

United States Nuclear Regulatory Commission Official Hearing Exhibit	
In the Matter of:	Entergy Nuclear Operations, Inc. (Indian Point Nuclear Generating Units 2 and 3)
	ASLBP #: 07-858-03-LR-BD01
	Docket #: 05000247 05000286
	Exhibit #: NYSR00045-00-BD01
	Admitted: 10/15/2012
	Rejected:
Other:	Identified: 10/15/2012
	Withdrawn:
	Stricken:

NYSR00045
Revised: December 22, 2011

**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

ATOMIC SAFETY AND LICENSING BOARD

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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
Entergy Nuclear Operations, Inc.

DPR-26, DPR-64

December 14, 2011

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**STATE OF NEW YORK
INITIAL STATEMENT OF POSITION
CONTENTION NYS-9/33/37 (“NYS-37”)**

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PRELIMINARY STATEMENT

In accordance with 10 C.F.R. Section 2.1207(a)(1) and the Atomic Safety and Licensing Board's ("Board") July 1, 2010 Scheduling Order, as amended on June 7 and October 7, 2011, the State of New York hereby submits its Statement of Position on admitted consolidated contentions NYS-9, 33 and 37 (hereinafter "NYS- 37"). This consolidated contention asserts that the analysis set forth in the NRC Staff's Final Supplemental Environmental Impact Statement ("FSEIS") concerning the denial of the requested licenses for Indian Point Units 2 and 3 does not meet the requirements of the National Environmental Policy Act ("NEPA"), and the regulations implementing NEPA adopted by the Council of Environmental Quality ("CEQ") and the Nuclear Regulatory Commission ("NRC" or "Commission").

The FSEIS is legally deficient because the study (1) relies on obsolete and inaccurate data and assumptions and ignores substantial and well-supported criticisms of the draft Supplemental Environmental Impact Statement ("DSEIS"), (2) fails to take the requisite "hard look" at the consequences of license denial (the no-action alternative) and the availability of other sources of energy, energy efficiency and energy conservation under the no-action alternative, and (3) fails to provide the NRC and state energy planners with an adequate analysis of the comparative environmental costs and benefits of license denial.¹

The FSEIS's deficiency flows from, among other things, Staff's continued reliance on the same two studies relied on in the DSEIS and Entergy's Environmental Report ("ER"), which predate significant changes in New York State's energy markets. Those changes mean that retiring the Indian Point units can be achieved at substantially lower environmental impacts than

¹ "The no-action alternative is the denial of a renewed license." *Generic Environmental Impact Statement for License Renewal of Nuclear Plants*, (hereinafter "*GEIS*"), Main Report, NUREG-1437, Vol.1, Chapter 8 "Alternatives To License Renewal," dated May 1996, at p. 8-1. Exh. NYS00131D.

those assumed in the FSEIS. The State's experts will testify that demand for electricity is significantly lower than was predicted in both of those studies. New York has succeeded in expanding available generation in the downstate region and has put in place policies that have increased the supply of renewable energy and energy conservation. Transmission into the downstate area also has been materially expanded. Natural gas is more plentiful and priced lower than the authors of these studies predicted.

Each of these developments significantly changes the environmental impact calculus set forth in the FSEIS. New York pointed out these materially changed circumstances to the Commission well in advance of the FSEIS's publication. Yet the FSEIS ignores the bulk of the information that New York provided in its repeated comments to the Commission. Indeed, the FSEIS relies in some places on projects and approaches that do not apply to New York at all. As a result of its reliance on obsolete and inaccurate assumptions, the FSEIS fails to take a "hard look" at whole categories of clean energy and energy efficiency and energy conservation measures with smaller environmental impacts, including energy efficiency and conservation, purchased electrical power, and renewable generation, either stand alone, or combined with energy efficiency and conservation. To the extent the FSEIS purports to consider a limited amount of renewable generation in evaluating the no-action alternative, it overstates the environmental impact of renewables by combining them not with conservation or energy efficiency, but with the operation of fossil fuel facilities or with one Indian Point unit with a cooling tower.

The effect of these deficiencies is an FSEIS that does not fairly inform decision makers as to the feasibility and environmental impacts of the no-action alternative to relicensing one or both of the Indian Point units. Thus, the FSEIS deprives the ultimate decision maker from

having an adequate record on which to make a decision on the no-action alternative. Only an analysis fully consistent with power supply procurement realities - including the abundance of available energy efficiency, energy conservation, demand-side management (“DSM”), renewable generation, transmission enhancements, purchased electrical power, and the potential to repower existing facilities - would enable the NRC, and state energy decision makers, to assess the comparative environmental impacts of a relicensing decision.

This Statement of Position provides a summary of New York’s legal position, a comprehensive overview of the State’s prior contentions, criticisms and comments on the ER and DSEIS, the supporting evidence provided to Staff well in advance of the publication of the FSEIS, the legal standards governing the adequacy of the FSEIS’s consideration of the no-action energy alternative, and an outline of findings of fact that are relevant to NYS-37. New York’s analysis follows, and is divided into the three primary arguments set forth above.

NYS-37 consolidates NYS-9 (ML073400205) and NYS-33 (ML090690303), New York State’s earlier contentions on Entergy’s and Staff’s respective analysis of the no-action alternative. NYS-37 is a contention of omission. The core claim in NYS-37 is that in the FSEIS, NRC Staff have failed to present an analysis that takes a “hard look” at the availability and environmental impact of clean energy sources and energy efficiency and conservation measures that would replace Indian Point’s power if renewal licenses are not granted. The document unreasonably relies on obsolete and inaccurate information and ignores New York’s critical comments on DSEIS that demonstrate that the environmental impact of rejecting relicensing of Indian Point will be (1) much less than that assumed in the FSEIS and (2) will be less than the environmental impact of relicensing Indian Point. The analysis of the no-action alternative is marred by an arbitrarily narrow scope of likely results if the Indian Point units are

not relicensed and an arbitrary over estimate of the environmental impacts of the no-action alternative. As a result of these deficiencies, the FSEIS provides no site-specific analysis of the environmental impacts of whole categories of generation and energy efficiency and conservation measures with smaller environmental impacts, including: energy conservation, purchased electrical power, or renewable generation, alone, or in combination with energy conservation. Lacking that critical analysis, the FSEIS merely emphasizes the environmental costs of fossil fuel generation without delineating the benefits of non-fossil fuel generation, energy efficiency and energy conservation, or the principal reasons why the “no-action” option was eliminated from further consideration.

In the absence of a complete site-specific environmental impact analysis of the energy alternatives available to the State in the event the Indian Point units are denied license renewal, the FSEIS fails to provide the Board and the public with a full and fair assessment of the costs and benefits of relicensing and thus deprives the Board of an adequate record upon which to base a rational decision regarding relicensing and alternatives to it, including the option of license denial. Accordingly, the FSEIS is contrary to 10 C.F.R. § 51.92(c) because the document does not state “how the alternatives considered in it and decisions based on it will or will not achieve the requirement of sections 101 and 102(1) of NEPA and of any other relevant and applicable environmental laws and policies.” 10 C.F.R. § 51.92(c); *see also* 40 C.F.R. § 1502.14.

The State’s contention is supported by the testimony of David A. Schlissel, Peter A. Bradford, and Peter J. Lanzalotta, and their previously submitted expert reports, declarations, and the exhibits thereto. The State’s experts will testify that the FSEIS relies on obsolete and/or inaccurate information, and ignores significant developments in New York’s energy markets that bear directly on the viability and environmental impact of non-fossil fuel energy sources

reasonably available in a “no-action” scenario, so as to artificially characterize the consequences of license denial as resulting in increased reliance on environmentally undesirable energy sources. The State’s experts will also testify that substantial developments in New York’s energy markets, which had been identified by the State in its comments on the DSEIS, but were ignored by Staff, favor retiring the units at the end of their licensed lives and replacing their generation with energy efficiency and conservation measures, purchased power, repowered facilities, and/or renewable generation at substantially less environmental and economic cost than assumed in the FSEIS.

New York’s evidence shows that the analysis of the “no-action” alternative presented in the FSEIS fails to provide a legally sufficient evaluation of both the costs and the benefits of license denial that reflects an accurate and complete discussion of the environmental impacts of the no-action alternative. The FSEIS’s inadequacy in this regard deprives the Board and the Commission of the thorough, accurate, and balanced analysis which the law requires to enable rational decision making regarding the proposed relicensing of Indian Point. The FSEIS does not provide a rational basis for a Record of Decision that “identifies all alternatives considered,” and “discusses preferences among alternatives based on relevant factors,” “to determine whether or not the adverse environmental impacts of license renewal are so great that preserving the option of license renewal for energy planning decision makers would be unreasonable.” 10 C.F.R. §51.103 (a)(2),(3), and (5).

PROCEDURAL BACKGROUND

This section provides an overview of the State’s comments regarding replacement electric power raised by New York before the FSEIS was issued, the scope of the concerns that were timely raised, as well as the substantial evidence offered by the State to Staff in support of

those concerns.

A. New York State's Criticism of Applicant's Analysis of the No-Action Alternative.

On November 30, 2007, the State filed a petition for leave to intervene in this proceeding.² One of New York's contentions, NYS-9, alleged that Entergy's Environmental Report ("ER") relied on obsolete information regarding clean energy and was deficient for failing to include conservation and energy efficiency measures and for failing to fully evaluate these measures as likely replacements for Indian Point in the event of the selection of the no-action alternative.³ NYS-9 was supported by two expert declarations: a report prepared by David A. Schlissel of Synapse Energy Economics entitled *Report on the Availability of Replacement Capacity and Energy for Indian Point Units 2 and 3*, dated November 28, 2007, (ML073400205)("2007 Synapse Report") (Exh. NYS000052), and the Declaration of Peter A. Bradford, a former Commissioner of the NRC, and New York State Public Service Commission, dated November 28, 2007, (ML073400205)("2007 Bradford Decl.")(Exh. NYS000105).

As set forth more fully below,⁴ the 2007 Synapse Report provided a comprehensive analysis of no-action energy scenarios for Indian Point⁵. That report directly challenged Entergy's limited view of the ability to retire IP2 and IP3 at the end of the units' operating licenses in 2013 and 2015, respectively, and to replace their capacity with generation scenarios with lesser environmental impacts. The 2007 Bradford Decl. criticized Entergy's narrow view of

² *New York State Notice of Intention to Participate and Petition to Intervene*, dated Nov. 30, 2007 (ML073400187)(ML073400205)("NYS Petition").

³ *Id.* at 106-108.

⁴ A detailed discussion of the State's supporting evidence, including its expert reports, is found in the "Substantial Evidence" section of this brief, *infra*, pp. 24 -32.

replacement power as being limited to the boilerplate analysis of large, single source nuclear and fossil fuel sources at the expense of a meaningful consideration of other clean energy sources with lesser environmental impacts. In July 2008 the Board admitted NYS-9 to the extent it raised a material dispute regarding the need for Entergy's ER to analyze the potential environmental impacts of energy conservation that may arise from the "no-action alternative."⁶

B. New York State's Criticism of the DSEIS's Analysis of the No-Action Alternative.

On December 22, 2008, the Staff issued the DSEIS, in which it evaluated the site-specific environmental impacts of license renewal for IP2 and IP3.⁷ Chapter 8 of the DSEIS ("Environmental Impacts of Alternatives to License Renewal") compared the environmental impacts of license renewal to those of license denial ("no-action") and alternative energy sources.⁸ The DSEIS posited that if Entergy's application for license renewal was denied

[p]lant shutdown will result in a net loss of power generating capacity. The power not generated by IP2 and IP3 during the license renewal term would likely be replace by (1) power supplied by other producers (either existing or new units) using generating technologies that may differ from that employed at IP2 and IP3, (2) demand-side management and conservation, or (3) some combination of these options.

DSEIS § 8.2, p. 8-27.

Section 8.2 of the DSEIS ("No-Action Alternative"), however, did not contain a discussion of replacement power options. Instead, Staff addressed these options in Section 8.3 of the DSEIS ("Environmental Impacts of Alternative Energy Sources") on the grounds that

⁶ *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), LBP-08-13, 68 NRC 43, 93 (July 31, 2008)("July 31, 2008 Board Order").

⁷ *See generally Draft Supplemental Environmental Impact Statement for License Renewal of Nuclear Plants Regarding Indian Points Units 2 and 3*, NUREG-1437 Supplement 38, Vol. 1, dated December 2008 (ML083540594) ("DSEIS")(Exh. NYS00132A through NYS00132D).

⁸ *DSEIS*, Vol. 1, Chapter 8 (Environmental Impacts of Alternatives to License Renewal). Exh. NYS00132B, NYS00132C.

“[w]hile these options can be alternatives to license renewal (given sufficient resource availability), they also constitute potential consequences of the no-action alternative.”⁹

The DSEIS’s consideration of energy alternatives, including the no-action alternative, relied primarily on the same studies that Entergy relied on in its consideration of energy alternatives, including: the report of National Research Council of the National Academy of the Sciences Committee on *Alternatives to the Indian Point Energy Center for Meeting New York Electric Power Needs* (June 2006) (“2006 National Research Council”) (Exh. NYS000055), and the report *Indian Point Retirement Options, Replacement Generation, Decommissioning/Spent Fuel Issues and Local Economic/Rate Impacts*, prepared by Levitan and Associates, Inc. (June 2005) (“2005 Levitan Report”) (Exh. NYS000056). Both reports predate significant and dramatic developments in New York State’s energy markets that bear directly on the State’s ability to replace Indian Point’s generation with clean energy, energy efficiency and energy conservation in the event the units are not relicensed. The DSEIS differed significantly from the ER in that it addressed for the first time two issues dismissed in the ER: energy conservation, DSEIS § 8.3.4, and combinations of different generation sources, DSEIS § 8.3.5.

On February 27, 2009 the State filed new and amended contentions in response to the

⁹ *DSEIS*, Vol. 1, §8.2 at p. 8-27 (emphasis added), NYS00132B. New York State also notes that the *GEIS* likewise states that “[t]he analysis in Section 8.3 [“Alternative Energy Sources”] is equally applicable to the no-action alternative in that the alternatives analyzed in this section are all possible actions resulting from the denial of renewed license. Therefore, Section 8.3 represents additional impacts of the no-action alternative.” *GEIS* at p. 8-2 (emphasis added). Exh. NYS00131D.

Thus, in order to avoid any assertion by Staff that it did address the issue of replacement generation in the “no-action” alternative, the State provided an analysis of the serious defects in the DSEIS analysis of energy alternatives contained in Section 8.3 of the DSEIS as they related to the no-action alternative and provided a similar analysis with respect to the FSEIS based on identical language contained in the FSEIS.

DSEIS.¹⁰ NYS-33, which amended NYS-9, alleged that the DSEIS violated NEPA because it had uncritically adopted the licensee's narrow view of replacement power, had relied on obsolete studies and assumptions, ignored significant new information, and failed to take a "hard look" at the current feasibility and environmental impact of no-action clean energy and energy efficiency and conservation measures. Specifically, NYS-33 alleged the DSEIS was deficient in its analysis of energy conservation and energy efficiency measures, (NYS-33 at ¶¶ 6-10), renewable generation and New York State's progress in meeting its Renewable Portfolio Standards ("RPS") and clean energy goals (*id.* at ¶¶ 11-14), transmission enhancements and purchased electrical power, (*id.* at ¶¶ 15), and because it fails to consider combinations of different energy sources under the no-action alternative including a clean energy alternative comprised of renewable generation and energy efficiency (*id.* at ¶¶ 16-21).

In support of NYS-33, the State again listed the 2007 Synapse Report and 2007 Bradford Decl. as supporting evidence, and served upon all parties a second declaration from David A. Schlissel, dated February 27, 2009 (ML090690303) ("2009 Schlissel Decl.") (Exh. NYS000053). That declaration alerted Staff to (a) the impact of reduced energy sales and peak loads on the timing and choice of energy technologies likely to be in place in the event of denial of relicensing for the Indian Point units, (*id.* at ¶¶ 5-7), (b) the State's progress in implementing its energy efficiency and renewable energy goals (*id.* at ¶¶ 2-3), (c) identified deficiencies in the DSEIS that significantly underestimated the viability and potential of energy efficiency, energy conservation, renewable generation, facility re-powering, purchased electrical power and transmission / interconnection developments in the downstate electrical grid (*id.* at ¶ 8), and (d)

¹⁰ *State of New York Contentions Concerning NRC Staff's Draft Supplemental Environmental Impact Statement*, dated Feb. 27, 2009 (ML090690303) ("NYS DSEIS Contentions").

identified a reasonable energy scenario in the event of the selection of the no-action alternative based on a combination of renewable generation and energy efficiency (*id.* at ¶ 8, and NYS-33 at ¶ 21). On June 16, 2009 the Board admitted NYS-33 in its entirety and consolidated it with NYS-9 (thereby creating “NYS-9-33”).¹¹

C. New York State’s Comments on the DSEIS’s Analysis of the No-Action Alternative.

On March 18, 2009, the State filed comments in the public hearings on the DSEIS, repeating the same criticisms of the DSEIS contained in NYS-33.¹² The State’s comments incorporated by reference the expert reports cited above, mirrored the concerns set forth in NYS-33, reiterated the substance of its expert reports,¹³ and likewise asserted that the DSEIS no-action alternative analysis was deficient under NEPA, CEQ regulations, and NRC’s own Part 51 regulations.

D. New York State’s Criticism of the FSEIS’s Analysis of the No-Action Alternative.

Staff issued the FSEIS on December 3, 2010.¹⁴ Section 8.2 of the FSEIS (“No-Action

¹¹ *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3) Memorandum and Order (Ruling on New York State’s New and Amended Contentions) at 9-13 (June 16, 2009) (unpublished) (“June 16, 2009 Board Order”).

¹² *Comments Submitted by the New York State Office of the Attorney General on the Draft Supplemental Environmental Impact Statement Prepared by Staff on the Nuclear Regulatory Commission for the Renewal of the Operating Licenses for Indian Point Units 2 and 3, Buchanan, New York*, submitted to the U.S. N.R.C. on March 18, 2009 (ML 090771328) (“2009 NYS AG Comments”) (Exh. NYS000134).

¹³ *See e.g.*, 2009 NYS AG Comments discussing: electricity supply and demand forecasts (p.23); Staff’s reliance on obsolete information (pp. 24-27); clean energy fuel alternatives including combined heat and power, energy efficiency and renewable generation, alone or in combination, (pp.33-36) and repowering facilities as an alternative to relicensing (pp.23, 26). Exh. NYS000134.

¹⁴ *Final Supplemental Environmental Impact Statement for Indian Point Nuclear Generating Units 2 and 3*, NUREG-1437, Supplement 38, Vol. 1, dated December 3, 2010 (ML 103350455) (“FSEIS”)(Exh. NYS00133A through NYS00133D).

Alternative”) is identical in all respects to that same section in the DSEIS. It contains no impact analysis of the replacement generation in the event the units are not relicensed, and likewise shifts the environmental impact analysis of replacement power to Section 8.3 of the FSEIS (“Alternative Energy Sources”).¹⁵ Section 8.3 of the FSEIS, which is where Staff addresses the impacts of generation sources available to replace Indian Point’s generation capacity, relies on the same core studies relied on in the ER and DSEIS (2006 National Research Council and 2005 Levitan study). The FSEIS differs from the DSEIS’s prior discussion of replacement power in several respects, the most significant being that the FSEIS:

- (1) identifies energy conservation and/or energy efficiency (collectively referred to as “conservation”) as a source of replacement power, but fails to study the site-specific environmental impacts of conservation. Instead, the FSEIS adopts the findings from SEISs done in two other license renewal proceedings involving energy markets and state policies not at all similar to New York’s. FSEIS § 8.3.3;
- (2) identifies purchased power as a source of replacement power, but concludes that site-specific impacts are “too difficult to determine,” and provides a generalized discussion of the likely environmental impacts of two “illustrative projects” with no consideration of actual transmission projects in the region. FSEIS § 8.3.2. One of the “illustrative projects” considered by Staff, the New York Regional Interconnect (“NYRI”) project, had been formally withdrawn more than a year before the FSEIS was published;
- (3) removes coal generation as a source of replacement power, but nonetheless incorporates the ten page DSEIS coal impact analysis into the FSEIS’s discussion of alternatives. FSEIS § 8.3.4.13;
- (4) identifies renewable generation as a source of replacement power, and increases renewable generation from 400 MW to 600 MW in a combined alternative together with (a) the continued operation of one IP unit installed with cooling towers, FSEIS § 8.3.5.1, or (b) a 400 MW to 600 MW Natural Gas-Fired Combined Cycle (“NGCC”) plant located on the IP site, or as a repowered facility. FSEIS § 8.3.5.2. The FSEIS then merges renewable impacts with those

¹⁵ See footnote 9 *supra*. Furthermore, the State notes that Section 9.2 of the FSEIS (“Relative Significance of the Environmental Impacts of License Renewal and Alternatives”) concludes that “[i]mpacts of the likely consequences of the no-action alternative would be similar to those of the energy alternatives that NRC Staff considered.” FSEIS § 9.2., p. 9-7, lines 38-39.

of gas generation and/or the continued operation of one IP unit with cooling towers.

The FSEIS ignores the likely combination of energy efficiency and conservation measures with renewable generation, as identified by the State in its comments on the DSEIS and likewise ignored the State's evidence submitted well in advance of the FSEIS that contradicted the evidence it relied on in its consideration of replacement power.¹⁶ The net effect of Staff's disregard of evidence contrary to its obsolete view of the State's energy markets is to tilt the information in the FSEIS to make it appear that the no-action alternative is not viable and that the environmental impacts of the no-action alternative would be far greater due to the "need" to use fossil fuel and other environmentally damaging energy sources.

In response to the inadequate FSEIS, on February 3, 2011, New York State submitted NYS-37, which alleges that:

The FSEIS discussion of energy alternatives (Chapter 8) failed to provide a meaningful analysis of energy alternatives or responses to criticism of the DSEIS, in violation of the requirements of 42 U.S.C. §§ 4331 and 4332; 10 C.F.R. §§ 51.91(A)(1), and (C), 51.92(2), 51.95(C)(4), and Part 51, Subpart A, Appendix A and Appendix B; 40 C.F.R. §§ 1052.1, 1052.2(G), 1502.9, and 1502.14; and 5 U.S.C. § 551 et seq.¹⁷

In addition to expressly incorporating New York's previously admitted bases from New York State's consolidated contentions 9 and 33, NYS-37 asserted the additional claim that:

¹⁶ Staff provided only a cursory and general response to the State's comments in the Appendices to the FSEIS, *see FSEIS*, Vol. 1, Appendix A, Section A.2.14 "Comments Concerning Alternatives," pp. A-154 and A-158. Exh. NYS00133D. Moreover, Chapter 8 of the FSEIS provided no critical analysis of, or substantive responses to, the State's expert reports, declarations, comments, and substantial evidence submitted in criticism of the DSEIS's impact analysis of no-action energy alternatives.

¹⁷ *State of New York Contention Concerning NRC Staff's Final Supplemental Environmental Impact Statement*, dated Feb. 3, 2011 at 2, (ML 110680290) (hereinafter "NYS-37").

The FSEIS discussion of energy alternatives (chapter 8) does not permit a rational decision maker to determine whether the adverse environmental impacts of license renewal are so great that preserving the option of license renewal for energy planning decision makers would be unreasonable.¹⁸

In support of NYS-37, the State submitted updated declarations from David A. Schlissel and Peter A. Bradford, and the declaration of a third expert, Peter J. Lanzalotta. The supporting declarations identified fundamental errors in Staff's narrow and obsolete view of clean energy and energy efficiency and conservation measures in light of significant developments in New York State's energy markets since the ER was published.¹⁹ The Board admitted NYS-37 on July 6, 2011 together with its supporting evidence and experts declarations "to the extent it updates and supersedes NYS-9-33 and to the extent that it challenges the adequacy of the discussion in the FSEIS addressing comments made regarding the environmental impact of the no-action alternative as described in the DSEIS," and consolidated it with NYS-9-33.²⁰

¹⁸ *Id.* at p. 2.

¹⁹ A detailed discussion of the State's supporting evidence for NYS-37, including the expert reports and declarations submitted in support of this contention, is found in the "Substantial Evidence" section of this brief, *infra*, pp. 24 -32.

²⁰ *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3) Memorandum and Order (Ruling on Pending Motions for Leave to File New and Amended Contentions) at p. 34 (July 6, 2011) (unpublished)("July 6, 2011 Order on New Contentions"). In admitting NYS-37, the Board "found New York's concerns about the FSEIS's analysis of certain non-fossil alternatives untimely, given that these issues go beyond those raised by New York in its contentions on the DSEIS and New York could have raised them earlier." Memorandum and Order at 35 & n.156. In response to Entergy's motion for clarification of this language, the Board explained that the specific non-fossil alternatives the Board was referring to "were those arising from the 2004 New York State Renewable Portfolio Standard, which existed before the DSEIS was issued, were not raised as challenges in NYS-9/33, and were raised for the first time in NYS-37. However, NYS-37 echoed concerns raised in NYS-9/33 for its other non-fossil alternatives, and we thus do not exclude any of them from admission in NYS-37." *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3) Memorandum and Order (Granting Entergy's Request for Clarification) at p. 6-7 (August 10, 2011).

LEGAL STANDARDS AND REGULATORY FRAMEWORK

I. National Environmental Policy Act Requirements

The National Environmental Policy Act (“NEPA”), 42 U.S.C. §§ 4321-37, requires all federal agencies to examine environmental impacts that could be caused by their discretionary actions. As a federal agency, the NRC must comply with NEPA.²¹ As identified by Supreme Court precedents, NEPA has twin purposes, both of which are procedural in nature. The first purpose is to ensure that environmental values are fully considered in the agency’s decision-making process, and the second purpose is to inform the general public of what the agency has considered in that process.²² As made clear in the regulations promulgated by the NEPA-created Council on Environmental Quality (“CEQ”),²³ NEPA was designed to “provide a full and fair discussion of significant environmental impacts and shall inform decision makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.” 40 C.F.R. § 1502.1.

“To ensure that this commitment is ‘infused into’ the actions of the federal government, NEPA mandates particular ‘action-forcing’ procedures.²⁴ NEPA directs all federal agencies, “to the fullest extent possible” to comply with this policy and, *inter alia*, “to use a systematic and

²¹ *Calvert Cliffs Coordinating Comm. v. United States Atomic Energy Commission*, 449 F.2d 1109 (D.C. Cir. 1971) (NEPA applies to NRC’s predecessor).

²² *See Baltimore Gas & Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 97 (1983); *see also San Luis Obispo Mothers for Peace v. Nuclear Reg. Comm’n*, 449 F.3d 1016, 1020 (9th Cir. 2006).

²³ *Limerick Ecology, Calvert Cliffs, San Luis Obispo* 449 F.3d 1016, 1032(9th Cir. 2006)(CEQ regulations entitled to “substantial deference.”); *see also Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989).

²⁴ *In the Mtr. Of Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77 (1998) *quoting* 115 Cong. Rec. 40,416 (1970) (remarks of Sen. Jackson).

interdisciplinary approach in considering environmental issues, and, before taking any major Federal action significantly affecting the quality of the human environment, to generate a detailed environmental impact statement.”²⁵ The EIS is intended to guarantee that the relevant information regarding the costs and benefits of federal action and its alternatives will be made available to the larger audience that may also play a role in both the decision-making process and the implementation of that decision.²⁶ “Publication of an EIS, both in draft and final form, also serves a larger informational role. It gives the public the assurance that the agency has indeed considered environmental concerns in its decision making process, and, perhaps more significantly, provides a springboard for public comment.”²⁷

In furtherance of these goals, NEPA requires a comparative analysis of the environmental consequences of the alternatives before the agency. *See* 42 U.S.C. § 4332(2)(c)(iii); 40 C.F.R. § 1502.14(d). NEPA section 102(2)(E) further requires federal agencies to “study, develop, and describe appropriate alternatives to recommend courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” NEPA requires the EIS to contain sufficient discussion of relevant issues and opposing viewpoints to enable the decision maker to take hard look at environmental factors and to make reasoned decision; the impact statement must be sufficient to enable those who did not have part in its compilation to

²⁵ *In The Mtr. of Dominion Nuclear North Anna, LLC*, (Early Site Permit for North Anna ESP Site) 65 *N.R.C.* 539; LBP-07-09 (June 29, 2007) *citing* NEPA § 102(2)(A), (C) and (E), 42 U.S.C. s. 4332(2)(A), (C) and (E).

²⁶ *Center for Biological Diversity v. U.S. Dept. of Interior*, 623 F.3d 633 (9th Cir. 2010) (*citing* *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 768 (2004) (internal quotation marks and citations omitted); *see also* 42 U.S.C. § 4332(2)(c) (identifying requirements of an environmental impact statement).

²⁷ *Robertson v. Methow Valley Citizens Council* 490 U.S. 332, 348-349 (1989) (internal citations omitted).

understand and consider meaningfully factors involved.²⁸ The adequacy of an environmental impact statement (“EIS”) under NEPA is evaluated according to a rule of reason, given the scope and purpose of the proposed action.²⁹

Among the alternatives an EIS is required to evaluate is the alternative of “no-action,” 40 C.F.R. § 1502.14(d), which provides the standard by which the reader may compare the “beneficial and adverse impacts related to the applicant doing nothing.”³⁰ Informed and meaningful consideration of alternatives, including a no-action alternative, is central to the NEPA statutory scheme³¹ and is intended to require that “agencies compare the potential impacts of the proposed major federal action to the known impacts of maintaining the status quo.”³²

NEPA’s “alternatives provision” requires federal agencies to give a “hard look,” *i.e.*, a “full and meaningful consideration to all reasonable alternatives,”³³ including the option of abandoning the project altogether.³⁴ Thus, an environmental impact statement must do more than merely list alternative courses of action to the one recommended by the agency; alternative courses of action must be affirmatively studied and the study of alternatives must be exhibited in

²⁸ *Limerick Ecology Action, Inc. v. U.S. Nuclear Regulatory Comm’n*, 869 F.2d 719 (3rd Cir. 1989) (noting that statements by an agency of the reasons for its determinations in the EIS are crucial to effective judicial review).

²⁹ 42 U.S.C. § 4321.

³⁰ *Kilroy v. Ruckelshaus*, 738 F.2d 1448, 1453 (9th Cir. 1984).

³¹ *Alaska Wilderness Recreation & Tourism Ass’n v. Morrison*, 67 F.3d 723, 729 (9th Cir. 1995).

³² *Custer County Action Assoc. v. Garvey*, 256 F.3d 1024, 1040 (10th Cir. 2001).

³³ See also 40 C.F.R. § 1502.1; *In the Mtr. of Pa’ina Hawaii, LLC*, CLI-10-18, __ N.R.C.__ (July 8, 2010).

³⁴ *Alaska Wilderness*, 67 F.3d at 729 (“Consideration of alternatives must include whether a project should be totally abandoned.”)

the statement for public review and consideration.³⁵ General statements “about ‘possible’ effects and ‘some risk’ do not constitute a ‘hard look’ absent a justification regarding why more definitive information could not be provided.”³⁶

NEPA requires that the EIS “[r]igorously explore and objectively evaluate all reasonable alternatives.”³⁷ NRC Staff may not simply rely on incorrect assumptions or data provided by the licensee.³⁸ “Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA.”³⁹ Accordingly, NEPA requires that an EIS must contain “high quality” information and “accurate scientific analysis,”⁴⁰ and furthermore obligates Staff to independently ensure “the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements.” 40 C.F.R. § 1502.24.

Furthermore, NEPA obliges a federal agency to consider “the relevant factors” that bear on its licensing decision, including information about changes in policy or economic conditions that may impact the alternatives to the proposed action, regardless of whether they are within the agency’s control.⁴¹ Thus, with respect to the FSEIS’s implicit “need for power” analysis, the Commission has previously clarified that such analysis should be sufficient to reasonably characterize the costs and benefits associated with the proposed licensing actions and the no-

³⁵ *Rankin v. Coleman*, 394 F.Supp. 647 (D.C.N.C.1975), *modified on other grounds* 401 F. Supp. 664 (1975).

³⁶ *Neighbors of Cuddy Mountain v. United States Forest Service*, 137 F.3d 1372, 1380 (9th Cir.1998).

³⁷ *See also Pa’ina Hawaii*, CLI-10-18 at p.8.

³⁸ 40 C.F.R. § 1500.1(b).

³⁹ *Native Ecosystems Council v. U.S. Forest Svc.*, 418 F.3d 953, 964 -65 (9th Cir. 2005).

⁴⁰ 40 C.F.R. § 1500.1(b); *Conservation Northwest v. Rey*, 674 F. Supp. 2d 1232, 1249 (W.D. Wash. 2009).

⁴¹ *Conservation Northwest*, 674 F. Supp. 2d at 1251.

action alternative.⁴² In assessing how economic conditions are portrayed, a key consideration of several courts has been whether the economic assumptions of the FEIS “were so distorted as to impair fair consideration of the’ project’s adverse environmental effects.”⁴³

Furthermore, in furtherance of NEPA’s function as a vehicle for public discussion on federal actions with local environmental impacts, NEPA imposes continuing obligations on an agency after it completes its initial environmental analysis to revisit its alternatives analysis, including a true no-action alternative, whenever there are changed circumstances, including changed economic conditions, that affect the factors relevant to the development and evaluation of alternatives.⁴⁴ Once evidence casting serious doubt upon the reasonableness of the agency’s conclusions is presented to the agency, the agency has the burden of demonstrating why this evidence does not create a controversy.⁴⁵ An agency that receives new and significant information casting doubt upon a previous environmental analysis must furthermore reevaluate the prior analysis and provide a reasoned evaluation of new or contradictory information.⁴⁶

“[W]hen an agency’s initial analysis of alternatives involves a major deficiency [such as an inadequate no-action alternative analysis as is here the case] . . . the agency’s decision was

⁴² *Louisiana Energy Services, L.P (Claiborne Enrichment Center)* 47 N.R.C. 77, 89 (April 3, 1998); *accord Tennessee Valley Authority (Watts Bar Nuclear Plant, Unit 2)*, CLI-10-29, 2010 NRC LEXIS 43, 14-15 (N.R.C. Nov. 30, 2010) (Staff are obliged under NEPA to supplement environmental review documents if there is new and significant information relevant to the need for power and availability of alternative sources of energy).

⁴³ *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 446 (4th Cir 1996).

⁴⁴ *Oregon Natural Resources Council Action v. U.S. Forest Service*, 445 F.Supp.2d 1211, 1224 (D. Or. 2006) (finding the agency did not satisfy its obligation to consider a true no-action alternative and remanding for a fresh consideration of alternatives because the Forest Service used inaccurate data for market demand in developing its original NEPA analysis).

⁴⁵ 42 U.S.C. § 4321; *Natural Resources Defense Council, Inc. v. U.S. Forest Service*, 634 F.Supp.2d 1045 (E.D. Cal. 2007).

⁴⁶ *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 374 (1989).

necessarily undertaken without a proper consideration of relevant alternatives.”⁴⁷ The discussion of a no-action alternative in an EIS allows policymakers and the public to compare the environmental consequences of the implementing the proposed action with the environmental consequences of abandoning the project altogether: it is intended to provide a baseline against which the action alternative is evaluated.⁴⁸ Thus, under NEPA, Staff must objectively study the environmental costs and benefits of retiring IP2 and IP3 at the end of their current operating licenses in 2013 and 2015 respectively (“no-action”) and compare that to the environmental costs and benefits of that to the proposed action – license renewal. In the absence of a complete, accurate, and objective consideration of the no-action alternative, Staff, the Board, state energy planners, and the public cannot make an informed evaluation of the net effect of relicensing the units and the possible ways to avoid the adverse impacts of relicensing.

The ultimate goal of the NEPA analysis is to facilitate reasoned decision-making. A key step in the reasoned decision-making process is a thorough and objective analysis that gathers the relevant facts and provides a rational consideration of them. Ultimately, the decision-maker must be able to use the NEPA analysis in providing a rational basis for its final decision.⁴⁹ If the NEPA analysis inadequately evaluates the available evidence and/or ignores relevant facts, as the

⁴⁷ *Oregon Natural Resources Council Action*, 445 F.Supp.2d 1211 at 1224.

⁴⁸ *See* 40 C.F.R. § 1502.14(d); *see also Custer County Action Assoc. v. Garvey*, 256 F.3d 1024, 1040 (10th Cir. 2001) (“informed and meaningful consideration of a no-action alternative, is central to the NEPA statutory scheme.”) *accord Biological Diversity*, 623 F.3d at 642.

⁴⁹ Thus the Board concluded elsewhere in these proceedings that the “NRC would be acting arbitrarily and capriciously if it did not look at relevant data and sufficiently explain a rational nexus between the facts found in its review and the choice it makes as a result of that review. *Entergy Nuclear Operations, Inc. (Indian Point Units 2 and 3)*, LBP-11-17, __ N.R.C. __ (July 14, 2011) *citing Shieldalloy Metallurgical Corp.*, 624 F.3d at 492-93.

FSEIS does in this case, then the decision-maker cannot have a rational basis for the ultimate decision.

II. NRC Regulatory Framework

The NEPA standards discussed above are codified in NRC regulations. Appendix A to Subpart A to Part 51 requires analysis of the no-action alternative. Part 51, Subpart A, Appendix A, Section 4 and Section 5 emphasizes the importance of the examination of alternatives: “[t]his section is the heart of the environmental impact statement. It will present the environmental impacts of the proposal and the alternatives in comparative form.” Appendix A to 10 C.F.R. Part 51 at Section 5.

NEPA’s requirement that federal agencies meaningfully respond to public criticisms of the environmental impact analysis figures prominently in NRC’s regulations. As a pre-condition to license renewal, Part 51 of NRC’s licensing regulations requires that “NRC’s site-specific comparison of the impacts of license renewal with impacts of alternative energy sources will involve consideration of information provided by State agencies and other members of the public” so as to “satisfy the States’ concerns relative to a meaningful analysis of alternative energy sources.”⁵⁰ NRC’s Generic Environmental Impact Statement for License Renewal of Nuclear Plants (NUREG-1437)(“GEIS”) explains that the “no-action” alternative

is denial of a renewed license. Denial of a renewed license as a power generating capability may lead to a variety of potential outcomes. In some cases, denial may lead to the selection of other electric generating sources to meet energy needs as determined by appropriate state and utility officials. In other cases, denial may lead to conservation measures and/or decisions to import power. In addition, denial may result in a combination of these different outcomes. Therefore, the

⁵⁰ *Environmental Review for Renewal of Nuclear Power Plant Operating Licenses*, 61 Fed. Reg. 28,467 (June 5, 1996) Exh. NYS000127.

environmental impacts of such resulting alternatives would be included as the environmental impacts of the no-action alternative.⁵¹

10 C.F.R. part 51, Subpart A, Appendix A, paragraph 4 of NRC's relicensing regulations also specify that the FSEIS must discuss the no-action alternative, and must give consideration "to the potential impact of conservation measures in determining the demand for power and consequent need for additional generating capacity." *See also* FSEIS § 8.2., p. 8-20.

Pursuant to 10 C.F.R. §§ 51.90 and 51.91, Staff must prepare an FSEIS in accordance with 10 C.F.R. §§ 51.70(b) and 51.71 (regulating the DSEIS and ER)⁵² that responds to comments on the DSEIS and "develops and evaluates alternatives not previously given serious consideration." In addition to those alternative sources of generation considered in the NRC's alternatives analysis, the no-action alternative also considers energy conservation and power imports and combinations of generation sources as possible outcomes of license denial.⁵³ Furthermore, the FSEIS must include "consideration of major points of view concerning the environmental impacts of the proposed action and the alternatives, and contain an analysis of significant problems and objections raised by other Federal, State, and local agencies, by any affected Indian tribes, and by other interested persons" (10 C.F.R. § 51.71(b)), and discuss and respond to any relevant responsible opposing view not adequately discussed in the DSEIS. 10 C.F.R. § 51.91(3)(b).

⁵¹ *GEIS* at p. 8-2 Exh. NYS00131D; *see also* footnote 9 *supra*.

⁵² At 10 C.F.R. § 51.71(a) NRC regulations explain that the scope of the Staff's final environmental review encompasses the requirements to which the Staff and the Applicant are held in the DSEIS and ER, which under 10 C.F.R. § 51.53(c)(3)(iv) require the Applicant (and by reference, Staff) to examine significant new information. *See* 10 C.F.R. § 51.71(a); 10 C.F.R. 51.53(c)(3)(iv); 10 C.F.R. Part 51, Subpart A, Appendix B; *see also* 10 C.F.R. § 51.95.

⁵³ *GEIS* at p. 8-2 Exh. NYS00131D.

NRC relicensing regulations prohibit Staff from a blind reliance on the studies and data provided by the licensee. Staff must “independently evaluate and be responsible for the reliability of all information used in the draft environmental impact statement.” 10 C.F.R. § 51.70(b). *See also* 10 C.F.R. § 51.92(a). Not surprisingly, the NRC’s license renewal application regulations, at 10 C.F.R. § 51.95(3), provide that an FSEIS shall be issued “after considering any new information relevant to the proposed action,” and, pursuant to § 51.91(a)(1)(iii) and (iv), shall include factual corrections and supplementation or modification of analyses in response to comments on a draft environmental impact statement. Staff’s analysis must furthermore consider information relevant to the need for power and the economic and/or technical benefits and costs associated with the proposed license renewal and its alternatives “to the extent such information is necessary for a determination regarding the inclusion of reasonable and relevant alternatives.” 10 C.F.R. § 51.95(c)(2).

The above requirements are all conditions precedent to the NRC’s license renewal decision and to the issuance of a Record of Decision (“ROD”). Pursuant to 10 C.F.R. §§ 51.91(3)(c), 51.95(c)(4), and 51.103(a)(3), (5), the Board shall render a recommendation based on the information and analysis set forth in Staff’s FSEIS, and shall state how the alternatives considered in it and decisions based on it will or will not achieve the requirements of sections 101 and 102(1) of NEPA and of any other relevant and applicable environmental laws and policies.

Under this regulatory scheme, the Board is also prohibited from simply relying on Staff’s recommendation; it is tasked with independently determining whether or not the adverse environmental impacts of license renewal are so great that preserving the option of license renewal for energy planning decision makers would be unreasonable. 10 C.F.R. § 51.95(c)(4)

and 10 C.F.R. § 51.103(a)(5). This standard “focuses on an analysis of whether the environmental impacts anticipated for continued operation during the term of the renewed license reasonably compare with the impacts that are expected from the set of alternatives considered for meeting generating requirements.”⁵⁴

As set forth above, Congress specifically placed the ultimate obligation on federal agencies, in this case, Staff, and not the public or the applicant, to affirmatively and rigorously consider information relevant to the environmental impact of federal action, and to present the public and the ultimate decision maker with an objective analysis of the environmental impact of the alternatives to the proposed project, including the no-action option.

SUPPORTING EVIDENCE

“At the heart of this contention is the claim that the NRC Staff relied on outdated information and ignored well-reasoned and supported comments to the DSEIS in conducting its analysis and in reaching conclusions relating to the no-action alternative that were articulated in the FSEIS”⁵⁵ This section reviews the specific concerns raised by the State, prior to the issuance of the FSEIS, summarizes the supporting evidence, commentary, and expert testimony submitted in support of those concerns, and sets forth the record the State intends to rely on in support of its claim that the FSEIS is fundamentally deficient for failing to meaningfully respond to the State’s criticisms of the DSEIS’s analysis of the “no-action” alternative.

I. The 2007 Synapse Report

On November 30, 2007, in support of NYS-9, the State served all parties with an expert

⁵⁴ *Environmental Review for Renewal of Nuclear Power Plant Operating Licenses*, 61 Fed. Reg. 66,537, 66,541 (December 18, 1996)(Exh. NYS000128).

⁵⁵ July 6, 2011 Order on New Contentions, at p. 34.

report by Synapse Energy Economics entitled *Report on the Availability of Replacement Capacity and Energy for Indian Point Units 2 and 3* (“2007 Synapse Report”), dated November 28, 2007 (ML073400205) (Exh. NYS000052). The author of the report, David A. Schlissel, is currently the President of Schlissel Technical Consulting, and formerly a Senior Consultant at Synapse Energy Economics. David Schlissel holds BS and MS degrees in Astronautical Engineering from MIT and Stanford University, and a Juris Doctorate degree from Stanford Law, and has also studied Nuclear Engineering and Project Management at MIT. Since 1973, Mr. Schlissel has been retained by numerous regulatory commissions, consumer advocates, publicly-owned utilities, non-utility generators, governmental agencies, and private organizations in 23 states as a consultant, expert witness, and attorney to prepare expert analyses on energy related issues, including in proceedings before the NRC.

Mr. Schlissel will testify on behalf of the State on utility planning issues related to the technical and economic feasibility of demand-side management and generation strategies to replace the power supplied by Indian Point if they are relicensed, including: energy efficiency, purchased electrical power, renewable generation, combined heat and power, plant repowering, delayed retirements, and natural gas. Based on an extensive review and analysis of developments in the State’s energy markets and energy infrastructure ignored by Staff and the licensee, the 2007 Synapse Report concluded:

“... the capacity and energy provided by Indian Point Units 2 and 3 can be replaced if the Units are not relicensed. In particular, energy efficiency, renewable resources, the repowering of older generating facilities, transmission upgrades and new natural gas-fired generating facilities represent viable alternatives to the relicensing of Indian Point. Substantial reductions in peak demand and energy requirements will be achieved by 2013 under the state’s newly announced “15x15” Clean Energy Plan. Significant amounts of new renewable resources will be available as a result of the state’s renewable energy portfolio standard and other

initiatives. In addition, thousands of megawatts (“MW”) of new generating capacity can be provided by the repowering (i.e. rebuilding) of older generating facilities both along the Hudson River and in the downstate area of the state in New York City and on Long Island.

At the same time, transmission system upgrades also can increase the amounts of power that can be provided to the downstate region of the state. Finally, there is the potential for the addition of several thousand megawatts of new generating capacity in the Hudson River Valley and in downstate New York. 2007 Synapse Report at p. 2. Exh. NYS000052.

The 2007 Synapse Report identified specific examples where the reliance on obsolete and outdated studies and assumptions discounted the availability of reasonable alternatives to Indian Point’s generation and distorted the environmental impact analysis in favor of relicensing and contradicted the licensee’s narrow view of the range of replacement generation compared to the alternative of retiring the units. Specifically, the report:

- identified and quantified the energy efficiency potential forecast to occur under the State’s “15 by 15” plan in the regions relevant to Indian Point (pp. 3-6) as more than sufficient to “offset both the energy and capacity from both Indian Point units and would eliminate any need to extend the license of the two units in 2013 and 2016,” 2007 Synapse Report at p. 6. Exh. NYS000052;
- identified a likely combination of energy efficiency and conservation measures together based on evidence that efficiency and renewable resources together have the technical and economic potential to provide “far more than would be required to replace the approximately 2000 MW of capacity from Indian Point Units 2 and 3,” *id.* at p. 10;
- identified and quantified the amount of renewable generation available to replace Indian Point’s capacity in the event license renewal was denied, *id.* at pp. 7-11;
- presented contrary evidence challenging the outdated assumption that wind generation must be supported by baseload generation, and provided new studies demonstrating that “many of the earlier concerns and issues related to the possible impacts of large wind generation facilities on the transmission grid have been shown to be exaggerated or unfounded by a growing body of research studies,” *id.* at p. 9;
- identified combined heat and power (“CHP”) as another environmentally benign energy source that would be available to replace Indian Point’s power, and concluded that between 525 MW and 1,319 MW of combined heat and power generation was

- feasible in the areas currently supplied by Indian Point, *id.* at p. 11;
- identified power plant repowering as environmentally preferable to relicensing Indian Point, identified the specific units in those zones supplied by Indian Point scheduled to be, or suitable for, repowering, and identified the significant economic and environmental benefits of this replacement strategy, *id.* at pp. 12-13;
 - identified purchased electrical power as an environmentally preferable to relicensing Indian Point, and identified specific transmission line upgrades and project relevant to the State's ability to import power into those same zones, including the recently approved Hudson Transmission Project rated at 600 MW and the 300 MW Linden Variable Frequency Transformers, *id.* at pp. 14-15;
 - and outlined natural gas developments and new generation in the zones supplied by Indian Point that would bear on load forecasts and the cost, viability, market demand for new and additional generation sources, *id.* at pp. 15-18.

The State submitted the 2007 Synapse Report in support of NYS-9, NYS-9-33, the State's Comments on the DSEIS, dated March 19, 2009, and in support of NYS-37. The State will rely on it, and the testimony of its author, David Schlissel to demonstrate that the FSEIS largely disregards the above evidence and conclusions, with the effect of slanting the environmental impact analysis in favor of license renewal.

II. The 2007 Bradford Declaration

Also on November 30, 2007, the State served all parties with the Declaration of Peter A. Bradford, dated November 28, 2007, (ML073400205) ("2007 Bradford Decl.") (Exh. NYS000105). Peter Bradford served as a Commissioner of the U.S. Nuclear Regulatory Commission from 1977 to 1982, chaired the New York Public Service Commission from 1987 to 1995, has been an *ex officio* member of the New York State Energy Planning Board, and was a member of the National Research Council of the National Academy of the Sciences Committee on *Alternatives to the Indian Point Energy Center for Meeting New York Electric Power Needs*, dated June, 2006 ("National Research Council 2006") (Exh. NYS000055), the primary study

Staff relied on throughout Chapter 8 of the FSEIS.

Mr. Bradford's 2007 declaration provided evidence that the NRC's analysis of energy sources other than nuclear energy has historically been limited to a comparison of nuclear energy to fossil fuels, at the expense of a meaningful consideration of conservation and renewable generation. 2007 Bradford Decl. at ¶¶ 8, 9 Exh. NYS000105. He also stated that, with respect to Indian Point, NRC's historical approach conflicts with the 2006 National Research Study's conclusion that "a replacement strategy for Indian Point would most likely consist of a portfolio of approaches discussed in this report, including investments in energy efficiency, transmission, and new generation." *Id.* at ¶ 10.

His declaration was submitted in support of NYS-9, NYS-9-33, the State's Comments on the DSEIS, dated March 19, 2009, and in support of NYS-37. The State will rely on it and the reports, studies, and data contained referenced therein, to argue that Staff conducted an impermissible "boilerplate analysis" of the alternatives to license renewal. Mr. Bradford will also testify on behalf of the State on the conclusions and current applicability of the National Research Council 2006 study, NRC relicensing practices and policies, and the current state of New York State's energy markets and utility planning matters. The State will also rely on the testimony of Mr. Bradford to argue that "only an analysis fully consistent with power supply procurement realities – including the abundance of available energy efficiency and the conditions necessary to bring it into being – will enable Staff to adequately assess the environmental impacts of its decision on relicensing the Indian Point units." *Id.* at ¶ 13.

III. The 2009 Schlissel Declaration

In February, 2009 and in support of NYS-33, the State again listed the 2007 Synapse Report and 2007 Bradford Declaration as supporting evidence, and served upon all parties a

second and updated declaration from David A. Schlissel, dated February 27, 2009

(ML090690303) (“2009 Schlissel Declaration” or “2009 Schlissel Decl.”) (Exh. NYS000053).

In support of the State’s contention that Staff was relying on obsolete energy market assumptions, NYS-33, ¶¶ 4-5, the declaration alerted Staff to the impact of the 2008 recession on New York’s substantially reduced energy sales and peak loads as they relate to the timing and choice of energy sources that would replace Indian Point units. 2009 Schlissel Decl. at ¶ 5 - 7 Exh. NYS000053. Mr. Schlissel furthermore identified deficiencies in the DSEIS that continued to significantly underestimate the viability and potential of energy efficiency and energy conservation measures, renewable generation, facility re-powering, purchased electrical power and transmission/interconnection enhancements in the capacity zones relevant to Indian Point. *Id.* at ¶ 8, NYS-33 ¶ 21. He also identified feasible and likely energy efficiency and conservation measures and renewables as a viable outcome of the no-action alternative. *Id.* at ¶ 8, NYS-33 ¶ 21: “Combination 3.”

The State will rely on this declaration, and the studies and data referenced therein, to demonstrate that Staff failed to meaningfully respond to contrary evidence challenging Staff’s limited view of the no-action alternative. The State will also use the declaration to support its allegation that the FSEIS is fundamentally flawed in its failure to consider the combination of the State’s energy efficiency and conservation measures together with renewable generation, as identified by the State in its comments on the DSEIS.

IV. March 2009 NYS Comments on the DSEIS

On March 18, 2009, the State filed comments in the public hearings on the DSEIS, repeating the same criticisms of the DSEIS contained in NYS-33 (ML090771328) (“2009 NYS AG Comments”) (Exh. NYS000134). The comments incorporated the State’s previously

submitted expert reports, including the 2007 Synapse Report, 2007 Bradford Decl., and the 2009 Schlissel Decl., reiterated the substance of those reports,⁵⁶ and asserted that the DSEIS no-action alternative analysis was deficient under NEPA, CEQ regulations, and the NRC's own Part 51 regulations. The State will rely on its comments to demonstrate that the State filed its well founded and supported criticisms of the DSEIS with the NRC on two separate occasions well in advance of the FSEIS, that they were available to Staff well before it issued the FSEIS, and that Staff was aware of these challenges well before it issued the FSEIS, but nonetheless failed to meaningfully address the State's contrary evidence in the FSEIS.

V. The 2011 Schlissel Declaration

In February 2011, in response to Staff's deficient FSEIS, and in support of NYS-37 challenging that FSEIS, the State submitted a third declaration from David Schlissel, dated February 3, 2011 ("2011 Schlissel Decl.") (ML110680290) (Exh. NYS000054). This declaration from Mr. Schlissel updated his 2007 Synapse Report to illustrate how outdated are the data and analysis contained in the FSEIS, and identified fundamental errors in the FSEIS's impact analysis of conservation, purchased electrical power, and renewable generation. The State will rely on the 2011 Schlissel declaration, and the studies and data contained therein, to establish that the FSEIS does not take adequate account of significant developments in the years 2007-2010 that bear directly on the timing and viability of viable generation sources and energy efficiency and conservation measures available to replace Indian Point in the event license renewal is denied. The State will also rely on the Mr. Schlissel's current testimony and that of his 2011 declaration to establish the inadequacy of the FSEIS's impact analysis of the replacement potential of conservation, purchased electrical power, and renewable generation

⁵⁶ See footnote 13, *supra*.

sources.

VI. The 2011 Bradford Declaration

In support of NYS-37, the also State submitted a second declaration from Peter A. Bradford, dated February 2, 2011, (“2011 Bradford Decl.”) (ML110680290) Exh. NYS000106. Mr. Bradford’s second declaration set forth evidence that the FSEIS presents a fundamentally flawed, “boiler plate” analysis of replacement power. The State will rely on Mr. Bradford’s 2011 declaration, and the studies and data contained therein, to establish that the potential institutional constraints to Indian Point’s retirement, on which the National Research Council 2006 report placed particular emphasis, have in fact not proven to be a barrier to New York’s moving from a position in which ability to acquire new electric resources at an adequate pace was in doubt, to one in which the manager of the State’s power grid, the New York Independent System Operator (“NYISO”), sees no likelihood of generation constraints well into the future.

The State will furthermore rely on the Mr. Bradford’s current testimony and that of his 2011 declaration to argue that had Staff provided a meaningful, site-specific impact analysis for these generation sources it would have had a rational basis to have found that in the event the units are not relicensed, Indian Point’s generation could be replaced with conservation and purchased power options that contain lower environmental impacts than those Staff purportedly considered, and would have had no rational basis to conclude to the contrary.

VII. The 2011 Lanzalotta Declaration

Finally, in support of NYS-37, the State submitted the declaration of Peter Lanzalotta, dated February 1, 2011, (“2011 Lanzalotta Decl.”) (ML110680290) Exh. NYS000097 Peter Lanzalotta 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. Mr. Lanzalotta has a BS in Electric Power Engineering from Rensselaer Polytechnic Institute and an MBA in Finance from Loyola College. He is registered as a professional engineer in Connecticut and Maryland. He has 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.

Mr. Lanzalotta will testify on behalf of the State regarding utility planning, capacity, the reliability New York's transmission grid and developments therein, and purchased electrical power. The State will rely on Mr. Lanzalotta's declaration, and the studies and data cited therein, as well as his testimony to establish that the FSEIS improperly relies on obsolete assumptions regarding the capacity and reliability of New York State's downstate transmission grid and exaggerates the constraints on the availability of replacement power. Mr. Lanzalotta will testify that the FSEIS's impact analysis of replacement power is not supported by a current, site-specific, factual analysis of the ability of the transmission grid to support any or all of the generation sources considered in the event the Indian Point units are not relicensed, and exaggerated the constraints and environmental impact of importing purchased power, siting, getting approvals, and constructing new generation and transmission projects, and wholly ignore specific projects that make it easier to replace Indian Point's capacity in the event Entergy's application for license renewal is denied.

PROPOSED FINDINGS OF FACT

Based on the State's submitted exhibits, testimony, prior declarations and expert reports, and Chapter 8 of the FSEIS, New York respectfully requests that the Board make the following findings of fact:

1. Section 8.2 ("No-Action Alternative") of the FSEIS is substantially identical to the same section in the DSEIS and provides no environmental impact analysis of conservation and replacement generation in the event IP2 and IP3 are not relicensed. The FSEIS's discussion of these topics, as they relate to the no-action alternative, is presented in Section 8.3 ("Alternative Energy Sources) of the FSEIS.
2. Section 8.3 of the FSEIS only presents a complete and site-specific environmental impact analysis for the following alternatives: gas (FSEIS § 8.3.1. and FSEIS § 8.3.5.2), coal (FSEIS § 8.3.4.13) -- which is then dismissed from further consideration -- and the continued operation of at least one IP unit with closed cycle cooling towers (FSEIS § 8.1.1 and FSEIS § 8.3.5.1).
3. Alternatives that posit the continued operation of at least one Indian Point unit with closed cycle cooling towers (FSEIS § 8.1.1 and FSEIS § 8.3.5.1) presume NRC license renewal for that unit and are therefore not a "no-action" alternative.
4. The State of New York timely submitted well-supported comments and criticisms of the DSEIS challenging the DSEIS's impact analysis of no-action energy alternatives which included expert reports and other evidence suggesting significant changes to New York State's energy markets and energy infrastructure, including reduced demand loads, new generation in the downstate region, new transmission developments and enhancements, demand side management ("DSM"), and renewable sector developments.
5. The FSEIS's analysis of conservation and replacement generation relies substantially on studies which pre-dated significant developments in New York State's downstate energy market relevant to Indian Point, and fails to explain why such studies were more relevant than the State's contrary evidence on reduced demand loads, new generation in the downstate region, new transmission developments and enhancements, DSM, and renewable sector developments.
6. Chapter 8 of the FSEIS, ("Environmental Impacts of Alternatives to License Renewal"), does not consider a combination of energy efficiency and renewable energy alone as a likely consequence of the no-action alternative to Indian Point and does not explain why it disregards the State's contrary evidence in support of this combination.

7. Section § 8.3.2. of the FSEIS (“Purchased Electrical Power”) and Section § 9.2 (“Relative Significance of the Environmental Impacts of License Renewal and Alternatives) Table 9-1, provide no environmental impact analysis for purchased electrical power and do not explain why the State’s substantial evidence on this topic is disregarded in favor of a general discussion of “illustrative” projects.
8. Section § 8.3.3. of the FSEIS (“Conservation”) does not provide a site-specific impact analysis of conservation, except in the case of “Socio-Economic Impacts” and does not analyze the State’s substantial evidence on this topic or discuss why it was not as relevant to Indian Point as the information incorporated from SEISs done in other states (NUREG-1437, Supplements 33 and 37, Shearon Harris (North Carolina) and Three Mile Island, Unit 1 (Pennsylvania) respectively) with different energy markets and energy programs.
9. Although the FEIS estimates 1765 MW of renewable generation to be online by 2015 (FSEIS § 8.3.5.1 p. 8-62 lines 17-28), the FSEIS arbitrarily limits its consideration of renewable generation to 600 MW, and does not explain why it disregards the State’s substantial evidence demonstrating renewable sources sufficient to replace one or both of the Indian Point units in the event the units are not relicensed.
10. Sections § 8.3.5.1 and § 8.3.5.2 (“Combinations”) of the FSEIS overstate the environmental impact of renewable generation collectively by combining them not with conservation or energy efficiency, but with the operation of fossil fuels or with one Indian Point unit with cooling towers.
11. The FSEIS assumes transmission and reliability concerns throughout its discussion of replacement power without addressing contrary evidence that these constraints on Staff’s consideration of the no-action energy alternative are outdated and/or exaggerated.

NEW YORK STATE’S POSITION

I. THE FSEIS VIOLATES NEPA AND CEQ AND NRC REGULATIONS BECAUSE IT RELIES ON OBSOLETE, INACCURATE INFORMATION AND IGNORES NEW YORK STATE’S WELL-REASONED AND SUPPORTED COMMENTS ON THE DSEIS.

As set forth above, the State of New York identified a substantial body of new and significant information that has not been evaluated in conducting the Generic Environmental Impact Study (“GEIS”), or any other environmental review related to Indian Point. This extensive new and significant information, which was unavailable when the NRC issued the

GEIS some 15 years ago, includes efforts made by the State and the federal government since 1996 concerning energy efficiency and renewable generation, many of which were made in recent years and are for that reason particularly important to consider in this proceeding. This new and significant information was brought to the attention of Staff well before publication of the FSEIS, and, if the information required additional analysis by Staff, there was ample time to complete that analysis and include it in the FSEIS, in order to make that document thorough and accurate. NEPA and NRC regulations obligate Staff to consider this significant new information, which was not included in the GEIS, the ER or any subsequent environmental review related to Indian Point.

The controlling legal authority concerning Staff's obligation to incorporate new and significant information in its environmental review of Indian Point is *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360 (1989). In that case, the Supreme Court was asked to determine whether new information, in the form of several reports, warranted a supplement to the previously prepared EIS for a dam project in Oregon. The Court reached several conclusions directly relevant here. First, the Court held that "NEPA ensures that the agency will not act on incomplete information, only to regret its decision after it is too late to correct." *Marsh*, 490 U.S. at 371 (*internal citations omitted*). Second, the Court held that:

It would be incongruous with this approach to environmental protection, and with the Act's manifest concern with preventing uninformed action, for the blinders to adverse environmental effects, once unequivocally removed, to be restored prior to the completion of agency action simply because the relevant proposal has received initial approval.

Marsh, 490 U.S. at 371. Third, the Court held that:

The CEQ regulations, which we have held are entitled to substantial deference, *see Robertson*, 490 U.S. at 355 -356; *Andrus v. Sierra Club*, 442 U.S. 347 (1979), impose a duty on all federal agencies to prepare

supplements to either draft or final EIS's if there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.

Marsh, 490 U.S. at 372 (*further internal citations omitted*). Fourth, the Court held that “NEPA does require that agencies take a ‘hard look’ at the environmental effects of their planned action, even after a proposal has received initial approval.” *Marsh*, 490 U.S. at 374. Thus, federal agencies have an ongoing obligation to independently review new and significant information during all phases of an environmental review. Lastly, Staff's failure to adequately consider new information during its environmental review is reviewable by the Board (discussed below) and the courts. In *Marsh* the Court held that:

in the context of reviewing a decision not to supplement an EIS, courts should not automatically defer to the agency's express reliance on an interest in finality without carefully reviewing the record and satisfying themselves that the agency has made a reasoned decision based on its evaluation of the significance-or lack of significance-of the new information.

Marsh, 490 U.S. at 378.

Cumulatively, the State's comments and evidence submitted to Staff regarding reduced energy sales, peak loads, gas prices, developments in the capacity and reliability State's transmission grid, and the State's progress in implementing its energy efficiency programs and Renewable Portfolio Standards (“RPS”) targets “are essential for a determination regarding the inclusion of alternatives considered or relevant.” 10 C.F.R. § 51.95(c)(2). The FSEIS largely disregards this body of evidence in favor of the same obsolete or economic data and studies provided by the licensee, and provides no reasoned explanation of why these older studies are more relevant than the new information provided by the State. The State will demonstrate that,

as the result of Staff's reliance on the studies offered by the licensee, the FSEIS no-action alternative analysis:

- a. ignores the impact of the recession on short and long term energy and demand forecasts, and the impacts of reduced energy and load demands on the timing and choice of energy sources in the event relicensing is denied;
- b. continues to rely primarily on economic data and studies that pre-date the recession and the implementation of aggressive state-wide policies and programs to significantly increase energy efficiency, conservation, and renewables throughout the state, in general, and in the zones currently receiving power from Indian Point, in particular, and therefore significantly underestimates the viability of these environmentally more benign replacement options to replace Indian Point in the event it is not relicensed;
- c. fails to identify and analyze significant new developments since 2007 in New York State's transmission grid system that directly impact and increase New York State's capacity to import electrical power and utilize off-site renewable generation in lieu of the power supplied by Indian Point and erroneously considers illustrative transmission projects with higher presumed impacts than actual transmission projects with lesser impacts;
- d. unreasonably fails to examine the present reasonable viability of energy efficiency, energy conservation and renewable generation as a combined strategy to replace power from Indian Point given the current forecasts for New York State's renewable sector and energy efficiency/conservation programs, and deprives the Board, and the public, with the opportunity to compare these reasoned consequences to approval of relicensing;
- e. bases its analysis of natural gas-fired combined-cycle ("NGCC") generation on a single study (Levitan 2005) that predates significant structural changes in the natural gas sector, that directly impact the viability of plant repowering, plant retirement and new gas-fired generation in New York State, thereby exaggerating the economic and environmental impacts of retiring the Indian Point units.

Despite substantial evidence to the contrary, the FSEIS's "no-action" alternative parrots verbatim the same outdated assumptions stated two years earlier in the DSEIS. Relying on a single study (National Resource Council 2006) that pre-dates the above developments, the FSEIS assumes a need for too much power: "[b]ased on currently scheduled unit retirements and demand growth projections, the NYISO predicted in 2006 that up to 1600 MW from new

projects not yet under construction would be needed by 2010 and a total of up to 3300 MW by 2015” in its consideration of purchased electrical power. FSEIS § 8.3.2. p. 8-39.

The State’s expert, Peter Bradford, will testify that the National Research Council’s estimates prepared in 2006 are not a credible basis for decisions to be made in 2011. The 2006 estimates, which rely on data from 2005 and earlier, have been superseded by numerous dramatically lower forecasts that are readily available. In fact, the State’s experts will testify that the current reality is that Indian Point serves a market in which total resource capability for 2010 is 43,000 MW - nearly 10,000 MW more than its 33,000 MW forecast peak demand, and nearly 5,000 MW in addition to its installed reserve margin, both of which additional margins are substantially greater than Indian Point’s 2,000 MW capacity.

Under NEPA and 10 C.F.R. Part 51, Staff’s “need for power analysis” must consider actual economic conditions, including recessions and/or the impact of prolonged economic downturns on economic load forecasts that could reasonably impact the viability of generation alternatives.⁵⁷ For the “no-action” alternative, “the current level of activity is used as a benchmark.”⁵⁸ In assessing how economic conditions are portrayed, a key consideration of several courts has been whether the economic assumptions of the FEIS “were so distorted as to impair fair consideration of the’ project’s adverse environmental effects.”⁵⁹

As explained by the NRC in *Louisiana Energy Services, L.P (Claiborne Enrichment Center)* 47 N.R.C. 77, 89 (April 3, 1998), NEPA generally calls for at least a broad and informal

⁵⁷ Staff’s reliance on an implicit “need for power” analysis to select, or dismiss, generation alternatives in the FSEIS furthermore opens the door for full consideration of that issue in this relicensing proceeding as contemplated by the Commission’s regulations on that point.

⁵⁸ *Custer*, 256 F.3d at 1040.

⁵⁹ *Hughes River Watershed Conservancy v. Glickman*, 81 F.3d 437, 446 (4th Cir 1996).

balancing of the environmental costs of a project against its technical, economic, or other public benefits. Inaccurate information on the economic benefits of a project, therefore, skews an agency's overall assessment of a project's costs and benefits, and potentially “result in approval of a project that otherwise would not have been approved because of its adverse environmental effects.”⁶⁰ More recently, in *Tennessee Valley Authority (Watts Bar Nuclear Plant, Unit 2)*, CLI-10-29, 2010 NRC LEXIS 43, 14-15 (N.R.C. Nov. 30, 2010), the NRC specifically affirmed the agency’s obligation under NEPA to supplement environmental review documents if there is new and significant information relevant to the need for power and availability of alternative sources of energy.

Contrary to this obligation and to the State’s comments on the DSEIS and contrary evidence, the FSEIS assumes New York’s energy markets and energy infrastructure remain unchanged from Entergy’s environmental report and Staff’s DSEIS.⁶¹ As a result, the FSEIS does not account for the fact that New York State experienced a 4.1% drop in power demand due to the recession and weak economic recovery, or that this trend is forecast to continue over the period of license renewal.⁶² Staff’s disregard of contrary evidence and new information also erroneously skews its analysis in favor of relicensing by artificially narrowing the consequences

⁶⁰ *Louisiana Energy Services, L.P. (Claiborne Enrichment Center)* 47 N.R.C. 77, 89 (April 3, 1998) citing *Hughes River* at 446.

⁶¹ For example, contrary to Staff’s assertion that they “removed language regarding critical congestion areas and has instead indicated that power transmission in New York State is highly congested,” FSEIS, Vol. 1, Appendix A, Section A.2.14, p. A-158, in fact Staff did not remove such language, and nonetheless based their selection of alternatives on their obsolete view of New York transmission grid. See FSEIS § 8.3. p. 8-27, lines 18-24.

⁶² New York Independent System Operator, Inc. (“NYISO, Inc.”) *2009 Annual Report: Energizing the Empire State*, (“2009 NYISO Energizing Annual Report”) at p. 6. Exh. NYS000059.

of the no-action alternative. For example, the FSEIS reasons that “given that the demand for electricity is increasing and, in the near term, planned new sources within the NYCA are just keeping pace with retirements, the NRC staff does not consider delays in the retirements of existing plants to be a feasible alternative to compensate for the loss of power from IP2 and IP3.” FSEIS § 8.3.4.11. In fact, as the 2009 Schlissel declaration and the State’s comments on the DSEIS alerted Staff, electricity demand in New York was in decline well before the DSEIS was issued, and the State’s expert, David Schlissel, will testify that demand for electricity in New York, and in the zones specifically supplied by Indian Point, has sharply decreased as a result of the economic downturn, the State’s energy efficiency programs and demand response programs.

The State’s expert, Peter Lanzalotta, will also testify that Staff’s outdated view on the economic, technical, and timing constraints on replacement power ignores the present advantages of demand-side management, which is a fully integrated and critical element of New York State’s energy market, energy planning mechanisms, and energy infrastructure. Thus, the FSEIS’s conclusion that new capital investments will be needed to facilitate replacement power and address reliability and transmission constraints in a no-action scenario, FSEIS § 8.3, p. 8-27, lines 18-39, is not rational because it does not consider how replacement power would actually be planned and implemented in New York State and overstates the potential economic costs of the no-action alternative.

As a result of the FSEIS’s mute disregard of contrary evidence, the FSEIS is replete with significant factual errors that undermine its usefulness in assessing environmental impacts and the no-action alternative. For example, the FSEIS “studies” the impacts of NYRI, when in fact the project had been abandoned the year before. Thus, the FSEIS’s purported impact analysis of the largely negative impacts of NYRI are wholly irrelevant and come at the expense of a

meaningful consideration of actual transmission projects with less environmental impacts already in place. These errors tend to overstate the economic costs of the no-action alternative, and mislead the public as to the economic costs and benefits of relicensing Indian Point.

As already noted above, an EIS serves two functions. First, it ensures that agencies take a hard look at the environmental effects of proposed projects to ensure that the agency decision is based on sound evidence. Second, it ensures that relevant information regarding proposed projects is available to members of the public so that they may play a role in the decision making process.⁶³ “For an EIS to serve these functions, it is essential that the EIS not be based on misleading economic assumptions.”⁶⁴

Misleading economic assumptions defeat the first function of an EIS by impairing the agency's consideration of the adverse environmental effects of a proposed project.⁶⁵ NEPA requires agencies to balance a project's economic benefits against its adverse environmental effects.⁶⁶ The use of inflated economic benefits in this balancing process may result in approval of a project that otherwise would not have been approved because of its adverse environmental effects. Similarly, misleading economic assumptions can also defeat the second function of an EIS by skewing the public's evaluation of a project.

⁶³ *Robertson*, 490 U.S. at 349.

⁶⁴ *Hughes River*, 81 F.3d at 446 (holding that EIS's use of inflated estimate of economic benefits from recreational use of dam project violated NEPA by impairing fair consideration of project's adverse environmental effects).

⁶⁵ *Id. citing South La. Env'tl. Council, Inc. v. Sand*, 629 F.2d 1005, 1011-12 (5th Cir.1980).

⁶⁶ *Calvert Cliffs*, 449 F.2d at 1113.

Cumulatively, the economic assumptions of the FEIS are “so distorted as to impair fair consideration of the’ project’s adverse environmental effects.”⁶⁷ Because the FSEIS does not accurately describe the current state of New York’s electricity markets and energy policies, it fails to provide decision-makers with an accurate analysis of the type of energy generation, energy efficiency and conservation measures likely to be deployed and in what quantities in the event of license denial. Furthermore, because this issue directly addresses the quality and adequacy of NRC’s no-action alternative’s analysis, NEPA obligates Staff to ground its analysis on current, accurate, and objective information, to meaningfully respond to public comments and criticisms regarding the quality and currency of that information, and to affirmatively explain why it relies on one set of sources to the exclusion of alternative and arguably more reliable sources of information.

The FSEIS’s conclusions are also irrational and deficient under NEPA because it includes almost no explanation for why the various items of new information presented by New York do not constitute significant new information bearing on the no-action alternative to license renewal. Any objective review of new information would necessarily include the possibility that new information is significant, triggering the preparation of a supplemental EIS or possibly resulting in a recommendation to reject the proposed action. Staff failed to conduct a “thorough and candid environmental analysis” of the no-action alternative to license renewal, and failed to provide a “detailed and adequate consideration of information from a wide range of sources.”⁶⁸

Under NEPA, an agency’s decision not to supplement an environmental analysis of the

⁶⁷ *Hughes River*, 81 F.3d at 466.

⁶⁸ *Environmental Protection Information Center v. United States Forest Service*, 451 F.3d 1018 (9th Cir. 2006).

decision must be reasonable.⁶⁹ The “reasonableness” of the agency’s decision depends on the environmental significance of the new information, the probable accuracy of the information, the degree of care with which the agency considered the new information and evaluated its impact, and the degree to which the agency supported its decision not to supplement with a statement of explanation or additional data.⁷⁰

Staff’s decision not to supplement the DSEIS with the information provided by the State can not be said to be reasonable in this instance because the FSEIS provides no critical analysis of the State’s submissions, did not assess the accuracy of the State’s submissions, and provides no statement or additional data to explain why the information and studies provided by the State do not constitute significant new information bearing on the no-action alternative to license renewal. Accordingly, the FSEIS is deficient because it fails to include “consideration of major points of view concerning the environmental impacts of the proposed action and the alternatives, and contain an analysis of significant problems and objections raised by other federal, State, and local agencies, by any affected Indian tribes, and by other interested persons” (10 C.F.R. § 51.71(b)), and fails to “discuss and respond to any relevant responsible opposing view not adequately discussed in the DSEIS.” 10 C.F.R. § 51.91(3)(b).

The FSEIS simply sidesteps these fundamental NEPA obligations. With respect to its analysis of the no-action alternative, it did not refer to, or attempt to analyze, the new and significant information which was submitted as part of scoping comments from the State of New York. In many instances this same information was also part of the contentions raised by the State in its Petition to Intervene. With respect to NYS-33, the new and significant information

⁶⁹ *Oregon Natural Resources Council Action*, 445 F.Supp.2d at 1225 -26.

⁷⁰ *Id.* at 1463-64.

on energy conservation and renewable generation was information that formed the basis for the Board's admission of the contention.⁷¹ Obviously "no look" is not a "hard look."

II. THE FSEIS FAILS TO TAKE A "HARD LOOK" AT THE NO-ACTION ALTERNATIVE

In the circumstances of this case, where it is obvious, as detailed in the record, that New York's energy policies and markets present a fundamentally more favorable environment for retiring the Indian Point units at the end of their operating licenses, NEPA requires a meaningful analysis that objectively compares the pros and cons of a relicensing decision. Based on the information now reasonably available, Staff must clearly identify and make a meaningful comparison of the environmental consequences of the most likely energy scenario in the event of selection of the no-action alternative. In the absence of such a comparison in the FEIS, the NRC has not conducted the "hard look" of the no-action alternative that NEPA requires nor has it provided a rational basis for recommending relicensing.

Although the FSEIS purports to consider conservation, purchased electrical power, and renewable generation as sources of replacement power, either alone or in combination, in fact Section 8.2 ("No-action Alternative") provides no such analysis. Section 8.3 ("Alternative Energy Sources"), where Staff did consider replacement power, furthermore limited its analysis to a comparison of fossil fuel generation (gas) (FSEIS § 8.3.1. and FSEIS § 8.3.5.2) and coal (FSEIS § 8.3.4.13) -- which is then dismissed as a viable alternative -- or the continued operation of at least one IP unit with closed cycle cooling towers (FSEIS § 8.1.1 and FSEIS § 8.3.5.1) (an action the licensee steadfastly opposes and which presumes relicensing the unit and is therefore not an alternative to a licensing decision). The FSEIS is fundamentally flawed because, as set forth in greater detail below, it provides no site-specific impact analysis for whole categories of

⁷¹ June 16, 2009 Board Order Admitting Contentions at 11-12.

replacement generation sources with smaller environmental impacts, including: energy conservation, purchased electrical power, or renewable generation alone, or in combination with energy efficiency.

A. Energy Conservation

The FSEIS purports to examine conservation “as an alternative to replace at least part of the output of IP2 and IP3” (FSEIS § 8.3.3. p. 8-42), and furthermore considers energy conservation “in the combination alternatives” (*Id.* at 8-43). Although this discussion is included in the “alternatives” section of the FSEIS and not as part of the no-action alternative outcomes, since this is the principal substantive analysis of energy conservation (and all generation sources) the State will treat this discussion as addressing the issue of energy efficiency and/or conservation under the no-action alternative.

In the first instance, the FSEIS violates NEPA because it fails to clearly identify, develop, describe, and analyze the conservation measures it purports to study.⁷² Staff assumes that “energy efficiency and demand side management could replace at least 800 MW of the energy [sic] produced by IP2 and IP3” and “possibly much more.” *Id.* In footnote 4 of Section 8.3.3, Staff also state that it considered both energy efficiency and conservation measures, but fails to define what combination of measures were specifically analyzed. Significantly, Staff does not affirmatively and clearly state whether energy conservation and energy efficiency can replace all of the power supplied by IP2 and IP3, and if so, how. This section of the FSEIS also erroneously purports to include an unspecified amount of “the energy-saving impacts of solar power” in the conservation estimates described in the FSEIS. FSEIS § 8.3.4.5. p. 8-46. In fact, however, the FSEIS does not affirmatively study the environmental impacts of solar generation in this, or any

⁷² 42 U.S.C. § 4332(2)(E).

other section, of the FSEIS. Instead, the FSEIS summarily dismisses solar photo-voltaic (“PV”) from consideration as a source of replacement power to license renewal, with no analysis of PV costs, which have declined sharply since 2006, and no analysis of the impact of New York’s RPS and “45x15” policies on the State’s share of solar generation. FSEIS § 8.3.4.1. As a result of the document’s vague description of conservation, it is impossible to determine from the FSEIS what conservation measures, and how many and in what quantity, if any, are actually considered.

In fact, the FSEIS does not consider any conservation program relevant to New York State or Indian Point. Instead, the FSEIS incorporates by reference the environmental impact analysis of conservation programs in North Carolina (NUREG-1437, Supplement 33 (Shearon Harris (2008))) and Pennsylvania (NUREG-1437, Supplement 37, (Three Mile Island, Unit 1 (2009))) to summarily conclude that an unidentified conservation scenario in New York as a consequence of license denial would have “SMALL” environmental impacts in all categories except socio-economic impacts, where “loss of tax and PILOT revenue paid to municipalities near IP2 and IP3, as well as lost jobs, may result in SMALL to MODERATE socioeconomic impacts, which will not be offset by conservation.” FSEIS § 8.3.3, 8-43, lines 20-26.

The FSEIS’s conclusion that conservation can not offset the impacts of revenue losses is irrational because it fails to address substantial and countervailing evidence in the record of the positive socio-economic benefits associated with New York’s energy conservation and energy efficiency programs, including, but not limited to, lower consumer electricity bills and substantial job creation.⁷³ Nor does the FSEIS address the State’s countervailing evidence that

⁷³ For example, the State’s expert Peter Bradford will testify that New York State’s Energy Efficiency Portfolio Standards (“EEPS”) program is designed to also stimulate economic development, and create jobs in the clean energy sector for New Yorkers. Thus, the New York State Public Service Commission (“NYS PSC”) approved a Workforce Development Program

when the plants are shutdown and decommissioned, the value of adjacent land will increase substantially, thus providing new tax payments and the site itself will be available to be developed for another productive purpose.⁷⁴

The FSEIS's conclusion that "the likely energy alternatives would also require a commitment of resources for construction of the replacement facilities, implementation of conservation measures, and in some cases, fuel to run plants" FSEIS § 9.1.1., p. 9-6, is irrational because the document contains no analysis of what energy conservation and energy efficiency programs are already in place, and how much additional conservation or energy efficiency measures would be necessary, and at what cost and benefit. Nor does the document affirmatively consider that energy conservation and energy efficiency produce no carbon, no pollution, and require the use of no fuel. Once energy conservation or energy efficiency measures are implemented, their benefits continue without further capital or maintenance costs for a substantial period of time in the future. NYS-33, ¶ 10. The FSEIS's final conclusion that the no-action alternative has the smallest effect, "but would necessitate additional actions to replace generation and/or institute conservation programs," FSEIS § 9.2, p. 9-7, is likewise irrational.

administered by NYSERDA to support the training needs of over 6,200 workers during 2010-2011 directly associated with energy conservation and energy efficiency programs. NYS PSC, Case 07-M-0548, *Order Authorizing Workforce Development Initiatives*, June 22, 2009 ("June 2009 NYS PSC Order") Exh. NYS000124.

⁷⁴ See ¶¶ 3,4,11 NYS Contentions 17/17A, admitted by the Board in *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3), Memorandum and Order (Ruling on Petitions to Intervene and Requests for Hearing) LBP-08-13 at 82-83, 68 NRC 43 (July 31, 2008) and June 16, 2009 Board Order Admitting Contentions at 8; and ¶¶ 4,5 of New York State Contention 17B (filed on January 24, 2011).

Staff's adoption of the conservation analysis from other SEISs for the relicensing of power reactors located in other states also is inconsistent with NEPA. Even if a valid conservation analysis leads to the same conclusion (and, as set forth below, the State's experts will testify that the studies Staff relies on are inapplicable to Indian Point), it is axiomatic that NEPA challenges are procedural, and not outcome based.⁷⁵ Here, the failure to identify, develop, describe, and objectively evaluate in the FSEIS a site-specific energy efficiency/energy conservation program undermines NEPA's function as a mechanism for fully informed decision-making and public participation in the environmental review of federal agency action. Because there is no site-specific conservation analysis in the FSEIS, the State's energy conservation measures remain hidden from the Board's view and excluded from public discussion of the FSEIS.⁷⁶ Accordingly, the FSEIS fails to "sharply define [e] the issues and provid[e] a clear basis for choice among options by the decision maker and the public."⁷⁷ The effective exclusion of energy conservation from the public discourse artificially limits the range of choices publicly debated and is therefore "preemptive of the states' responsibility to decide on the appropriate mix of energy alternatives in their respective jurisdictions."⁷⁸

⁷⁵ NEPA mandates a genuine commitment to scrutiny by the federal agencies, not a specific outcome. Because the NEPA's purpose is procedural, an agency "may not merely go through the motions. An agency's '[g]rudging, pro forma' compliance with these regulations violates NEPA's procedural safeguards." *Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094, 1116 (9th Cir. 2002) (internal quotations and citation omitted).

⁷⁶ "Discussion of alternatives in environmental impact statement is subject to a construction of reasonableness, but a good faith discussion is necessary to inform the decision makers and the public of all possible options, and is not to be employed to justify a decision already reached." *Citizens Against Destruction of Napa v. Lynn*, 391 F.Supp. 1188 (N.D.Cal.1975).

⁷⁷ 40 C.F.R. § 1502.14; *see also Robertson*, 490 U.S. at 348-349 ("Publication of an EIS, both in draft and final form . . . provides a springboard for public comment").

⁷⁸ *Environmental Review for Renewal of Nuclear Power Plant Operating Licenses*, 61 Fed. Reg. 28,473 (June 5, 1996). Exh. NYS000128.

Moreover, Staff’s generic adoption of conclusions from other, unrelated proceedings is wholly inconsistent with the site-specific environmental impact statement contemplated by the 1996 revisions to Part 51, which sought to streamline the requirements for the environmental review and consideration of the no-action alternative and other alternatives in applications to renew the operating licenses of nuclear power plants. During the consideration of the 1996 revisions, Staff initially proposed to generically analyze the environmental impacts of energy alternatives to license renewal.⁷⁹ This proposal was categorically rejected by a number of states, including New York, and by CEQ as contrary to NEPA, and as “preemptive of the states’ responsibility to decide on the appropriate mix of energy alternatives in their respective jurisdictions.”⁸⁰

In response to these concerns, the NRC adopted regulations that required “site-specific comparison of the impacts of license renewal with impacts of alternative energy sources [that] will involve consideration of information provided by State agencies and other members of the public,” thus allowing for “a meaningful analysis of alternative energy sources.”⁸¹ A “meaningful analysis” was further defined as requiring individual plant reviews, information codified in the rule, information developed in the GEIS, and any significant new information

⁷⁹ Environmental Review for Renewal of Operating Licenses - Part 51, 56 Fed. Reg. 47,016 (September 17, 1991). Exh. NYS000125; *see also* NUREG-1440, *Regulatory Analysis of Proposed Amendments to Regulations Concerning the Environmental Review for Renewal of Nuclear Power Plant Operating Licenses: Draft Report for Comment* (August 1991). Exh. NYS000126.

⁸⁰ 61 Fed. Reg. at 28,473. Exh. NYS000127.

⁸¹ *Id.*

introduced during the plant-specific review, including any information received from the State, and other members of the public.”⁸²

With respect to its conservation analysis, the FSEIS fails to meet even minimum standards. The document merely mentions New York’s energy efficiency and energy conservation programs, and ignores the expert declarations of State expert witness David Schlissel and the 2007 Synapse Energy Report, which quantified the energy efficiency potential forecasts for the license renewal period for the market zones currently supplied by IP2 and IP3. *See* 2007 Synapse Report, pp. 3-6. Exh. NYS000052. The 2007 Synapse Report and the 2009 Schlissel Decl. quantified energy efficiency reductions expected to occur in the New York City and Long Island region as a result of the State’s energy efficiency policy “15 by 15” that would more than offset the energy generated each year at Indian Point. *See* 2007 Synapse Report, pp. 3-6, Exh. NYS000052; 2009 Schlissel Decl. at ¶ 2, Exh. NYS000053; *see also* NYS-33 at ¶¶ 5-10. Mr. Schlissel’s 2011 declaration, which updates his prior analysis of New York State’s energy markets, as well as Mr. Schlissel’s present testimony, attest that New York has continued to make impressive energy efficiency gains and achieved the level of energy efficiency potential necessary to replace Indian Point’s generation should the units not be relicensed. 2011 Schlissel Decl., at ¶¶ 19-23, Exh. NYS000054.

The adoption in the FSEIS of conservation impacts from other SEISs also lacks a rational basis because the FSEIS provides no explanation for why the out-of-state and out-of-date analyses it relies on are more relevant to the FSEIS in this case than the State’s expert reports on the specific energy efficiency and conservation programs in the downstate regions relevant to Indian Point. The FSEIS furthermore does not establish that conditions cited from Pennsylvania

⁸² *Id.*

and North Carolina are comparable to those in New York today. In fact, the earlier out-of-state conditions are not comparable. The State's expert, Peter Bradford, will testify that neither Pennsylvania (Three Mile Island, Unit 1) nor North Carolina (Shearon Harris) has energy efficiency programs and goals as aggressive as those of New York.⁸³ Furthermore, North Carolina provides electric service through vertically integrated, fully regulated utilities, which creates a very different DSM framework than that in New York's competitive power market.

As a result of these differences, the FSEIS provides no meaningful specific assessment of the potential of energy efficiency and conservation programs to aid the decision-maker in assessing their role in replacing one or both Indian Point units.⁸⁴ The document does not objectively take a "hard look" at environmental consequences of New York's energy conservation and energy efficiency programs in evaluating the no-action alternative to relicensing. In fact, the FSEIS does not look at New York's energy efficiency and energy conservation programs at all.

B. Purchased Electrical Power

The FSEIS purports to examine purchased electrical power "as a nongeneration alternative to license renewal" (FSEIS § 8.3. p. 8-26) in Section 8.3.2 of the FSEIS, and relies primarily on the National Research Council 2006 in support of its assumptions regarding the need for additional purchased power and the capacity of the electrical system with respect to that power. Although this discussion is included in the "alternatives" section of the FSEIS and not as

⁸³ Pennsylvania ranks 16th on the American Council for Energy Efficiency Economy's ("ACEEE's) 2010 ranking; North Carolina ranks 24th. New York is fourth. *ACEEE 2010 State Energy Efficiency Scorecard*, p. 66. Exh. NYS000112.

⁸⁴ See *Shieldalloy*, 624 F.3d at 493 (agencies must evaluate parties' proposals of significant and viable alternatives).

part of the no-action alternative outcomes, since this is the principal substantive analysis of energy conservation (and all generation sources) the State will treat this discussion as addressing the issue of purchased electrical power as it relates to the no-action alternative.

The general discussion set out in the FSEIS regarding purchased power as a source of power when relicensing is denied is seriously flawed in ways that undermine its usefulness to decision makers seeking to understand the environmental impacts of the no-action alternative. Much of this deficiency flows from the document's continued reliance on the 2006 National Research Council report. As identified in the State's prior comments on the DSEIS, this report significantly overestimates future demand and underestimates the resources that will (and have already) come on line in New York. Consequently, the FSEIS's estimates of the amount of transmission and the amount of power that must flow over it to replace one or both Indian Point units in the event the units are retired, are too large. The economic benefit of Indian Point, and the environmental impacts of purchased electrical power are therefore inevitably overstated.

Relying on the identical and obsolete assumptions about purchased power and New York's transmission grid contained in the DSEIS,⁸⁵ the FSEIS erroneously assumes that the retirement of the Indian Point units will necessitate an additional 2000 MW of new transmission line construction. The FSEIS provides only a general and totally inadequate discussion of "illustrative projects" large enough to address this imagined constraint: NYRI, which was formally withdrawn in 2009,⁸⁶ (more than a year before the FSEIS was published) and

⁸⁵ Compare FSEIS at pp. 8-39-40 and DSEIS at pp. 8-56-57.

⁸⁶ On April 21, 2009 the NYSPSC recognized and approved NYRI's application to formally *withdraw* its petition for a certificate under Article VII of the Public Service Law. NYS PSC, PSC Correspondence, Case No. 06-T-0650, (Issued Apr. 21, 2009) ("April 2009 NYS PSC Correspondence") Exh. NYS000075. The NYS PSC *granted* NYRI's withdrawal request, with prejudice, and dismissed NYRI's application. FERC Docket No. OA08-52-003, *New York*

Champlain-Hudson-Power Express, Inc. (“CHPEI”), a 1000 MW transmission project that is in its initial planning stages only. FSEIS § 8.3.2. p. 8-8-40 to 8-41. Staff declined, however, to conduct an impact analysis for these projects on the grounds that because these projects lack “any specific route information,” “the actual environmental impacts of purchased power are difficult to determine.” *Id.* at 8-40. Consequently, the FSEIS contained no comparative impact analysis for purchased electrical power, *see e.g.*, FSEIS § 9.2 (“Relative Significance of the Environmental Impacts of License Renewal and Alternatives”) Table 9-1, pp. 9-9 – 9-10.

In the first instance, the generalized discussion in the FSEIS about the possible effects of “illustrative projects” does not satisfy NEPA’s “hard look” requirements where, as here, an agency has identified a viable scenario in the event of the selection of the no-action alternative. “[G]eneral statements about ‘possible’ effects and ‘some risk’ do not constitute a ‘hard look’ absent a justification regarding why more definitive information could not be provided.”⁸⁷ In this case, Staff’s justifications for not conducting transmission impact analysis - the lack of route information and degree of difficulty - are irrational since the State informed Staff well in advance of the FSEIS of at least two significant transmission developments relevant to the retirement of Indian Point, for which the specific, actual routes are known and for which site-specific EISs already exist. Specifically, the State’s comments on NYS-33/NYS-9 identified:

- a. The Hudson Transmission Partners (“HTP”) line was approved by the New York State Public Service Commission (“NYSPSC”) on September 8, 2010. This 345 kV line will connect PJM to midtown Manhattan, running between the Bergen Substation in Ridgefield, New Jersey and terminating at Consolidated Edison substations. It is expected initially to provide 320 MW of firm capacity from PJM to New York City, with the potential to provide 660 MW of firm capacity if

Independent System Operator, Inc., Order on Rehearing, 126 FERC ¶ 61,320 (Issued Mar. 31, 2009) Excerpted: pp. 1-2 (“2009 Order on Rehearing”) Exh. NYS000112.

⁸⁷ *Neighbors of Cuddy Mountain*, 137 F.3d at 1380.

investments are made to upgrade PJM facilities. In the Order approving this line, the NYSPSC stated “the HTP facility will assist in maintaining system reliability in the event that one or both of the Indian Point plants close.”⁸⁸

- b. The three Linden Variable Frequency Transformers that began operating at the Linden, New Jersey cogeneration facility on December 8, 2009 and have the capability to convert up to 315 MW of electricity from the New Jersey power system and feed it into New York City. These transformers help to stabilize NYC’s power grid, increase reliability, and reduce the need for new capacity inside the city.

The FSEIS’s “consideration” of “illustrative projects” is furthermore irrational because no where does the FSEIS address the projects and information provided by the State and explain why the “illustrative projects” considered are more relevant than the specific projects identified by the State, and the New York Public Service Commission, as relevant to the relicensing decision.

Regarding grid reliability and voltage concerns, the State’s expert, Peter Lanzalotta will testify that the FSEIS fails to consider recent market and transmission line developments, and fails to study the possible solutions to these concerns, such as demand side management, market-based actions, new generation, and simpler transmission enhancements (such as capacitors and static var compensators etc.).⁸⁹ Instead, the FSEIS focuses on one potential alternative that presumes the indispensability of Indian Point (the possibility of operating the IP generators as synchronous condensers) to the exclusion of all other alternatives. Notably, the FSEIS neither quantifies the reactive power needed if the Indian Point units are retired nor mentions the

⁸⁸ NYS PSC, *Order Granting Certificate of Environmental Compatibility and Public Need*, September 15, 2010, p. 44. Exh. NYS000111.

⁸⁹ The specific nature of any reliability and electricity grid concerns related to Indian Point are a function of a number of factors, including: regional decreased peak demand load forecasts, new generation, demand response programs, any market-based solutions instituted by NYISO, Inc. and regional transmission line developments. *See e.g.*, Declaration of Peter J. Lanzalotta, dated February 1, 2011 (“2011 Lanzalotta Decl.”), Exh. NYS00098, ¶¶ 14-20.

possibility of supplying reactive power through other, less expensive, means.

Furthermore, the claim that transmission impacts are too “difficult to determine” is undercut by the admission “that to the extent that new transmission projects allow other existing facilities to provide additional power to downstate New York, the environmental impacts are likely to be only the incremental impacts of additional operation.” FSEIS, p. 8-43, line 9. Nonetheless, the FSEIS fails to estimate the environmental impacts from the power plants that will run to provide the purchased power in the event Indian Point is not relicensed or explain how these impacts will be incrementally greater than if Indian Point is relicensed and the same power sources continue to operate and provide power elsewhere.

Contrary to Staff’s apparent belief that this further category of impacts is “too difficult to determine,” the State’s expert, Peter Bradford will testify that such estimates are routinely made in environmental impact assessments for transmission projects. Indeed, the New York Public Service Commission recently did just such an assessment in certifying the HTP project.⁹⁰ Had Staff used actual transmission projects that either exist or are under construction, it could have provided an analysis of the impacts of purchased power and might well have found that, in the event the units are not relicensed, Indian Point’s generation could be replaced with purchased power that required much less transmission construction than the two projects purportedly considered.

As the licensee as argued, “an EIS should consider viable alternatives, not speculative

⁹⁰ NYS PSC Sept. 15, 2010 Order at pp. 47ff (discussing the environmental impacts of the project, including projected increased emissions from additional purchased power, as analyzed by the New York State Department of Environmental Conservation and Applicant) Exh. NYS000111.

ones.”⁹¹ Thus, by Entergy’s own standard, the FSEIS’s purchased power analysis, which is based on speculative and not viable transmission developments, is deficient. Indeed, by failing to consider the HTP and the Linden transmission projects, and by failing to inform the decision makers and the public on the actual transmission, generation capacity, and demand load conditions relevant to a purchased power option in the downstate market, Staff “averted its eyes from what is in plain view before it”⁹² and presented a deficient FSEIS.

C. Renewable Generation

The FSEIS rejects all individual categories of renewable generation as a single source energy scenario,⁹³ fails to consider combinations of renewable generation sources as a stand alone measure, and instead includes a limited amount (600 MW) of renewable generation (primarily wind, biomass, new hydropower, and landfill gas) in combined scenarios that posit either the continued operation of one Indian Point unit with cooling towers, or a new combined-cycle power plant (located either at a repowered site, or at the existing Indian Point site.) FSEIS § 8.3.5 (“Combination of Alternatives”). Although this discussion is included in the “alternatives” section of the FSEIS and not as part of the no-action alternative outcomes, since this is the principal substantive analysis of renewable generation sources the State will treat this discussion as addressing the issue of renewable generation under the no-action alternative.

Here again, the FSEIS’s treatment of a non-fossil fuel generation source - renewable generation - is seriously flawed in ways that undermine its usefulness to energy planners and a

⁹¹ Entergy Answer on NYS 37 at pp. 18-19.

⁹² *Center for Biological Diversity*, 623 F.3d at 646.

⁹³ See e.g. FSEIS §§ 8.3.4.1 (Wind Power), 8.3.4.2 (Wood and Wood Waste), 8.3.4.3 (Hydropower), 8.3.4.5 (Solar Power), 8.3.4.7 (Geothermal Energy), 8.3.4.8 (Municipal Solid Waste), 8.3.4.9 (Other Biomass Derived Fuels), 8.3.4.12 (Combined Heat and Power).

relicensing decision. Much of this deficiency flows from continued reliance on the same two studies that informed the DSEIS and ER (Levitan 2005 and National Research Council 2006). Staff considers an apparently arbitrary amount of renewable generation (600 MW) in combination with (a) Staff's environmental analysis of new cooling towers at one IP unit (an action that Applicant steadfastly opposes, and that is not currently required as a condition of this proceeding) or (b) the impacts of a newly repowered gas combined cycle power plant. FSEIS § 8.3.5 pp. 8-59-70. The FSEIS then aggregates the impacts of those sources of renewable generation Staff deem reasonable (wind, biomass and hydropower only) with those of a fossil fuel plant (gas) or the impacts attributed to the construction of cooling towers for a relicensed plant, resulting in higher environmental impacts in all categories as compared to relicensing Indian Point.

Based on the above analysis, Staff recommend license renewal on the grounds that the FSEIS's comparative weighting of the combination alternatives (with or without continued operation of one IP unit) concludes that combinations containing renewables (and also a cooling tower or gas plant) "are likely to have smaller aquatic impacts than continued operation of IP2 and IP3, while they have potentially larger impacts in other areas, including air quality, aesthetics, and land use." FSEIS § 8.4, p. 8-73. In fact, a careful review of the FSEIS shows that the alleged impacts are largely exaggerated and attributed to the installation of cooling towers at one of the IP units, FSEIS § 8.3.5.1, which are then incorporated into FSEIS § 8.3.5.2. (Combination 2), resulting in nearly identical impacts for both combinations.⁹⁴ Obviously, the

⁹⁴ "Combination 1" of the combined energy alternatives (FSEIS § 8.3.5.1) merged the impacts of installing cooling towers on one unit with the impacts of renewable generation. "Combination 2" (FSEIS § 8.3.5.2 – NGCC, renewables, and energy efficiency) incorporated the renewable impacts from Combination 1 (FSEIS § 8.3.5.1) for almost all impact categories without adjusting

alleged adverse environmental impacts of cooling towers would not exist under a no-action alternative.

In the first instance, these conclusions are irrational because the FSEIS does not confront contrary substantial evidence in favor of individual consideration of renewable generation, and likewise simply ignores the more likely scenarios of combinations of renewable generation sources or renewable generation in combination with energy conservation, as identified by the State in comments on the DSEIS. *See* NYS-33 ¶ 21: “Combination 3.” Thus the FSEIS’s consideration of renewable generation is not rational because it does not address substantial evidence that contradicts the evidence upon which it relies.

The State will rely on the testimony of Peter Bradford and David Schlissel to establish that the FSEIS selectively disregards evidence favorable to renewable generation (*see e.g.*, Synapse Report, at pp. 7-11, Exh. NYS00052; 2009 Schlissel Decl. at ¶¶ 24-31, Exh. NYS000053; NYS-33 at ¶¶ 11-14; and 2009 NYS AG Comments at pp. 28-32, Exh. NYS000134. For example, the FSEIS purports to rely on the Department of Energy/Energy Information Administration’s (DOE/EIA) “Annual Energy Outlook 2010 with Projections to 2035” report (“DOE/EIA 2010”), Exh. NYS000115, to “help select reasonable alternatives to license renewal,” FSEIS § 8.3. pp. 8-28, l. 37. The FSEIS adopts DOE/EIA 2010’s conclusion that coal generation is forecast to decline, and removes coal from consideration as a source of replacement power to Indian Point’s generation. Yet the FSEIS ignores DOE/ 2010 conclusion that renewable generation is forecast to increase sharply over the time period relevant to license

for the impact of cooling towers. *See e.g.*, FSEIS § 8.3.5.2., p. 8-67, lines 33-36; p. 8-68, lines 6-7, 19-20, 30-31, 37-38, p. 8-69, lines 3-4, 23-24. The result was substantially identical impacts for Combination 1 and Combination 2. FSEIS § 8.3.5.2. Table 8-4 “Summary of Environmental Impacts of Combination Alternatives,” p. 8-71-72.

renewal, with wind generation providing the greatest share of this growth. The FSEIS does not explain why it found one DOE/ 2010 conclusion persuasive and the other not credible. Thus, the FSEIS erroneously concludes, without any critical analysis and with only bare assertions regarding Staff's beliefs, that there are so many obstacles to implementing sufficient wind power or other renewable energy sources that these sources could provide no more than 600 MW to replace either or both IP units. *See* FSEIS § 8.3.5. 8-59 to 8-61.

The 600 MW limitation on renewable generation in the FSEIS is arbitrary on its face since the limit is unexplained, and elsewhere in the FSEIS, Staff acknowledge that 1076 MW of new wind generation is anticipated to be available in New York in the years 2011 through 2015 (together with almost 700 MW of other renewables). *See* Section 8.3.5.1 of the FSEIS (Impacts of Combination Alternative 1). The State's expert, David Schlissel, will testify that over 7000 MW of new wind power alone has been proposed for New York, in addition to the almost 1300 MW already connected to the New York grid. Some or many of the wind proposals may not be completed. However, even if only 20% of the proposed projects come online, there would still be an additional 1,587 MW increase in wind generating units by 2017.

Mr. Schlissel will also testify that Staff's belief that wind generation must be supported by back-up generation even when considered in combination with the continued operation of one IP unit, FSEIS § 8.3.5.1, or with a gas plant, FSEIS § 8.3.5.2, lacks a rational basis and ignores the conclusions of his 2007 Synapse Report rebutting that belief. *See e.g.*, 2007 Synapse Report at ¶¶ 8-9, Exh. NYS000052:, NYS-33 at ¶ 11. Furthermore, Mr. Schlissel will testify that Staff's assumptions about the need for backup for wind generation are obsolete, ignore contrary

evidence,⁹⁵ and do not take into account the significant steps taken by the NYISO to moderate intermittency issues.⁹⁶

The FSEIS also fails to take a “hard look” at the generation potential of combined heat and power identified by the State in 2007 as having a statewide potential of 2,169 MW and 1,319.7 MW for the downstate region by 2012.⁹⁷ Staff’s uninformed basis for eliminating consideration of additional combined heat and power from consideration as one of the results of rejection of license renewal can be found in a few sentences in FSEIS.

The NRC Staff notes that the current IP2 and IP3 are only used to produce electrical power, and do not supply heat to any offsite users. Combined heat and power, then, fulfills a need not currently met by IP2 and IP3, and is not a direct alternative to IP2 and IP3 license renewal. FSEIS § 8.3.4.12, ¶ 3.

Based on this erroneous conclusion, the FSEIS removes combined heat and power generation from further consideration. The electrical portion of combined heat and power is, of course, a potential replacement for IP power. The heat may also substitute for any heat that is produced electrically or may free up natural gas as an alternative to electricity for other purposes. This erroneous assessment of combined heat and power results in a serious underassessment of the potential impact of this source in any replacement scenario.

The FSEIS also summarily dismisses solar generation from consideration with no response to the State’s comments on solar energy’s potential to replace at least some of the

⁹⁵ See *Report on the Availability of Replacement Capacity and Energy for Indian Point*, Synapse Energy Economics and David Schlissel (“2007 Synapse Report”), pp. 8-9, Exh. NYS000052; NYS-9-33, ¶¶ 11.

⁹⁶ See e.g., *NYISO Power Trends 2010: New York’s Emerging Energy Crossroads*, p. 16, noting, *inter alia* that NYISO expanded the eligibility of intermittent resources for special market rules from 500 MW to 3,300 MW to accommodate increased penetration levels of wind plants on the system. Exh. NYS000108.

⁹⁷ 2007 Synapse Report, p.11 Exh. NYS000052.

generation supplied by Indian Point. Again relying on the 2006 National Research Council study estimate that solar can generate a maximum of 325 MW in the NYCA by 2015 if photovoltaic costs decline and there is a long-term commitment to expand New York's photovoltaic program, the FSEIS dismisses solar from consideration without analyzing actual photovoltaic costs (which have declined substantially since the National Research Council study was published) or the impact of New York's Renewable Portfolio Standards and clean energy policies on solar generation. FSEIS § 8.3.4.5, pp. 8-45-46.

Furthermore, the FSEIS erroneously claims that solar is "a contributor to the Renewable Portfolio Standard combination alternatives addressed in Section 8.3.5" (Combinations of Alternatives). FSEIS § 8.3.4.5. p. 8-46. In fact, the combinations of alternatives Staff considered did not include solar generation. See FSEIS § 8.3.5.1 and 8.3.5.2.

Finally, the State's experts, David Schlissel and Peter Bradford, will testify that Staff's analysis of renewable generation sources in the event of rejection of license renewal systematically excludes renewable generation scenarios having the lowest environmental impacts and artificially overstates the adverse environmental impacts of renewable generation. Specifically, the State's experts will testify that the FSEIS exaggerates the environmental impacts of renewable generation because, *inter alia*, the FSEIS:

- a. Distorts and overstates the environmental impacts of renewable generation by combining them not with conservation or energy efficiency, but with the operation of fossil fuels or with one Indian Point unit with a cooling tower, and then merging the impacts;
- b. Assumes, contrary to evidence provided by the State, that wind generation must be supported in a combined alternative with biomass and/or hydro generation – renewables with larger environmental impacts - where nuclear or gas generation is also already assumed and available to provide such back-up generation;

- c. Excludes sources of renewable generation with lesser environmental impacts - such as solar and CHP - from consideration in a combined alternative, in favor of sources of renewable generation with higher impacts - such as large-scale hydro and/or biomass;
- d. Makes the bare allegation that waste construction impacts for all renewable generation types are similar to constructing one cooling tower on the IP site, resulting in LARGE impacts for all generation types; FSEIS § 8.3.5.1, p. 6-62;
- e. Makes the bare allegation that “the biomass alternative would have impacts similar to a coal-fired plant of similar capacity,” FSEIS § 8.3.5.1, p. 8-61, ignoring the fact that bio-mass plants are carbon neutral sources while coal plants add substantially to the carbon burden;

Singly, and even more so, cumulatively, the above errors limit consideration of the full range of generation sources and their environmental impacts that would be available if the Indian Point units were not relicensed, distort the impact analysis in favor of a relicensing decision, and defeat the FSEIS’s usefulness to decision makers and as a springboard for public discussion on the pros and cons of relicensing Indian Point.

Inexplicably, the FSEIS devotes nearly 10 pages to discussion of the environmental impacts of a coal fired alternative that earlier was “dismissed from individual consideration” that dwarfs, by ten-fold, the space devoted to discussion of more environmentally benign renewable alternatives such as wind and solar. FSEIS § 8.3.4.13, pp. 8-49-59. The FSEIS space that Staff devotes to discussion of an admitted irrelevant alternative dwarfs the space devoted to discussion of relevant and more environmentally benign renewable alternatives. This irrelevance and lack of balance calls into question the FSEIS’s impartiality and balance in analyzing the no-action alternative.

Moreover, Staff’s decision to exclude renewable generation and/or a renewable-conservation alternative from individual consideration fails to address compelling comments and criticism, and current market developments. Indeed, the FSEIS elsewhere acknowledges the

rapid growth in New York energy conservation programs (8-42, 43) and renewable generation (8-28, 8-61) and the fact that that the choice of generation in New York will be driven increasingly by carbon and other environmental considerations (8-28). Furthermore, the State's expert, David Schlissel, will summarize the conclusions of the 2007 Synapse Report and will testify that New York has a technical/practical potential for renewable resources of more than 141,000 GWh by the year 2018.⁹⁸ Combined, Indian Point Units 2 and 3 produce approximately 15,000 GWh annually.

Entergy and Staff rely on two main arguments in defense of the limited range of analysis of the no-action alternative in the FSEIS. Most of this defense is in support of the analysis of alternatives to Indian Point other than the no-action alternative but, since as noted above, the no-action alternative is essentially ignored in the FSEIS, the State will assume these arguments also apply to the document's thin analysis of the no-action alternative.

First, Entergy argues that any agency need not consider every available alternative since "NEPA does not require a separate analysis of alternatives which are not significantly distinguishable from alternatives actually considered, or which have substantially similar consequences."⁹⁹

Here, however, the State has demonstrated that the FSEIS is deficient because it lacks any site-specific environmental review for whole categories of energy sources (conservation,

⁹⁸ See 2007 Synapse Report, pp. 7-11, Exh. NYS000052; NYS 9-33: ¶¶ 24-31; Declaration of David A. Schlissel, dated February 3, 2011 ("2011 Schlissel Decl.") ¶¶ 24-31 Exh. NYS000054. The technical/practical potential of a renewable resource reflects practical constraints such as energy generation capacity factors and manufacturing base, developable land resources, and limited social constraints, to the "pure" technical potential value to produce a more achievable estimate. New York State Energy Planning Board, *2009 NYS Energy Plan: Renewable Energy Assessment* (December 2009) ("2009 NYS REA") at p. 7, Exh. NYS000068.

⁹⁹ Entergy Answer on NYS 37 at p. 9.

purchased electrical power, and a renewable/energy efficiency combination). Thus, there is no factual basis to support the exclusion of these sources based on the alleged similarity of their impacts to other sources.

Second, Staff and Entergy further argue that the FSEIS has satisfied NEPA's "rule of reason" in its choice of alternatives, and cites *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519 (1978), to argue that given the constraints on an agency's time and resources, it need not 'ferret out every possible alternative, regardless of how uncommon or unknown that alternative may have been at the time the project was approved.¹⁰⁰

Yet, as the Supreme Court also observed in *Vermont Yankee* "the concept of 'alternatives' is an evolving one, requiring the agency to explore more or fewer alternatives as they become better known and understood," and a Licensing Board's decision with respect to the adequacy of the alternatives analysis required by NEPA has to be judged by the information then available to it.¹⁰¹ Here the NRC was not asked to track down uncommon or unknown alternatives. Rather, the NRC was asked, well in advance of publication of the FSEIS, to fairly evaluate information about viable sources of generation and energy efficiency that New York and other parties submitted to the agency. NEPA obliges an agency to revisit its alternatives analysis, including a true no-action alternative, where, as here, there are materially changed circumstances that affect the factors relevant to the development and evaluation of alternatives.¹⁰²

Entergy and Staff's argument in support of limited evaluation of the consequences of the

¹⁰⁰ Entergy Answer at p. 10, citing *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 551 (1978).

¹⁰¹ *Id.* at 552-553.

¹⁰² *Natural Res. Def. Council*, 421 F.3d at 809, 813-14.

no-action alternative lacks merit in several other respects. First, it ignores the conclusions of the GEIS that the likely consequences that can follow denial of relicensing in a “no-action” scenario will include energy conservation, purchased electrical power, and various forms of renewable generation or some combination thereof. Furthermore, as the GEIS acknowledges, energy conservation, renewable generation, purchased electrical power, and combinations thereof, are hardly “uncommon or unknown,” nor does New York demand that Staff “ferret [them] out.” Rather, these are energy sources that New York is intending to pursue and the existence of which has been made known to Staff. Thus the FSEIS’s failure to provide any site-specific environmental impacts analysis for these energy sources is unreasonable and violates NEPA’s “hard look” requirement.

In the Matter of Pa’ina Hawaii, LLC (Materials License Application), CLI-10-18, Docket No. 30-36974-ML, (July 8, 2010) the NRC held that the adequacy of an alternatives analysis is not based on the number of alternatives examined, but rather the substance of the alternatives. “So long as all reasonable alternatives have been considered and an appropriate explanation is provided as to why an alternative was eliminated, the regulatory requirement is satisfied.” The FSEIS fails to meet these applicable standards, as its analysis of the no-action alternative is neither complete, rational nor substantive with respect to whole categories of replacement power.

Lastly, new arguments or evidence introduced for the first time in prefiled testimony by Staff or Entergy to justify Staff’s or Entergy’s narrow view of the consequences of the no-action alternative, which are not contained in the FSEIS, are irrelevant to the State’s contention, since the issue before the Board is whether the FSEIS itself complies with NEPA by providing the decision makers and the public with a full discussion of the reasonable alternatives to relicensing that addresses public criticism of the DSEIS. A fundamental requirement of NEPA is that the

basis for Staff's decisions must be transparent and articulated within the FSEIS for public review. Accordingly, the Board must reject any post-hoc rationalizations offered by Staff at hearing, and limit its review to the text of the FSEIS to determine if the FSEIS provides the public with an accurate, transparent, and objective impact analysis of the economic and environmental costs of reasonable alternatives to relicensing that is responsive to the public comments and criticisms of the DSEIS.¹⁰³

III. THE FSEIS'S "NO-ACTION" ALTERNATIVE ANALYSIS IS SO DEFICIENT THAT IT DOES NOT PERMIT A RATIONAL DECISION MAKER TO MAKE A DETERMINATION REGARDING THE ENVIRONMENTAL IMPACTS OF NOT RELICENSING INDIAN POINT

As explained by the NRC in *The Mtr. Of Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna ESP Site) 65 N.R.C. 539 (June 29, 2007), the law, regulations, and case law require the Board to independently review Staff's environmental analyses to ensure compliance with NEPA, and to independently consider the final balance among conflicting factors, regardless of whether NEPA issues are raised by an intervenor. *Accord Calvert Cliffs' Coordinating Comm., Inc. v. AEC*, 449 F.2d 1109, 1118 (D.C. Cir. 1971)(invalidating regulations precluding Licensing Board review of NEPA considerations). Thus, Part 51 of the NRC's regulations provide that the Board is the presiding officer or body, not Staff, who will ultimately determine whether the requirements of section 102(2)(A), (C), and (E) of NEPA and the NRC's regulations have been met. *See* 10 C.F.R. §§ 51.104-106. Furthermore, pursuant to 10 C.F.R. §§ 51.91(3)(c), 51.95(c)(4), 51.103(a)(3), (5), and 51.104(a)(3), the NRC or Board must render a Record of Decision based on the information and analysis set forth in the EIS, and

¹⁰³ *Vincent Indus. Plastics, Inc. v. NLRB*, 209 F.3d 727, 739 (D.C. Cir. 2000)(holding that a Court should ignore justifications for agency action which are not part of the record of the document offered to support the action. "Such post-hoc rationalization . . . carry no weight on review."); *accord Spectrum Health Kent Cmty. Campus v. NLRB*, 2011 U.S. App. LEXIS 16161, at 18 (D.C. Cir. 2011).

must state how the alternatives considered in that document and decisions based on it will or will not achieve the requirements of sections 101 and 102(1) of NEPA and of any other relevant and applicable environmental laws and policies. The EIS and Board's determination regarding its sufficiency are subject to judicial review.¹⁰⁴

Here, the FSEIS's failure to make a meaningful comparison between the no-action alternative and granting relicensing deprives the Board of a rational basis to determine whether license renewal should be approved, and therefore does not provide a rational and articulate basis for a Record of Decision that "identifies all alternatives considered," and "discusses preferences among alternatives based on relevant factors," "to determine whether or not the adverse environmental impacts of license renewal are so great that preserving the option of license renewal for energy planning decision makers would be unreasonable." 10 C.F.R. § 51.103 (a)(2),(3), and (5).

If, as occurs in this FSEIS, the analysis fails to consider all the relevant evidence in assessing whether the no-action alternative is viable, then the Board cannot properly make informed relicensing decisions. In refusing to assess new and highly relevant information, Staff disregarded its duty under NEPA to be alert to information that might alter the result of the original analysis and to continue to take a hard look at the environmental effects of a planned action, even after the decision to relicense was initially approved in the DSEIS.

Likewise, pursuant to sections 556 and 557 of the Administrative Procedure Act, an agency's decision on license renewal decisions must rest upon "reliable, probative, and substantial evidence" and must objectively consider all "material issues of fact." As the Board

¹⁰⁴ *Limerick Ecology*, 869 F.2d at 719 (environmental impact statements are final agency action reviewable under Administrative Procedure Act *citing* 5 U.S.C.A. § 704.

noted in its recent ruling on the parties' motions for summary disposition of Contentions NYS-35/36, "a federal agency, such as the NRC, would be acting arbitrarily and capriciously if it did not look at relevant data and sufficiently explain a rational nexus between the facts found in its review and the choice it makes as a result of that review."¹⁰⁵ Thus the agency must objectively consider contradictory evidence or evidence from which conflicting inferences could be drawn,¹⁰⁶ and articulate with clarity and precision its findings and the reasons for its decisions, taking into account such contradictory evidence, so as to permit judicial review of the administrative decision.¹⁰⁷ It is Staff's duty in fulfilling its obligations under NRC regulations to provide the evidentiary basis upon which such clear and precise findings may be made.¹⁰⁸ Here, the FSEIS does not meet those requirements and, accordingly, is legally deficient.

Entergy and Staff mistakenly respond to this contention with the assertion that the State has failed to demonstrate that if the considerations that were ignored in the FSEIS had been considered, it would have produced a different result.¹⁰⁹ In effect, Entergy and Staff attempt to shift the burden of analysis on to New York and other interveners. In *Duke Energy Corporation*

¹⁰⁵ *Entergy Nuclear Operations, Inc., (Indian Point Units 2 and 3)*, Memorandum and Order Ruling on Motion and Cross Motions for Summary Disposition of NYS-35/36, dated July 14, 2011, pp. 11-12, citing *ShieldAlloy*, 624 F.3d at 492-93.

¹⁰⁶ *Universal Camera Corp. v. National Labor Review Board*, 340 U.S. 474 (1951).

¹⁰⁷ *Id.*

¹⁰⁸ *Limerick Ecology*, 869 F.2d 719 (noting that statements by an agency of the reasons for its determinations in the EIS are crucial to effective judicial review).

¹⁰⁹ If the standard were as Entergy and Staff assert, it is unlikely any environmental contention would be accepted since, given Staff's position in the DSEIS and FSEIS, it does not appear that any information, no matter how compelling, would cause Staff to alter its view that Indian Point should be relicensed. The proper standard is whether a contention, if ultimately successful, would be a material factor in the Board's relicensing decision. By admitting this consolidated contention, the Board has already answered that question in the affirmative. Board Order, June 16, 2009, p. 13.

(“*Duke Energy*”) (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2) 56 N.R.C. 1 (2002), the NRC rejected this argument. There the Commission wrote that “the only relief possible [under NEPA] is further analysis. But the adequacy and accuracy of environmental analyses and proper disclosure of information are always at the heart of NEPA claims, if ‘further analysis’ is called for, that in itself is a valid and meaningful remedy under NEPA.” *Duke Energy*, 56 N.R.C. at 10. The primary obligation of satisfying the requirements of NEPA rests on the agency, not the interveners.¹¹⁰ In addition, Staff and Entergy simply ignore the State’s substantial evidence that an actual comparison between the environmental impacts of the no-action alternative and the impacts identified from license renewal could materially alter the final decision on whether relicensing should be approved.

The errors and omissions in the FSEIS discussed above overstate the need for relicensing the Indian Point units. Cumulatively, these errors and omissions marginalize meaningful consideration of the no-action alternative, and reduce the impacts analysis to a comparison of nuclear and fossil fuels only.¹¹¹ To the extent the FSEIS restricts consideration of clean energy sources in favor of a comparison of license renewal to fossil fuel generation, the FSEIS exhibits bias and conflicts with the Energy Reorganization Act of 1974, which limits the role of the NRC

¹¹⁰ See NEPA § 102(2)(C); see also *Dep’t of Transp.*, 541 U.S. at 765; *Llio’ulaokalani Coalition v. Rumsfeld*, 464 F.3d 1083, 1092 (9th Cir. 2006); *Louisiana Energy Services*, CLI-98-3, 47 NRC at 89 (April 3, 1998).

¹¹¹ Indeed, the current FSEIS appears to be a modern variant of the pattern identified by former NRC Commissioner Peter Bradford wherein the two principal energy alternatives examined by the NRC are a large coal plant or nuclear reactor. See Declaration of Peter A. Bradford, dated November 28, 2007 (“2007 Bradford Decl.”), at ¶¶ 8, 9 Exh. NYS000105; see also Gerald Warburg, Memorandum, *A Study of NRC Procedures for Assessing Need for Power and Alternative Energy Sources in Fulfillment of NEPA Requirements for Environmental Impact Statements* (1979) (“1979 Warburg Study”) Exh. NYS000116.

to regulation and not promotion of nuclear power.¹¹² Clearly, an EIS may not be based on incorrect assumptions or data.¹¹³ The above errors violate NEPA's fundamental demand that federal agencies rely on "high quality" information and "accurate scientific analysis"¹¹⁴ in their decision making, and affirmatively ensure "the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements." 40 C.F.R. § 1502.24.

The State's primary concern is not merely a lack of detail in the "no-action" discussion, but a lack of balance and evenhandedness; that is, the FSEIS's discussion of the likely generation and energy efficiency and energy conservation measures in the event of license denial includes an extensive description of the costs of replacing Indian Point with primarily fossil fuel generation, but is virtually silent on the benefits of not relicensing Indian Point and replacing its generation with energy conservation, renewable generation, purchased electrical power, repowered facilities, or some combination thereof. In effect the FSEIS created by NRC Staff reveals that Staff has already concluded every license renewal is environmentally preferable to the no-action (non-relicensing) alternative, and that the NEPA analysis required by NRC regulations does not require a full and fair consideration of site-specific alternatives to relicensing. Such a view should not be allowed to stand and should not be permitted to foreclose a thorough and balanced review of the environmental costs and benefits of denial of license renewal for Indian Point. Absent such a full and fair review, license renewal must be denied.

¹¹² See 40 C.F.R. § 1502.2(g) "Environmental impact statements shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made."

¹¹³ *Id.* at § 1500.1(b) ("Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA."); *Native Ecosystems*, 418 F.3d at 964-65.

¹¹⁴ 40 C.F.R. § 1500.1(b); *Conservation Northwest*, 674 F. Supp. 2d at 1249.

Lacking balance and analysis, the FSEIS merely emphasizes the costs of fossil fuel generation without clearly delineating the benefits of clean energy, energy efficiency and/or energy conservation reasonably available under the no-action alternative or the principal reasons why the no-action alternative is summarily eliminated from further consideration. In the absence of a complete, site-specific environmental impact analysis of the no-action alternative, the FSEIS fails to provide the public or the decision-makers with a full and fair assessment of the costs and benefits of relicensing.

In failing to provide the Board and the public complete and balanced discussion of the no-action alternative that is responsive to public and State comments on the DSEIS, NRC Staff have presented a document that fails to meet NEPA's core requirements and "swept serious criticism ... under the rug."¹¹⁵ Furthermore, in failing to meaningfully consider clean energy sources, energy conservation and energy efficiency reasonably available to replace Indian Point's capacity if its units are retired at the end of their current license terms, Staff "never considered an entire category of reasonable alternatives and [has] thereby ruined its environmental impact statement."¹¹⁶

CONCLUSION

The FSEIS fails to provide an unbiased, rational, and articulate basis for a Record of Decision that "identifies all alternatives considered," and "discusses preferences among alternatives based on relevant factors," "to determine whether or not the adverse environmental impacts of license renewal are so great that preserving the option of license renewal for energy

¹¹⁵ *Citizens For Alternatives To Radioactive Dumping v. U.S. Dept. of Energy*, 485 F.3d 1091, 1096 (10th Cir. 2007).

¹¹⁶ *Simmons v. U.S. Army Corps of Engineers*, 120 F.3d 664, 670 (7th Cir.1997).

planning decision makers would be unreasonable.” 10 C.F.R. § 51.103 (a)(2),(3), and (5). Thus, Entergy’s application for license renewal cannot lawfully be granted.

Respectfully submitted,

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Dated: December 14, 2011