantification and assessment of the impacts on SCFWH in the Hudson River by the CHPE Project is needed. Each of these five SCFWHs is discussed below in more detail to illustrate their features and ecological factors that were either overlooked or deemphasized in the DEIS and 404 Application.

3.2.1 Catskill Creek SCFWH

The Catskill Creek SCFWH is located in the town of Catskill, on the west side of the Hudson River. An important feature of the riverine habitat is 1.2 kilometers (0.75 mile) of Kaaterskill Creek to the first impassable fish barrier, which provides spawning habitat for Alewife, Blueback Herring, White Perch (*Morone americana*), and resident Smallmouth Bass (*Micropterus dolomieu*) and Largemouth Bass (*Micropterus salmoides*), because it is more accessible than other streams in the area. These species and others including Sea Lamprey (*Petromyzon marinus*), American Shad and Striped Bass can also be found spawning throughout other areas of the Catskill Creek SCFWH in April-August. There are also several beds of submerged aquatic vegetation (SAV) in this habitat that provide food and shelter for fish and invertebrates, and a number of threatened and endangered plant species can be found in its wetlands. At least ten reptile and amphibian species are found in the Catskill Creek area. Freshwater recreational fisheries, birdwatching and nature studies are listed as human benefits.

The NYDOS SCFWH assessment for Catskill Creek warns against any activities that would substantially degrade water quality, increase turbidity or sedimentation, or alter flows, temperature or water depths. Based on the DEIS and 404 Application, the CHPE Project will temporarily impact 0.11 of the 156 acres of the Catskill Creek SCFWH (Table 1). Some of these impacts may include degradation of water quality, increased turbidity or sedimentation, and an altered temperature or water depth due to cable construction and operation. While the area impacted in Catskill Creek SCFWH is small, these impacts will occur in strict opposition to the protection of SCFWH as required by the NYDOS.

3.2.2 Esopus Estuary SCFWH

The Esopus Estuary SCFWH is located at the mouth of the Esopus Creek, a major tributary to the upper Hudson River estuary. It is a tidal wetland complex encompassing the lower two (2) kilometers (1.3 miles) of Esopus Creek to the first barrier, and extensive unique wetlands habitats. These habitats are important spawning, nursery, and feeding areas for anadromous fish including White Perch, American Shad, Alewife, Blueback Herring, and Rainbow Smelt (*Osmerus mordax*). They also provide habitat for resident and coastal migratory species like Smallmouth and Largemouth Bass, Striped Bass and American Eel (*Anguilla rostrata*). Deepwater areas near the mouth of Esopus Creek provide important post-spawning and overwintering habitat for Shortnose Sturgeon, and both sturgeon species (Atlantic and Shortnose) use the area as a thruway for their migrations.

Estuarine-dependent and marine species are also found in the Esopus Creek SCFWH, including Atlantic Silverside (*Menidia menidia*), Bay Anchovy (*Anchoa mitchilli*), Bluefish (*Pomatomus saltatrix*), Weakfish (*Cynoscion regalis*), and Hogchoker (*Trinectes maculatus*). This stretch of the river contains several sites that appear to be important for overwintering Shortnose Sturgeon. The deepwater habitat extends right up to the shorelines in this

820-51

820-52

820-52: Potential impacts to the five SCFWHs cited were addressed in EIS Sections 5.3.4 and 5.3.5. As noted in these sections, the potential for impact to each SCFWH would be minor, and the transmission line installation has been approved by the New York State agencies with jurisdiction over SCFWH areas. The NYSDOS and the NYSDEC have approved the CHPE Project installation in the SCFWHs through the issuance of the NYSPSC Certificate for the proposed CHPE Project, the Coastal Consistency Determination, and the issuance of a Section 401 Water Quality Certification.

820-53

820-53: As described in EIS Section 5.2.4, the crossing of Catskill Creek and its associated SCFWH by the transmission line would be accomplished by HDD and no impact to the SCFWH would occur.

SCFWH, railroads run along both shorelines, and there are only small areas of marsh and flat habitat behind the railroad. The only sizable marsh is found behind the railroad tracks on the east side of the river at Crum Elbow.

The tidal freshwater wetlands surrounding Esopus Creek provide important feeding and resting habitat for migrating waterfowl and osprey. Submerged aquatic vegetation beds provide food and habitat for fish, invertebrates, amphibians, and birds. The wetlands contain several rare plant species including heart-leaf plantain (*Plantago cordata*), kidneyleaf mud-plantain (*Heteranthera reniformis*), and spongy arrowhead (*Sagittaria montevidensis* var. *spongiosa*). Human value from Esopus Creek SCFWH comes from recreational fishing, waterfowl hunting, and birdwatching opportunities.

The NYDOS SCFWH assessment for Esopus Creek warns against any activities that would substantially degrade water quality, increase turbidity or sedimentation, or alter flows, temperature or water depths. Based on the DEIS and 404 Application, the CHPE Project will temporarily impact 6.4 of the 970 acres of the Esopus Creek SCFWH (Table 1). Some of these impacts may include degradation of water quality, increased turbidity or sedimentation, and an altered temperature or water depth due to cable construction and operation. While the area impacted in Esopus Creek SCFWH is small, it is still proposed in strict opposition to the protection of SCFWH as required by the NYDOS.

3.2.3 Kingston-Poughkeepsie Deepwater SCFWH

The Kingston-Poughkeepsie Deepwater habitat (sometimes referred to as two separate habitats, Kingston and Poughkeepsie) is a 40.2-kilometer (25-mile) stretch of the river from Kingston Point to Rhinecliff. It is the northernmost section of deepwater habitat in the Hudson River Estuary and contains a nearly continuous deepwater section, with depths ranging from 9 meters (30 feet) to as much as 30 meters (100 feet). Dense saline bottom waters abundant here are important to the federally listed endangered Atlantic and Shortnose Sturgeon as overwintering habitat. The area represents the upper limits of the saltwater reach of the estuarine Hudson River, and a host of estuarine-dependent and marine species are found in this area, including Atlantic Silverside, Bay Anchovy, Bluefish, Weakfish, and Hogchoker. Many of these species are commercially important and this area is believed to contribute directly to production of in-river and ocean populations of food, game, and forage fish species. In addition, many other freshwater and brackish fish species are found here, along with Blue Crab and migratory waterfowl.

The NYDOS SCFWH assessment for the Kingston-Poughkeepsie Deepwater habitat warns against any activities that would substantially degrade water quality, increase turbidity or sedimentation, or alter flows, temperature or water depths. Based on the DEIS and the 404 Application, the CHPE Project will temporarily impact 10.9 of the 6,350 acres of the Kingston-Poughkeepsie Deepwater SCFWH, and in addition, this habitat would experience permanent impacts totaling 7.1 acres (Table 1). Some of these impacts may include degradation of water quality, change in bottom substrate, increased turbidity or sedimentation, and an altered temperature or water depth due to cable construction and operation. While the area impacted in the Kingston-Poughkeepsie Deepwater SCFWH is relatively small, it is still proposed in strict opposition to the protection of SCFWH as required by the NYDOS.

820-54 **820-54:** As noted in the comment and in EIS Section 5.3.4, the potential for impacts to the Esopus Creek SCFWH would be minor, and the proposed CHPE Project has been approved by the New York State agencies with jurisdiction over SCFWHs. The NYSDOS and the NYSDEC have approved the proposed CHPE Project installation in the SCFWH areas through the issuance of the NYSPSC Certificate, the Coastal Consistency Determination, and the issuance of a Section 401 Water Quality Certification.

820-55 **820-55:** See response to comment 820-54, which also applies to the Kingston-Poughkeepsie Deepwater SCFWH.

3.2.4 Hudson Highlands SCFWH

The Hudson Highlands SCFWH is a swift, narrow, and deep portion of the Hudson River estuary that was recently (August 2012) expanded from encompassing HRM 44 (Jones Point) through HRM 56 (Storm King Mountain) to now include the reach of the river running from Denning's Point (HRM 60) on the north down to Stony Point (HRM 40). [As noted in the Comments to which this Report attached, Entergy is currently challenging in court the designation of the four-mile stretch of the Hudson River Estuary adjacent to Indian Point as an extended part of the Hudson Highlands SCFWH, and nothing in this Report should be deemed a waiver of its position in that proceeding.] The physical attributes of the Hudson Highlands SCFWH contribute to a rocky bottom substrate, which in turn provides highly favorable conditions for Striped Bass spawning each spring. This is also an important part of the migratory route for Atlantic and Shortnose Sturgeon, and provides habitat for freshwater, brackish, and marine species depending on the location of the salt front. In addition, a large overwintering population of bald eagles is found in this reach of the river. The Hudson Highlands SCFWH contributes directly to the populations of commercially and recreationally important fish species, and recreational fishing is a popular activity here.

The NYDOS SCFWH assessment for Hudson Highlands habitat warns against any activities that would substantially degrade water quality, increase turbidity or sedimentation, or alter flows, temperature or water depths. Based on the DEIS and the 404 Application, the CHPE Project will temporarily impact 35.8 acres of the 6,350 acres of the Hudson Highlands SCFWH, and another 5.5 acres will be permanently impacted (Table 1). Some of these impacts may include degradation of water quality, change in bottom substrate, increased turbidity or sedimentation, and an altered temperature or water depth due to cable construction and operation.

New information reveals that the upper reaches of this SCFWH (approximately HRM 53-59) are also a critical overwintering habitat for juvenile sturgeon of both species, but particularly for juvenile Atlantic Sturgeon. This new information is found in a report submitted to the National Marine Fisheries Service (NMFS) on behalf of Entergy to describe the "take" of Atlantic and Shortnose Sturgeon while performing the Hudson River Biological Monitoring Program (HRBMP) during the period 29 August 2012 through 28 August 2013 (Normandeau 2013a).

The HRBMP is a continuing and extensive annual biological monitoring program that has been performed for more than four decades to assess potential impacts of cooling water withdrawals from electric power generating stations (including Indian Point) on the Hudson River ecology. The present HRBMP consists of four discrete fisheries sampling programs that have been developed under the oversight, and with the input, of regulators including the NYSDEC. Conducting the HRBMP is an annual requirement of the current State Pollutant Discharge Elimination System ("SPDES") water withdrawal and discharge permit for Indian Point. The four fisheries sampling programs comprising the current HRBMP are the Long River Ichthyoplankton Survey, Fall Juvenile Survey, Beach Seine Survey, and Striped Bass/Atlantic Tomcod Mark/Recapture Survey. Fisheries sampling is scheduled in each month of the year by one or more of these four programs in the Hudson

River Estuary from the Battery in Lower Manhattan (HRM 0) to the Troy Dam near Albany (HRM 152).

Shortnose Sturgeon and Atlantic Sturgeon are occasionally collected while performing the HRBMP. The incidental collection and handling of these two sturgeon species during performance of the current HRBMP is permitted under the provisions of NMFS Permit to Take Protected Species for Scientific Purposes No. 17095-01 and NYSDEC Permit No. 313. One program in particular, the Fall Juvenile Fish Survey, has been independently verified to provide a valuable index of the abundance and distribution of juvenile sturgeon in the Hudson River Estuary (Woodland and Secor 2007). The primary objective of the Fall Juvenile Survey is to determine the seasonal occurrence, abundance, and distribution of juvenile (young of the year, or "YOY") fish in the 152 mile portion of the Hudson River estuary between Battery Park at the southern tip of Manhattan and the Troy Dam above Albany. Sampling is performed during 8 to 12 alternate weeks spread between early July and late October of each year. About 200 samples per week are collected at randomly selected tow paths allocated among 13 geographic regions and three depth strata. The present Fall Juvenile Fish Survey is a massive biological monitoring program that is unprecedented in the combined within-year temporal, spatial and geographic extent for the number of consecutive years of sampling. Annually, the Fall Juvenile Fish Survey collects about 2,050 samples per year, and identifies and enumerates all fish caught, with more than 66,000 samples collected and analyzed during the 1979-2013 period.

The 2012-2013 HRBMP collected a total of 121 Atlantic Sturgeon and 57 Shortnose Sturgeon during the one-year period from 29 August 2012 through 28 August 2013, and these sturgeon were caught primarily in 3-m beam trawl samples deployed to collect fish living directly (i.e., within 0.7 meters or 2 feet) in association with the river bottom substrate at randomly selected locations throughout the Hudson River Estuary. When the GPS locations of trawl samples catching sturgeon are overlaid on the maps of the CHPE Hudson River Segment transmission line route (Figure 1), it is apparent that more than half (65 fish or 54%) of the total catch of 121 Atlantic Sturgeon came from the upper portion of the Hudson Highlands SCFWH located between Denning's Point and Constitution Island (HRMs 53-59; CHPE MPs 277-283). More importantly, nearly all of these juvenile Atlantic Sturgeon (52 fish out of 65 fish or 80%) came from just one mile of the Hudson Highlands SCFWH (HRM 55; CHPE MPs 280-281) adjacent to Storm King Mountain that is directly in contact with the substrate along the proposed route of the CHPE transmission line (Figure 1). Nearly all of the juvenile Atlantic Sturgeon caught during 2012-2013 from the Hudson Highlands SCFWH near Storm King Mountain were caught during the late summer and fall, indicating that this area is an important and previously undiscovered overwintering habitat for juvenile Atlantic Sturgeon. Thus, any cable embedment activities should avoid this location and sensitive time period to protect the sturgeon. Shortnose Sturgeon also inhabit the same upstream portion of the Hudson Highlands SCFWH as evident by their catch in the 2012-2103 HRBMP (Figure 1). Based on these new observations, in conjunction with the uncertainties about operational EMF and construction impacts on these two federally-listed endangered sturgeon species (Section 2.2 above), and the exact spatial juxtaposition of both overwintering juvenile Atlantic Sturgeon and the CHPE Project transmission corridor, we conclude that at least the upper portion of the Hudson Highlands SCFWH should be avoided by an overland route to protect the sturgeon.

820-56

820-56: As documented in its BA and in EIS Section 5.3.5, in consultation with NMFS, DOE has concluded that the proposed CHPE Project may affect, but is not likely to adversely affect, the shortnose sturgeon or the Atlantic sturgeon. DOE has also concluded that an overland route avoiding this area of the river is not a reasonable alternative (See EIS Section 2.5.2).

3.2.5 Lower Hudson Reach SCFWH

The Lower Hudson Reach extends from Battery Park to Yonkers, and is considered one of the New York City SCFWHs. The shoreline in this area has been extensively altered, but its status as one of only a few large tidal river mouth systems in the northeastern US makes it unique and important habitat. The Lower Hudson Reach is characterized by a wide range of salinities and by the seasonal influx of large volumes of freshwater flowing from the Hudson River, especially from fall through spring. The area is a very important feeding and overwintering area for juvenile Striped Bass, which feed on abundant zooplankton near the salt front. Other important fish species including Summer Flounder (*Paralichthys dentatus*), White Perch, Atlantic Tomcod (*Microgadus tomcod*), Atlantic Silverside, Bay Anchovy, Hogchoker and American Eel use this area of the estuary, as well as Shortnose and Atlantic Sturgeon. This habitat also plays an important role for Blue Crabs and waterfowl. Based on information in both the DEIS and the 404 Application, the CHPE Project would have a temporary impact of 12.7 acres in the Lower Hudson Reach SCFWH, with approximately 0.3 acres of permanent impact (Table 1). Some of these impacts may include degradation of water quality, increased turbidity or sedimentation, change of bottom substrate, and an altered temperature or water depth due to cable construction and operation. While the area impacted in Lower Hudson Reach SCFWH is relatively small, it is still proposed in strict opposition to the protection of SCFWH as required by the NYDOS.

820-57

820-57: As noted in the comment, the potential for impact to this SCFWH would be minor, and the transmission line installation has been approved by the New York State agencies with jurisdiction over SCFWHs. The NYSDOS and the NYSDEC have approved the proposed CHPE Project installation in the SCFWHs through the issuance of the NYSPSC Certificate, the Coastal Consistency Determination, and the issuance of a Section 401 Water Quality Certification.

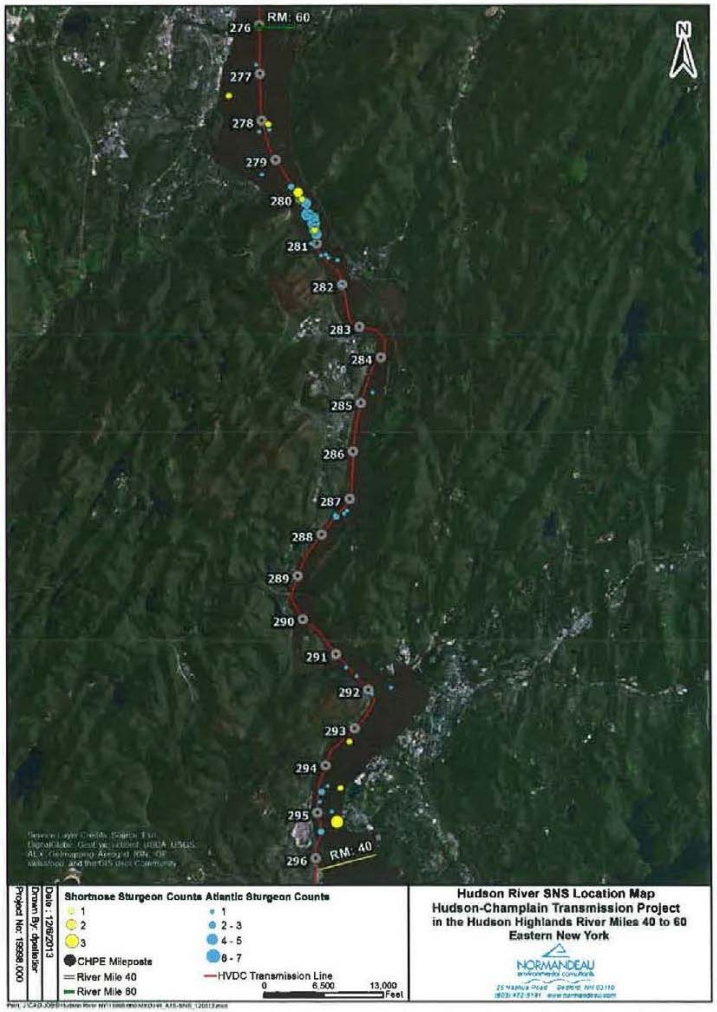

Figure 1. Trawl sampling locations from random locations within the Hudson Highlands SCFWH of the Hudson River Estuary where juvenile Atlantic Sturgeon and Shortnose Sturgeon were caught by the HRBMP during 29 August 2012 through 28 August 2013 in relation to the proposed CHPE Project transmission cable route.

3.3 Construction Impacts

3.3.1 Jet Plow Entrainment

Both the CHPE Project DEIS and USACE Public Notice (NAN-2009-01089-EYA) state that "the proposed method for laying and burial of a majority of the underwater HVDC cable is the plow/water jetting embedment process." In-water cable burial impacts will include 185.8 miles of installation in Lake Champlain, the Hudson River, the Harlem River, and the East River. The DEIS indicates that installation of HVDC cable in an aquatic environment proceeds at approximately one to three (1-3) miles per day. Assuming this rate of cable embedment is correct, aquatic installation of the HVDC cable within the 88 miles of the Hudson River Segment will encompass anywhere between 29 and 88 days of habitat disturbance due to jet plowing activities in the benthic substrates. Although these trenches are considered a temporary impact and part of the BMP, jet plowing activities have direct impacts on fish spawning and foraging activities, planktonic eggs and larvae (ichthyoplankton), and zooplankton found in the water column as a function of increased turbidity, and benthic macroinvertebrates, as a function of direct disturbance, burying, or sedimentation in adjacent substrates. While these impacts may be negligible for certain embedment activities, the magnitude of the CHPE Project suggest otherwise.

Effective use of the jet plow ("water jet," "hydraulic plow") construction technique is dependent upon the requisite information being available to understand potential aquatic impacts. However, there is too much uncertainty in the application to establish that the process is or can be properly used for the CHPE Project to minimize impacts. For instance, it is unclear where in the water column the inlet siphon for the jet plow would withdraw water, whether it will entrain demersal or pelagic fish eggs or both, and whether the time period for in-river construction will avoid all stages of ichthyoplankton. The jet plow method is not likely to significantly impact adult or juvenile fish on a long-term basis because they will likely avoid the suction current during construction and therefore not be subject to impingement or entrainment by the jet plow water withdrawal currents.

The Long River Survey ("LRS") is part of the HRBMP that was initiated in 1974 and annually monitors the seasonal abundance and distribution of ichthyoplankton weekly or biweekly during the months of March through November at randomly-selected stations throughout the entire Hudson River Estuary. Results of each annual survey are presented to NYSDEC and other agencies in a document referred to as a "Year Class Report". In the most recent year available (the 2011 Year Class Report), fish eggs and larvae from at least seven important fish species identified from the SCFWH designations were present and often abundant within the Hudson River Estuary from July to November (ASA 2013; AKRF 2013; Normandeau 2013b; Table 2), which overlaps with the proposed in-water construction periods for the Hudson, Harlem, and East River portions of the Hudson River Segment of the CHPE Project (Table 2-2 of DEIS).

Although considered environmentally sensitive, the DEIS and 404 Application do not quantify the impacts from the use of ambient river water for jet plowing due to entrainment of river organisms including ichthyoplankton (i.e., fish eggs and larvae) and zooplankton (Reine and Clarke 1998). Entrainment is defined as the direct uptake of aquatic organisms by a suction field, and may result in injury or mortality due to mechanical damage when drawn into, and passed through the water jet. While the DEIS claims that the project

820-58

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820-58: The Applicant has consulted with the NYSDOS, NYSDEC, and NMFS, and has agreed to conduct aquatic activities only during certain time periods to prevent impacts to fish spawning, planktonic eggs and larvae, juvenile fish, and fish migration. The evaluation presented in EIS Sections 5.3.4 and 5.3.5 considered the implementation of these construction windows (identified in Table 2-2 in the EIS) and other BMPs in reaching the conclusion that installation of the proposed CHPE project would not result in significant impacts on the environment.

820-59: See response to Comment 820-58.

operations have been scheduled to minimize interaction with aquatic organisms in the water column, plankton are nearly ubiquitous within the aquatic project construction zone during all portions of the construction window for the CHPE Project (Cole and Caraco 2006), and recent (2011) data shows that ichthyoplankton are present in the Hudson River throughout the range of underwater construction windows (Table 2). Therefore, jet plow cable embedment will inevitably entrain and kill an unspecified number of ichthyoplankton.

Table 2. Range and peak seasonal occurrence of Hudson River ichthyoplankton species and life stages, 1974-2011[1].

	Eggs		YSL		PYSL	
Species	Range	Peak	Range	Peak	Range	Peak
Striped bass	July-Aug	end July	July-Aug	end July	July-Sep	mid Aug
White perch	July-Sep	end July	July-Sep	end July	July-Sep	mid Aug
Atlantic tomcod	Dec-Jan	January	Feb-Apr	March	Apr-May	April
Bay anchovy	July-Oct	mid Sep	July-Nov	late Aug	Aug-Nov	mid Sep
American shad	July-Aug	mid July	July-Aug	end July	July-Sep	early Aug
Alosa spp	July-Aug	end July	July-Aug	end July	July-Sep	early Aug
Rainbow smelt	July	mid July	July	mid July	July-Aug	end July

[1]Adapted from ASA 2013, AKRF 2013, and Normandeau 2013b.

The expected impact from the loss of these organisms must be quantified in the DEIS and 404 Application and placed in perspective with other known sources of entrainment losses to fully assess cumulative impacts. A model using the volume of Hudson River water pumped per hour in hydraulic plowing and the expected hours of hydraulic plow use during construction should be developed. Such a model can be used in conjunction with available data on seasonal abundance to determine the expected losses if an overland route is not selected. Information about where in the water column (at what depth) water is suctioned for the jet plow and dimensions of the intake should also be provided and compared with the seasonal and vertical distribution of all planktonic organisms to determine the size and magnitude of organisms entrained during jet plowing activities. Entrainment of ichthyoplankton from a moving plow apparatus is particularly worrisome as many of the SCFWH the CHPE Project traverses are important nursery areas and the path may effectively siphon up large concentrations of fish eggs and larvae.

Losses of phytoplankton, macroinvertebrates such as comb-jellies (*Ctenophora spp.*), and zooplankton from the water column have the potential to directly impact populations of these species themselves, but also have indirect impacts to the local food web including commercially and ecologically sensitive species that rely on them as prey during different stages of their life history. Unlike a fixed location intake, the water entrained during jet plowing will come from a variety of diverse and sensitive habitats that are known to be important spawning and nursery areas, including SCFWHs), throughout the 88 miles of the Hudson River Segment. Because of these potential losses, this jet plow entrainment analysis should be included in both the DEIS and 404 application impact summary to determine no significant impact to Hudson River Estuary aquatic communities.

820-60 **820-60:** See response to Comment 820-39.

820-61 **820-61:** See response to Comment 820-39.

3.3.2 Recreational Fishing Data

The DEIS concludes that there will be no impact on recreational angling in the Hudson River "because vessels could either transit around the work site or use a different area of the Hudson River." This is obviously a vast oversimplification of the issue. Sedimentation will effect species, as noted above, in a manner unaddressed in the DEIS. Further, the DEIS fails to consider that the CHPE Project will require a "no anchor" corridor for its full extent in the Hudson River (88 miles by 30 feet wide), for which the responsibility of enforcement will fall on local and State law enforcement officials.

The affected environment section gives one short paragraph on Hudson River recreational fisheries, with a citation for surveys conducted in the mid-1990s. However, creel surveys conducted in 2001-2002 and 2005 for NYSDEC provide detailed information on fishing effort, catch, and characteristics of the fishery that is considerably more up to date and inclusive than what was considered in the DEIS and 404 Application (Normandeau 2007). Impacts on fisheries in the Hudson River cannot be adequately measured in the DEIS without use of more recent and complete data.

3.3.3 Riprap Mats

The DEIS and 404 Application both indicate that there will be sections of the submarine cable that cannot be buried to full depth due to obstacles such as existing infrastructure (utility lines, etc.) or surface bedrock. At these areas the project proposes to place the cable on the riverbed or at a shallower buried depth (less than four feet below the riverbed). Protective covering such as articulated concrete or riprap mats would be used to protect the cable.

Based on information from the Army Corps of Engineers Public Notice NAN-2009-01089-EYA, the use of protective coverings for the HVDC cable where underwater obstacles are encountered will result in a permanent impact to approximately 25.4 acres of habitat in the Hudson River. This value is not stated in the DEIS, nor is there provided any indication of where these areas of habitat alteration are likely to occur and their relation to SCFWH. [We approximated the value by converting the "Footprint area (sq ft)" in Table 5.1-4 of CHPE 2012d to acreage.] Some of the areas may include subsurface bedrock that prevents burial at the desired depth, which would cause loss of soft bottom habitat and replacement with protective riprap covering, resulting in a net loss of foraging habitat for Atlantic and Shortnose Sturgeon.

The use of riprap mats also has the potential to act as suitable habitat for invasive Zebra Mussels (*Dreissena polymorpha*), a mussel species introduced in 1992 that has caused significant declines in phytoplankton and zooplankton biomass due to their filter feeding activities, and has changed the foraging habits of some important fish species (e.g., Blueback Herring juveniles; Pace et al. 1998, Strayer et al. 2004). The short-term and long-term consequences of the proposed habitat alterations due to CHPE Project construction activities have not been adequately investigated for Zebra Mussels and for other, more recent invasive species, like the Asiatic clam (*Corbicula fluminea*), the Chinese Mitten Crab (*Eriocheir sinensis*) and the Asian Shore Crab (*Hemigrapsus sanguineus*). Altering the benthic habitat due to addition of rip-rap mats could encourage the establishment and expansion of these invasive species in portions of the Hudson River Estuary that are currently unsuitable because the established benthic communities are capable of repelling these invasive species.

820-62 **820-62:** See response to Comment 205-03.

820-63 **820-63:** Impacts on fisheries in the Hudson River are addressed in the EIS using best available information. The EFH Assessment, included as Appendix R to the Final EIS, provides an analysis of impacts on Magnuson-Stevens Fishery Conservation Management Act (MSA)-protected fisheries.

820-64 **820-64:** See response to Comment 204-16. Maps of the SCFWHs in relation to the transmission line route have been added to the BA.

820-65 **820-65:** See response to Comment 204-15.

3.4 Cumulative Impacts

3.4.1 Tappan Zee Bridge Project

The NYSDEC issued a permit to the New York State Thruway Authority authorizing construction of a new bridge to replace the existing Tappan Zee ("TZ") Bridge on 25 March 2013 ("the Permit"). The TZ Bridge is located within the mile-long segment of the Hudson River referred to as HRM 27. The Permit provides authorizations for the TZ Bridge construction activities beginning 25 March 2013 and continuing through 24 March 2019 under Tidal Wetlands – ECL Article 25, Section 401 Water Quality Certification – ECL Article 15, and Endangered/Threatened Species (Incidental Take) – ECL Article 11.

The Permit requires, among other things, implementation of an Endangered and Threatened Species Mitigation Plan ("ET Mitigation Plan") for the TZ Bridge Construction Project ("the TZ Bridge Project"), consisting of the following seven (7) activities to insure the project will proceed with a Net Conservation Benefit to the Shortnose and Atlantic Sturgeon within the Hudson River Estuary:

1. Mapping of benthic habitat that could be used by both sturgeon species for 152 miles of the Hudson River from NY Harbor to Troy.
2. Study of the foraging habits of each life stage of both species of sturgeon so that their diet can be linked to use of the benthic habitats mapped for foraging within the entire Hudson River Estuary.
3. Tagging of Shortnose and Atlantic Sturgeon and tracking their movements so habitat use can be determined within the entire Hudson River Estuary.
4. Collection of immature and adult Shortnose Sturgeon and immature Atlantic Sturgeon during the winter months to identify important overwintering habitat throughout the entire Hudson River Estuary.
5. Collection and tagging of both sturgeon species with ultrasonic tags and passive integrated transponder tags that are compatible other research activities, and searching for tags administered by all researchers to better understand sturgeon movements and habitat use within the entire Hudson River Estuary.
6. Tracking acoustic tagged sturgeon of both species in the vicinity of the TZ Bridge Project and elsewhere to obtain knowledge of species distribution and habitat use as affected by construction activities.
7. Develop an outreach program to the commercial fishing industry with the goal of reducing the commercial by-catch of Atlantic Sturgeon in the near-shore Atlantic Ocean coastal waters.

The Permit also requires implementation of a Compensatory Mitigation Plan to mitigate impacts from the construction of the new TZ Bridge, including:

1. Re-establishment of 13 acres of hard bottom/shell oyster habitat nearby from material removed from the TZ Bridge Project.
2. Secondary Channel Restoration at Gay's Point (HRM 122).
3. Wetland Enhancement at Piermont Marsh (HRM 24, west).

4. Supplemental Habitat Replacement or Enhancement elsewhere within the Hudson River Estuary.

The new information obtained from the ET Mitigation Plan Studies represent important advances in the scientific knowledge of sturgeon habitat use within the Hudson River Estuary that must be considered before sound scientific conclusions can be reached about the nature and magnitude of impacts from the CHPE Project. It is clear that the CHPE Project DEIS and 404 Application did not consider the important new information that will be obtained by the ET Mitigation Plan for the TZ Bridge Project because these studies just began in 2013 and will conclude in 2019. However, given the coincidence of the CHPE Project and TZ Bridge Projects in time and space, the importance of the Hudson River Estuary as a special aquatic site designated by the Hudson River Estuary Management Act, and the voracity of the scientific information required by the ET Mitigation Plan for the TZ Bridge Project, conclusions of no or temporary impacts stated in the DEIS for the CHPE Project on federally listed Shortnose Sturgeon and on the Gulf of Maine Distinct Population Segment ("DPS"), New York Bight DPS and the Chesapeake Bay DPS of Atlantic Sturgeon are premature.

Both in-kind and out of-kind mitigation for endangered sturgeon species affected or potentially affected by the CHPE Project must be commensurate with the magnitude of impacts quantified. The intersection of benthic habitat disturbance along the path of the CHPE Project in the Hudson River Segment and the foraging, overwintering, spawning, nursery, and resting habitat use by each life stage (egg, larvae, juvenile, adult) of the two sturgeon species in space and time must be reconciled before scientifically valid conclusions can be reached about the magnitude of impacts. It is not scientifically credible to reach LEDPA conclusions in the DEIS or 404 Application for the CHPE Project based the "best available information" with the knowledge that significant new information was required and is forthcoming from the studies required by the ET Mitigation Plan for the TZ Bridge Project.

While the outcome of studies required by the ET Mitigation Plan of the TZ Bridge Project is not yet known, the available information suggests the scale of the CHPE Project is of a comparable relative magnitude or larger than the TZ Bridge Project with respect to the potential to impact Shortnose and Atlantic Sturgeon in the Hudson River Estuary. The TZ Bridge Project impacts are spatially constrained to a relatively short mile-long segment of the Hudson River Estuary and temporally restricted to a construction period of 6 years. Impacts are further constrained to construction periods within each year to avoid use of the habitat near the TZ Bridge Project by migrating sturgeon. Adult sturgeon, particularly the anadromous Atlantic Sturgeon, must traverse the TZ Bridge Project both when entering the Hudson River Estuary from the sea to migrate upstream and spawn in the freshwater portion, and when returning to the sea after spawning. The CHPE Project is spatially extensive within the Hudson River Segment over approximately the same construction period, and therefore has a greater potential to interact with all life stages of sturgeon than the TZ Bridge Project. Specifically, the TZ Bridge Project will disturb 139 acres of Hudson River Estuary benthic habitat due to dredging, and 107 acres of this dredged habitat will be covered with sand and stone and permanently altered during and following construction. None of the habitat temporarily or permanently disturbed by dredging for the TZ Bridge

820-66

820-66: The Tappan Zee Bridge Project Endangered and Threatened Species Mitigation Plan has not yet provided data that are useful to the proposed CHPE Project analysis in the Final EIS. Also see response to Comment 820-15.

820-67

820-67: DOE, in consultation with NMFS, has determined that the available data on the presence of Atlantic and shortnose sturgeon, and their use of the area is sufficient to reach a conclusion that the proposed CHPE Project may affect, but is not likely to adversely affect, the shortnose sturgeon or the Atlantic sturgeon. See response to Comment 820-66 regarding the mitigation plan.

Project is within a designated SCFWH. The Hudson River Segment of the CHPE Project will extend along 88 miles of benthic habitat in the Hudson River Estuary, 36 miles of which are located among five SCFWHs, temporarily disturbing an estimated total of 168 acres of aquatic benthic habitat during entrenchment by jet plowing, and permanently disturbing another 25 acres of habitat by installation of rip-rap mats (Table 1). However, this review suggests that the amount of habitat temporarily or permanently altered may both be underestimated in the DEIS when the additional impacts identified in this report are considered. Therefore, based on available quantitative estimates of the areas affected by construction and installation activities, the CHPE Project is at least comparable to the TZ Bridge construction Project, but has the potential to affect a wide variety of habitats and five SCFWHs along 88 miles of the Hudson River Estuary and should require at least comparable mitigation.

3.4.2 West Point Transmission Project

West Point Partners, LLC submitted an application to the United States Army Corps of Engineers ("USACE") dated 31 July 2013 for a Department of the Army Individual Permit for the West Point Transmission Project ("West Point Project"). This project falls under jurisdiction of the New York State Public Service Commission rather than the New York State Department of Environmental Conservation. The permit is being sought to install a buried cable system for delivery of high voltage electricity between the existing National Grid Leeds Substation (Leeds Substation) in the Town of Athens, Greene County, NY and the existing Consolidated Edison Company of New York, Inc. (Con Edison), Buchanan North Substation (Buchanan Substation) located adjacent to the Indian Point Energy Center in the Village of Buchanan, Town of Cortlandt, Westchester County, NY. For approximately 77 miles of its length, the Project will be buried under the bed of the Hudson River Estuary.

The proposed In-River Cable Route runs from the Transition Vault located in the vicinity of the Northern Landfall near HRM 118 on the west side of the Hudson River to the Transition Vault located in the vicinity of the Southern Landfall near HRM 42 on the east side of the Hudson River. The total length of the In-River Cable between these two locations will be approximately 77.6 miles. The large majority of this cable will be embedded into the river bottom by hydraulic jetting.

The permit requests authorization for the West Point Project construction activities beginning June 2014 and continuing through May 2016, with cable installation work beginning in 2015. While the permit has not yet been granted, the permit will likely require completion of agency consultations, modeling of benthic impacts, essential fish habitat assessment, and several other impacts. Some of these have already been completed and others are in process or will be scheduled as the permitting process continues.

The new information obtained from the these studies represents important advances in the scientific knowledge of the Hudson River Estuary that must be considered before sound scientific conclusions can be reached about the nature and magnitude of impacts from the CHPE Project. It is clear that the CHPE Project DEIS and 404 Application did not consider the important new information that will be obtained by the permitting and impact analysis of the West Point Project because these studies just began in 2013 and will conclude in 2016. However, given the coincidence of the CHPE Project and West Point Projects in time and space, the importance of the Hudson River Estuary as a special aquatic site designated by

the Hudson River Estuary Management Act, and the wealth of the scientific information required by the permitting process of the West Point Project, conclusions of no or temporary impacts stated in the DEIS for the CHPE Project on federally listed Shortnose Sturgeon and on the Gulf of Maine Distinct Population Segment ("DPS"), New York Bight DPS and the Chesapeake Bay DPS of Atlantic Sturgeon are premature.

The proposed West Point Project is planned for a subset of the same stretch of the river where CHPE intends to install HVDC cables. Because this overlap is not detailed in either permit application at this time (CHPE or West Point Partners), it is unclear whether the installation would occur simultaneously or staggered, or where the two cables would be laid in relation to each other. The disturbance of the same area of river bottom twice in a short period of time has the potential to disrupt communities attempting recovery from the first installation, and could cause the long-term degradation of habitat. The area in which the West Point Project is planned also includes SCFWHs deemed to be unique and valuable living and feeding grounds for animals. The impacts of construction, operation (including electro-magnetic fields), and maintenance of the West Point Project will add significant pressure to an area and aquatic community already disturbed by the CHPE Project and may increase the duration and severity of impacts.

It is essential that the cumulative effects section of the CHPE Project DEIS be expanded to include updated facts about the placement and timing of the West Point Project in relation to the installation of HVDC by CHPE. Without this information, the conclusion of no significant negative impact is made using incomplete analysis.

820-68

3.4.3 TDI New England Clean Power Link Lake Champlain

TDI New England has proposed a 1,000 MW HVDC underwater and underground transmission line from the Canadian border to New England via Vermont, to be installed by 2019. Approximately 100 miles of this HVDC cable would run through Lake Champlain. The impacts of this project should be considered in Cumulative Impacts under Present and Reasonably Foreseeable Transmission Projects.

820-69

4.0 Least Environmentally Damaging Practicable Alternative

The CHPE Project Alternatives Analysis presented in the DEIS followed the Clean Water Act 404(b)(1) Guidelines for Selecting the Least Environmentally Practicable Alternative (LEDPA). The project proponent must demonstrate there is "no practicable alternative that would have less adverse impact" and "which does not have other significant adverse environmental impacts to waters of the United States". An alternative is considered practicable "if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purpose".

CHPE conducted and refined several alternatives analyses, including for the New York State Siting and Permitting Process (CHPE 2010a, 2010b), the DEIS (DOE 2013, Appendix B), an updated Alternatives Analysis dated January 18, 2011 in the Coastal Zone Consistency Determination (CHPE 2011), a supplemental Alternatives Analysis (CHPE 2012c) and the Alternatives Analysis Report included in the CWA 404 permit application (CHPE 2013). According to the USACE 2013 permit application and attachments (CHPE 2013d), several design and routing changes were adopted that avoid the in-water route "to the extent

820-68 **820-68:** Comment noted. The EIS cumulative effects analysis is considered to cover the updated information sufficiently for the proposed West Point Transmission Project. Also see response to Comment 820-11.

820-69 **820-69:** See response to Comment 820-11.

practical and feasible" as part of the NYS siting and permitting process, specifically Article VII of the New York State Public Service Law (CHPE 2010a, 2010b) and NY DOS Coastal Zone Consistency determination (CHPE 2011). The applicant claims that these routing changes included portions of the Hudson River Western Rail Line Route and Harlem River Rail Line route.

According to the 404 Alternatives Analysis report (CHPE 2013), adopting these elements would result in the applicant incurring additional "significant" costs. The alternatives analysis then evaluated the practicability of three alternatives that avoid Hudson River impacts: the Hudson River Western Rail Line Route, use of existing ROWs east of the Hudson River including rail and roads; and an alternative entirely over land (either with overhead or buried transmission lines) using a new power line route. These alternatives were deemed not practicable based on logistics and costs.

One of the alternatives located the CHPE Project with other utilities or roadways. The proponents state that co-location of utility and transportation corridors expose infrastructure to increased risk from terrorism, necessitating a single corridor for each utility to minimize risk. In addition, the applicant states that submarine routes are inherently more secure because of the lack of visible markers. First, the vast majority of high-voltage transmission lines in the United States are above-ground. Second, the submarine location through the Hudson River Estuary, even though not visible, is no less vulnerable than an overland route and could still be easily located by simple reference to navigation charts (due to the "no anchor" zone), and would therefore not offer substantially increased protection from terrorism or attack, even assuming such a threat realistically exists (none has been documented in the record).

Elimination of alternatives as impracticable based on cost raises the question of what is an acceptable cost. Under the 404(b)(1) guidelines that determine what is an unreasonable expense, the applicant should be required to consider whether the projected cost is substantially greater than the cost normally associated with this type of project. In this respect, the applicant compares construction costs for the CHPE Project to costs for other cable installation projects; specifically the Neptune, Port Angeles-Juan de Fuca, Transbay and Northern Pass (the sole overland project) projects (Table 3-2 in Appendix B, CHPE 2013). The applicant claims that the costs per MW are significantly higher by 47% compared to the next most expensive project (Port Angeles). The "comparable" projects are much shorter than CHPE, and thus do not capture the economies of scale that would occur in a project of the length of CHPE. The cost per mile of CHPE (approximately $6.0 million) is less than the cost per mile for the other submarine projects and compares favorably with the overland Northern Pass ($6.1 million per mile). Cost per mile is also more appropriate comparison than cost per megawatt. The applicants estimate that an overland project would increase costs by 35% to 79% over what is defined as baseline costs. This increase would still make the costs per mile similar to "reasonable" costs of comparable overland projects.

820-70

820-70: As presented in EIS Section 2.5 and in the LEDPA analysis included as Appendix B in the EIS, the Applicant considered a number of factors, including cost, in developing their proposed project. DOE reviewed and independently analyzed the LEDPA analysis and other documents to arrive at its determination that certain overland and overhead options are not reasonable alternatives to the Applicant's proposed project. Project development costs were just one factor among many considered.

Table 3. Transmission line construction cost comparison.

	CHPE	Neptune	Port Angeles-Juan de Fuca	Transbay	Northern Pass
Overall cost	$1,999 800,000	$600,000,000	$750,000,000	$505,000,000	$1,100,000,000
MW	1,000	660	550	400	1,200
Miles	332.8	65	31	57	180
Cost per Mile	$6.0m[1]	$9.2m	$24m	$8.9m	$6.1m

[1]million

Deeming alternatives that avoid the Hudson River Estuary as "not practical" eliminates them from further consideration in the alternatives analysis. The only remaining practicable alternative under this analysis is the submarine route through the Hudson River Estuary. Thus, the applicant failed to examine the environmental impacts or perform a full environmental cost benefit analysis with respect to each of the alternative routes as it would have done for a water dependent use project. By default, the submarine alternative is deemed the "least environmentally damaging" because it is the only remaining alternative. However the 404(b)(1) guidelines stipulate that the project proponent must demonstrate there is no "practicable alternative …which would have less adverse impact on the aquatic ecosystem" and "does not have other significant adverse environmental consequences".

The project proponent considered only freshwater and tidal wetlands in its wetland impact assessment. Impacts to the Hudson River Estuary bottom should be considered both a regulated tidal wetlands and a special aquatic site based on consideration of the portions that are SCFWH. Approximately 7,357,860 square feet (168 acres) of river bottom would be disturbed during burial of the HDVC cable (USACE 2013). This would be considered a temporary impact as well as a temporal impact, as there would be a loss of wetland functions and values during habitat recovery. An additional 1,107,700 square feet (25 acres; based on Table 5.1-4 of CHPE 2012d) of permanent impact would result from fill from concrete mats placed over cable crossings over bedrock and existing utilities. These impacts were not considered in the assessment of wetland impacts. The proposed wetland mitigation did not include compensation for these impacts. We would argue that these impacts to the Hudson River, along with impacts to freshwater wetlands would constitute 'a significant adverse impact to waters of the United States'.

Compliance with the 404 (b)(1) Guidelines includes special consideration of discharges proposed for special aquatic sites. Defined in Subpart E, these include sanctuaries and refuges, wetlands, mudflats, and vegetated shallows. The Hudson River Estuary is defined as a special aquatic site. If the activity associated with the discharge does not require access or proximity to, or siting within, a special aquatic site (also known as "water dependent use") to fulfill its basic purpose, practical alternatives that do not include special aquatic sites are presumed to be available unless clearly demonstrated otherwise. The applicant states that "while the project does not itself constitute a 'water-dependent' use, several conditions ensure that the transmission cables will be sited and installed in a manner that facilitates water-dependent economic uses and avoids interference with other important water-dependent uses such as navigation and fishing". These conditions include installation using a single-trench jet plow at the "maximum achievable depth", at least six feet below the sediment-water interface and 15 feet in Federal Navigation channels (NYDOS Coastal Zone Consistency Determination, CHPE 2011). The proposed project does not require access or proximity to, or siting within, a special aquatic site to fulfill its project purpose nor do the

820-71 **820-71:** Until such designations are made by the appropriate agencies, the EIS analysis cannot assume such considerations. Also see responses to Comments 820-07 and 820-10.

special conditions assure that water dependent uses of this project are maintained. Therefore, when fully valued, it appears that indeed at least one practicable overland alternative exists that is not within the Hudson River Estuary and therefore does not traverse five SCFWHs. The land-based alternatives may indeed be the LEDPA when the scientific uncertainties identified in this review are fully addressed and compared to the significant adverse impact to the Hudson River Estuary by the CHPE Project in a revised alternatives analysis.

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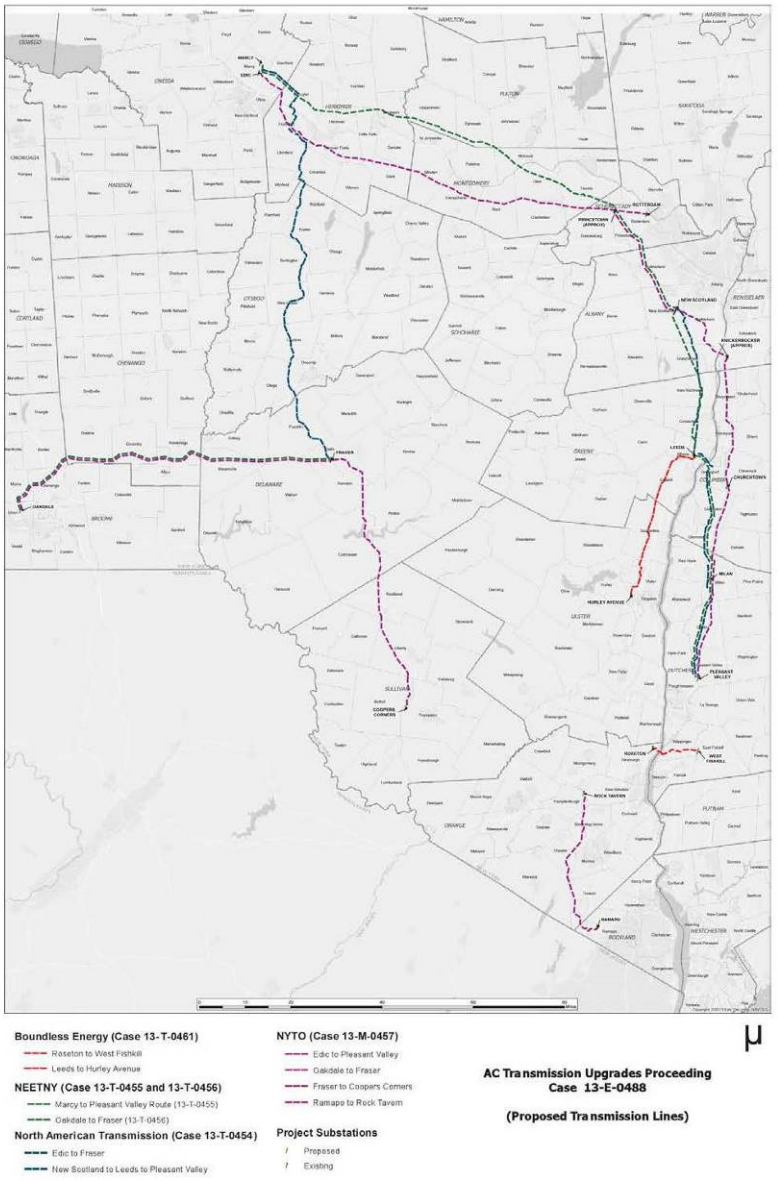
EXHIBIT 2


Boundless Energy (Case 13-T-0461)
Roseton to West Fishkill
Leeds to Hurley Avenue
NEETNY (Case 13-T-0455 and 13-T-0456)
Marcy to Pleasant Valley Route (13-T-0455)
Oakdale to Fraser (13-T-0456)
North American Transmission (Case 13-T-0454)
Edic to Fraser
New Scotland to Leeds to Pleasant Valley
NYTO (Case 13-M-0457)
Edic to Pleasant Valley
Oakdale to Fraser
Fraser to Coopers Corners
Ramapo to Rock Tavern
Project Substations
Proposed
Existing
AC Transmission Upgrades Proceeding
Case 13-E-0488
(Proposed Transmission Lines)