**UNITED STATES OF AMERICA**

**NUCLEAR REGULATORY COMMISSION**

| | |
|---|---|
| **In re:** | |
| | **Docket Nos. 50-247-LR, 50-286-LR** |
| **License Renewal Application Submitted by** | |
| | **ASLBP No. 07-858-03-LR-BD01** |
| **Entergy Nuclear Indian Point 2, LLC,** | |
| **Entergy Nuclear Indian Point 3, LLC, and** | **DPR-26, DPR-64** |
| **Entergy Nuclear Operations, Inc.** | |

## DECLARATION OF PETER J. LANZALOTTA

Peter J. Lanzalotta hereby declares under penalty of perjury that the following is true and correct:

1. My name is Peter Lanzalotta. I am a Principal with Lanzalotta & Associates, LLC with offices at 67 Royal Pointe Drive, Hilton Head Island, South Carolina. I have worked for more than 30 years as an electric utility employee and as a consultant on electric system planning and operating matters, as well as various other electric-utility-related areas. I have a BS in Electric Power Engineering from Rensselaer Polytechnic Institute and an MBA in Finance from Loyola College. I am a registered as a professional engineer in Connecticut and Maryland. I have appeared as an expert witness on electric utility reliability, planning, operation, and rate matters in more than 100 proceedings in 22 states, the District of Columbia, the Provinces of Alberta and Ontario, and before the Federal Energy Regulatory Commission and U. S District Court. Attached hereto is a copy of my current Curriculum Vitae (CV).

2. These comments address aspects of the Final Supplemental Environmental Impact Statement ("final SEIS" or "FSEIS") for Indian Points Units 2 and 3 (NUREG 1437, Supplement 38) dated December 2010 and address the issues, comments, and assumptions related to electric transmission system planning and electric system reliability contained therein. I have also reviewed a number of other documents that address electric system reliability planning and electric system reliability needs in New York.

3. The FSEIS provides little or no useful information on whether or to what extent to which the capabilities of the existing electric transmission system and related facilities will support or limit the various alternatives discussed in Section 8 of the FSEIS.

4. The FSEIS uses outdated assumptions regarding the availability of transmission system capacity additions from new transmission projects that underscore the difficulties of siting, getting approvals and constructing such new transmission projects, that wholly ignore significant developments in New York State's electricity markets, energy policies, and transmission grid since 2006. These result in the FSEIS referring to the potential transmission capacity from a project that has been halted, such as the New York Regional Interconnect ("NYRI"), and in the FSEIS apparently ignoring other potential sources of transmission capacity that are successfully progressing, such as the Hudson Transmission Partners ("HTP") transmission line into NYC.

5. The FSEIS raises the possibility of transmission capacity limitations, which could constrain the transmission system's ability to move replacement power into the NYC area, but then assumes, with no meaningful analysis of New York State's current electricity transmission grid system, that any such limitations will be relieved by the construction of large infrastructure projects or by locating the alternatives near to downstate loads. Thus, the FSEIS's discussion of energy alternatives is not supported by a current, site-specific, factual analysis of the ability of the transmission grid to support any or all of the alternatives to relicensing proposed in the FSEIS.

6. The FSEIS addresses transmission adequacy assumptions on 8-27:

> For purposes of this analysis, however, the NRC staff assumes that adequate transmission will exist either through planned, new projects (e.g., the proposed New York Regional Interconnect NYRI , or the Champlain-Hudson Power Express, Inc. CHPEI Project, among others) or by locating the alternatives near to downstate loads.

7. The FSEIS doesn't meaningfully address the need for or the availability of electric transmission system capacity in the event of an Indian Point retirement. In addition, the FSEIS refers to various transmission projects to add electric transmission capacity into the NYC area, some of which are not proceeding, and it fails to address other projects that will add transmission capacity into NYC.

8. For example, the FSEIS incorrectly asserts that NYRI is still seeking approval to build a 190 mile transmission line from upstate New York to the lower Hudson Valley as "illustrative of the potential for new transmission in congested areas of New York State" (8-40, lines 24-25), even though NYRI formally withdrew its application in 2009. [1]

9. The FSEIS appears to ignore the approval of the Hudson Transmission Partner Line. This 345 kV line will connect Pennsylvania, New Jersey, Maryland grid ("PJM") to midtown Manhattan, running between the Bergen Substation in Ridgefield, New Jersey and terminating at Consolidated Edison substations. It is expected to initially provide 320 MW of firm capacity from PJM to New York City, with the potential to provide 660 MW of firm capacity if necessary investments are made to upgrade PJM facilities.[2]

10. In the Order approving this line, the New York State Public Service Commission ("NY PSC") stated that "System reliability is enhanced by the HTP facility . . .Examined systematically, there are two real possibilities in the future that warrant our careful consideration in rendering a decision to certificate the HTP facility. [One] serious possibility involves the Indian Point nuclear power facilities located in Westchester. A

---

[1] NYS PSC Case 06-T-0650, PSC Correspondence (Issued April 21, 2009); *See also* Federal Energy Regulatory Commission ("FERC") Docket No. OA08-52-003, New York Independent System Operator, Inc., Order on Rehearing, 126 FERC ¶ 61, 320 (Issued March 31, 2009).

[2] NYS PSC. *Commission Approves Transmission Line to NYC: PowerLine Would Improve Reliability, Increase Supply*. Press Release. September 8, 2010. Available at: http://documents.dps.state.ny.us/public/Common/ViewDoc.aspx?DocRefId={575751AB-6DF9-4C37-92CD-2813A2BD5B7D}

segment of the State's population remains deeply concerned about the safety of having a nuclear facility as close as this one is to a major metropolitan area. Indeed, as a party in the Nuclear Regulatory Commission's relicensing proceeding for the Indian Point facilities, the State has opposed the extension of the plants' operating licenses. Also, environmentalists remain active in pursuing updates and modifications to this facility to lessen its current impacts on the environment. We find that the HTP facility will assist in maintaining system reliability in the event that one or both of the Indian Point plants close."[3]

11. There are a number of transmission-related developments that are relevant to the subject of potential alternatives to the continued operation of Indian Point that are not addressed in the FSEIS. These developments include additional transmission capacity either has been installed, is in the process of being installed, or has been approved to be installed in the New York Control Area, Zones H, I, J, or K. For example, the FSEIS has failed to consider the following recent transmission system developments:

- The Neptune Cable links the Long Island to New Jersey and energy sources in the PJM area. It provides up to 660 megawatts of transmission capacity into Long Island (Zone K).
- In addition, trans-Hudson and trans-Arthur Kill connections and interconnection upgrades are in the New York ISO interconnection queue. These project currently include the Brookfield Power U.S. Harbor Cable Project II (200 MW), and the East Coast Power LLC interconnection upgrade (300 MW; Linden, Staten Island).
- A new transmission link between New York and New Jersey has been proposed. The 550 MW Harbor Cable Project and Generating Portfolio, would provide a full controllable transmission pathway from generating sources in New Jersey to New York City.[4]

---

[3] NYS PSC. *Order Granting Certificate of Environmental Compatibility and Public Need.* September 15, 2010, p. 44.

[4] Id.

- The 2005 Levitan & Associates study identified three possible transmission alternatives to the retirement of Indian Point Units 2 and 3. The first would include retirement with the construction of two physically separate 500 kV circuits between the Capitol District around Albany to the downstate grid in New York City. Each of the circuits would be controllable and would be able to transmission 1,000 MW of power for a total of 2,000 MW.[5]

- The second transmission alternative identified by Levitan & Associates would be to upgrade the existing 345 kV New Scotland-Leeds circuit and the 345 kV Leeds-Pleasant Valley circuit, and construct a new 345 kV line from New Scotland to Pleasant Valley. This would increase the Upstate New York ("UPNY") - South End New York ("SENY") interface transfer capability by approximately 600 MW.[6]

- The third transmission alternative would be to convert the existing 345 kV Marcy-New Scotland circuit to a double circuit and to rebuild the New Scotland station to a breaker-and-a-half design. This would increase the Central-East transfer capability by approximately 650 MW and increase the transmission capability into New York City by approximately 450 MW.[7]

- Levitan & Associates also identified a fourth transmission alternative that would upgrade the interconnections between New York and the PJM grid system by re-conductoring the existing transmission paths from Ramapo to Buchanan and/or constructing a new dedicated (overhead or underground) transmission line from Ramapo to Buchanan. However, Levitan & Associates were unsure of the amount by which this alternative would increase the Total East transfer capability into New York State.

---

5 *Indian Point Retirement Options, Replacement Generation, Decommissioning/Spent Fuel Issues, and Local Economic/Rate Impacts*, prepared for the County of Westchester and the County of Westchester Public Utility Service Agency, by Levitan & Associates, Inc., June 9, 2005, at pages 35 and 36.

6 Id, at pages 36 and 37.

7 Id, at page 37.

12. Furthermore, the FSEIS fails to acknowledge that electric transmission system adequacy planning addresses the interplay between forecasted peak load, transmission system capacity, electric generation capacity and location, and demand response peak load reduction. There are a number of questions as to the level of projected peak load demand that should be considered when the potential retirement of the IP units is being considered.

13. For example, after looking at projected electric load growth, as well as at existing and proposed generating resources, the NYISO's *2009 Comprehensive Review of Resource Adequacy* found that "the anticipated capacity supply (42,536 MW) will exceed the forecasted peak load (34,309 MW) (this includes the required reserve margin of 18% for the 2010-2011 Capability Year) by 2,051 MW in 2014."[8] According to the NYISO, there were three reasons for this: reductions in peak load due to the recession and to the New York Energy Efficiency Portfolio Standards ("EEPS"), an increase in generation additions and Special Case Resources (customer pledges to cut energy usage on demand), and fewer planned generator retirements.[9]

- NYISO Demand Response programs, which enlist electricity customers to conserve power in response to system conditions, are effectively reducing the need for additional capacity. One of the NYISO Demand Response programs, called Special Case Resources, currently has registrations of 2,251 MW for 2010, an increase of 315 MW from the previous year.[10]

  However, in calculating this 2,051 MW capacity surplus in 2014, the NYISO used the original 2009 load and capacity data ("Gold Book") forecast. If the revised 2009 Gold Book forecast is used, instead, as it should be, the anticipated capacity supply of 42,536 MW will exceed the forecasted peak load of 33,594 MW in 2014 by a total of 8,942 MW, or 2,895 MW more than the required 18 percent reserve margin.

---

8 NYISO's *2009 Comprehensive Review of Resource Adequacy*, at page 1.

9 Id.

10 NYISO *2010 Load & Capacity Data –" Gold Book",* page 6.

- Moreover, the revised 2009 Gold Book forecast assumes that only a portion of the 15x15 energy efficiency goal will be achieved.[11] A more recent NYISO forecast in its *2010 Reliability Needs Assessment Final* Report, issued in September 2010, shows what the projected impact would be of achieving 100 percent of the "15 by 15" energy efficiency goal by 2015. As a consequence, this 2010 RNA 15x15 forecast projects significantly lower peak demands for New York State.

14. The FSEIS furthermore raises the possibility of transmission grid stability problems caused by a lack of reactive power if the IP generating units are shut down, but fails to study this possibility and potential remedies, and nonetheless bases its alternatives analysis on one potential remedy, the possibility of operating the IP generators as synchronous condensers, to the exclusion of other remedies, such as capacitors, static var compensators ("SVC"s), and static synchronous compensators (STATCOMs).

15. The FSEIS first addresses reactive power at 8-22:

> This FSEIS does not assess the specifics of the need for corrections to reactive power that would be required if IP2 and IP3 were shut down. Reactive power (i.e., power stored in magnetic fields throughout the power grid) is essential for the smooth operation of the transmission grid because it helps hold the voltage to desired levels. It may be possible to use the existing generators at IP2 and IP3 as a source of reactive power even if IP2 and IP3 are shut down. As "synchronous condensers," the generators could add reactive power (but not real power) to the transmission system (National Research Council 2006). Because it is assumed that the generators would be operated as synchronous condensers only until the reactive power could be supported by new, real replacement power generation, their operation is not considered as a significant contributor to the impacts described below. Further, as a shut-down nuclear power plant may not be decommissioned for many years after shutdown, the continued operation of IP2 and IP3 generators would not necessarily slow or impede decommissioning activities.

16. The FSEIS fails to evaluate the impact of IP closure on reactive power supplies while admitting that the generator portion of the IP units could be operated separately, after

[11] According to the NYISO *2010 RNA Final Report*, the 2009 Gold Book forecast assumes that approximately 51 percent of the 15x15 goal will be achieved by the end of the planning horizon in 2020. At page 9.

retirement of the nuclear reactor and steam generation portions of IP, as synchronous condensers. The FSEIS further opines that::

> Issues of electrical grid stability that may result from an Indian Point shutdown would be addressed by the New York Independent System Operator (NYISO). NYISO has indicated that Indian Point plays an important role in electric reliability and supply in downstate New York, and has also indicated a potential need for Indian Point's generators to continue operating as synchronous condensers in the event that the reactors themselves shut down. (A synchronous condenser is required to provide the necessary reactive power loading for electric grid operation.) (FSEIS, Appendix A, p. A-151)

17. The above NRC response to a public comment (FSEIS, Appendix A, p. A-151) states that a synchronous condenser is required to provide reactive power needed by the electric grid. Here again, the FSEIS fails to acknowledge that electric transmission system adequacy planning addresses the interplay between forecasted peak load, transmission system capacity, electric generation capacity and location, and demand response peak load reduction.

18. In fact, as noted above, synchronous condensers are only one means of supplying reactive power to the electric system. Other reactive power sources include various capacitors, SVCs (static var compensators), STATCOMS (static synchronous compensators), and in-service electric generating units. These various options cover a wide range of potential costs, space requirements, lead-time requirements, and operating flexibility and capabilities.

19. Moreover, I have reviewed NYISO's most recent Reliability Needs Assessment and Comprehensive Reliability Planning documents and find no indication that NYISO has indicated a potential need for Indian Point's generators to operate as synchronous condensers in the event that the reactors themselves are shut down.

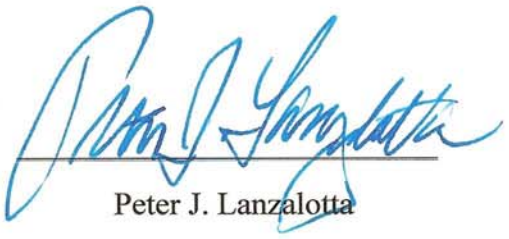
20. In response to issues of electrical grid stability issues related to the retirement of one or both of the Indian Point units, the New York ISO is required to issue a timely call for market based and regulated backstop solutions to ensure the continued, safe, reliable operation of the New York's electrical transmission grid. The call for market based and regulated backstop solutions will involve participation from market participants, based on

the forecasted load demands, current transmission capacity, generation capacity, and demand side management programs available at the time the units are scheduled to retire. Generation, transmission and demand response proposals can be considered in this process as legitimate solutions to meet these needs. Therefore, it is premature for the FSEIS to assume that the Indian Point units will be used as synchronous condensers in the event they are retired from generation.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct.

Dated: February 1, 2011

Fort Myers, Florida



Peter J. Lanzalotta