STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

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

Case 10-T-0139

INITIAL POST-HEARING BRIEF OF ENTERGY NUCLEAR POWER MARKETING, LLC AND ENTERGY NUCLEAR FITZPATRICK, LLC

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Dated: August 22, 2012
Albany, New York

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PRELIMINARY STATEMENT

Champlain Hudson Power Express, Inc. and CHPE Properties, Inc. (collectively, the "Applicants") seek a New York Public Service Law ("PSL") Article VII Certificate of Environmental Compatibility and Public Need ("CECPN") authorizing the construction and operation of a (+/-) 330-mile transmission line, the New York portion of which is proposed to begin at the Canadian border, entirely bypass the existing New York transmission system and sink directly in New York City, without any opportunity for direct access by New York generation assets ("Project"). Indeed, the record demonstrates that the Project is likely to be used by Canadian-based shippers to inject subsidized Canadian power directly to New York City.

On February 24, 2012, the Applicants submitted a Joint Proposal,[1] proposed certificate conditions, and accompanying documents purporting to "resolv[e] all issues in this proceeding." Thereafter, the Applicants advanced a series of supplements, amendments and stipulations, which substantially altered the terms of both the JP and the proposed certificate conditions.[2] In accordance with the "Ruling on Issues" which defined the disputed factual issues in this proceeding,[3] evidentiary hearings were held on the record before Administrative Law Judges ("ALJs") Michelle L. Phillips and Kevin J. Casutto on July 18, 19 and 20, 2012.

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[1] Case 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, "Joint Proposal of Settlement" (dated February 24, 2012) (hereinafter, "JP").

[2] See, e.g., Hearing Exhibits 129, 130, 150, 151.

[3] Case 10-T-0139, supra, "Ruling on Issues" (issued May 8, 2012).

Pursuant to the "Ruling Establishing Schedule and Hearing Procedures,"[4] Entergy Nuclear Power Marketing, LLC ("ENPM") and Entergy Nuclear FitzPatrick, LLC ("ENF," and, collectively with ENPM, "Entergy") respectfully submit this Initial Post-Hearing Brief. For the reasons set forth herein and as established by the record in this proceeding, Applicants have not demonstrated that the Project meets the requirements of PSL Article VII, and thus, a CECPN cannot be granted.

SUMMARY OF THE ARGUMENT

The testimony and evidence in the record, including that which was adduced on cross-examination of the Applicants' and DPS Staff's witnesses at the evidentiary hearing, demonstrate that the Project should not be certificated for several reasons. First, the Applicants have failed to demonstrate that there is a "need" for the Project within the meaning of the PSL, and thus, the Commission cannot render the findings required by PSL Section 126.1(a). Additionally, the Applicants' failure to provide a sufficient record in several other key areas precludes the Commission from making the environmental impact and mitigation findings required by PSL Sections 126.1(b) and (c), respectively.

Nor may the Commission make any affirmative policy-based findings under PSL Sections 126.1(d) and 126.1(g). Specifically, the evidence further shows that this so-called "merchant" Project (that includes the non-merchant Astoria-Rainey Cable) is so grossly uneconomic that it can be built only if it is supported, directly or indirectly, by some form of substantial non-merchant subsidy. Even taking into account Applicants' eleventh hour, post-JP

[4] Case 10-T-0139, supra, "Ruling Establishing Schedule and Hearing Procedures" (issued May 8, 2012).

filing modifications,[5] the now current version of proposed Certificate Condition 15 does not in any way proscribe such indirect Project subsidization -- an outcome that would require New York consumers to fund the significant costs of this Project. For example, the June 4 Certificate Conditions would not prevent -- indeed, they seem to contemplate -- a long-term contract between Applicants and a shipper, that, to be economically rational, must be tied to a long-term, out-of-market contract between the shipper and some other entity (e.g., a public entity or an investor-owned utility). Because the counterparty to such an offtake contract would seek to recover the cost from New York consumers by some non-bypassable means (discussed, infra), the only business structure for the Project evident on this record would ultimately require New York consumers, in some capacity, to fund some portion of the Project's $2.2 billion cost. Further, such an indirect subsidy is also likely to cause artificial price suppression in the New York City wholesale electric market and will thus cause significant adverse impacts on the continued development of competitive electricity markets in New York. Consequently, the Commission also cannot find either that the Project is consistent with a "long-range plan for expansion of the power grid" (PSL Section 126.1 (d)), or, equally important, that the Project will serve the public interest, convenience and necessity, as required by PSL Section 126.1(g). Accordingly, the Project cannot be granted an Article VII certificate.

[5] Since filing the JP, the Applicants have proposed a number of modifications to their proposed certificate condition 15, which sets forth provisions concerning the Project's business model. The most recent of these modifications was filed on June 4, 2012. The June 4 filing contained the now current version of the Applicants' proposed certificate condition 15, which is in the record as Hearing Exhibit 150 (the "June 4 Certificate Conditions").

ARGUMENT

I. AN ARTICLE VII CERTIFICATE CANNOT BE GRANTED BASED ON THE JP PROPOSAL AND THE REMAINING RECORD IN THIS PROCEEDING.

A. Introduction and General Considerations.

PSL Article VII imposes the burden of proof on the Applicant to compile a record sufficient for the Commission to make specifically delineated statutory findings. As pertinent here:

- PSL Section 126.1(a) requires the Commission to find the "basis of need" for the proposed transmission facility.[6]
- PSL Section 126.1(b) requires the Commission to find "the nature of the probable environmental impact."[7]
- PSL Section 126.1(c) requires the Commission to find that "the facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations including but not limited to, the effect on agricultural lands, wetlands, parklands and river corridors traversed."[8]
- PSL Section 126.1(d) requires the Commission to find, inter alia, that the facility "conforms to a long-range plan for the expansion of the power grid" and will "serve the interests of electric system economy and reliability."[9]
- PSL Section 126.1(g) requires the Commission to find that the proposed facility will "serve the public interest, convenience and necessity."[10]

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[6] N.Y. Public Service Law §126.1(a) (2011).

[7] N.Y. Public Service Law §126.1(b) (2011).

[8] N.Y. Public Service Law §126.1(c) (2011).

[9] N.Y. Public Service Law §126.1(d) (2011).

[10] N.Y. Public Service Law §126.1(g) (2011).

(1) The Scope and Standard of Review.[11]

As an initial matter, the Commission must determine the standard that must be applied to review the record evidence in this proceeding to determine whether the Applicants have satisfied the statutory requirements. In recent years, with the movement to competitive markets in New York, the proof required to meet the statutory requirements in Article VII certification proceedings also has evolved. When consumers are directly required to fund a project's costs (e.g., today, in their capacity as ratepayers or Authority customers for investments in the distribution system), the "need" and related "public interest" Article VII determinations continue to require that the benefits of the project (whether economic, reliability, fuel diversity, etc.) must outweigh its costs, including both financial costs and associated adverse environmental impacts.[12]

In contrast, when New York's electric markets were restructured, the paradigm shifted away in some cases from requiring New York customers to bear the costs of prudent utility investments to a merchant model where such risks are instead borne solely by private investors.[13]

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[11] This issue, among others, was raised in Entergy's Initial Statement. See Case 10-T-0139, supra, "Initial Statement of Entergy Nuclear Power Marketing, LLC in Opposition to Joint Proposal and Application for Article VII Certificate" (March 16, 2012), pp. 13-14. However, in response to motions filed by the Applicants arguing that these were legal and policy matters beyond the scope of the factual issues identified for evidentiary hearings, Your Honors subsequently ruled that these issues were deemed under the standards applied in the Ruling on Issues to be "legal or policy issues (or mixed issues of law and policy), to be addressed in briefs." See Case 10-T-0139, supra, Ruling on Motions To Strike" (June 22, 2012), pp. 3-4. Accordingly, while Entergy had offered the testimony of an expert witness on this point, these issues could not be the subject of proof at the evidentiary hearing, and thus, are addressed herein.

[12] See, e.g., Case 06-T-1298, Application of New York State Electric & Gas Corporation for a Certificate of Environmental Compatibility and Public Need under Article VII of the PSL for the Construction and Operation of Approximately 30 Miles of New or Rebuilt 115 kV Electric Transmission Line and the Construction of a New 345 kV / 115 kV Substation Located in Tompkins and Cortland Counties.

[13] Under the merchant model, a true merchant transmission project would be one in which the transmission project owners earn all of their revenues (i.e., recoup their costs), either directly, or from shippers, based on the basis differential – the amount by which the wholesale market price for power at the "sink" end exceeds the wholesale market price at the "source" end. In other words, to be a purely merchant project, the project cannot receive an above-market subsidy either directly or indirectly through its shippers (who themselves are subsidized).

Concomitantly, the Commission was called upon to determine whether that paradigm shift also justified a liberalization of the showing required by these new "merchant" developers in certification proceedings. Under this new paradigm, the Commission has found that a purely merchant project with tangible benefits that does not otherwise have an adverse effect on the system (i.e., on system reliability or the environment) can meet the "need" and "public interest" requirements of NYPSL Article VII even if there is no reliability-based need for additional facilities in the foreseeable future. The policy basis underlying the less restrictive standard of review that the Commission has developed to apply to the certification of true merchant projects is rooted in the concept that the risks of such projects have been shifted away from New York consumers, and have been assumed entirely by the project's developers.

For example, the Commission has recently certificated Article VII projects electrically connected to the New York City (a/k/a "In-City") zone even though it recognized that there was no reliability-based need for additional electric generation facilities in the foreseeable future.[14] These projects received certificates because they were shown to provide some system benefits (e.g., enhanced fuel diversity or enhanced environmental benefits) and, equally important, clearly demonstrated that the risk to recover Project costs was borne exclusively by project investors, not New York consumers. Importantly, the Commission adopted its clearest articulation of this less stringent merchant standard in the Bayonne case, a proceeding in which New York

[14] See, e.g., Case 08-T-1245, Application of Bayonne Energy Center, LLC for a Certificate of Environmental Compatibility and Public Need for the Construction of the New York State Portion (Kings County) of a 6.6 Mile, 345 kV AC, 3 Phase Circuit Submarine Electric Transmission Facility Pursuant to Article VII of the PSL, "Order Adopting the Terms of a Joint Proposal and Granting Certificate of Environmental Compatibility and Public Need, with Conditions, and Clean Water Act § 401 Water Quality Certification" (Nov. 12, 2009) ("Bayonne Order"). In the Bayonne Order, the Commission observed: "Public Service Law Article VII standard of need" takes into account such factors as "system reliability benefits, economic benefits for customers and New York State, and achievement of public policy goals including environmental benefits."

consumers were not exposed to having a project's costs imposed on them in any capacity through any non-market structure.[15]

As Your Honors recognized, given the substantial questions raised concerning the Project's economics, the standard of review to be applied in this proceeding pertaining to the need and public interest findings has significant bearing requiring close examination.[16] In assessing whether the Project is, in fact, "purely merchant," and thus entitled to the more permissive review standard to show need and benefit, it is critical to recognize that cost of service transmission rates -- the principal focus of the June 4 Certificate Conditions -- provide but one vehicle to collect the revenues necessary to fund a project's above-market costs from New York consumers. In that limited case, the costs are collected from New York consumers in their capacity as electric ratepayers.

A subsidy, however, can take many other forms. No matter the form, importantly, New York consumers -- either in their capacity as ratepayers or in some other capacity -- are forced to bear the costs of the project at issue. In particular, a putative purchaser of power -- be it a utility, a State, municipal or other governmental agency or authority, or some other entity -- could sponsor discriminatory procurement processes with awards made to the Applicants' shippers. These could be non-competitive, sole source procurements. Alternatively, they could be characterized as "competitive" procurements but effectively exclude by their specific terms

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[15] Id. at p. 13 ("The [Bayonne] facility is a merchant project. No ratepayer funding is being sought. Therefore, any and all favorable impacts - reliability, economic or environmental - benefit New York without imposing additional risk on electric ratepayers."). While the Bayonne Order specifically referenced the risks to New York consumers in their limited capacity as electric ratepayers, the Bayonne facility was built without being subsidized by any above-market contracts.

[16] See Ruling on Issues, p. 5; see also May 25 Ruling, p. 5 (stating the question of whether the Project's cost would be recovered solely on a merchant basis was "one of the pivotal and most hotly contested issues in this proceeding."). Indeed, some of the entities that signed the JP conditioned their support on the Project promising to remain purely merchant. See, e.g., Case 10-T-0139, supra, "Statement in Support of Joint Proposal of the City of New York" (dated March 16, 2010), p. 4.

lower cost competitors (such as, e.g., existing generators) or require, as a condition of eligibility, that energy be delivered over the Project only. Such exclusions would mean that the procurement is discriminatory (i.e., out of market) and will thus yield an above-market price -- not one that reflects the prevailing wholesale market price for power. The counterparty to any long-term contract with the Applicants' shipper will, in turn, of necessity have to recover the above-market cost of such contract from New York consumers in some capacity through a non-bypassable charge -- meaning a charge that a customer either legally or practicably cannot avoid by turning to an alternative wholesale supplier.[17]

Under the express terms of PSL Article VII, the Commission is tasked with ensuring that a proposed project is in the public interest before it may grant an Article VII certificate. To adequately protect New York consumers,[18] the Commission must evaluate whether the project will obligate New York consumers -- in any capacity -- to pay for its costs.[19]

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[17] For utility customers, the non-bypassable part of the utility rate is the part of the rate that is charged to all utility customers regardless of whether they buy power from the utility or from competitive suppliers. This includes delivery charges. It also can be assessed in the form of a separate, line item surcharge such as systems benefit and renewable portfolio ("RPS") charges. Even if the utility customer switches to a competitive retail supplier for its electricity supply, it cannot avoid these utility delivery charges or other automatic surcharges. Utility customers are "captive" for purposes of such charges. An analogous situation would be a State authority entering into an above market contract and passing the costs through to customers who legally or practicably cannot avoid the costs by switching suppliers.

[18] In the preamble to the June 4, 2012 stipulation, it is specifically noted, inter alia, that the June 4 Certificate Conditions "will protect Con Edison's customers by requiring Applicants to construct and operate the Merchant Facilities solely on a merchant basis without recourse to any rates based upon cost-of-service or including any such costs in utility rate base." See June 4 Certificate Conditions, p. 3. While it may have been entirely appropriate for Con Edison to execute the stipulation after it felt that it had protected its customers in their limited capacity as utility ratepayers, the Commission must apply the public interest standard much more comprehensively. Whether New York consumers incur charges through utility rate base, as a separate line item surcharge (e.g., the RPS and EEPS program funding) or through some other charges are distinctions without a difference. The threshold question that the Commission should ask is simple: are New York's citizens on the hook for any Project costs in any capacity. To adequately protect New York consumers, the Commission must ensure that New York consumers will not incur Project costs in any capacity.

[19] See Bayonne Order; but cf. Case 08-T-0034, Application of Hudson Transmission Partners, LLC for a Certificate of Environmental Compatibility and Public Need for a 345 kV Submarine/Underground Electric Transmission Link Between Manhattan and New Jersey, "Order Granting Certificate of Environmental Compatibility and Public Need" (Sept. 15, 2010) ("HTP Proceeding" and "HTP Order," respectively) (finding that project that already had been

Indeed, the harm that is borne by New York consumers if subsidization is not addressed properly has now evidenced itself in the context of the HTP Proceeding. In the HTP Proceeding, the developer was treated as if it were proceeding with a merchant project notwithstanding the fact that the project was being supported by a NYPA award. The NYPA capacity procurement process that led to that award did not, however, constitute a non-discriminatory procurement process because existing facilities were not permitted to participate on a level playing field. As a result, NYPA's customers will be forced to bear the above-market costs of the HTP Project.

Applying such an indirect, non-merchant subsidization vehicle in this case, the Applicants' shippers would receive above-market payments associated with delivering their Canadian power over the Project and then remit above-market revenue to the Applicants. As a direct result, New York consumers -- not Project investors -- would ultimately bear the risks of the Project, thus rendering it non-merchant. Importantly, and as discussed more fully, infra, if this strategy is deployed, neither condition set forth in the June 4 Certificate Conditions would cause the Project certificate to be rendered invalid.

Indeed, just days before filing the June 4 Certificate Conditions, Applicants (by and through their affiliate Transmission Developers Inc. ("TDI")) and Hydro-Quebec Production ("HQ") submitted their respective responses to Governor Andrew Cuomo's "Energy Highway Initiative" ("EHI") Request for Information ("RFI").[20] Read together, as they are intended to be,[21] TDI's and HQ's EHI RFI submissions, coupled with the June 4 Certificate Conditions,[22]

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announced as winning bidder in the NYPA capacity RFP could be considered a merchant facility even though procurement process was discriminatory).

[20] Hearing Exhibit 213.

[21] The first proposal contained in HQ's EHI submission is titled "Hydro-Quebec participation in Champlain Hudson Power Express." The accompanying text states, inter alia, "[HQ] 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." Id., p. 3 of 13 (footnote omitted). See also TDI EHI submission, p. 11 of 26 ("TDI will

reveal a business model under which HQ may finance the Project, in whole or in part (i.e., "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 DPS Staff witness Thomas Paynter testified, "[B]asically, HQ would be putting up money in this case for financing, and they would bear the risk of whatever the market revenue turned out to be."[23]

To evaluate the threshold question of whether the Project is, in fact, purely merchant and to address the associated question of the correct standard of review to be applied in this proceeding, Your Honors have correctly ruled that the Commission must address whether the Project is sufficiently economic to reasonably support a finding that it can proceed on a merchant basis.[24] In this case, the record evidence shows, inter alia, that the differential in wholesale market price between Quebec and New York City is nowhere near large enough to support the Project's costs.[25] Put another way, if a shipper (e.g., HQ) signs a long-term contract for

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enter into a 35-40 year Transmission Service Agreement with [HQ] or other entity for 750 MW of transmission capacity."). To be clear, no "other entity" has been identified on the present record.

[22] Hearing Exhibit 150. Specifically, that part of the June 4 Certificate Conditions which states, "[P]rior to, or at the same time they file their EM&CP for the first segment of the Facility, the Certificate Holders shall file a report documenting that they have received binding contractual commitments from one or more financially-responsible entities for a combined total of no less than twenty-five (25) years." Id., Attachment A, p. 2. This provision not only does not preclude subsidization, it almost compels it, in the form of long term, above-market shipper contracts, or some other form of subsidy payments to shippers, that will in turn allow the shippers to commit to make the associated long term transmission payments to Applicants.

[23] Tr., p. 207, lines 17-20. See also, Tr., p. 210, lines 10-11 ("The contract would shift risks from CHPE to HQ as the financier."). Compare, JP ¶ 14 ("the Commission should recognize that, as a merchant project, all the risks associated with the HVDC Transmission System -- as well as all risks associated with the use of the Astoria-Rainey Cable by shippers also using the HVDC Transmission System -- would be borne by private investors rather than by utility ratepayers.").

[24] See Ruling on Issues, p. 5 (finding that the potential for the Applicants to change their business model and the "significant bearing such a decision has on the scope of review pertaining to the need and public interest findings" meant that "issues regarding economics and cost of the [Project] require closer examination, in evidentiary hearings, than might otherwise be the case.").

[25] See Tr., pp. 474-476; 502-505. As established in Point (C)(2) and in more detail in the Initial Brief contemporaneously being submitted by IPPNY, Mr. Younger also conducted additional analyses and evaluated the Applicants' and Staff's analyses where he found fundamental flaws in the methodologies used and the underlying study assumptions. Taken together, the evidence demonstrates that the Project is grossly uneconomic. Equally

transmission service on the Project at a shipping charge that is actually sufficient to allow Applicants to recoup the $2.2 billion Project cost, the shipper will not be able to earn sufficient revenue on the spread between prevailing market prices at the northern terminus of the Project in Quebec and New York City to support its payments to the Applicants.[26] Accordingly, based on the evidence in this case, it is apparent that the Project is not economically viable when assessed using a true merchant model.

Given this fact, and based on the EHI RFI submissions in Hearing Exhibit 213, HQ would likely only be willing to undertake such an obligation if it were offset by entering into an out-of-market, long term contract to recoup the price it paid to the Applicants to secure long-term transmission rights on the HVDC Transmission System. Indeed, the basis for this outcome was manifested by Applicants' assertions that they are "working hard towards"[27] a transmission service agreement with HQ, and HQ's assertions that New York would need to recognize the "significant value" of HQ energy.[28] Under this likely scenario, the Project will, in fact, indirectly rely on non-merchant funding sources to generate its needed revenues -- an outcome that is not prohibited by the June 4 Certificate Conditions. Whether the Applicants obtain subsidized

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important, as addressed in Point (C)(3), Applicants have confirmed that they have not executed any contracts for the Project to be used to deliver energy to New York City, and thus, any claimed benefits are speculative at best. Tr. pp. 85-86.

[26] Id. This leaves two potential options: (1) the Project will require a direct subsidy; or (ii) the shippers on the Project will need a subsidy, such as a contract that pays them an above-market price for power delivered to New York City using the Project. Id. at 67.

[27] Tr. p. 89, lines 8-14.

[28] Tr., p. 207, lines 17-20 ("Basically, HQ would be putting up money in this case for financing, and they would bear the risk of whatever the market revenues turned out to be."). See also, Tr., p. 210, lines 10-11 ("The contract would shift risks from CHPE to HQ as the financier."); Hearing Exhibit 213, HQ EHI RFI submission, p. 7 (stating HQ proposes to "work creatively with New York State" and urging New York to "consider innovative ways in which policy and regulation might prioritize and promote incremental hydropower deliveries.").

funding directly themselves, or indirectly through their shippers, the end effect is the same: the Project's costs will be foisted onto New York consumers.

More fundamentally, there is no question that there are actually two parts to the Project, one of which is indisputably not merchant.[29] The June 4 Certificate Conditions specify that the Applicants are only proceeding with the HVDC Transmission System portion of the Project on what they characterize as a purely merchant basis. As signatories to the JP have acknowledged, the Applicants may seek cost-based rates for the use of the Astoria-Rainey Cable,[30] which carries an estimated cost on this record of approximately $194 million.[31] Research has uncovered no Article VII proceeding in which the Commission applied the less deferential "merchant" standard of review to a project that was admittedly non-merchant in whole or in part.

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[29] Specifically, the Applicants initially proposed in their Application to construct, own and operate a transmission line that, if approved, would extend from the Canadian border directly to Astoria, Queens. Applicants proposed to do so entirely on what they characterized as a "merchant" basis. Since the Application was filed, however, the Applicants have bifurcated the Project into two distinct parts. The first portion of the Project is comprised of the transmission line sourcing at the Canadian border and sinking at the Astoria 345 kV substation. The Applicants refer to this portion of the Project as the "HVDC Transmission System." The second portion of the Project is an approximately 5 mile long, underground transmission line running from the New York Power Authority's ("NYPA") Astoria 345 kV substation through the streets of New York City to the Consolidated Edison of New York, Inc.'s ("Con Edison") Rainey 345 kV substation. The Applicants refer to this portion of the Project as the "Astoria-Rainey Cable." The Astoria-Rainey Cable was added to the Project when it became apparent that, without it, the interconnection of the HVDC Transmission System at the Astoria substation would potentially "bottle" the output of the new Astoria Energy II combined cycle, gas turbine generating facility which is under contract with the New York Power Authority ("NYPA").

[30] See Hearing Exhibit 150. Applicants also assert that the use of the Astoria-Rainey Cable by HVDC Transmission System shippers will be on a merchant basis. Separate and apart from the questions of: (i) why the Applicants should be permitted to charge any party a cost-based rate for use of this part of the Project; and (ii) whether such a bifurcated structure is legally permissible, it is entirely unclear how the Applicants will charge some subset of entities a cost based rate for the use of the Cable while treating the remainder of the Cable's use as merchant.

[31] JP ¶ 23. Significantly, Applicants have not compiled their own cost estimate for the Astoria-Rainey Cable, instead choosing to adopt, wholesale, the cost estimate contained in the NYISO Class Year 2010 Facilities Study, Part 2 Studies: Deliverability Study and System Deliverability Upgrade Facilities. (JP ¶ 23; Tr., p. 75, lines 19-22) Pursuant to paragraph 15(c) of the JP, Applicants may exceed the NYISO cost estimate by as much as 10% without Commission involvement. Accordingly, Applicants seek authorization to recover a minimum of $214 million from New York ratepayers and/or consumers -- before indirect Project subsidization is taken into account -- and, as acknowledged by DPS Staff (Tr., p. 207, lines 17 through 20), before Applicants seek to shift the risk to HQ. Remarkably, Applicants nonetheless continue to refer to themselves as "merchant" transmission developers.

In light of the foregoing, there is no justification for the Commission to assess the adequacy of the record under the more deferential merchant standard. Indeed, the HTP Proceeding provides a real world example of the dangers to New York consumers of doing so. That approach should not be repeated. Instead, the Commission should review the Project using the more exacting benefit/cost analysis standard that it traditionally has applied in non-merchant transmission cases.[32] Applying that standard, the Project's costs far exceed any benefits, and thus, Entergy respectfully requests that Your Honors recommend to the Commission that the Project should not be granted an Article VII certificate.[33]

B. Basis of the Need.

(1) Public Policy.

The Applicants contend that public policy supports certification because there is a "need" for competition in the wholesale electric market and that they are qualified "competitors."[34] The Applicants' assertion, however, fails on a number of grounds. First, as noted above and as described more fully below, Applicants are not purely merchant "competitors" i.e., they will not solely rely on revenues from the competitive market to recover the Project's costs. Instead, Applicants appear ready to link up with HQ, by way of the long-term contract explicitly required

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[32] Deriving such a metric from the NYISO's CARIS process, the Project's benefit/cost ratio is 0.29 before including the cost of transmission improvements on the Canadian side. See Tr., p. 490, lines 11-17. When the Canadian transmission costs (estimated by Applicants' witness Donald G. Jessome to be $346 million) are taken into account, the Project's benefit/cost ratio drops to 0.25. See Tr., pp. 501-504. By either measure, the Project's benefit/cost ratio falls far below the NYISO tariff-based minimum benefit/cost ratio of 1.0. Tr., p. 504, lines 3-4.

[33] Notwithstanding the record evidence, should Your Honors apply the merchant standard and also find that an Article VII certificate may be issued, the TDI Project's certificate conditions must be revised as reflected in Section (L)(1) infra. These conditions must be structured broadly to apply not only to Applicants, but also to any future holders of the Project. These revised certificate conditions are required, at a minimum, to ensure that the Project remains merchant over its life, and thus, to adequately protect New York consumers from being forced to bear the Project's costs.

[34] See Case 10-T-0139, supra, "Reply Statement of Champlain Hudson Power Express, Inc. and CHPE Properties, Inc. in Support of Joint Proposal," pp. 7-9 (March 30, 2012).

by the June 4 Certificate Conditions -- a contract that the record demonstrates must be supported by some subsidized vehicle.

Second, the Project has no "on ramps" within New York State, and thus, it must exclusively source Canadian power. The Project will, by design, bypass existing In State generating facilities and stymie the potential for further development of new generation in New York State. The new generation development that may be affected includes new renewable generation that would -- unlike the large-scale Canadian hydropower that may be sourced for the Project -- qualify to meet the State's long-stated renewable energy goals under New York's Renewable Portfolio Standard ("RPS") program.

Third, as Mr. Younger testified, subsidization of the Project would substantially erode competition and may have other untenable effects.[35] As Mr. Younger explained, by artificially suppressing prices in the short term to unsustainably low levels, the Project may force existing, otherwise economic, Downstate facilities to prematurely retire. Such a result will not only erode competition, it may also create a wholly avoidable, significant threat to system reliability,[36] particularly given the highly constrained nature of, and the sub-zones within, the New York City zone. Lastly, as reflected in the evidence in this proceeding, redirecting Canadian power to New York City that might otherwise be delivered to Upstate New York will increase Upstate electric rates.[37]

Due to the highly corrosive effects of artificial price suppression over the long term, public policy cannot favor projects, such as this one, that result in such artificial price

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[35] Tr., pp. 519-520.

[36] Id.

[37] See, e.g., Tr. p. 213, line 7 through p. 215, line 2.

suppression. Nor can public policy favor needless rate increases to be borne by Upstate consumers.

(2) Reliability Needs.

The JP summarily states: "The Facility is needed to deliver an estimated 7640 gigawatt hours ("GWh") per year of energy, comprised of hydroelectric and wind energy generated in Canada to CNY."[38] Yet the JP, even as supplemented by the Applicants' Direct Testimony, proffers only the following to the Commission as the purported proof of such claimed need:

> NYISO's 2010 Comprehensive Reliability Plan ("CRP") identified several risk factors that could affect the implementation of the reliability plan and future system reliability, including Higher than Expected Load Growth (§ 3.1.1); Environmental Initiatives and Zones at Risk (§ 3.1.2); and Indian Point Plant Retirement Scenario (§ 3.1.3). In addition, the CRP at 9 noted the increasing reliance on customers willing to curtail their electric power demands (Special Case Resources or SCRs); such customers are not obligated to continue to register at the rates projected by the 2010 CRP. The facility [*sic*] should help mitigate the potential adverse impacts that may be associated with these risk factors, although it is uncertain whether these factors will materialize, or the extent to which the Facility could mitigate such impacts, at this point.[39]

IPPNY witness Mr. Younger addressed each of these scenarios in his pre-filed Direct Testimony.[40] What Mr. Younger concluded, and what the JP fails to acknowledge, is that the NYISO's identification of those "risk factors" was a mere footnote to its main finding: ". . . at this time there are no Reliability Needs in the New York bulk power system as modeled from 2011 through 2020. Therefore, there is no reason to request solutions to Reliability Needs this

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[38] See JP, ¶ 19. While the JP states that the Project will deliver hydropower and wind energy generated in Canada, the record reveals that the Applicants do not have any contracts in place for this power, much less contracts that mandate firm delivery. As such, the Applicants have not provided any meaningful means to assess the conditions (firm vs. non-firm and price) under which such power would be delivered. Thus, the Applicants' "estimate" of the energy that the Project will deliver -- and hence the economic benefits that the Project will provide to offset its enormous costs -- are speculative at best and must be adjusted to account for the fact that the Applicants have no contractual rights that ensure the Project's supply.

[39] Id., ¶ 20 (emphasis supplied).

[40] Tr., pp. 516-519.

year." In other words, the "risks" -- which the Signatory Parties themselves acknowledged in the JP may never actually materialize (or, in the event they did, may not be mitigated by the Project) -- were not sufficient for the NYISO, the entity charged with ensuring reliable operation of the New York bulk transmission system, to take any substantive action.

In any event, the JP wholly fails to acknowledge that the NYISO already has a fully developed process to address any reliability needs that may arise on the New York transmission system through its RNA process or any supplemental off-cycle process. Thus, the JP's suggestion that the Commission should nonetheless rely on these "risks" to make the required need findings -- particularly when the Signatory Parties themselves could not even come to a consensus on the extent to which the Project could mitigate them (in the unlikely event that such risks ever come to fruition in any form) -- is without merit and must be rejected.

(3) Fuel Diversity Needs.

As the record currently stands, the Applicants have conceded that they have no supplier contracts to ensure the delivery of hydroelectric power or other energy to New York City,[41] and therefore, any statements concerning the source, price and delivery terms (and associated benefits to New York ratepayers therefrom) are purely speculative. Moreover, Applicants have admitted that they have no authority or jurisdiction to compel the delivery of only hydroelectric or wind power to the HVDC Transmission System.[42] Indeed, in prior stages of this proceeding, the Applicants initially claimed the "renewable energy" label, which they repeated often in the JP and their accompanying press releases.[43] When Entergy and other parties correctly noted that

[41] See Tr. 85-86. See also Hearing Exhibit 63 (Response to IRs DPS-35 and DPS-46); Hearing Exhibit 114 (Response to IR CECONY-17).

[42] See Hearing Exhibit 114 (Response to IR CECONY-18).

[43] See, e.g., JP ¶ 125.

the Commission had rejected new large hydro projects -- such as the yet-to-be-constructed and highly controversial Lower Churchill Project and Romaine Project[44] that may be major sources of power for the Project (in the event that the Applicants are able to enter into a contract with HQ) -- as eligible "renewable" resources under New York's RPS program -- the Applicants promptly ceased invoking that label.

(4) Black Start.

Unlike other certificated merchant projects,[45] the Project offers no black start capability, i.e., "the ability to restart following a blackout, without first drawing power from the electric system."[46] The Blackstart Ruling emphasizes the importance of enlisting and maintaining blackstart capability to overall system reliability. Here, however, rather than requiring the Project to offer blackstart capability as a condition of settlement, proposed certificate condition 127 states, in pertinent part:

> The Certificate Holders shall include in the Facilities Study for the HVDC Transmission System prepared by NYISO, and request that NYISO identify, the additional facilities required for the Certificate Holders to provide Black Start service, as well as the cost of those facilities. **If the Certificate Holders subsequently decide to participate in the NYISO's Black Start program**, they shall demonstrate annually that the Facility can be black started.[47]

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[44] See, e.g., http://www.seekingthecurrent.com (a documentary film identifying the controversies surrounding development of the Romaine Complex in particular, and large-scale Canadian hydropower in general, issues which are also currently being vetted before the Newfoundland and Labrador Public Utilities Board in relation to the Lower Churchill Project).

[45] See Case 08-T-1245, supra, Bayonne Order at p. 4. See also Case 08-T-1245, supra, Joint Proposal, ¶ 28.

[46] See Case 11-E-0423, Petition of Consolidated Edison Company of New York, Inc. for a Declaratory Ruling Regarding Blackstart Service, "Declaratory Ruling Regarding BlackStart Service," p. 1 (issued September 28, 2011) ("Blackstart Ruling").

[47] Proposed Certificate Condition 127 (emphasis supplied).

As the record demonstrates, Applicants have made no commitment to include the required additional facilities as part of the TDI Project -- much less actually commit to participate in the NYISO's Black Start program. Further, neither the JP nor the proposed certificate conditions directs such participation. In other words, the decision whether (or not) the TDI Project will provide black start service -- which the Commission has characterized as "vital to ensuring system reliability for the Con Edison service territory"[48] -- is left entirely to the Applicants' sole discretion. Therefore, the Project does not advance any of the State's reliability-based interests in acquiring black start providers.

(5) Impact on Competition.

The record evidence establishes that, if the Project is allowed to proceed on a non-merchant basis -- for example, because it is subsidized through some mechanism, including the TDI/HQ structure described in the EHI RFI submissions[49] -- it may actually *harm* the public interest because the artificial price suppression that would result from the Project could force existing, otherwise economic, In City generators into premature mothballing or retirement.[50] Given the load pockets prevalent within New York City which effectively create sub-zones, this, in turn, may require customers to fund additional transmission investment or to pay for "reliability must run" (RMR) arrangements to ensure continued system reliability.

The FERC has repeatedly highlighted the significant costs that uneconomic entry needlessly causes consumers to bear over the long run. For example, in the proceeding

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[48] Blackstart Ruling., p. 3.

[49] Hearing Exhibit 213.

[50] Tr., pp. 518-519.

reviewing the need for buyer side market power rules in New York City's capacity market to prevent uneconomic entry, the FERC held:

> Markets require appropriate price signals to alert investors when increased entry is needed. By allowing net buyers to artificially depress prices, these necessary price signals may never be seen. While a strategy of investing in uneconomic entry and offering it into the capacity market at a lower or zero price may seem to be good for customers in the short-run, it can inhibit new entry, and thereby raise price and harm reliability, in the long-run.[51]

In his testimony concerning the adverse market impacts of the unmitigated entry of just 550 MW from the Astoria Energy II generating facility, Mr. Younger furnished a real world example of the negative consequences of uneconomic entry, as outlined by FERC in the passage quoted above. Such adverse impacts would similarly follow if the Project were permitted to proceed [as proposed].[52]

C. Cost Issues.

(1) Record Evidence.

Paragraph 18 of the JP acknowledges "cost" as one of the "relevant factors in making [the] determination of environmental compatibility and public need." Hearing Exhibit 111 provides the currently operative estimate of the Project's alleged costs. Since the preparation of Exhibit 111 on April 29, 2011, however, the Applicants have additionally committed to: (i) construct a new four-breaker ring bus at the Astoria Annex, which will be housed in a new building "approximately seventy-two (72) feet long, fifty-eight (58) feet wide and forty (40) feet high," with footings as deep as eight (8) feet below the surface;[53] and (ii) by virtue of their July

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[51] See New York Independent System Operator, Inc., 122 FERC ¶ 61,211 (2008) at P 103.

[52] Tr., p. 519, line 16 through p. 520, line 12.

[53] Hearing Exhibit 125. As observed by ALJ Phillips during the evidentiary hearing, the state of the record on the proposed four-breaker ring bus is muddled, at best. Tr., pp. 643-646. However, since there appears to be no question that Con Edison has moved ahead with "its recently announced plan to interconnect a PAR to NYPA's 345

11, 2012 stipulation with Con Edison,[54] become obligated to pay for the right to use approximately 4.5 acres of land at the Luyster Creek site in Astoria for the construction of the required voltage source converter station.[55] Neither of these additional new costs has been disclosed on the record. In fact, Exhibit 111 does not include the cost of acquiring **any** land along the Project's 332-mile route.

Remarkably, while the Applicants have acknowledged that "lease payments would be made at some point in time,"[56] the Applicants' sole witness on costs, Donald G. Jessome, who, in any event, is not a construction contractor or engineer, did not even know how much land the Project would require (much less the cost of acquiring it).[57] More generally, Exhibit 111 was not supported by any work papers and no construction expert authenticated the numbers -- Mr. Jessome was merely sponsoring what he himself termed "high level" estimates of the Project's costs prepared by others.[58] In sum, Exhibit 111, on which the Commission is asked to rely, is simply not reliable as a basis for determining any of the Project's costs.

On cross-examination, moreover, Mr. Jessome acknowledged that if a regulatory agency forced the project to be built over land where it is now proposed to be in water, or required other routing changes, such determinations could impact project costs.[59] In light of this acknowledgment, the Exhibit 111 cost estimate may be vastly understated, depending on the

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kV Astoria GIS Substation" (id., p. 3), the predicate for the construction of the ring bus appears to have been triggered.

[54] Hearing Exhibits 129 and 130.

[55] Tr., p. 82, lines 13-25 through p. 83, line 6.

[56] Tr., p. 81, lines 11-13.

[57] Tr., pp. 80-81 and Hearing Exhibit 132.

[58] Tr. . 4, lines 10-11; Tr. p. 87, lines 2-6.

[59] Tr. p. 80, lines 6-18.

final resolution of the Project's application to the United States Army Corps of Engineers ("ACOE") for permits under Section 404 of the federal Clean Water Act and Section 10 of the Rivers and Harbors Act. Specifically, the Exhibit 111 cost estimate contemplates the Applicants' ability to lay an indeterminate length of cable on the bed of Lake Champlain in waters greater than 150' deep, which, as discussed, infra, the ACOE has already stated it would prohibit.[60] It also contemplates the Applicants' ability to surface lay the cable in certain areas of the Hudson and/or Harlem Rivers and cover it with protective materials, a method which, again, the ACOE has already stated it would prohibit.[61] Finally, the Exhibit 111 cost estimate assumes that the cable can be installed along the length of the Federally Maintained Navigation Channel for approximately three (3) miles in the narrows of Lake Champlain, and again for another approximately six (6) miles in the Harlem River, yet the ACOE has informed the Applicants that it does not permit permanent structures to be linearly installed in the federal right-of-way in the manner proposed.[62]

The ACOE's final determination, which the Applicants postponed,[63] may have substantial cost impacts, as well as significant incremental environmental impacts as established, infra.

Similarly, approximately nine (9) miles of the underwater portions of the proposed route occupy linear portions of the Federally Maintained Navigation Channel.[64] Based on the

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[60] See Proposed Certificate Condition 95.

[61] Id.

[62] Id. See also Hearing Exhibit 216, Attachment D, Sheets 27 and 53.

[63] See Hearing Exhibit 216, p. 1 ("As we have discussed, the Applicants elected to postpone responding to this request in order to avoid submitting information which either violate the confidentiality requirements of the Commission's settlement process or would have to be updated."). This statement reveals the Applicants' strategy to place the ACOE process on hold pending finalization of the JP, then use the JP as leverage to try and force the ACOE to relax its requirements to conform to the less stringent JP requirements.

unrefuted proof in the record, those route segments are unacceptable to ACOE. Because the Federal Channel occupies the entire width of the Harlem River, the Applicants may be required to find an alternate, six (6) mile overland route in this area of New York City which will, again, add to the Project's costs.[65] In short, until such time as these major routing issues are resolved, the Exhibit 111 cost estimates in the record remain both speculative and unreliable.

(2) The Project is Not Economic.

As Your Honors have repeatedly and clearly articulated throughout this proceeding, "our primary concern was and continues to be whether there is sufficient evidence in the record regarding the asserted costs and benefits of the proposed project."[66] Your Honors also advised Applicants that they ultimately have the burden of proof to provide a record supporting this determination.[67]

Significantly, Applicants have presented no affirmative proof as to potential Project revenues (although their most likely business model can be derived from TDI's and HQ's complementary EHI submissions). Applicants chose not to put on a witness, or to furnish any documents or other proof, establishing the Project's ability to earn sufficient revenues to secure a return on and of its investment without subsidy. Instead, the record merely contains admittedly "high level" cost estimates,[68] as well as fatally flawed studies of alleged consumer and/or

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[64] Hearing Exhibit 216, Attachment D, Sheets 26 and 53.

[65] The same principle holds with respect to the narrows of Lake Champlain where, again, the proposed route occupies the Federal Channel, the width of which is co-extensive with the narrows. See Hearing Exhibit 216, Attachment C, Sheet 26.

[66] Case 10-T-0139, supra, May 25 Ruling, p. 6.

[67] Id., p. 9.

[68] Tr., pp. 66; 87.

"societal" benefits. Accordingly, Applicants have done nothing to meet their burden of establishing, on the record, that the Project can succeed on a purely merchant basis.

In contrast, even accepting arguendo what may very well be significantly understated Project costs, unrefuted evidence in the form of a number of different analyses presented in this proceeding by IPPNY witness Mark D. Younger demonstrates that market revenues alone will not be sufficient to recover the Project's substantial costs.[69]

First, Mr. Younger performed a basic comparison of the costs of the line versus the revenues that could be received by delivering energy over the Project. The latter must exceed the former (i.e., revenues must be higher than costs) for the Project to be economic. Mr. Younger accepted the costs of the Project, as advanced by the Applicants, and also accepted the 90% capacity factor estimated for the Project by the Applicants. Taking into account all costs and applying a levelized generic carrying charge rate of 16% used by the NYISO when evaluating the costs and benefits of a transmission project,[70] Mr. Younger calculated an annual carrying cost of $351 million per year for the Project. This figure increased to $406 million annually based on Applicants' witness Donald G. Jessome's estimate of an additional $346 million cost to interconnect the Project with TransEnergie's transmission system in Canada.[71] Therefore, the Project would have to earn market revenues of at least that amount each year to be economically viable on a merchant basis.

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[69] For purposes of his analyses, Mr. Younger accepted the Project costs that were presented by the Applicants. To the degree that such projections underestimate the actual costs of the Project (for the reasons stated above or otherwise), the Project will be uneconomic by an even more significant margin.

[70] The 16% carrying charge rate used CARIS benefit/cost calculations reflects generic figures for a return on investment, federal and state income taxes, property taxes, insurance, fixed O&M, and depreciation (assuming a straight-line 30-year method).

[71] Tr., pp. 501-503.

Mr. Younger then divided the $351 million cost by the 7,884 GWh of electricity the Applicant assumes the Project will deliver yearly, and concluded that it will cost $44.52 to deliver one MWh of energy across the line, i.e., Applicants would have to receive that amount per MWh sold to cover the Project's carrying cost.[72] Applying the updated $406 million figure yielded an even higher cost per MWh of $51.54.[73]

In terms of Project revenues, the benefit of the Project to a shipper is the ability to sell lower-priced energy generated at one end of the transmission line to a higher priced market at the other end of the line. Mr. Younger's straightforward revenue analysis compared the most recent available historic data indicating the congestion cost difference between HQ's service territory and New York City.[74] The difference ranged from only approximately $7.50 to $8.00 per MWh. Taking all savings into account (congestion costs and the difference in energy less losses), the total is still only $1.00. In other words, for the Project to be economic -- to recover its costs -- a shipper would have to agree to pay $51.54/MWh to the Applicants (reflecting the updated costs indicated in Mr. Jessome's direct testimony) to receive an $11.00 benefit by using the line. Put simply, Mr. Younger's analysis demonstrates that, all things being equal, a shipper would lose substantial amounts of revenue by transmitting its energy over the Project to New York City. Therefore, Mr. Younger concludes, "the Project is so uneconomic that it is unlikely to be built or operated over the long term unless it secured some kind of substantial subsidy."[75]

From this analysis flows the inescapable conclusion that the Project cannot be financially viable as a true merchant transmission project (i.e., it cannot earn earn sufficient revenues based

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[72] Tr., p. 475.

[73] Tr., pp. 502-503.

[74] Tr., pp. 476-477.

[75] Tr., p. 485.

on the difference between the wholesale price of power at one end of the line and the other end of the line to recoup its costs). Viewed from the perspective of HVDC Transmission System shippers, the spread between prevailing market prices at the northern terminus of the Project in Quebec and prevailing market prices for power in New York City is grossly insufficient to enable them to pay shipping charges that would cover the full cost of the Project even if that cost were amortized over decades.[76] Absent HQ's participation in the Project by "working creatively with New York" in the subsidized, above-market manner contemplated in HQ's EHI RFI submissions,[77] the market opportunity is not robust enough to support an adequate return of and on the investments that would be required to finance,[78] build and operate the Project.

Mr. Younger also performed a production cost savings metric analysis discussed in more detail, infra. In addition, as a further test to confirm his findings, Mr. Younger tested the Project using a benefit/cost test consistent with the methodology used by the NYISO. In all instances, the results were the same and demonstrated, in short, that the Project is grossly uneconomic.

(3) Contracts and Open Season.

To recover their costs, merchant projects charge negotiated rates, meaning the price for the service is not established through cost of service ratemaking proceedings, but rather is set by transactions with willing buyers or through competitive markets. The merchant project owner alone is at risk if a better alternative comes along and the owner is forced to accept a lower price or is unable to sell all of its capacity or output.

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[76] Id.

[77] It is also noteworthy that Applicants produced HQ's EHI RFI submissions unprompted, as a supplement to an IPPNY IR which only requested the EHI RFI submissions of "Applicants or their affiliates." See Hearing Exhibit 213. As Mr. Jessome testified, HQ is not an "affiliate" of the Applicants. Tr. p. 92, lines 8-10.

[78] Note that TDI's EHI RFI submission states, inter alia, "[HQ] may supply all debt for the CHPE Project." See Hearing Exhibit 213, p. 12 of 26.

In July, 2010, the Federal Energy Regulatory Commission ("FERC") granted the Applicants' request for negotiated rate authority, and authorized the Applicants to pre-subscribe as much as 75% of the Project's throughput capacity and conduct an open season for the remaining 25% of the Project's capacity.[79] Now, fully two years later, Applicants still have not entered into any pre-subscription agreements nor have they conducted an open season.[80] From an evidentiary perspective, therefore, all of the Applicants' representations concerning the Project's intent to transmit "renewable," or "carbon free" power, or, for that matter, power of any particular characteristic or at any particular price, remain mere speculation.[81]

D. Probable Environmental Impacts.

As noted previously, the Commission may not issue a CECPN unless it finds and determines the "nature of the probable environmental impact,"[82] and that "the facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations including

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[79] See Champlain Hudson Power Express, Inc., "Order Authorizing Proposal and Granting Waivers," 132 FERC ¶ 61,006 (Jul. 1, 2010) P 7 ("Champlain meets the definition of a merchant transmission owner because it assumes all market risk associated with its Project and has no captive customers . . . It is sufficient that Champlain has agreed to bear the risk that the Champlain Project will succeed or fail based on whether a market exists for its services and the fact that Champlain has no ability to pass on any costs to captive ratepayers."). At the time that the Applicants filed their request with the FERC, the Applicants had not yet proposed the Astoria-Rainey Cable.

[80] See Tr, pp. 85-86.

[81] Notably, in CHPEI's "Application for Authority to Sell Transmission Rights at Negotiated Rates and Request for Expedited Action," CHPEI represented to FERC that "CHPE will assume all market risks for the Project and there are not, nor will there be, any captive customers. The Project will succeed or fail based on whether a market exists fro the proposed HVDC line, and CHPE has no ability to pass to pass on any of the costs associated with the Project to captive ratepayers." See FERC Docket ER10-1175-000, Champlain Hudson Power Express, Inc., "Application for Authority to Sell Transmission Rights at Negotiated Rates and Request for Expedited Action" (May 3, 2010). The newly minted, "hybrid" approach reflected in the JP, coupled with Applicants' explicit, but as demonstrated below, ineffective attempt to reserve some right "to unilaterally make application to [FERC] for a change in rates, terms and conditions, charges classification of service, Service Agreement, rule or regulation under section 205 of the Federal Power Act ("FPA") and pursuant to FERC's rules and regulations promulgated thereunder" (see proposed Certificate Condition 15(e)), raises serious doubt as to the veracity of the above representations to FERC, which FERC obviously relied on in granting the Applicant's request for negotiated rate authority and related relief.

[82] PSL § 126.1(b).

but not limited to, the effect on agricultural lands, wetlands, parklands and river corridors traversed."[83] As demonstrated below, the record here is insufficient for those purposes -- potentially significant adverse environmental impacts have either not been identified at all (e.g., impact of the HVDC Transmission System on endangered species and subsurface conditions at the Astoria converter station site), or stand inexplicably in stark contrast to well-known, less environmentally harmful alternatives (e.g., deeper burial depths, avoidance of the Federally Maintained Navigation Channel) that have been explicitly suggested by other resource agencies, and therefore cannot be reconciled with PSL Sections 126.1(b) and (c).

(1) Underwater Environmental Impacts.

(i) Cable burial depth.

The cable burial depth requirements here are wholly inconsistent with the ACOE's determinations concerning the Project, as well as the Commission's prior rulings in analogous underwater transmission line cases, and therefore cannot reasonably support a conclusion that Applicants have established a project with the "minimum adverse environmental impact," as PSL Section 126.1(c) requires. Stated otherwise, an application that cannot be facially reconciled with applicable environmental requirements is not entitled to a CECPN.

Here, the failings of the application are several and material. The ACOE's standards, and the Commission's past practice in abiding those standards, indicate that the Project is clearly not approvable as proposed and may not be able to be modified to obtain the necessary approvals. By way of background, Proposed Certificate Condition 95(a)(ii) states, in pertinent part: "and where the cables shall be located outside the limits of the maintained Federal Navigation Channels in such rivers, the Certificate Holders shall install the cables to the maximum depth

[83] PSL § 126.1(c).

achievable that would allow each pole of the bi-pole to be buried in a single trench using a jet plow, which is expected to be at least six (6) feet below the sediment water interface or, if sand waves are present, the tough of said waves. . ." Additionally, proposed certificate condition 95(b)(i), which pertains to Lake Champlain, states, in pertinent part, "in locations where the water depth is less than one hundred fifty (150) feet, the target burial depth is three (3) to four (4) feet below the sediment surface, except where the cables cross other utility lines or other infrastructure or where geologic or bathymetric features prevent burial at such depth, and adequate measures for cable and infrastructure protection are provided." Thus, there is no question that the Project intends to linearly occupy approximately nine (9) miles of the Federally Maintained Navigation Channel.[84]

However, by correspondence dated July 5, 2011, the ACOE -- the agency with primary jurisdiction over dredge and fill activities in waters of the United States and over construction activities in or affecting the Federally-Maintained Navigation Channel -- stated, in pertinent part, as follows:

> **The Corps of Engineers does not permit permanent structures within the length of the right of way, including side slopes, of a Federal navigation channel** (perpendicular crossings are permitted). Installation may be accomplished by direction drilling from parts of state tracts that are outside the Federal right of way. For this project to be deemed acceptable from a navigation perspective, the cable alignment must remain outside the Federal channel right of way.
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> * * *
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> For those cases where utility crossings in a Federal channel are necessary, the following guidance applies:
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> With the implementation of burial depths of four (4) feet below water body bed in areas outside of the Federal navigation channels and fifteen (15) feet below authorized depths when crossing a federally maintained navigation channel, the

[84] Hearing Exhibit 216, Attachment D.

proposed project would have minimal impact to navigation and further dredging of the Federal Channels.

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Laying the cables on lake/river bed in limited areas with protective coverings would not be acceptable. All cables must be buried. Outside of channel areas, the burial depth requirement is four feet. Where existing utilities are crossed, other depths will be considered. All crossings must be identified.

Narrows of Lake Champlain (NLC) Federal Navigation Channel: **As the Corps of Engineers does not permit permanent structures within the length of the right of way of a Federal navigation channel (crossings are permitted), the cables must be moved outside the NLC Federal navigation channel limits**. A minimal number of cable crossings may be considered provided they meet the burial requirements.[85]

On February 29, 2011, the Applicants finally purported to supplement their ACOE application.[86] As to each of the areas described above, Applicants merely directed the ACOE's attention to the JP and proposed certificate conditions and "request[ed] a meeting with USACE engineering staff."[87] Consequently, none of those major routing issues have been resolved, with the result that it is not possible at this time to establish that adverse environmental impacts have been minimized. Rather, all indications are that no such minimization has occurred, as PSL Section 126.1(c) requires.

Further, the transmission cable was buried to a depth of at least ten (10) feet below the sediment in the Cross Hudson Article VII proceeding,[88] to a depth "[c]onsistent with the

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[85] Hearing Exhibit 215.

[86] Hearing Exhibit 216.

[87] Id., pp. 3-5.

[88] Case 01-T-1474, Application of PSEG Power Cross Hudson Corporation for a Certificate of Environmental Compatibility and Public Need for the Construction of a 1200 Megawatt, 345 kV Electric Generator Lead from PSEG's Generating Station in Ridgefield, New Jersey, to a Consolidated Edison Company of New York, Inc. Electric Substation Located on West 49th Street in New York City, "Opinion and Order Adopting Joint Proposal and Granting Certificate of Environmental Compatibility and Public Need" (Apr. 17, 2003), p. 31.

requirements of the Certificate Holder's [ACOE] permit" in the Bayonne Proceeding,[89] and to a depth of at least ten (10) feet in the recent HTP Proceeding.[90] Yet, here, where the 332-mile long Project will occupy and impact an unprecedented length of New York lake and river bottom the proposed certificate conditions inappropriately depart from ACOE standards, including Commission precedent, and therefore cannot satisfy PSL Section 126.1(c).

(ii) Impact on endangered species.

Likewise, the record is inadequate as to the potential impacts of the proposed construction of the Project on certain aquatic species in the Hudson River -- the shortnose sturgeon (*Acipenser brevirostrum*), and Atlantic sturgeon (*Acipenser oxyrinchus*), populations listed as endangered ("ESA-listed sturgeon") under the federal Endangered Species Act (16 U.S.C. § 1531) and analogous New York State law (New York Environmental Conservation Law § 11-0535) (collectively, the "ESA"), with the result that no minimization of adverse environmental impact has been or can be established.[91] Again, here the Applicants' failure to

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[89] Case 08-T-1245, supra, Bayonne Order, p. 18.

[90] Case 08-T-0034, Application of Hudson Transmission Partners, LLC for a Certificate of Environmental Compatibility and Public Need for a 345 kV Submarine/Underground Electric Transmission Link Between Manhattan and New Jersey, "Order Granting Certificate of Environmental Compatibility and Public Need" (Sept. 15, 2010) ("HTP Proceeding").

[91] Remarkably, the report of the ESS Group, Inc., sponsored by Signatory Party Riverkeeper, Inc., agrees with this assessment:

> Based on the Article VII Application record to date, the discussion of potential impacts to aquatic species (within the Hudson River) appears incomplete. There are several rare and ecological communities named in the NYS Natural Heritage Program's Report that await either additional agency consultation and/or field work.
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> In summary, given the unique characteristics of the aquatic habitats potentially impacted, directly and indirectly, the current assessment is too generalized to adequately characterize the impacts to protected species. In particular, direct and indirect impacts on endangered fish and overall habitat quality are inferred but not explicitly mentioned or analyzed. Overall, the general characterizations of impact to protected species are reasonable, yet generic, and not supported by data or adequate references to support assumptions and conclusions.

meet their burden is unequivocal, and the application's failings are material. First, the record insufficiently analyzes potential adverse impacts to ESA-listed sturgeon likely to result from: 1) substantial habitat displacement, associated with the installation of concrete mats or other structures in significant portions of the Hudson River (i.e., where the HVDC cables cannot be buried in bottom sediments); and 2) exposure of ESA-listed sturgeon to the electromagnetic field ("EMF") generated by the HVDC cable, and related effects attributable to the EMF. Absent such basic information necessary to ensure that the application is approvable, the letter and spirit of PSL Section 126.1(b), not to mention PSL Section 126.1(c), cannot be satisfied.

The Hudson River supports populations of two ESA-listed sturgeon: the shortnose sturgeon and the Atlantic sturgeon. Since 1967, the shortnose sturgeon has been federally listed as endangered throughout its range, including in the Hudson River and its tributaries.[92] For purposes of its ESA listing, the Atlantic sturgeon is divided into five distinct population segments, four of which, including the New York Bight population present in the Hudson River and its tributaries, are listed as endangered. The federal Atlantic sturgeon listing took effect on April 6, 2012.[93] By operation of New York law (6 NYCRR § 182.2(e)(2)), both federally listed species are also New York State listed endangered species.

Some background on shortnose sturgeon and Atlantic sturgeon. which share several fundamental biological characteristics, may be useful for the Tribunal. Both species are "anadramous," meaning that they spawn in the upstream, freshwater reaches of their natal river, and spend their adult lives in brackish or marine water. In the Hudson River, both species

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See Hearing Exhibit 89, pp. 45-46.

[92] 32 Fed. Reg. 69613 (Mar. 11, 1967).

[93] 77 Fed. Reg. 5914 (Feb. 6, 2012).

inhabit primarily deeper channels as juveniles and as adults, particularly when migrating to and returning from spawning. Indeed, both shortnose and Atlantic sturgeon are "demersal" species in the Hudson River, meaning they live primarily in the water very near the river bottom, where they feed on benthic invertebrates, such as crustaceans, insect larvae, worms, and mollusks that live on or in sediments at the bottom.[94]

As described in the JP and various documents and maps in the record, the Project's HVDC cables will be installed in the deeper channels of the Hudson River -- that is, precisely the habitat of the sturgeon in question.[95] Specifically, portions of the project will be laid on the bottom and protected by articulated concrete mats or other materials such as grout-filled bags or rip-rap (collectively "concrete mats").[96] However, the record contains little or no analysis of: (1) the impact of both the construction and installation of these structures, and (2) the permanent habitat displacement that they represent for the sturgeon in question.

Indeed, the technical drawings accompanying the Best Management Practices that comprise Appendix F to the JP show that the concrete mats covering the cables in these sections will be at least several feet high, but of varying width, possibly exceeding 50 feet, depending on benthic stability requirements. Yet, remarkably, neither the JP nor the Applicants' Environmental Impact Assessment ("EIA")[97] provide an estimate of the total area of influence of the concrete mats.

In fact, the JP focuses almost exclusively on impacts associated only with the actual installation of the concrete mats (e.g., temporary suspension of sediments). It does not address

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[94] See generally, http://www.nmfs.noaa.gov/pr/species/fish/atlanticsturgeon.htm (last accessed on August 22, 2012).

[95] See e.g., JP Fig. 2.1.

[96] See, e.g., JP ¶¶ 32, 43; Exh. 121 at p. 168.

[97] Hearing Exhibit 121.

the potential ongoing impacts caused by the continued existence of the concrete mats on sturgeon movements within the River. It only briefly -- and superficially -- acknowledges that "[i]n areas where the cables cannot be buried and protective covering is therefore necessary, the existing benthos would be buried."[98] Likewise, the EIA merely describes the installation of concrete mats as being of "limited" extent and as being "used only for short distances" along the river bottom, presumably assuming -- absent any proof whatsoever -- that potential impacts to any aquatic organisms in the River would also be "limited." However, neither the JP nor the EIA quantifies the extent of habitat loss. Moreover, the potential impacts to sturgeon of the loss of benthic habitat is not directly -- or even indirectly -- assessed.

The table below is created from information on the extent of concrete mat installation provided in Hearing Exhibit 92, which is a February 18, 2011 letter from HDR Engineering, Inc. responding to a January 5, 2011 request by the New York State Department of State ("NYSDOS") to "identify where the use of concrete mattresses would be necessary."

EXTENT OF PROPOSED CONCRETE MAT INSTALLATION ON THE HUDSON RIVERBED

	Linear Extent	
	feet	miles
Infrastructure	1,000	0.19
	1,250	0.24
	1,000	0.19
	1,000	0.19
	2,000	0.38
	3,900	0.74
	1,000	0.19
	2,200	0.42
	4,600	0.87
	1,900	0.36
	1,300	0.25
	1,500	0.28
	1,600	0.30
	1,000	0.19
Hard Substrate	1,000	0.19

[98] JP ¶ 44.

	1,000	0.19
	1,600	0.30
	1,000	0.19
	1,000	0.19
	2,100	0.40
	900	0.17
Total	**33,850**	**6.41**
Infrastructure	25,250	4.78
Hard Substrate	8,600	1.63

As the data in the above Table shows, the current estimate of the linear extent of concrete mat installation along the Hudson River bottom is approximately 6.41 miles of indeterminate width.[99] As such, the characterization of the extent of concrete mat installation as "limited" is questionable at best. Given that this would occur precisely in the deep water channels inhabited by the sturgeon, this, in fact, represents a potentially significant destruction of sturgeon habitat, and thus, a potential ESA "taking."

The JP also states that "[e]pibenthic communities may develop on the mats over time, which would provide structure that can be used by some demersal species."[100] No probability is given regarding whether such epibenthic communities will in fact develop, and we are aware of no precedent for the unsupported assertion that the possibility that epibenthic communities "may" develop somehow satisfies the PSL Section 126.1(c) standard for minimizing adverse environmental impact.

Rather, as acknowledged in the JP, "[t]he mats will alter local hydraulic conditions such that some sediment deposition or scouring may occur around the irregularity in the bottom formed by the mats."[101] Thus, beyond the potentially permanent displacement caused by the mats themselves if epibenthic communities do not develop, the record evidence is that the mats

[99] See Hearing Exhibit 92.

[100] See JP ¶ 44.

[101] See JP at ¶ 32; see also Hearing Exhibit 121 at p. 168.

"may" cause localized conditions that both increase, not minimize, the area of riverbed disturbance and further reduce sturgeon foraging habitat. Without an analysis of the extent of such scouring -- the Applicants have provided none here -- it is impossible to assess the full extent of potential sturgeon habitat destruction caused by the concrete mats. In the absence of any -- much less rigorous -- quantitative analysis, the JP cannot reasonably conclude that the effects of the concrete mats on sturgeon habitat will be the minimum adverse environmental impact as PSL Section 126.1(c) requires.

Finally, nothing in the record establishes that this level of habitat disturbance is not impermissible under the federal and New York State ESAs, with the result that it is doubly unclear whether the project can be approved.

In short, the record reveals that the extent of the concrete mat installations is not "limited" as described in the EIA, but rather extensive, particularly since the mats will be installed directly in the area of the River that is undisputed habitat to both species of ESA-listed sturgeon. Moreover, given that the Applicants have elected not to provide any quantitative analyses of the effects of sediment deposition on and around the mats, the JP's unsubstantiated conclusion that the concrete mats will not have a significant impact on ESA-listed sturgeon habitat cannot be found to be adequately supported. As a result, the Applicants have failed to adequately describe the "nature of the environmental impact" of the proposed Project in the record, and, therefore, it is impossible for the Commission to find that the Project "represents the minimum adverse environmental impact," as required by PSL Section 126.1(c).

(2) Overland Environmental Impacts.

(i) Astoria Converter Station Site.

As described in the JP, the Applicants require an approximately five (5) acre parcel of land for the construction of the converter station. The lands that the Applicants propose to use for the Converter Station, however, are currently owned by non-signatory Con Edison. In a stipulation entered into the record as Hearing Exhibits 129 and 130, Con Edison authorized the Applicants' use of 4.5 acres for the construction of both the converter station and a new, four-breaker 345 kV GIS ring bus building.[102] As the Commission is aware from its November 25, 2002 "Order Approving Transfer Subject to Conditions" in Case 02-M-0741,[103] the Con Edison property at Luyster Creek "is contaminated and will require potentially extensive remediation before it can be productively utilized."[104]

The Applicants' witness on environmental matters, Sean Murphy, had no recollection of the above-quoted language, although he testified to having read the Commission's 2002 Order. Further, Dr. Murphy had failed to review the environmental sections of the Purchase Agreement between Con Edison and Luyster Creek (filed in the same PSL Section 70 proceeding), which contained detailed prescriptions as to the acceptable mode and method of construction ("slab on grade" only), as to worker protection (requiring detailed prior notice of the underlying environmental conditions and an opportunity to review all applicable environmental reports

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[102] Hearing Exhibits 129 and 130.

[103] Case 02-M-0741, Petition of Consolidated Edison Company of New York, Inc. for Approval of the Transfer of Approximately 21.3 Acres of Land Located in its Astoria Complex, Borough of Queens, New York City, to Luyster Creek, LLC, "Order Approving Transfer Subject to Conditions" (Nov. 25, 2002).

[104] Id., p. 6.

before commencing work) and indemnifications running from the putative purchaser, Luyster Creek Associates, to Con Edison.[105]

The JP reveals the Applicants' apparent intent to acquire or use 4.5 acres of a heavily contaminated, 21.5 acre parcel, excavate those lands to construct (at least) a 165' x 325' x 70' voltage source converter station and (likely) a 72' x 58' x 40' high ring bus building with an eight (8) foot depth of footing, and then to trench the land to a depth of between three and five feet[106] in order to run cabling from the East River to the Converter Station (1,850'), from the Converter Station to the GIS substation (1,000') and from the GIS substation to the streets of Astoria, Queens (2,400').[107] Notwithstanding such extensive development plans, the pre-filed Direct Testimony of Sean Murphy establishes, incredibly, that "[T]he Applicants have not completed an independent environmental assessment at this time."[108]

In fact, Dr. Murphy's opinion that the proposed converter station site would be a suitable use of the property rests entirely on a suite of environmental reports prepared by third-parties more than a decade ago.[109] Dr. Murphy admitted on cross-examination that he was not involved in the collection of data for those reports and in fact had no basis whatsoever upon which to assess the adequacy of the methods used to collect that data or to gauge the accuracy of the test results.[110] Those studies, moreover, reveal the likely presence -- but not the location -- of at least

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[105] Tr., p. 136, lines 8-10 and Hearing Exhibit 218 (page 20 of the Purchase Agreement).

[106] Tr., p. 143, lines 12-16.

[107] See Hearing Exhibit 68.

[108] See Tr., p. 123, lines 14-15. Entergy would note that, at the time that Dr. Murphy submitted his testimony, the Applicants had not yet entered into the converter site stipulation with Con Edison. Thus, Dr. Murphy had no way to know which 4.5 acres of the 21.5 acre parcel were even at issue.

[109] Tr., p. 154, lines 3-7.

[110] Tr. p. 146, line 15 to p. 147, line 25.

six underground storage tanks ("USTs") as well as uncharacterized groundwater contamination at the Luyster Creek site.[111] Because Applicants have conducted no environmental investigation of their own, Dr. Murphy could not rule out the possibility that USTs might be encountered during construction, and thus cannot reliably opine as to the "probable environmental impacts" of developing the Luyster Creek site in the manner contemplated by the JP.[112]

Put simply, the record is completely devoid of critical information, such as: (i) an updated environmental assessment of the subsurface conditions at the proposed converter station/ring bus site; (ii) a plan to protect public and worker health and safety during any excavation or disturbance of the heavily contaminated soils at the converter station /ring bus site; (iii) some commitment by the Applicants to indemnify, release or hold Con Edison -- and, by extension, its ratepayers -- harmless from any damages or costs arising from the contamination the Applicants may disturb at the converter station/ring bus site; or (iv) any cost estimate for the required remediation of the converter station/ring bus site. Consequently, any finding by the Commission as to the "nature of the probable environmental impacts" of developing the proposed converter station site would necessarily rest on bare extrapolations and assumptions derived from outdated and potentially unreliable reports prepared for an entirely different purpose.

(3) Communications.

(4) Electric Fields.

(5) Magnetic Fields.

EMF impacts on federally and state ESA-listed sturgeon are also of concern. In this regard, the JP speculatively states that "[p]otential impacts to fish species, if any, from

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[111] Tr. p. 148, line 9 to p. 149, line 20.

[112] Tr., p149, lines 4-25. (e.g., "I'm not in a position to come up with a probability of the tanks being there or not being there.").

electromagnetic fields and during the normal operation of the [Project] are expected to be insignificant as a result of the proposed installation method of two cables being buried side-by-side in a single trench to an expected burial depth of at least six (6) feet below the sediment-water interface."[113] This conclusion is not supported by the record evidence with respect to sturgeon. First, the EIA's discussion of potential impacts of the magnetic field on fish orientation and migration relates to certain species other than sturgeon, with no demonstration that the other species will behave similarly. For example, the EIA cites to "technical literature that shows that **some** fish species can detect and use magnetic fields for navigation," but then summarizes only literature addressing Pacific and Atlantic salmon;[114] nowhere does it mention data for sturgeon. (Emphasis supplied). Second, the EIA fails to address the behavioral responses of sturgeon to magnetic fields of a magnitude that, if the Project were constructed, would influence a significant portion of the sturgeons' deep water habitat and migratory route in the Hudson River. Moreover, the EIA fails to assess, at all, the extent and magnitude of the magnetic field that would be generated in the substantial portions of the river where the cables cannot be buried. Consequently, there is no way to determine, on this record, the "nature of the probable environmental impact," much less whether the Project "represents the minimum adverse environmental impact."

The generation of EMFs by underwater power cables and their potential effects on aquatic organisms are detailed in a recent Department of the Interior report entitled *Effects of EMFs from Undersea Power Cables on Elasmobranchs and Other Marine Species* (The "EMF

[113] JP at ¶ 50.

[114] Hearing Exhibit 121 at p. 204.

Report").[115] In general, it is undisputed that when an electrical current is passed through a metal wire, such as the Project's HVDC cables, it generates an electric field and a magnetic field, which together are referred to as an electromagnetic field, or "EMF." As stated in the EIA, "[d]uring Facility operation, the cables will produce electromagnetic field (EMF)."[116]

Specifically, both direct current ("DC") cables and alternating current ("AC") cables create a magnetic field that extends into the aquatic environment and decreases in intensity with distance from the cable. For modern underwater high voltage cables, such as the HVDC cables proposed for the Project, the emission of a "direct" electric field into the external environment is prevented by wrapping the cables in a conductive sheathing. Although designed to reduce or eliminate *direct* electric fields, the magnetic field created by the cables will nonetheless *induce* an electric field in an organism when it swims through the magnetic field, i.e., it will have indirect, but nonetheless potentially serious, consequences. The strength of the induced electric field depends on site-specific factors, including the strength of the magnetic field, the swimming speed of the organism, and the orientation of the organism relative to the magnetic field, underscoring the need for site-specific analysis not performed here. A number of marine organisms, including a variety of fishes, have specialized sensory cells that allow them to detect magnetic fields, electric fields, or both.

As detailed in the EMF Report and is undisputed, there is abundant evidence on this record of potential adverse effects from exposure to EMF, in particular to DC EMF, on aquatic organisms in general. Potential effects range from adverse effects on fish egg and larval

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[115] Normandeau, Exponent, T. Tricas, and A. Gill. 2011. Effects of EMFs from Undersea Power Cables on Elasmobranchs and Other Marine Species. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Regulation, and Enforcement, Pacific OCS Region, Camarillo, CA. OCS Study BOEMRE 2011-09.

[116] Hearing Exhibit 121 at p. 203.

development where the magnitude of the EMF generated is high,[117] to disruption of orientation, navigation, feeding and other behaviors at much lower EMF levels. The known and suspected adverse impacts of EMF are summarized for a number of aquatic organisms in tables throughout the EMF Report.[118] Ultimately, however, scientists' understanding of how low-level alterations in natural electric and magnetic fields affect most aquatic species is no substitute for site-specific analysis,[119] as "investigations into electro- or magnetosensory capabilities have been conducted for only a few marine species."[120] Moreover, although modern cables are designed to substantially reduce or eliminate direct electric fields, there is no direct way to confirm this is necessarily the case, because, currently, sensors capable of detecting AC or DC electric fields in the marine environment do not exist. As a result, the credible, publicly available and accepted scientific standard is that both AC and DC EMF's have the potential to adversely impact aquatic species. Given this risk, the magnitude and likelihood of particularized impacts requires project-specific assessment, particularly where ESA species are implicated.

As described in the EMF Report, sturgeon have been shown to be capable of detecting low-level DC magnetic fields and electric fields.[121] It is believed that sturgeon may use their ability to sense EMF to both detect predators and prey, and in orientation or navigation during migration.[122] Specifically, the EMF Report cites to studies of three species of sturgeon

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[117] Hearing Exhibit 121 at p. 205-06.

[118] Id.

[119] See EMF Report at p. 21; see also EMF Report Table ES-4.

[120] EMF Report at p. 11.

[121] See EMF Report, Tables 4.2-3 and 4.2-5.

[122] Id.

demonstrating that sturgeon can sense, and respond behaviorally, to both magnetic fields and electric fields.[123]

The JP summarily concludes that the EMF levels generated by the Project's cables will be "inconsequential,"[124] and that "[i]mpacts to fish species from magnetic fields associated with the HVDC Transmission System's cables are not expected to be significant."[125] Given the wealth of publicly available, scientifically credited information, as detailed in the EMF Report, demonstrating the potential effects of EMF on fish, including sturgeon, the JP's assessment of potential effects of EMF on Hudson River sturgeon is clearly insufficient, and its conclusions inadequate to credibly establish satisfaction of PSL Section 126.1(c).

Similarly, the EIA fails to adequately address potential effects of low-level DC-related EMF generated by the Project's cables on sturgeon orientation and migration. The EIA summarizes the strength of the magnetic field that will be generated when the Project's HVDC cables are energized as:

> [w]hen the cables are laid vertically into a single trench, the maximum magnetic field deviation from background magnetic field if the cables are in a north/south orientation is 26.2 mG [milligaus] at ten (10) feet from the centerline at one foot above the riverbed or lakebed. If the modeling is performed under the assumption that the top cable may "slide" off of the other so that the cables were horizontal (i.e., side-by-side), the maximum deviation from the background magnetic field is 83.5 mG at a height of one foot above the riverbed directly over the centerline.[126]

The EIA also states that "[n]on-migratory species in the Hudson with a preferred, deep-water habitat may be exposed to the potential influence of the cables year round" but that "[f]ish

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[123] EMF Report, Table 4.2-3.

[124] JP at ¶ 93.

[125] JP ¶ 98.

[126] Hearing Exhibit 121, p. 203.

would encounter the cables' influence only if they were migrating near the bottom and then only if they were aligned with the small zone of influence."[127] The EIA continues: "[t]he cable centerline was intentionally sited in moderately deep to deep water to avoid shallows," but acknowledges that "[t]hose species which utilize bottom habitats in deep water would potentially have greater exposure to the zone of influence than other species."[128] Finally, the EIA states that "[b]ased on the spatial distribution of the magnetic fields, it is apparent that only a small portion of any migrating fish population would come in contact with the zone of influence of the cables."[129]

The Joint Proposal and EIA's conclusions with respect to potential effects on sturgeon migration appear to ignore clear, well-recognized and undisputed evidence from the literature that magnetic fields induced by HVDC cables can affect sturgeon migration. In particular, the EMF Report relies on work by Gertseva and Gertsev (2002) that indicates that sturgeon behavior is affected by the magnetic field generated by a HVDC cable that crosses the Volga River, in Russia, that is of similar strength to the magnetic field that will be created by the Project's HVDC cable. Specifically, Gertseva and Gertsev reported observations of sturgeon migration in the Volga River both prior to the construction of a HVDC transmission line that traverses the Volga River, as well as after construction, both when the electrical current was closed and when the cables were energized. Before construction and after construction when the cable was not energized, sturgeon were observed to migrate just to the left or right of the center of the river channel.[130] However, when the HVDC cables were energized, the sturgeon were observed to

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[127] Id. at p. 204.

[128] Id. at p. 203-04.

[129] Id. at p. 204.

[130] Gertseva and Gertsev, Fig. 2.

deviate significantly to the left and right of the main channel, exhibiting "deformed routes of movement."[131] Therefore, Gertseva and Gertsev provide observational evidence that magnetic fields created by HVDC cables can and do affect sturgeon migration. These authors also modeled sturgeon distribution and calculated a response threshold of 0.3×10^{-5} Tesla, which, upon unit conversion, corresponds to a magnetic field of 3 milligauss (mG).[132] Importantly, the 3 mG behavioral threshold was for the additional magnetic field generated by the transmission line over and above the Earth's background geomagnetic field of approximately 526 mG, demonstrating that even relatively small deviations from the Earth's magnetic field can disrupt sturgeon migratory behavior. While publicly available and clearly contrary to its findings, the Applicants opted to forgo searching analysis of impacts to ESA-listed species in a manner that cannot be reconciled with the letter or spirit of PSL Section 126.1(c).

Indeed, as noted above, the EIA states that if the HVDC cables are laid vertically in the trench and oriented north/south, the strength of the magnetic field created is 26.2 mG at a distance of 10 feet from the centerline. If the top cable were to slide off to the side of the bottom cable, the magnetic field created is significantly higher, 83.5 mG at 10 feet from the centerline. In either case, according to the EIA, the magnetic field generated by the Project's HVDC cables will be well above the sturgeon behavioral threshold reported by Gertseva and Gertsev at a distance of ten (10) feet from the cables' centerline. Moreover, the modeling results reported in Hearing Exhibit 92 in the record indicate that, regardless of orientation (i.e., north/south or east/west) magnetic deviations (from the geomagnetic field) due to the proposed HVDC cables measured one (1) foot above the bottom would be greater than the 3 mG behavioral threshold for

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[131] Gertseva and Gertsev at 167.

[132] Gertseva and Gertsev at 168.

a distance of at least 25 feet on either side of the cables, even if the cables were buried to a depth of eight (8) feet, where the cables are expected to be buried to a depth of only six (6) feet.[133]

Even a layperson's cursory comparison of the data in Gertseva and Gertsev to the information in the EIA and its supporting documents regarding the strength of the magnetic field generated by the Project's HVDC cables indicates that the Project will generate a magnetic field that is of sufficient strength to potentially affect sturgeon migration behaviors in the Hudson River. Specifically, if the sturgeon can detect and respond to a 50-foot wide magnetic field (25 feet on either side) along the 87.85 mile length of the HVDC cables in the Hudson River, sturgeon orientation and migration could be affected along a substantial corridor of their migratory pathway.

In addition, the EIA states that "a second important consideration is that, by and large, migrating fish species will not travel in the part of the water column closest to the buried cable" and, similarly, that "migrating fish species tend to be in the upper part of the water column."[134] Both of these statements ignore the migratory routes of Atlantic and shortnose sturgeon, which occupy "the part of the water column closest to the buried cable."[135]

Moreover, the EIA states that "[f]ish would encounter the cables' influence only if they were migrating near the bottom and then only if they were aligned with the small zone of influence,"[136] implying both that fish are unlikely to be migrating near the bottom, and that the zone of influence (i.e., the area in which the magnetic field could affect migrating fish) is "small." Yet there is no proof in the record here establishing that sturgeon do not migrate "near

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[133] See Hearing Exhibit 92: Tables 3-5 and JP ¶ 27.

[134] Id. at p. 205.

[135] Id.

[136] Id. at p. 204.

the bottom" or establishing that the "zone of influence" is small. In its limited review of the potential effects on migratory fish, the EIA recognizes that "[a]ssuming a 526.5 mG geomagnetic field on the riverbed" the "zone of influence . . . at 10 ft. above the riverbed in the water column [is equivalent to a] 2% change in the background magnetic field." A 2% change in background of 526.5 mG is equal to a 10.53 mG magnetic field ten feet above the river bed, which is well above the 3 mG behavioral threshold reported in Gertseva and Gertsev. Thus, the "zone of influence" is on the order of 50-feet wide and may extend at least ten (10) feet above the riverbed for the 87.75 mile length of cable burial in the River.

Importantly, neither the EIA itself nor the EMF modeling presented in Hearing Exhibit 92 reports the strength or extent of the magnetic field that will be generated along the expected 6.41 miles of the Hudson River where the cables will merely be covered with concrete mats. Thus, the extent of the "zone of influence" in these areas is unknown, and could be even greater than in areas where the cables are buried.

Because the EIA, its supporting documents, and the JP fail to address publicly available data demonstrating that the Project's magnetic field may have a significant impact on Hudson River sturgeon orientation and migration, the Applicants have failed to adequately identify the "nature of the environmental impact" of the Project and, therefore, the Commission cannot find that the Project "represents the minimum adverse environmental impact" as PSL Section 126.1(c) requires.

E. Minimum Adverse Environmental Impact.

Pursuant to PSL Section 126.1(c), the Commission cannot issue a CECPN unless it determines "that the facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives . . ." The record that has been developed in this proceeding is inadequate for that purpose.

First, the record demonstrates that the cable burial depth standards adopted in the JP and proposed certificate conditions (particularly with respect to Lake Champlain), are less stringent than those that may be imposed by the ACOE. Thus, at least according to that agency, which has primary jurisdiction over dredge and fill activities in the waters of the United States (and also as compared to the burial depths authorized by the Commission in other merchant transmission cases), the environmental impacts of cable burial have not been minimized.

Next, it is now clear that the Applicants intend to abandon the HVDC Transmission line in place at the end of its useful life.[137] However, there is absolutely nothing in the record that in any way analyzes or quantifies the potential environmental impacts of doing so, much less that purports to minimize those potential impacts.[138] That omission -- which leaves the environmental impacts of abandoning scores of miles of HVDC cable in the sensitive environments of Lake Champlain and the Hudson and Harlem Rivers completely unaddressed -- is itself sufficient grounds on which to deny the Article VII application.

Overall, the record suffers from glaring informational gaps that utterly preclude the Commission from rendering the required statutory findings in these key areas.

(1) Alternative Technologies.

(2) Alternative Routes.

(3) Alternative Locations for Converter Station.

(4) Alternative Methods to Fulfill Energy Requirements.

Assuming, arguendo that a need for new energy or capacity in the New York City market in the foreseeable future can even be identified, the only "method" to fulfill that need that has

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[137] Tr., p. 84, lines 1-6.

[138] Tr., p. 84, lines 7-10. See also Hearing Exhibit 89 (ESS Report), at pp. 33, 43, 44 and 47 (discussing the dearth of record evidence concerning decommissioning).

been analyzed in any significant detail on this record from the perspective of potential environmental impacts (the main purview of PSL Section 126.1(c)) is the construction of a transmission line from Canada to New York City.[139] The Applicants wholly failed to give any consideration at all to satisfying any purported need through locally sited new generation units.[140] Likewise, their analysis of demand side and other alternatives was cursory at best.[141] In other words, the Applicants reviewed the environmental merits of a single proposal -- their proposed HVDC Transmission System. In so doing, the Applicants have failed to give any meaningful consideration to any alternative methods to fulfill energy requirements that might pose lesser adverse environmental impacts as required by PSL Section 126.1(c).

(i) DPS Staff's Production Cost Savings.

As noted above, one of the three economic models produced in an attempt to support the TDI Project was DPS Staff witness Thomas Paynter's analysis which he inaccurately termed a "production cost savings analysis."[142] As the record reflects, however, Mr. Paynter's production

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[139] As demonstrated, supra, in Section D, Applicants' environmental assessment is insufficient to meet the requirements of PSL Section 12.1(b).

[140] In fact, as noted, infra, the only discussion of an alternative facility that appears in the record was limited to the context of an economic comparison of the TDI Project to an In City combined cycle facility in DPS Staff's production cost savings analysis, the flawed results of which were originally set forth at JP paragraphs 107-118, but were later supplanted by the production cost savings analysis contained in DPS Staff witness Thomas Paynter's Rebuttal Testimony.

[141] The JP also includes the conclusory statement at paragraph 123 of the JP that "[T]he Signatory Parties have also concluded that conservation and distributed generation cannot be considered to be effective alternatives to the Facility." The rationale, which is given without citation to any study or report, is that "[U]nlike the HVDC Transmission System, which is being developed on a merchant basis without the need for ratepayer funding, both conservation and distributed generation are unlikely to significantly increase in CNY without Commission assistance. The Commission may pursue funding for projects in order to achieve whatever benefits they can provide in addition to the Facility." Id. However, even taking these two statements together, Applicants cannot reasonably be considered to have provided an adequate assessment of alternative methods to fulfill energy requirements as required by PSL Section 126.1(c).

[142] In addition to this analysis, there were two separate versions of an alleged wholesale energy savings analysis, one prepared by DPS Staff witnesses Leka Gjonaj and David V. Wheat and the other prepared by the Applicants' consultant London Economics International ("LEI"). These latter two studies are addressed below in Section (J)(1).

cost savings analysis was an analysis of the long-term cost savings to the developer of choosing to develop the HVDC Transmission System rather than a combined cycle facility in New York City. As such, it was a purely economic analysis that was limited to purporting to compare the economic benefits of this alternative.[143] Importantly, for purpose of considering the requirements of PSL Section 126.1(c), however, it is not -- and was not ever couched as -- an analysis of less environmentally harmful alternatives. Nor does it assess comparative environmental attributes. It is not, therefore, an environmental review of choosing a combined cycle facility as an alternative to fulfill energy requirements as mandated by PSL Section 12.1(c).

F. Undergrounding Considerations.

G. Conformance to Long-Range Plans for Expanding the Electric Grid.

Reduced to its essentials, the Project is nothing more than an extension cord running from a source of power in Canada directly to a voltage source converter station in Astoria, Queens, New York. In other words, the Project has no "on-ramps" which would allow existing (or new) New York-based generation to access the line and deliver its energy (including truly renewable energy) to New York City. Nor does it do anything to relieve the constraints that exist today on the internal New York bulk power transmission system. Instead, the proposal seeks to transmit wholly unneeded electricity directly from Canada to New York City along valuable and arguably "once in a lifetime" rights of way, without any credible showing that New York consumers will benefit (and, in fact, record evidence demonstrating that Upstate New York consumers will be harmed). Indeed, under the TDI-HQ model described in the EHI RFI submissions, it appears that the Applicants are prepared to enter into a long-term contract with HQ (in turn, requiring a

[143] For that reason, Entergy addresses the merits of DPS Staff's production cost savings analysis under Point I.J.1, infra.

subsidized contract which ultimately will be borne by New York consumers in some capacity), then wash their hands of any further obligation to New York consumers. None of these Project impacts appear consistent with the State's long range plans.

H. System Reliability Impact Studies.

I. Conformance with State and Local Laws and Regulations.

J. Public Interest, Convenience and Necessity.

For reasons that are unclear, the June 4 Certificate Conditions focus on "ratepayers," and not consumers generally. Yet there is nothing in the PSL that so narrowly limits the purview of the Commission's required public interest inquiry. Accordingly, the Commission must also take into account the higher energy prices that certificating the Project will cause in the already struggling regions of Upstate New York. As DPS Staff witness Paynter acknowledged in his testimony, applying the assumptions which underlie DPS Staff's production cost savings and DPS Staff's and LEI's respective wholesale energy savings analysis in the "No Build" scenario, "we should expect to see a reduction at the border of prices."[144] On the other hand, if the Project is built, "[T]hen the prices at the border would end up being higher than they would have had [the Project] not been built."[145] Mr. Paynter further explained:

> In general, the impact of [the Project] would be to redirect flows from Quebec directly into New York City as opposed to going into the existing New York transmission system. And, so, you would [get] a different pattern of price impacts. So, basically with [the Project] you would have prices lower in New York City but higher in upstate regions at the border compared to the case where HQ simply delivered all of that power at the border.[146]

[144] Tr., p. 213, lines 7-11.

[145] Tr., p. 213, lines 12-22.

[146] Tr., p. 214, line 19 through p. 215, line 2.

Those prices will be borne by both retail customers (i.e., ratepayers) as well as municipal entities and other wholesale customers. This Project, which would increase Upstate power prices without providing any other tangible benefits, is clearly not in the "public" interest.

(1) Wholesale Energy Price Savings/Production Cost Savings.

a) Wholesale Energy Price Savings

The estimates of wholesale energy price savings set forth in paragraphs 134-142 of the JP have been wholly supplanted by the revised wholesale energy price savings analyses contained in the pre-filed Direct Testimony of Applicants' witness Julia Frayer, and in the Prepared Rebuttal Testimony of DPS Staff witnesses Gjonaj and Wheat. However, all of these wholesale energy price savings analyses suffer from inherent limitations which render them unreliable as a public interest metric. The iteration of these studies that the Commission ultimately elects to use is, thus, irrelevant.

First, wholesale energy price savings analyses, even when properly conducted, do not measure benefits to society, and so have little to do with the public interest. Instead, while such analyses (sometimes called load payment analyses) may be useful in determining cost allocation, they are not a reliable measure of whether the public interest justifies undertaking the project in the first instance.[147] Load payment analyses in restructured markets measure predominantly transfer payments – the conversion of producer surplus to consumer surplus. Those are not

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[147] For example, DPS Staff witnesses Leka P. Gjonaj and David V. Wheat previously testified before the Commission:

> Ratepayer impacts are also referred to as payments by load. When payments by load decrease as the result of a resource change, ratepayer savings occur. Ratepayer savings should not, however, be categorized as resource cost savings because they include more than just production cost savings. Ratepayer savings other than production cost changes can involve transfer payments between producers and consumers **that do not represent resource cost savings to society**.

See, e.g., Case 06-T-0650, In the Matter of New York Regional Interconnect, Inc., Prepared Testimony of Leka P. Gjonaj and David V. Wheat, p. 13-14 (emphasis supplied).

benefits (i.e., they do not produce any net savings); they are simply transfers of surplus from one entity to another. Because they do not effect any real resource cost changes to the underlying system, they are transitory at best. Thus, there is no way to conclude, based solely on a wholesale energy price analysis, that a project will, in fact, advance the public interest. Indeed, as DPS Staff witness Mr. Thomas Paynter testified at the evidentiary hearing in this case, "[F]or purposes of analyzing the benefits and costs to society, I think it's standard to ignore the transfer payments that result from price changes."[148]

The JP itself identifies these very limitations inherent in wholesale energy price savings analyses, stating:

> The Applicants and DPS Staff forecast the potential reduction in wholesale market prices, using different electricity product cost computer models and comparing the effects under a scenario with the Facility, to a scenario without the Facility, **assuming no other changes to electricity supply or demand as a result of lower prices**. These forecasts, therefore, **do not address how long these savings could be expected to last, since they neglect potential supply and demand responses to lower prices resulting from the Facility**.[149]

In his pre-filed Direct Testimony in this proceeding, DPS Staff witness Mr. Paynter further described these limitations:

> Over time, markets respond to the depressed prices, e.g., through additional load or reductions in supply, until prices return to long-run equilibrium levels that reflect the cost of new entry. Thus, the transfer payments associated with price changes tend to fade over time.[150]

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[148] Tr., p. 203, lines 1-4.

[149] JP ¶ 135 (emphasis supplied).

[150] Tr., p. 172.

Mr. Younger also provided extensive evidence demonstrating why these analyses are not probative in this context.[151] For those reasons, DPS Staff has relied instead in past certification proceedings on the results of appropriately formulated and conducted production cost savings analyses that specifically focus on the production cost savings metric over the wholesale energy savings model.[152]

DPS Staff's long-expressed position in prior cases favoring the production cost savings metric over wholesale energy price savings stands in stark contrast, however, to the Applicants' position. Specifically, the Applicants' witness, Ms. Frayer, testified that "production cost savings should have far less weight than wholesale energy and capacity price reductions . . ."[153] Further, the Applicants devoted fully three paragraphs of the JP to explaining the reasons why they believe that DPS Staff's production cost savings analysis was incomplete and unreliable.[154] Given that that DPS Staff itself, a Signatory Party to the JP, has highlighted the inherent limitations of the wholesale energy price savings analysis, and given that the Applicants do not believe that DPS Staff's production cost savings analysis is reliable, the Commission cannot rely

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[151] Mr. Younger further demonstrated that the Applicants' wholesale energy price savings analyses also contained material flaws in the assumptions that were used, and thus, could not be given any weight even were this form of analysis adequate.

[152] See, e.g., Case 08-T-0034, supra, "Prepared Testimony of Thomas Paynter and David V. Wheat" (March 2010), pp. 10-11 (noting that DPS Staff "generally prefer the production cost savings measure since it measures benefits on a societal basis and, therefore, ignores transfer payments between ratepayers and generation owners."). It must be reiterated that the study that DPS Staff referred to in this case as a "production cost" study did not measure a production cost savings metric, the test upon which DPS Staff previously relied, but instead inexplicably departed from their past practices and chose to merely compare the cost of two options for supplying unneeded power.

[153] See Tr., pp. 325-326. See also, id., p. 326 ("In the context of a merchant project -- be it a transmission project or generation project -- the appropriate measure for the Commission to put most weight on in its determination is the ratepayer benefit measure because it properly identifies and measures the effects on the competitive wholesale market.").

[154] See JP ¶¶ 119-121.

on either of these analyses to meet the PSL's public interest requirements set forth in PSL Section 126.1(g).

Nor is any other information in the record sufficient to satisfy this requirement. Specifically, Applicants utilized their pre-filed Direct Testimony to put an entirely new LEI report into the record, which supplants, in all respects, all prior iterations of LEI's studies in the record.[155] LEI's new report, an obvious attempt to rehabilitate the record, was intended to respond to various criticisms by Mr. Younger and others of the earlier LEI work in this case. The new LEI report, however, continues to suffer many of the same flaws as the prior versions, all of which are explained in detail in the Rebuttal Testimony of Mark D. Younger. As a result, the new LEI report is no more probative of any benefits the Project reasonably could be determined to provide for the following reasons in summary:

- The LEI production cost savings analysis continues to maintain the fundamental error that the Canadian energy that would be delivered over the Project is either free or effectively free, i.e., it ignores the opportunity costs that exist as a result of HQ's ability to sell its energy in other existing markets. This assumption by LEI of free power to the Project stands at odds with the direct testimony of Applicants' own witness Donald G. Jessome, as well as his testimony on cross-examination, in which he acknowledged that HQ in fact has numerous other existing markets for its power.[156] It also stands at odds with Mr. Paynter's testimony establishing that one such market was Upstate New York, and his

[155] Tr., p. 400, lines 7-15.

[156] Tr., p. 68, lines 12-19; p. 87, lines 11-25; p. 88, lines 1-25.

acknowledgment that the redirection of that power to New York City would only serve to increase the price paid for Canadian power Upstate.[157]

- The LEI production cost savings analysis erred in representing the energy exchange between the NYISO and all of its neighboring markets using simplified supply curves, rather than actual data (In contrast, Mr. Younger's production cost modeling included a full representation of the loads and resources in PJM and ISO-NE) This means that the LEI model does not represent adequately how marginal costs in the neighboring control areas vary, and artificially limits the resources that can effectively respond to significant market changes, such as the introduction of the Project. If resources outside of the NYISO were modeled correctly, the impact of the Project on generation resources would be spread across a much larger area. Consequently, Ms. Frayer's reliance on simplified supply curves produces artificially high savings.[158]
- The LEI estimate of capacity market benefits rests on a gross misapplication of the NYISO's rules mitigating the exercise of buyer-side market power in New York City. The proper application of these rules reveals that the Project would be mitigated and, with the offer floor correctly set, would not clear any of its capacity for an extended period of time.[159]
- The LEI wholesale energy savings analysis fails to make reductions to account for the likelihood that the market will respond to the Project's entry. LEI's claimed

[157] See footnotes 133-135, supra (and accompanying text).

[158] Tr., pp. 511-513.

[159] Tr., pp. 514-517.

capacity savings also have not been reduced to reflect the market's response to the Project's entry.[160]

b) Production Cost Savings

As demonstrated by the Younger Testimony, Mr. Paynter's production cost savings analysis also was fundamentally flawed, both conceptually and in its implementation. First, while coined a production cost analysis, Mr. Paynter's analysis does not rely upon the production cost savings metric to measure the Project's impacts -- it merely compares the cost of building and operating two unneeded options.[161] Thus, it was a material and inexplicable departure from the analyses that DPS Staff had routinely relied upon in past certification proceedings.[162] In addition, Mr. Younger established that Mr. Paynter's analysis was inaccurate for several reasons, including because it both understated the Project's costs and overstated the costs of the combined cycle alternative to which it was being compared.[163]

In their Rebuttal Testimony, DPS Staff did not defend the merits of Mr. Paynter's original production cost savings analysis, the results of which are set forth at paragraphs 107 through 120 of the JP. Nor did DPS Staff defend the Gjonaj/Wheat wholesale energy price savings analysis, the results of which are set forth at paragraph 139 of the JP. Instead, DPS Staff

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[160] Tr., pp. 518-520.

[161] Id., p. 433, lines 6-9 ("First, by asking which of two sources of added energy and capacity is cheaper, DPS Staff's analysis erroneously ignores the fact that neither source is economic or needed at this time. Therefore, while claimed to be an economic analysis, it is actually an analysis of which of two unnecessary actions is the least uneconomic.").

[162] See generally Case 08-T-0034, supra, "Prepared Testimony of Thomas Paynter and David V. Wheat (March 2010) (reporting the results of a production cost savings analysis).

[163] Tr., pp. 442-452.

completely replaced the studies that Mr. Younger had critiqued with entirely new analyses revised to correct a number of flaws that Mr. Younger had identified in their original studies.[164]

Once certain corrections were made to the Paynter Analysis, DPS Staff's estimate of the Project's production cost savings fell precipitously from $1.2 billion to approximately $400 million as compared to Staff's assessment of the New York City based CCGT facility when viewed over a 35-year life.[165] Thus, even Mr. Paynter's analysis, when adjusted per Mr. Younger's suggestions, demonstrates that the costs of the Project are far greater than its production cost savings.

(2) Capacity Price Savings.

(i) Buyer-Side Market Power Rules.

For the reasons stated in Mr. Younger's testimony, the Applicants' eleventh-hour attempt to claim capacity benefits is similarly misguided because they have grossly misapplied the NYISO's Buyer-Side Market Power Mitigation Rules. As Mr. Younger demonstrates, when the Buyer-Side Market Power Rules are correctly applied, it is clear that the Project will be subject to mitigation and a high offer floor will be set. Because the Project will be mitigated, it must submit bids set an offer floor that will likely cause its capacity not to clear the spot market auctions until some point far into the future.[166] Nothing in the record in any way refutes Mr. Younger's conclusions and opinion as to the grossly uneconomic nature of the Project, or his

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[164] See Tr., 197-199. Even as revised, however, DPS Staff still does not provide an analysis based on the production cost savings metric as it has in past certification proceedings.

[165] DPS Staff's $400 million savings figure would have been even lower had Mr. Paynter corrected for all of the flaws in his model that Mr. Younger had identified. Mr. Paynter's high-end estimate of production cost savings of $2.6 billion depends on using the now substantially outdated 2010 Annual Energy Outlook natural gas prices, and is thus entitled to no weight at all. Tr. p. 217, line 10 through p. 218, line 2.

[166] Tr., pp. 481-483; 514-517.

application to the Project of a correctly set offer floor under the NYISO's Buyer-Side Market Power Mitigation Rules.

(3) Employment Effects.

(4) Environmental Benefits.

(5) Reliability Benefits.

See Point I.B.2, supra.

(6) Economics Benefits.

See Point I.J.1, supra.

(7) Merchant/Non-merchant Facility.

See Point I.B.1, supra.

(8) Other Considerations.

(i) Competitive Generation.

K. Proposed Findings.

For the reasons set forth herein, the Commission cannot render the findings required by PSL Sections 126.1(b) and 126.1(c). In addition, the Project's potentially significant adverse effects on New York consumers, and the In-City wholesale electric market, preclude any affirmative findings under PSL Sections 126.1(d)(2) and 126.1(g). Accordingly, a CECPN cannot be issued to the Applicants.

L. Proposed Certificate Conditions.

(1) Sufficiency of Condition 15.

Assuming arguendo that the Project is granted an Article VII certificate, the June 4 Certificate Conditions specify that the Project certificate will be rendered invalid if the Applicants were to rely on (1) cost-of-service rates set by a federal or State regulatory entity or

(2) the inclusion of HVDC Transmission System costs in utility rate base, "either directly or through a contractual arrangement between [the Applicants] and any agency, authority or other entity of the State of New York, any municipal subdivision of the State of New York, any utility subject to cost-based regulation, or any instrumentality of any of the foregoing." The same provisions apply to the use of the Astoria-Rainey Cable by HVDC Transmission System shippers. In addition, these Conditions further state:

> Prior to, or at the same time they file their EM&CP for the first segment of the Facility, the [Applicants] shall file a report documenting that they have received binding contractual commitments from one or more financially-responsible entities for a combined total of no less than 750 MW of Firm Transmission Service over the Facility for a period of no less than twenty-five (25) years. The [Applicants] may not commence construction of the Facility unless and until the [NYPSC] has accepted this report.[167]

As demonstrated at Point I.A., supra, the subsidy vehicle that is likely to be utilized to construct and operate the Project is likely to be an indirect above-market power purchase contract entered into by its shippers, and not a transmission service agreement or an addition to rate base. Thus, while Applicants have made critical concessions after the JP was filed that have begun to address some of the many deficiencies replete throughout their earlier proposed versions of this certificate condition,[168] there remains a major loophole completely unaddressed by the June 4 Certificate Conditions. If exploited in the manner explicitly contemplated by the EHI RFI submissions, this loophole would result in substantial investment risk being shifted away from the Project's investors and instead being shouldered by New York consumers in some capacity, thus allowing an "end run" around the very intent and sole purpose of the June 4 Certificate Conditions.

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[167] Hearing Exhibit 150, Attachment A.

[168] Contrary to Applicants' assertions when it filed the Stipulation, the June 4 Certificate Conditions do not ensure that the Project will, in fact, proceed, and remain, purely merchant.

In light of the grossly uneconomic nature of the Project as established by the record in this proceeding, and the Applicants' intentions as reflected in both the TDI and HQ EHI RFI submissions, the Applicants' claims that they will proceed with the Project on a "purely merchant" cannot be accepted at face value alone.[169] Rather, having elected to proceed on a purely merchant basis, the Applicants must be held to that decision.

Accordingly, notwithstanding the evidence in this proceeding, should the Commission nevertheless apply the merchant standard and find that an Article VII certificate may be granted, the following additional certificate conditions are the minimum that would be required to insulate New York consumers from subsequently funding the Project's substantial above-market costs:

1. Applicants, their affiliates and their successors cannot obtain any direct subsidy or payment to defray the cost of the Project from any utility or State, municipal or other governmental agency, authority or other entity;
2. Applicants, their affiliates and their successors cannot seek to include the costs of the Project through cost-of-service rates for delivery services under FERC or NYPSC jurisdiction;
3. To avoid having the Project's costs funded indirectly through an above-market "bundled" power contract, the Applicants shall require each shipper to certify that the buyers of the shipper's power will not recover the power contract costs (or any portion of them) through a non-bypassable portion of a utility's rates, or in the case of a state power

[169] Applicants' assertions must ring hollow when one considers that, according to Applicants, the original JP Certificate Condition 15 was adequate -- an assertion belied by the fact that its first proposed certificate condition (contained in the JP) patently would have allowed the Applicants to directly secure above-market subsidies in many forms, including entering into an above-market contract with a State authority.

authority through a charge to a customer unless the customer can both legally and practicably avoid the charge by switching suppliers; and

4. To avoid indirect subsidies to the Project through subsidy payments to its shippers, the Applicants, their affiliates and their successors shall require each shipper to certify that it has not received any above-market subsidy or other payment from any utility or State, municipal or other governmental agency, authority or other entity if that subsidy or payment would not have been available but for the shipper's use of the Project to deliver its power.

If any of these conditions were violated, the Project's Article VII certificate must be rendered invalid. This would assure that TDI Project investors and any subsequent owners are held to their commitments in this proceeding, and thus, rely solely on merchant sources of revenues for the recovery of and on their Project's costs.

(2) Other Conditions.

M. EM&CP Guidelines.

N. Water Quality Certification.

See Point I.D.1.ii, supra.

O. Conclusion.

For all of the foregoing reasons, and as established on the record in this proceeding, Entergy respectfully requests that Your Honors recommend that the Commission must deny the Article VII petition in all respects.

Dated: August 22, 2012
Albany, New York

Respectfully submitted,

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ALB 1,578,156v1 8-22-12