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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	Docket Nos. 50-247-LR and 50-286-LR
	)	
ENTERGY NUCLEAR OPERATIONS, INC.	)	
	)	
(Indian Point Nuclear Generating Units 2 and 3)	)	
	)	March 30, 2012

ENTERGY'S STATEMENT OF POSITION ON CONTENTION NYS-37 (ENERGY ALTERNATIVES)

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Pursuant to 10 C.F.R. § 2.1207(a)(1) and the Atomic Safety and Licensing Board's ("Board") Order Granting NRC Staff's Unopposed Time Extension Motion,[1] Entergy Nuclear Operations, Inc. ("Entergy") submits this Statement of Position ("Statement") on New York State ("NYS") Contention 37 ("NYS-37"). This Statement is supported by the Prefiled Testimony of Entergy Witnesses Donald P. Cleary, David Harrison Jr., and Eugene T. Meehan on Contention NYS-37 ("Energy Alternatives") ("Entergy Testimony"), and the exhibits thereto (Entergy Exhibits ENT00015B, ENT00019B, ENT000133, ENT000136, ENT000147, and ENT000480 to ENT000519). For the reasons discussed below, NYS-37 lacks merit and should be resolved in favor of Entergy and the U.S. Nuclear Regulatory Commission ("NRC" or "Commission") Staff.

I. PRELIMINARY STATEMENT

NYS-37, an environmental contention, challenges whether Entergy and the NRC Staff correctly analyze the availability and environmental impacts of energy conservation, purchased

[1] Licensing Board Order Granting NRC Staff's Unopposed Time Extension Motion and Directing Filing of Status Updates (Feb. 16, 2012) (unpublished).

electrical power, and renewable generation to replace Indian Point Nuclear Generating Units 2 and 3's (respectively, "IP2" and "IP3," and collectively, "Indian Point" or "IPEC") baseload power under the no-action alternative (*i.e.*, under the assumption that the operating licenses for IP2 and IP3 are not renewed), to the extent required by the National Environmental Policy Act ("NEPA").[2] According to NYS, the testimony of its witnesses, Mr. David A. Schlissel, Mr. Peter A. Bradford, and Mr. Peter J. Lanzalotta, and their previously submitted expert reports, declarations, and the exhibits, show that the Staff's Final Supplemental Environmental Impact Statement ("FSEIS")[3] relies on outdated information, and ignores recent market changes, as well as sponsored initiatives in New York State, which, among other things, will increase the supply of energy conservation and renewable energy.[4] As such, NYS asserts that the FSEIS fails to provide a rational basis for determining that the environmental impacts of license renewal are not so great that preserving the option of license renewal would be unreasonable.[5] As Entergy's testimony demonstrates, however, these claims lack basis in law and in evidence.

As a threshold legal matter, NEPA does not require particular environmental outcomes. Rather, it requires only that agencies take a "hard look" at a proposed action's environmental impacts and reasonable alternatives to that action.[6] Moreover, the Commission has held that reasonable alternatives are those that will bring about the ends of the proposed action, taking into

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2 *See* State of New York Initial Statement of Position [on] Contention NYS-9/33/37 ("NYS-37") at 1 (Dec. 14, 2011) ("NYS SOP") (NYS000045).

3 NUREG-1437, Supp. 38, Generic Environmental Impact Statement for License Renewal of Nuclear Plants Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3 (Dec. 2010) ("FSEIS") (NYS00133A-J).

4 *See* NYS SOP at 2.

5 *Id.* at 70-71.

6 *See La. Energy Servs., L.P.* (Claiborne Enrichment Ctr.), CLI-98-3, 47 NRC 77, 87-88 (1998); *see also Balt. Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 97-98 (1983) (NEPA requires agency to take a "hard look" at environmental consequences prior to taking major action).

consideration the economic goals of a private applicant.[7] As the Board has recognized, the purpose of Indian Point's license renewal is to provide the option of generating "approximately 2158 MWe of base-load energy for an additional 20 years of operation."[8] As a result, NRC need only analyze the environmental impacts of alternatives that are capable of providing "technically feasible and commercially viable" baseload power during the license renewal period.[9] Moreover, pursuant to 10 C.F.R. § 51.95(c)(2), need for power is *per se* outside the scope of license renewal NEPA reviews.

NYS attempts to avoid the directly-applicable Commission case law regarding the need to consider only baseload alternatives and regulation barring consideration of need for power by arguing instead that the NRC should perform additional evaluation of conservation, renewables, and other *non-baseload* energy resources and determine "how much of Indian Point's capacity must be replaced"[10] (*i.e.*, *need for power*) under the no-action alternative. But the NRC's long-standing approach has been to address energy sources as an alternative to meet the project's purpose, not as consequences of the no-action alternative.[11] Consistent with this practice, and as

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7 *See Hydro Res. Inc.* (P.O. Box 15910, Rio Ranch, N.M. 87174), CLI-01-4, 53 NRC 31, 55-56 (2001) (*citing Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 195-96 (DC Cir. 1991); *City of Grapevine v. Dep't of Transp.*, 17 F.3d 1502, 1506 (D.C. Cir. 1994)); *see also NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-05, 75 NRC __, slip op. at 49 (Mar. 8, 2012).

8 *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 & 3), LBP-08-13, 68 NRC 43, 92 (2008).

9 *See Seabrook*, CLI-12-05, slip op. at 55.

10 State of New York's Answer to Entergy's Motion in Limine to Exclude Portions of Pre-Filed Testimony and Exhibits for Contention NYS-37 (Energy Alternatives) at 7 (Feb. 17, 2012) ("NYS Answer to NYS-37 MIL"), *available at* ADAMS Accession No. ML12048B408.

11 *See* Final Rule, Environmental Review of Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467, 28,472 (June 5, 1996) (explaining that the license renewal "environmental review will include a characterization of alternative energy sources as being the alternatives to license renewal and not merely the consequences of the no-action alternative") (NYS000127), *amended by* 61 Fed. Reg. 66,537 (Dec. 18, 1996) (NYS000128).

a matter of NEPA law, the energy sources NYS says should have been addressed differently cannot be considered reasonable alternatives for purposes of this proceeding.[12]

Moreover, it bears noting at the outset that the FSEIS does, in fact, go above and beyond what NEPA requires and considers the environmental impacts of a broad range of alternative energy scenarios that are treated as possible alternatives to IPEC baseload generation. Thus, the FSEIS considers and discusses the impacts associated with new natural gas-fired generation; energy conservation; and combinations of alternatives, including a combination involving repowering an existing fossil-powered plant (400 to 600 MW), renewable generation (600 MW), and a considerable amount of conservation (1000 to 1200 MW). As a result, NYS's complaint cannot be that there was no consideration of scenarios that involve non-baseload resources but, rather only that those scenarios are somehow insufficiently broad or developed.

In their testimony, Entergy's three witnesses, with extensive experience in evaluating alternative energy sources, energy and environmental impacts, and associated electricity market and economic methodologies, demonstrate the NYS claim of additional, allegedly unexamined, alternatives lacks merit. As they demonstrate, in assessing the no-action alternative's environmental impacts, it is essential to determine how "baseline" conditions with Indian Point would change under the no-action alternative; *i.e.*, what incremental resources would replace IPEC's lost baseload generation.

Using empirical evaluations to independently confirm the reasonableness of the FSEIS, Entergy's experts identify the environmental impacts of the generation that would likely replace IPEC baseload power under the no-action alternative. Entergy's experts first consider the

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[12] *FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-08, 75 NRC __, slip op. at 9 (Mar. 27, 2012) (holding that for an alternative energy source to be considered "reasonable" for purposes of a license renewal proceeding, it should be "commercially viable and technically capable" of producing baseload power now or no later than the start of the period of extended operation).

wholesale electric market structure in New York State—which is designed to minimize the costs of meeting electricity demand both in the short-term and the longer-term—and the implications of the relative cost of replacement alternatives. Next, they present empirical estimates of likely replacement generation based upon modeling results from a state-of-the-art energy model—the National Energy Modeling System ("NEMS")—developed and maintained by the Energy Information Administration ("EIA") within the U.S. Department of Energy. Based on those evaluations, they conclude that replacement energy would come primarily from natural gas and coal power plants, with a much smaller amount from renewables and energy conservation.

Entergy's witnesses also address the key issue under NEPA—the environmental impacts of the generation sources that would replace IPEC's baseload generation under the no-action alternative. They demonstrate that the most likely replacement power mix—primarily fossil-fired units—would lead to significant increases in air emissions, including an increase in annual carbon dioxide emissions of about 13.5 million metric tons per year. This is nearly as large as the planned reduction in carbon dioxide emissions under the Regional Greenhouse Gas Initiative ("RGGI"). Additionally, Entergy's witnesses show that replacement alternatives that involve renewables—while unlikely to play a significant role—would also have adverse environmental impacts including the impacts resulting from the new transmission infrastructure that would be required to deliver energy produced by renewables to southeastern New York. Thus, Entergy's witnesses demonstrate that, if anything, the FSEIS understates the likely adverse environmental impacts of the no-action alternative.

NYS and its experts make numerous, general claims regarding the possible sources of energy that could replace IPEC's baseload generation, but they provide no empirical analyses to support their assertions or any environmental impact assessment. As a result, Entergy and the

NRC Staff are left to guess what, under NYS's various theories, the actual likely change in the generation mix would be under the no-action alternative and to guess as to the associated environmental impacts associated with that generation mix. Nonetheless, Entergy's witnesses evaluate NYS's general claims and demonstrate they suffer from four fundamental flaws: (1) failure to recognize market forces and cost-minimization; (2) conflation of developments that affect the baseline with developments that affect the no-action alternative; (3) failure to evaluate the impacts of baseline changes; and (4) failure to provide empirical modeling. In doing so, Entergy's experts address and refute NYS's evidence, thereby further demonstrating that NYS-37 and supporting evidentiary submissions lack legal, factual, and technical merit.

II. PROCEDURAL HISTORY OF CONTENTION NYS-37

A. Original Contention NYS-9

On April 23, 2007, Entergy applied to renew the IP2 and IP3 operating licenses for 20 years beyond their current expiration dates of September 28, 2013, and December 12, 2015, respectively. After the NRC published a Federal Register notice of opportunity for hearing,[13] NYS filed a petition to intervene, proposing various contentions.[14]

Of relevance here, Contention NYS-9, as originally proposed, alleged that Entergy's Environmental Report ("ER") analysis of the "no-action" alternative should have considered energy conservation in its analysis of alternatives that are able to replace Indian Point's full base-

[13] Notice of Acceptance for Docketing of the Application and Notice of Opportunity for Hearing Regarding Renewal of Facility Operating License Nos. DPR-26 and DPR-64 for an Additional 20-Year Period, 72 Fed. Reg. 42,134 (Aug. 1, 2007).

[14] New York State Notice of Intention to Participate and Petition to Intervene (Nov. 30, 2007) ("NYS Petition"), *available at* ADAMS Accession No. ML073400187.

load generation capacity of approximately 2,158 gross MW and that, at a minimum, the ER should analyze energy conservation as part of the "no-action" alternative.[15]

Entergy opposed the admission of NYS-9 because NYS did not show that conservation can meet the project goal of providing 2,158 MW of base-load generation and thus is not a reasonable alternative to license renewal.[16]

In July 2008, the Board admitted NYS-9 as a "narrow" contention of omission, finding that it raised a material dispute regarding the need for Entergy's ER to analyze the potential environmental impact of energy conservation that may result from the no-action alternative.[17] However, the Board denied admission of NYS-9, insofar as it alleged that Entergy's overall energy alternatives analysis—for the defined goal of producing 2,158 MW of base-load power generation—is deficient because it ignores energy conservation.[18] In rejecting that portion of NYS-9 relating to Entergy's overall energy alternatives analysis, the Board found the reasonable alternatives for license renewal to be limited to discrete electric generation sources that are feasible technically and available commercially.[19]

B. Contention NYS-33

In December 2008, the NRC Staff issued the Draft Supplemental Environmental Impact Statement ("DSEIS"), which, among other things, contained an evaluation of the environmental impacts of the following alternatives:

- Coal-fired generation;

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15 *See* NYS Petition at 106.

16 Answer of Entergy Nuclear Operations, Inc. Opposing New York State Notice of Intention to Participate and Petition to Intervene at 74-79 (Jan. 22, 2008).

17 *Indian Point*, LBP-08-13, 68 NRC at 93.

18 *See id.*

19 *See id.* at 93, 95-96, 99.

- Natural-gas fired generation;
- A combination of alternatives consisting of gas-fired plant (400 MW); renewable generation (200 to 400 MW, primarily wood and wind); conservation (500 to 800 MW); and purchased/imported power (800 MW).[20]

In February 2009, NYS filed NYS-33 in response to the DSEIS.[21] In addition to updating NYS-9 to also challenge the DSEIS, NYS-33 alleged that the DSEIS violated NEPA because it ignored significant new information and failed to provide a rigorous analysis of the costs, benefits, and feasibility of energy conservation and efficiency, the viability of renewable energy resources, energy transmission capacity, and possible combinations of different energy sources under the "no-action" alternative.[22] In particular, NYS alleged that the DSEIS incorrectly assumes that "energy conservation would only result in a savings of 800 MW," that "wind power or other renewable energy sources . . . could [only] provide 200 to 400 MW [of energy] to replace either or both [Indian Point] units," and that the two combination alternatives the DSEIS analyzes were "artificially narrow and arbitrary."[23]

Entergy opposed the admission of NYS-33, again arguing that conservation cannot meet the project goal of providing 2,158 MW of base-load generation and thus need not be considered under NEPA, whether as part of the no-action alternative or otherwise.[24]

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20 DSEIS at § 8.3 (Environmental Impacts of Alternatives to License Renewal) (NYS00132B-C).

21 *See* State of New York Contentions Concerning NRC Staff's Draft Supplemental Environmental Impact Statement at 23-34 (Feb. 27, 2009) ("NYS-33" or "NYS DSEIS Contentions").

22 *See id.* at 20-34.

23 *Id.* at 25, 27, 33.

24 *See* Answer of Entergy Nuclear Operations, Inc. Opposing New and Amended Environmental Contentions of New York State at 31-32 (Mar. 24, 2009).

Thereafter, on March 18, 2009, NYS also filed comments on the DSEIS that, among other things, presented essentially the same criticisms of the DSEIS contained in NYS-33.[25] In short, NYS again asserted that the DSEIS failed to adequately consider conservation and efficiency, the viability of renewable energy resources, expanded energy transmission transfer capability, and appropriate combinations of different alternative energy sources.[26]

In June 2009, the Board admitted NYS-33 and consolidated it with NYS-9.[27] The Board ruled that NYS-33 directly challenged the NRC Staff's findings in the DSEIS that energy conservation would only result in a savings of 800 MW, and that wind power or other renewable energy sources could only provide 200 to 400 MW of energy to replace either or both IPEC units.[28] The Board further noted that NYS-33 alleged that the two combination alternatives analyzed in the DSEIS were "artificially narrow and arbitrary.[29]

C. Contention NYS-37

The Staff issued its FSEIS in December 2010, substantially modifying and augmenting its alternatives evaluation in response to comments submitted by NYS and others. The FSEIS, among other things, contains an evaluation of the environmental impacts of the following alternatives:

- Natural-gas fired generation;
- Energy conservation;

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25 *See* Comments Submitted by the New York State Office of the Attorney General on the Draft Supplemental Environmental Impact Statement Prepared by the Staff of the Nuclear Regulatory Commission for the Renewal of the Operating Licenses for Indian Points Units 2 and 3, Buchanan, New York at 21-37 (Mar. 18, 2009) (NYS000134).

26 *See id.*

27 Licensing Board Order (Ruling on New York State's New and Amended Contentions) at 13 (June 16, 2009) (unpublished).

28 *See id.*

29 *Id.* at 12.

- A combination of alternatives consisting of gas-fired plant (400 to 600 MW); renewable generation (600 MW primarily wood and wind, compared to the DSEIS's 200 to 400 MW); conservation (1000 to 1200 MW, up significantly from the DSEIS's 500 to 800 MW).[30]

In addition, in response to public comments indicating that new coal-fired generation is unlikely due to policies like the RGGI, the Staff moved the coal-fired generation evaluation to the section addressing generation sources that were eliminated as reasonable alternatives.[31]

In February 2011, NYS submitted NYS-37, which updated consolidated contentions NYS-9/33 to apply to the FSEIS, and further challenged the Staff's analysis and recommendations with respect to new alternatives included in the FSEIS.[32] Specifically, NYS argued that the FSEIS: (1) failed to meaningfully consider significant new information about non-fossil fuel alternatives; (2) failed to respond to NYS's criticism of the DSEIS; (3) failed to meaningfully analyze renewable sector generation, energy efficiency and conservation, purchased electrical power, and combined heat and power; and (4) relied on outdated and inaccurate information.[33]

Without waiving its arguments opposing the admission of NYS-9/33, Entergy did not oppose admission of NYS-37 to the extent it seeks to "update" or incorporate the underlying support for NYS-9/33.[34] However, Entergy opposed the remainder of NYS-37 because, among

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30 FSEIS at § 8.3 (NYS00133C).

31 *Id.* at 8-49.

32 State of New York Contention Concerning NRC Staff's Final Supplemental Environmental Impact Statement at 17, 26 (Feb. 3, 2011) ("Contention NYS-37"), *available at* ADAMS Accession No. ML110680290.

33 *See id.* at 3.

34 Applicant's Answer to New York State's Contention 37 Concerning the NRC Staff's Evaluation of Energy Alternatives at 2, 13 (Mar. 7, 2011).

other reasons, NYS essentially argued that the FSEIS overestimates the need for power and such claims are outside the scope of this proceeding.[35]

The Board admitted NYS-37 to the extent that it updated and superseded NYS-9/33 to apply to the FSEIS and consolidated all three contentions as NYS-37.[36] The Board, however, made clear it was "not authorizing a broad-ranged inquiry into alternative scenarios and the need for power which would be precluded by Commission regulations, and which [the Board had] previously excluded."[37] Thus, the Board admitted NYS-37 with this express limitation.

D. NYS's Testimony and Positions

On December 14, 2011, NYS filed its statement of position, Mr. Schlissel's, Mr. Bradford's, and Mr. Lanzalotta's direct testimony and previously-submitted reports and declarations, and various other exhibits. Their testimony overlaps on many energy planning-related issues. However, Mr. Schlissel focuses primarily on demand-side management, energy efficiency, and alternative generation sources; Mr. Lanzalotta on transmission grid issues; and Mr. Bradford on the need for power from Indian Point and assessing the no-action alternative's economic costs and benefits.

Taken as a whole, the main crux of NYS's testimony is that, in developing alternatives to IPEC, the FSEIS purportedly did not account for:

1. New York's goal of obtaining 30 percent of electricity demand from renewables by 2015 ("30 by 15") and the additional renewable generation it has encouraged;

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35 *Id.* at 13-14.

36 *See* Licensing Board Order (Ruling on Pending Motions for Leave to File New and Amended Contentions at 34, 71 (July 6, 2011) ("July 6, 2011 Order").

37 *Id.* at 35 (citation omitted).

2. New York's goal of reducing electricity demand by 15 percent in 2015 relative to the demand forecast produced in 2007 when the goal was set ("15 by 15") and the energy conservation it has spawned;
3. Significant decreases in electricity demand in New York and decreases in forecasts of future electricity demand due to the recession;
4. New York's recent and proposed generation capacity additions;
5. Increased supply and lower future prices forecasted for natural gas; and
6. New transmission lines that increase the transfer capability to deliver power to the downstate region Indian Point serves.[38]

In addition to discussing these policy and energy market developments, NYS's experts also refer to various third party reports that estimate the level of potential future resources that *could* replace generation at Indian Point—including renewables, energy conservation, and purchased power through transmission additions and upgrades.[39] Notably, these third party estimates on which NYS relies do not themselves predict that these potential resources actually *would* be put in place if Indian Point generation were not available.[40] Indeed, despite calling for a "site-specific environmental impact analysis of the no action alternative,"[41] NYS's experts provide no empirical estimates identifying the actual likely change in the generation mix, or of

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38 *See* NYS SOP at 43-55 (NYS000045).

39 *See, e.g.*, Schlissel Test. at 18-19 (NYS000046) (noting that a presentation by Optimal Energy has projected 61,506 GWh of economical potential energy efficiency in New York State).

40 *See, e.g.*, *id.* at 36 (stating that transmission "enhancements and upgrades *could* increase the capability to import power into the Hudson River Valley and Downstate New York") (emphasis added).

41 NYS SOP at 70 (NYS000045).

the resulting adverse environmental impacts, if Indian Point's baseload energy were made unavailable.[42]

In addition, the NYS testimony incorrectly asserts that the FSEIS includes a need for power analysis and then proceeds to argue that this non-existent analysis—which, in any event, is expressly outside NYS-37's scope—is somehow flawed.[43] All three NYS witnesses, for example, claim to identify "deficiencies" in the FSEIS consideration of the "need for power" from IPEC.[44]

E. Entergy's Motion in Limine and the Board's Ruling

On January 30, 2012, Entergy filed a Motion in Limine seeking to exclude portions of NYS's direct testimony,[45] a Motion the NRC Staff supported and NYS opposed.[46] In particular, Entergy sought to exclude select testimony and certain NYS exhibits, arguing that the need for power from Indian Point and related issues of grid reliability and stability are outside the scope of NYS-37.[47]

In its opposition, NYS acknowledged that "there is no dispute" that approximately 2200 MW of electricity will not be delivered to New York customers if Indian Point is not relicensed,

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42 *See, e.g.*, Bradford Test. at 29 (NYS000048) (indicating only that "the impacts of the no-action alternative under a combination of energy conservation with renewables (and perhaps a small share of natural gas) *might* well be smaller than the impacts of relicensing or the FSEIS's combination no-action alternative scenarios") (emphasis added).

43 *See, e.g.*, Schlissel Test. at 5:9-14; 7:11-16; 12:12-17; 33:4-6 (NYS000046); Lanzalotta Test. at 3:14-18; 12:9-11 (NYS000047); Bradford Test. at 5:7-12; 13:18-22, 14:6-8 (NYS000048).

44 Schlissel Test. at 5:9-14 (NYS000046); Lanzalotta Test. at 3:14-18 (NYS000047); Bradford Test. at 5:7-12 (NYS000048).

45 Entergy's Motion in Limine to Exclude Portions of the Pre-filed Testimony and Exhibits for Contention NYS-37 (Energy Alternatives) (Jan. 30, 2012) ("Entergy Motion in Limine"), *available at* ADAMS Accession No. ML12030A210.

46 NRC Staff's Answer in Support of Entergy's Motion in Limine to Exclude Portions of Pre-Filed Testimony and Exhibits for Contention NYS-37 (Energy Alternatives) (Feb. 9, 2012), *available at* ADAMS Accession No. ML12040A264; NYS Answer to NYS-37 MIL at 1-2.

47 *See* Entergy Motion in Limine at 1-2.

and it is necessary to make some judgments about the likely scenarios that will evolve as a result.[48] But despite repeated direction from the Board that need for power is outside the scope of this proceeding per regulation, NYS argued that the NRC must determine "how much of Indian Point's capacity must be replaced" and that the Staff has opened the door to "discuss the need for power from Indian Point."[49]

On March 3, 2012, the Board denied Entergy's Motion, but noted that NYS "may not conduct 'a broad-ranged inquiry into . . . the need for power' because such an inquiry in this proceeding is prohibited by 10 C.F.R. § 51.95(c)(2)."[50]

In light of the Board's order, NYS's testimony regarding need for power and related issues is not addressed in Entergy's testimony or this Statement. Entergy does not concede—and should not be deemed by virtue of the scope of its testimony to be conceding—that NYS's arguments concerning the need for IPEC have any merit.

III. APPLICABLE LEGAL AND REGULATORY STANDARDS

A. Controlling NEPA Principles

NYS-37 arises under NEPA, which requires that federal agencies, such as the NRC, prepare an environmental impact statement ("EIS") in conjunction with "major Federal actions significantly affecting the quality of the human environment."[51] NEPA does not mandate substantive results; rather, it imposes procedural restraints on agencies, requiring them to take a "hard look" at a proposed action's environmental impacts and reasonable alternatives to that

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48 NYS Answer to NYS-37 MIL at 8.

49 *Id*. at 7, 9.

50 Licensing Board Order (Granting in Part and Denying in Part Applicant's Motions *in Limine*) at 19 (Mar. 6, 2012) ("March 6, 2012 Order") (unpublished) (citation omitted).

51 42 U.S.C. § 4332(2)(C).

action.[52] In this regard, the Commission has emphasized that NRC hearings must focus on whether the "NRC Staff has failed to take a 'hard look' at significant environmental questions—i.e., the Staff has unduly ignored or minimized pertinent environmental effects."[53]

In determining whether the FSEIS is sufficient under NEPA, the Board considers the record as a whole. The record of decision ultimately includes the adjudicatory record and the Board decision.[54] Thus, in NRC licensing proceedings, "the ultimate NEPA judgments regarding a facility can be made on the basis of the entire record before a presiding officer, such that the EIS can be deemed amended *pro tanto*."[55] Therefore, the Board may consider the full record before it, including the testimony and exhibits at the hearing, to conclude that "the aggregate is sufficient to satisfy the agency's obligation under NEPA" to take a "hard look" at license renewal environmental impacts and alternatives.[56]

Moreover, in determining whether the agency has satisfied its obligation, both the NRC and the federal courts have emphasized that there are limits to what can be demanded of an agency.[57] Overall, the "hard look" requirement is subject to a "rule of reason."[58] As a result,

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52 *See Claiborne*, CLI-98-3, 47 NRC at 87-88; *see also Balt. Gas & Elec.*, 462 U.S. at 97-98 (NEPA requires agency to take a "hard look" at environmental consequences prior to taking major action).

53 *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-03-17, 58 NRC 419, 431 (2003); *see also Exelon Generating Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 811 (2005) ("There may, of course, be mistakes in the [EIS], but in an NRC adjudication, it is Intervenors' burden to show their significance and materiality. Our boards do not sit to flyspeck environmental documents or to add details or nuances.") (internal quotes omitted).

54 *See, e.g., La. Energy Servs.* (Nat'l Enrichment Facility), CLI-06-15, 63 NRC 687, 707 n. 91 ("Adjudicatory findings on NEPA issues, including our own in this decision, become part of the environmental 'record of decision' and in effect supplement the FEIS."); *Claiborne*, CLI-98-3, 47 NRC at 89 ("In NRC licensing adjudications … it is the Licensing Board that compiles the final environmental 'record of decision' . . . . The adjudicatory record and Board decision . . . become, in effect, part of the FEIS.").

55 *La. Energy Servs.* (Nat'l Enrichment Facility), LBP-05-13, 61 NRC 385, 404 (2005).

56 *See La. Energy Servs., L.P.* (Nat'l Enrichment Facility), LBP-06-8, 63 NRC 241, 286 (2006).

57 *See, e.g.*, *Metro. Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 776 (1983) (citation omitted) ("The scope of the agency's inquiries must remain manageable if NEPA's goal of 'ensur[ing] a fully informed and well considered decision,' is to be accomplished.").

NEPA "does not call for certainty or precision, but an estimate of anticipated (not unduly speculative) impacts."[59] Nor must an EIS "be so all-encompassing in scope that the task of preparing it would become either fruitless or well nigh impossible."[60] And, because there "will always be more data that could be gathered," agencies enjoy "discretion to draw the line and move forward with decisionmaking."[61]

The rule of reason governs both *which* alternatives the agency must discuss, and the *extent* to which it must discuss them.[62] An agency need not consider "remote and speculative" alternatives.[63] In this respect, alternatives that require "significant changes in governmental policy or legislation" are not reasonable alternatives requiring consideration.[64] NEPA also does not require a separate analysis of alternatives which are not significantly distinguishable from alternatives actually considered, or which have substantially similar consequences.[65] With respect to alternatives that were eliminated from detailed study, NEPA requires only a brief discussion of the reasons for their elimination.[66]

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58 *New York Natural Res. Def. Council v. Kleppe*, 429 U.S. 1307, 1311 (1976); *see also Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 767-69 (2004) (rule of reason is inherent in NEPA and its implementing regulations).

59 *La. Energy Servs., L.P.* (Nat'l Enrichment Facility), CLI-05-20, 62 NRC 523, 536 (2005).

60 *Kleppe*, 429 U.S. at 1311 (*citing Natural Res. Def. Council v. Callaway*, 524 F.2d 79, 88 (2d Cir. 1975)).

61 *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC 287, 315 (2010).

62 *Burlington*, 938 F.2d at 195.

63 *Headwaters, Inc. v. Bureau of Land Mgmt.*, 914 F.2d 1174, 1180 (9th Cir. 1990).

64 *Callaway*, 524 F.2d at 93; *see also Shasta Res. Council v. U.S. Dep't of Interior*, 629 F. Supp. 2d 1045, 1059-60 (E.D. Cal. 2009) (holding that agency did not err by failing to consider alternative that would have required legislative appropriation of additional funds because chances of additional appropriations were remote and speculative).

65 *Headwaters*, 914 F.2d at 1181.

66 *See* 10 C.F.R. Pt. 51, Subpt. A, App. A § 5; 40 C.F.R. § 1502.14(a).

B. Relationship Between the Purpose and Need for the Proposed Action and the Alternatives to Be Considered for License Renewal

The terms "reasonable" and "alternatives" are not self-defining.[67] As a result, the courts have held that project alternatives derive from an EIS's statement of purpose and need. The Commission has followed the approach established by the court in *Burlington*, holding that reasonable alternatives are those that will bring about the ends of the proposed action, taking into consideration the economic goals of a private applicant.[68]

As the Board has recognized, the purpose of Indian Point's license renewal is to provide the option of generating "approximately 2158 MWe of base-load energy for an additional 20 years of operation."[69] "Baseload" power refers to a power source that is "intended to continuously produce electricity at or near full capacity, with high availability."[70] As a result, the NRC need only analyze the environmental impacts of alternatives that are now, or by the start of the period of extended operation, "commercially viable and technically capable" of providing baseload power.[71] The focus on commercial viability means that economically impractical alternatives are excluded from the range of alternatives considered under NEPA.[72]

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67 *Burlington*, 938 F.2d at 194-95.

68 *See Hydro Res.*, CLI-01-4, 53 NRC at 55-56 (*citing Burlington*, 938 F.2d at 195-96; *Grapevine*, 17 F.3d at 1506); *see also Seabrook*, CLI-12-05, slip op. at 49.

69 *Indian Point*, LBP-08-13, 68 NRC at 92.

70 *Envtl. Law & Policy Ctr. v. NRC*, 470 F.3d 676, 679 (7th Cir. 2006); *see also Consumers Power Co.* (Midland Plant, Units 1 & 2), ALAB-452, 6 NRC 892, 951 n.272 (1977) ("'Baseload' units are designed to run continuously (except for maintenance) to meet that constant portion of the utility's load.").

71 *Davis-Besse*, CLI-12-08, slip op. at 9; *Seabrook*, CLI-12-05, slip op. at 48, 55.

72 *See* Final Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. at 28,472 (NYS000127) ("This approach does not preclude a consideration of economic costs if these costs are essential to a determination regarding the inclusion of an alternative in the range of alternatives considered (i.e., an alternative's exorbitant cost could render it nonviable and unworthy of further consideration) . . . ."); *see also* Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18,026, 18,027 (Mar. 23, 1981) (ENT000147) ("Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense . . . ."); *Seabrook*, CLI-12-05, slip op. at 53 ("Except in rare cases where there is evidence of unusual predictive reliability, it is

Working from this statement of purpose and need, the Commission has further instructed the NRC Staff and Board 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 decisionmakers would be unreasonable."[73] In establishing this standard, the Commission determined that it would only be unreasonable to preserve the license renewal option when "the impacts of license renewal sufficiently exceed the impacts of all or almost all of the alternatives."[74]

NRC regulations also require consideration of the "no-action" alternative.[75] In a license renewal proceeding, the no-action alternative involves denying the license renewal application.[76] Whether under the no-action alternative or the energy alternatives evaluation, NEPA does not require discussion of every conceivable possibility, but only reasonably foreseeable ones.[77]

C. Need for Power is Outside the Scope of License Renewal NEPA Reviews

In the context of license renewal, an FSEIS is not required to include discussion of need for power.[78] Specifically, 10 C.F.R. § 51.95(c)(2) provides:

> The supplemental environmental impact statement for license renewal is *not required to include discussion of need for power* or the economic costs and economic benefits of the proposed action or of alternatives to the proposed action except insofar as such benefits and costs are either essential for a determination regarding

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not workable to consider, for purposes of NEPA analysis, what are essentially hypothetical or speculative alternatives as a source of future baseload power generation.").

73 10 C.F.R. § 51.95(c)(4) (emphasis added).

74 Final Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. at 28,473 (NYS000127).

75 10 C.F.R. Pt. 51, App. A § 4.

76 NUREG-1555, Supp. 1, Standard Review Plans for Environmental Reviews for Nuclear Power Plants: Environmental Standard Review Plan for Operating License Renewal, § 8.1 (Mar. 2000) (ENT00019B).

77 *See* 40 C.F.R. §§ 1508.7, 1508.8(b).

78 10 C.F.R. § 51.95(c)(2).

> the inclusion of an alternative in the range of alternatives considered or relevant to mitigation.

As the regulation indicates, need for power is *per se* outside the scope of license renewal NEPA reviews. In promulgating this regulation, the Commission clearly stated that "the NRC will neither perform analyses of the need for power nor draw any conclusions about the need for generating capacity in a license renewal review,"[79] which the Board recently affirmed in ruling on Entergy's Motion in Limine.[80] Thus, under the rubric of the no-action alternative, because there is no "need for power" evaluation permitted under NRC regulations, the evaluation simply considers what alternatives are available to replace all of IPEC's baseload power if it were lost.

D. Burden of Proof

At the hearing stage, an intervenor has the initial "burden of going forward"; *i.e.*, it must provide sufficient evidence to support the claims made in the admitted contention.[81] The mere admission of the contention does not satisfy that burden. Moreover, an intervenor cannot meet its burden by relying on unsupported allegations and speculation.[82] Rather, it must introduce

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79 Final Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. at 28,472 (NYS000127) .

80 March 6, 2012 Order at 19 (unpublished) (NYS "may not conduct 'a broad-ranged inquiry into . . . the need for power' because such an inquiry in this proceeding is prohibited by 10 C.F.R. § 51.95(c)(2).").

81 *AmerGen Energy Co.* (Oyster Creek Nuclear Generating Station), CLI-09-7, 69 NRC 235, 269 (*quoting Consumers Power Co*. (Midland Plant, Units 1 & 2), ALAB-123, 6 AEC 331, 345 (1973)) ("The ultimate burden of proof on the question of whether the permit or license should be issued is . . . upon the applicant. But where . . . one of the other parties contends that, for a specific reason . . . the permit or license should be denied, that party has the *burden of going forward* with evidence to buttress that contention. Once he has introduced sufficient evidence to establish a *prima facie* case, the burden then shifts to the applicant who, as part of his overall burden of proof, must provide a sufficient rebuttal to satisfy the Board that it should reject the contention as a basis for denial of the permit or license."); *see also Vt. Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 554 (1978) (upholding this threshold test for intervenor participation in licensing proceedings); *Phila. Elec. Co.* (Limerick Generating Station, Units 1 & 2), ALAB-262, 1 NRC 163, 191 (1975) (holding that the intervenors had the burden of introducing evidence to demonstrate that the basis for their contention was more than theoretical).

82 *See Oyster Creek*, CLI-09-7, 69 NRC 268-70; *see also Phila. Elec. Co.* (Limerick Generating station, Units 1 & 2), ALAB-857, 25 NRC 7, 13 (1987) (stating that an intervenor may not merely assert a need for more current information without having raised any questions concerning the accuracy of the applicant's submitted facts).

sufficient evidence during the hearing phase to establish a *prima facie* case. If it does so, then the burden shifts to the applicant to provide sufficient evidence to rebut the intervenor's contention.[83] While the NRC Staff, not the applicant, has the burden of complying with NEPA,[84] the applicant also has the burden of proof in licensing proceedings if it becomes a proponent of the challenged portion of the Staff's FSEIS.[85] Ultimately, a preponderance of the evidence must support the applicant's position.[86]

IV. ARGUMENT

A. Entergy's Witnesses

This Statement of Position on NYS-37 summarizes testimony from Entergy's witnesses listed below. The testimony, evidence, and opinions these witnesses present are based on their technical and regulatory expertise, professional experience, and personal knowledge of the issues raised in NYS-37. Collectively, these witnesses demonstrate that NYS-37 lacks merit.

1. Donald P. Cleary

Mr. Cleary is an Environmental Safety Consultant with Talisman International, LLC. As summarized in his *curriculum vitae* (ENT000133), he holds a Bachelor of Arts degree in Economics from the University of Massachusetts, Amherst, and a Master of Arts degree in Economics from the University of Florida. Mr. Cleary has more than 38 years of professional experience in the nuclear industry, including more than 25 years as a member of the NRC Staff.

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83 *See, e.g.*, 10 C.F.R. § 2.325; *La. Power & Light Co.* (Waterford Steam Electric Station, Unit 3), ALAB-732, 17 NRC 1076, 1093 (1983) (*citing Midland*, ALAB-123, 6 AEC at 345).

84 *See, e.g.*, *Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), CLI-83-19, 17 NRC 1041, 1049 (1983).

85 *La. Energy Servs., L.P.* (Claiborne Enrichment Ctr.), LBP-96-25, 44 NRC 331, 338-39 (1996) (*citing Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), ALAB-471, 7 NRC 477, 489 n.8 (1978), *rev'd on other grounds*, CLI-97-15, 46 NRC 294 (1997)).

86 *See Pac. Gas & Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 & 2), ALAB-763, 19 NRC 571, 577 (1984).

Mr. Cleary has extensive experience developing and applying NRC's NEPA regulations and guidance, and in particular, evaluating alternative energy sources and socioeconomic impacts. Based on his experience, Mr. Cleary is familiar with the Generic Environmental Impact Statement ("GEIS") and Indian Point FSEIS assessments of such issues, as well as NRC's guidance on conducting energy alternative reviews for license renewals.

2. David Harrison, Jr.

Dr. Harrison is a Senior Vice President at NERA Economic Consulting ("NERA"). As summarized in his *curriculum vitae* (ENT000480), he holds a Ph.D. in Economics from Harvard University, a Bachelor of Arts degree in Economics from Harvard College, and a Master of Science degree in Economics from the London School of Economics. Dr. Harrison was also an Associate Professor at the John F. Kennedy School of Government at Harvard University, where he taught economics, energy and environmental economics and policy, benefit-cost analysis, regional economic development, and other subjects for over a decade. Dr. Harrison has more than 35 years of experience analyzing the benefits, costs and other impacts of energy and environmental policy, including analyses for the U.S. Environmental Protection Agency ("EPA"), the President's Council of Economic Advisors, and for several states and international governments.

Dr. Harrison has extensive experience with New York State's electricity market and economic methodologies used to determine the reasonable alternatives for nuclear power plant license renewal projects, as well as the methods to assess the environmental benefits and costs of energy projects and their alternatives. Dr. Harrison and Mr. Meehan led the NERA team that independently assessed the energy and environmental impacts of the no-action alternative, which is documented in their report entitled, "Potential Energy and Environmental Impacts of Denying Indian Point's License Renewal Applications" (Mar. 2012) (ENT000481).

3. Eugene T. Meehan

Mr. Meehan is also Senior Vice President at NERA. As summarized in his *curriculum vitae* (ENT000482), he holds a Bachelor of Arts degree in Economics from Boston College and has more than 35 years of experience advising electric and gas utility clients in the areas of strategic planning, regulatory strategy, and financial and economic analysis. Mr. Meehan also has extensive experience evaluating economic issues associated with electric power markets in the United States, including in the New York Independent System Operator ("NYISO") region.

Mr. Meehan is familiar with the New York State electricity market, having worked with the State's utilities to develop their framework to assess the economics of conservation investment. He is also familiar with economic methodologies used to determine the reasonable alternatives for nuclear power plant license renewal projects, as well as the methods to assess the environmental benefits and costs of energy projects and their alternatives. As noted above, Mr. Meehan and Dr. Harrison led the NERA team that independently assessed the energy and environmental impacts of the no-action alternative, which is documented in their report entitled, "Potential Energy and Environmental Impacts of Denying Indian Point's License Renewal Applications" (Mar. 2012) (ENT000481).

B. Entergy's Statement of Position

In their testimony, Entergy's witnesses demonstrate that the NRC Staff FSEIS reasonably examines the adverse environmental impacts of the no-action alternative and, if anything, understates the expected adverse environmental impacts if IPEC's baseload power is lost. The FSEIS is, therefore, conservative with respect to evaluating the impacts of license renewal, as it tends to make the no-action alternative look more attractive from an environmental standpoint than it would be in actual fact.

Entergy's witnesses begin by providing background on NRC's long-standing approach to addressing the no-action alternative in license renewal proceedings and by summarizing Entergy's and NRC Staff's separate no-action alternative evaluations. Next, after providing necessary background on the New York State electricity markets and the role of Indian Point, Entergy's witnesses demonstrate that to replace the IPEC baseload generation that would be lost under the no-action alternative, generation would come primarily from natural gas and coal power plants, with a much smaller amount from renewables and energy conservation. Entergy's experts also address and refute NYS's evidence and demonstrate that NYS-37 and supporting evidentiary submissions lack legal, factual, and technical merit. Key aspects of their detailed testimony are summarized below.

1. No-Action Alternative Regulations, Guidance, and Evaluations

In Section IV of Entergy's testimony, Mr. Cleary provides background on NRC's NEPA regulations, guidance, and the license renewal GEIS. Specifically, he focuses on the GEIS's consideration of the "no-action" alternative, which involves examining the potential environmental impacts associated with not renewing the operating licenses for an additional 20-year period.[87] As Mr. Cleary explains, the no-action alternative may lead to the selection of other electric generating sources to meet energy demands, conservation measures, decisions to import power, or a combination of these different options.[88]

In addition, Mr. Cleary discusses two specific aspects of no-action alternative reviews. First, Mr. Cleary explains, the no-action alternative need not exhaustively evaluate issues considered elsewhere in an FSEIS (such as in the separate section on energy alternatives), but

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87 Entergy Test. at A29 (ENT000479).

88 *Id.*

may simply refer to these other discussions.[89] Second, Mr. Cleary makes clear that whether under the no-action alternative or the energy alternatives evaluation, NEPA does not require that every conceivable energy alternative be discussed, but rather focuses on identifying likely and feasible baseload energy sources, not remote, speculative or grossly economically impractical possibilities.[90]

2. The No-Action Alternative Would Result in IPEC Baseload Generation Being Replaced Primarily by Fossil-Fired Generation, Not Renewables and Conservation

In Section VIII of Entergy's testimony, Dr. Harrison and Mr. Meehan demonstrate that, under the no-action alternative, fossil-fueled generation from existing natural gas and coal facilities would primarily replace existing IPEC baseload generation. In support, they first provide background on New York State electricity markets and IPEC's role as a large baseload generation source. Next, they demonstrate the fact that these markets are designed to minimize the costs of meeting electricity demand both in the short-term and the longer-term while satisfying all reliability and operating requirements—and the implications of the relative cost of replacement alternatives. To determine the generation that would likely replace IPEC baseload power under the no-action alternative, Dr. Harrison and Mr. Meehan compare the relative costs of generation sources and then develop empirical estimates of likely replacement generation based upon modeling results from a state-of-the-art energy model—NEMS. These evaluations demonstrate the primary role that existing natural gas and coal facilities would play.

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89 *Id.* at A30.

90 *See id.* at A30-31.

a. New York State Electricity Markets and Indian Point's Role

In Section VIII.A of Entergy's testimony, Dr. Harrison and Mr. Meehan explain that New York and most other states in the Northeast have vertically-disintegrated electricity systems where regulated investor-owned utilities buy most of the power they need from wholesale generating companies, such as Entergy, that are not subject to traditional rate-of-return price regulation.[91] The New York Independent System Operator ("NYISO") manages markets in which generators bid to provide power to the system, and finds the price necessary to ensure sufficient power will be supplied to meet demand.[92] All bidders with bids at or below this market-clearing price receive this price.[93] Thus, the market essentially determines which units generate electricity to meet demand based on the objective of minimizing costs.[94]

Dr. Harrison and Mr. Meehan establish that IPEC is a large facility that provides baseload power, which means that it generally operates at 100 percent power, 24-hours per day, 365 days per year, except for periodic outages.[95] Its generation in 2010 was approximately 10 percent of New York State's total electricity consumption and approximately 17 percent of electricity consumption in southeastern New York State.[96]

b. Importance of Competition and Cost Minimization in New York State Electricity Markets

In Section VIII.B of Entergy's testimony, Dr. Harrison and Mr. Meehan demonstrate that, in New York State's competitive wholesale electricity market, cost minimization is central to

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91 *Id.* at A56.

92 *Id.*

93 *Id.*

94 *Id.*

95 *Id.*

96 *Id.*

two different decisions by power companies: (1) the type of new generation capacity that will be built based on levelized costs; and (2) for the capacity that has been built, the bid that will be submitted into NYISO's wholesale markets based on marginal costs.[97] Companies generally will build new generation capacity only if their expected prices for energy, capacity, and ancillary services are sufficiently above short-run marginal costs to cover capital and other fixed costs.[98] Companies generally will bid to operate their facilities in a given time period (subject to production constraints) if the price will at least cover short-run marginal costs, which are primarily fuel costs in the case of fossil generating units.[99]

For nuclear and some types of renewables (such as wind or run-of-river hydro), marginal costs are small relative to potential market-clearing prices, so they operate virtually whenever they are available.[100] As a result, existing nuclear and renewable units cannot increase generation by operating at higher capacity to provide replacement power if baseload IPEC generation were not available.[101] In contrast, many existing fossil-fuel units have unused capacity and can increase generation by operating at higher capacity in order to provide replacement power under the no-action alternative.[102]

c. Government Support for Renewables and Energy Efficiency

In Section VIII.C of Entergy's testimony, Dr. Harrison and Mr. Meehan describe how federal and New York State government support for renewables affects the relative costs of such generation sources. Specifically, federal tax policies and various State policies subsidize certain

97 *Id.* at A58.

98 *Id.*

99 *Id.*

100 *Id.*

101 *Id.*

102 *Id.*

generation types, particularly renewables, making companies more likely to undertake renewable projects that otherwise would not be cost-effective and profitable.[103] For example, a wind project that otherwise would not be economic under NYISO's market-clearing prices may become economic by virtue of the New York State Renewable Portfolio Standard ("RPS") subsidies in addition to the market-clearing price that its owners will receive.[104]

The RPS is the primary mechanism New York has adopted to achieve its goal of meeting 30 percent of electricity demand in 2015 ("30 x 15") with renewable sources.[105] Roughly two-thirds of that goal was met when it was set, because New York historically has generated substantial amounts of power from hydroelectric plants.[106] To make up most of the remaining goal, the New York State Energy Research and Development Authority ("NYSERDA") administers the RPS program, which is funded by New York's electricity consumers through volumetric surcharges on their monthly utility bills.[107] Under the RPS program, biogas, biomass, liquid biofuel, fuel cells, hydroelectric (limited to upgrades and "new low-impact run-of-river" plants less than 30 MW), solar photovoltaics, tidal ocean power, and wind turbines are eligible for subsidies if their projects are chosen through the RPS request for proposal process.[108]

New York also has set an ambitious "15 x 15" goal, which calls for the State to reduce its energy consumption by 15 percent by 2015 compared to an earlier forecast of "business as usual" electricity consumption in 2015.[109] As part of the State efforts to achieve this goal, in

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103 *Id.* at A59.

104 *Id.*

105 *Id.* at A60.

106 *Id.*

107 *Id.*

108 *Id.*

109 *Id.* at A62.

2008, the New York Public Service Commission ("NYPSC") established an Energy Efficiency Portfolio Standard ("EEPS") program.[110] The EEPS program is funded by volumetric surcharges that utilities assess to New York's consumers on their monthly utility bills.[111] Under that program, the investor-owned distribution utilities provide incentives for customers to reduce their electricity consumption and also fund new conservation programs at NYSERDA.[112]

d. IPEC Baseload Generation Would Primarily Be Replaced by Fossil-Fired Generation Because of Its Lower Cost

In Section VIII.D of Entergy's testimony, Dr. Harrison and Mr. Meehan establish the important distinction between baseline conditions with continued operation of Indian Point and the no-action alternative conditions without Indian Point. As they demonstrate, for purposes of assessing the no-action alternative's environmental impacts, the relevant question is what incremental resources (including conservation) would replace lost output from IPEC; *i.e.*, what would be the difference in resources between the baseline and the no-action alternative.[113] In its answer to Entergy's Motion in Limine on NYS-37, NYS generally agreed this was the proper inquiry.[114] Any energy developments that occur to an equal degree in both the baseline and the no-action alternative are not directly relevant to an evaluation of the environmental impacts of the no-action alternative because they are not a consequence of the no-action alternative—they would occur in any event.[115]

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110 *Id.*

111 *Id.*

112 *Id.*

113 *Id.* at A64.

114 *See* NYS Answer to NYS-37 MIL at 8.

115 Entergy Test. at A64 (ENT000479).

The key issue is thus determining what *additional* replacement generation would be forthcoming under the no-action alternative.[116] The market would determine the actual mix based largely on costs, including the expected future "levelized" costs for different types of new units and the marginal costs for existing units.[117]

Based on official EIA cost and fuel price projections, Dr. Harrison and Mr. Meehan demonstrate that additional fossil fuel generation is likely to constitute the major replacement generation under the no-action alternative.[118] The least expensive generation options are likely to come from increases in generation at existing units, particularly from coal and natural gas units that are not operating at full capacity.[119] Among new units that might be added as replacement generation, new natural gas units have the lowest levelized costs (excluding government support).[120]

Furthermore, Dr. Harrison and Mr. Meehan demonstrate that additional renewable generation is not likely to play a major role in the no-action alternative. As noted, New York State has an ambitious renewable goal—accompanied by substantial subsidy programs—that extends into the future.[121] But that future renewable generation would be put in place regardless of whether or not IPEC generation is available.[122] In other words, the future renewable generation due to the New York State renewable goal is in the baseline and thus cannot count as

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116 *See id*.

117 *Id.* at A66.

118 *Id.* at A72.

119 *Id.*

120 *Id.*

121 *Id.* at A73.

122 *Id.*

additional generation that would be "available" under the no-action alternative. [123] In turn, expanding renewable generation beyond the current goal would require a significant increase in the level of subsidy beyond the current levels.[124] Because NEPA does not require consideration of "speculative" possibilities, NRC need not consider "hypothetical" future increased subsidies.[125]

Dr. Harrison and Mr. Meehan demonstrate that additional energy efficiency also is not likely to play a major role under the no-action alternative for similar reasons.[126] New York State's current energy efficiency programs are ambitious and are already in the baseline and would be achieved regardless of IPEC's status.[127] As for additional conservation, Dr. Harrison and Mr. Meehan show that the no-action alternative would only result in a small amount of additional conservation because of price effects (*i.e.*, because losing IPEC's baseload generation would lead to higher retail electricity prices, electricity consumers would lower their demand somewhat in response).[128] Aside from this price-induced conservation, achieving additional conservation beyond the current goal would have high costs and subsidies that would require expanding energy efficiency programs.[129]

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123 *Id.*

124 *Id.*

125 *See Callaway*, 524 F.2d at 9 (explaining that alternatives requiring "significant changes in governmental policy or legislation" are not reasonable alternatives); *Shasta Res. Council*, 629 F. Supp. 2d at 1059-60 (holding that agency did not err by failing to consider alternative that would have required legislative appropriation of additional funds because chances of additional appropriations were remote and speculative); *see also Seabrook*, CLI-12-05, slip op. at 53 ("Except in rare cases where there is evidence of unusual predictive reliability, it is not workable to consider, for purposes of NEPA analysis, what are essentially hypothetical or speculative alternatives as a source of future baseload power generation."); *Davis-Besse*, CLI-12-08, slip op. at 9.

126 Entergy Test. at A74 (ENT000479).

127 *Id.*

128 *Id.*

129 *Id.*

In summary, Dr. Harrison and Mr. Meehan demonstrate that because of relative costs, additional fossil fuel generation is likely to constitute the major replacement generation under the no-action alternative, whereas renewables and conservation would only play a minimal role. Furthermore, because NEPA does not require consideration of speculative alternatives, NRC need not consider hypothetical future subsidy increases to renewables or conservation programs.[130]

e. Economic Modeling Confirms the Small Role Renewables and Conservation Would Play in the No-Action Alternative

In Section IX of Entergy's testimony, Dr. Harrison and Mr. Meehan present their quantitative assessments using NEMS, a widely-respected energy model maintained by the EIA. NEMS is a widely used by Congress, the White House, the U.S. Department of Energy, and other federal agencies, as well as by national laboratories, academics, think tanks, and the private sector to model long-term energy and environmental projections.[131] Importantly, NEMS incorporates all federal and state current environmental regulations.[132]

Using the latest version of NEMS, the 2012 Annual Energy Outlook ("AEO"), Dr. Harrison and Mr. Meehan develop estimates of the potential energy and environmental impacts of the no-action alternative by comparing NEMS results between: (1) a baseline scenario in which IPEC continues to operate; and (2) a no-action alternative in which IPEC's baseload is lost.[133] The differences between these two scenarios represent NEMS's predictions

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130 *See Seabrook*, CLI-12-05, slip op. at 53 ("Except in rare cases where there is evidence of unusual predictive reliability, it is not workable to consider, for purposes of NEPA analysis, what are essentially hypothetical or speculative alternatives as a source of future baseload power generation."); *see also Davis-Besse*, CLI-12-08, slip op. at 9.

131 Entergy Test. at A88 (ENT000479).

132 *Id.* at A90.

133 *Id.* at A91.

of how electricity markets in New York State and other regions would respond to the loss of IPEC's 16.7 million megawatt-hours ("MWh") of baseload generation each year.[134]

As Dr. Harrison and Mr. Meehan demonstrate, the NEMS model indicates a small role for additional energy conservation (0.3 million MWh per year on average over the period 2016 to 2025) and renewables (0.2 million MWh per year) under the no-action alternative.[135] Almost all of the increase in generation would come from natural gas-fired plants (9.7 million MWh per year) and coal (7.5 million MWh per year).[136] In total, approximately 98 percent of the replacement generation would come from natural gas or coal.[137] Less than half of the increased generation would occur in New York State.[138] The increased fossil fuel generation comes not only from new, highly efficient low-emitting natural gas combined cycle units—which are the units assumed in the FSEIS assessment of the natural gas alternative—but also from less efficient, higher emitting existing units fueled by coal and natural gas.[139] This confirms Dr. Harrison's and Mr. Meehan's assessment based on the relative costs of alternative generation technologies.[140] Accordingly, the NYS's claim that the FSEIS overemphasizes fossil fuel generation instead of focusing on renewables and conservation lacks merit.

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134 *Id.* at A96.

135 *Id.* at A85, 97.

136 *Id.* at A85, 97.

137 *See id.* at A97-98.

138 *Id.* at A97.

139 *See id.* at A85.

140 *See id.* at A99.

3. No-Action Alternative Environmental Impacts Are Significant

As discussed below, Sections VIII.F and IX.E of Entergy's testimony demonstrate the increased generation that would replace IPEC baseload power under the no-action alternative would have significant environmental impacts.

a. Fossil Fuel Generation Environmental Impacts Are Significant

As Dr. Harrison and Mr. Meehan demonstrate, market forces would favor replacement generation from fossil fuels (natural gas and coal), which would result in adverse environmental impacts, including increased air emissions of pollutants such as sulfur dioxide ("SO_2"), nitrogen oxides ("NO_x"), and carbon dioxide ("CO_2"). NEMS confirms that result and allows Dr. Harrison and Mr. Meehan to quantify the estimated increases in those emissions under the no-action alternative.[141] NEMS projects that under the no-action alternative, nationwide CO_2 emissions would be 13.5 million metric tons higher each year on average during the period 2016-2025, while SO_2 emissions would be 6.4 million tons higher, and NO_x emissions would be 3.3 million tons higher.

This increase in SO_2, NO_x, and CO_2 emissions is similar to the FSEIS's estimate of emissions from a new 2200 MWe supercritical coal-fired plant, which the NRC Staff found to have MODERATE air quality impacts.[142] In fact, the SO_2 and NO_x emissions from replacement generation under the no-action alternative would actually be *greater* than the emissions from a new coal-fired plant, because the replacement generation would come largely from existing power plants which, in many cases, have higher emission rates than new plants.[143] Further, to put CO_2 increases in perspective, Entergy's witnesses demonstrate that the increase in CO_2

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141 *See id.* at A101.

142 *See* FSEIS at 8-53 to -55 (NYS00133C).

143 Entergy Test. at A103 (ENT000479).

emissions is nearly as large as the planned reduction in carbon dioxide emissions under the RGGI. Accordingly, it is clear that replacement generation under the no-action alternative would have at least MODERATE impacts on air quality.[144]

b. Renewables Also Have Significant Environmental Impacts

As noted, Dr. Harrison and Mr. Meehan make clear that renewables would play only a modest role in replacing IPEC's baseload power under the no-action alternative. Nonetheless, they demonstrate that additional renewable generation—assuming for the sake of argument renewables could feasibly be expanded to replace IPEC's energy—would also have adverse environmental impacts.

For example, wind generation—which is the renewable source that appears most prominent in New York State—would have the following potential adverse environmental impacts: bird and bat mortality; increased land requirements; decreased aesthetic qualities; and increased noise in the areas where the wind turbines are built.[145]

Large-scale hydropower—which does not qualify as an eligible renewable under the New York State RPS program—would also have significant adverse environmental impacts.[146] Specifically, hydropower construction leads to the emissions responsible for adverse environmental impacts, including ozone layer depletion; acidification; eutrophication; photochemical oxidant formation; and ecotoxic impacts.[147] Similarly, the operation of hydropower facilities can lead to the following adverse environmental impacts: increased local

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144 *See id.*

145 *Id.* at A76.

146 *Id.* at A60.

147 International Energy Agency, Environmental and Health Impacts of Electricity Generation: A Comparison of the Environmental Impacts of Hydropower with those of Other Generation Technologies at 109-3 8 June 2002) (ENT000511).

humidity; erosion and sedimentation of streams; damage to aquatic habitat; impacts to local biodiversity; impacts on fish populations; and aesthetic impacts.[148] In addition, hydropower facilities are responsible for increases in greenhouse gas emissions during both construction and operations.[149]

Renewable generation may also require additional transmission infrastructure with its own adverse environmental impacts.[150] The siting and construction of such transmission lines could result in additional adverse environmental impacts such as the clearing of forested vegetation and subsequent displacement of and impacts on wildlife, including impacts to fish and aquatic invertebrates due to canopy reduction and stream crossings.[151]

NYS's experts appear to assume, without providing any analysis, that environmental impacts of renewables would be significantly less than the environmental impacts of IPEC's continued operation and of the operation other generations sources. NYS thus has not met its burden as it relies simply on speculation that renewables, even assuming they did play a larger role in replacing IPEC's baseload power, have small environmental impacts.[152]

4. The FSEIS's Conservative Evaluation of Alternative Energy Sources Under the No-Action Alternative Complies with NEPA

In Section VI of Entergy's testimony, Mr. Cleary discusses the FSEIS's conservative evaluation of alternatives to replace IPEC baseload power under the no-action alternative.

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148 *Id.*

149 Synapse Energy Economics, Inc., Indian Point Energy Center Nuclear Plant Retirement Analysis: Replacement Options, Reliability Issues, and Economic Effects at 1-3 (Oct. 17, 2012) (ENT000508); Alain Tremblay et al., *Eastmain-1 Net GHG Emissions Project – The Use of Automated Systems to Measure Greenhouse Gas Emissions from Reservoirs* at 1 (2009) (ENT000509).

150 Entergy Test. at A76 (ENT000479).

151 *Id.* at A83.

152 *See Oyster Creek*, CLI-09-7, 69 NRC 268-70; *see also Limerick*, ALAB-857, 25 NRC at 13 (stating that an intervenor may not merely assert a need for more current information without having raised any questions concerning the accuracy of the applicant's submitted facts).

Consistent with the GEIS, the FSEIS recognizes that the no-action alternative would result in a net loss of baseload power that would need to be replaced by (1) other generating sources; (2) energy conservation; or (3) a combination of these different options.[153] Mr. Cleary explains that the FSEIS considers, among other things, the environmental impacts of:

- Natural-gas fired generation;
- Energy conservation;
- A combination of alternatives consisting of gas-fired plant (400 to 600 MW); renewable generation (600 MW primarily wood and wind, compared to the DSEIS's 200 to 400 MW); conservation (1000 to 1200 MW, up significantly from the DSEIS's 500 to 800 MW).[154]

Moreover, for alternatives found to not be reasonable alternatives to replace IPEC's baseload power, the FSEIS provides the requisite explanation for their elimination.[155]

As summarized above, Dr. Harrison and Mr. Meehan demonstrate that conservation and renewables would be unlikely to play significant roles in replacing output lost from IPEC under the no-action alternative. In contrast, their analyses and empirical modeling indicate that fossil-fuel generation would dominate the replacement mix, including natural gas and coal generation, with only modest contributions from energy conservation and additional renewables. These analyses demonstrate that the range of scenarios considered in the FSEIS was reasonable and sufficient.

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153 FSEIS at 8-22 (NYS00133C).

154 *See* Entergy Test. at A45 (ENT000479).

155 *See id*.

Moreover, these analyses demonstrate that the FSEIS reasonably concludes that the impacts of license renewal do not exceed the impacts of all or almost all of the alternatives. As Dr. Harrison and Mr. Meehan demonstrate, if anything, the FSEIS understates the likely adverse environmental impacts of alternatives for two primary reasons.

First, the FSEIS combination scenarios overstate the roles that renewables and conservation would be likely to play and understate the likely role of fossil sources.[156]

Second, the FSEIS assumes that increased fossil generation would be provided primarily by new, highly efficient and tightly controlled natural gas combined cycle units. However, the lower gas prices that are currently in place and are forecasted to continue will likely render new facility development uneconomic. As a result, a significant amount of the replacement fossil power would, in fact, be likely to come from unused capacity on older natural gas-fired units or coal-fired units, both of which tend to have higher emission rates than new natural gas units, and thus, more adverse environmental impacts.[157]

Dr. Harrison and Mr. Meehan therefore establish that the FSEIS actually understates the environmental impacts of the generation that would likely replace IPEC baseload power under the no-action alternative. Accordingly, the FSEIS appropriately concludes "that the adverse environmental impacts of license renewal for IP2 and IP3 are not so great that preserving the option of license renewal for energy planning decision makers would be unreasonable."[158]

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156 *Id.* at A52.

157 *Id.*

158 FSEIS at 9-8 (NYS00133C).

5. NYS's Claims About Replacement Sources and Environmental Impacts Lack Merit

As noted previously, NYS's witnesses, Mr. Schlissel, Mr. Bradford, and Mr. Lanzalotta, and NYS, in its Statement of Position, argue that the FSEIS is deficient because it ignores NYS's claim that the environmental impacts of the no-action alternative would be much less than assumed in the FSEIS and less than the environmental impacts of license renewal. The core of their argument is that the FSEIS should have evaluated environmental impacts on the presumption that baseload IPEC generation would be largely replaced by additional renewable generation and energy conservation, rather than substantial fossil-fuel generation as assumed in several of the FSEIS alternatives. As support, NYS's witnesses cite to various recent energy and related developments allegedly ignored by the FSEIS, including New York State programs to encourage renewables and energy conservation as well as recent reductions in projected electricity demand and natural gas prices.[159]

Entergy's witnesses demonstrate that the NYS claims of additional, allegedly unexamined alternatives lacks merit. NYS and its experts make only general claims regarding the possible sources of replacement energy for baseload IPEC generation, but provide no empirical analyses to support their assertions. Nonetheless, Entergy's witnesses evaluate those claims and demonstrate they suffer from four fundamental flaws: (1) failure to recognize market forces and cost-minimization; (2) conflation of developments that affect the baseline with the no-action alternative; (3) failure to evaluate the impacts of baseline changes; and (4) failure to provide empirical modeling. As discussed below, Entergy's witnesses demonstrate each of these flaws invalidates NYS's claims that the FSEIS is inadequate.

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[159] *See* NYS SOP at 1-5 (NYS000045).

a. Failure to Recognize Market Forces and Cost-Minimization

Dr. Harrison and Mr. Meehan demonstrate that the NYS witnesses fail to account for the key role that market forces would play (and hence the importance of relative costs and cost-minimization) in determining the resources that would be dispatched to replace the lost baseload IPEC generation under the no-action alternative.[160] Given that New York State has a competitive electricity market, decisions about new investments are largely made by merchant entities that, all else equal, would build the lowest-cost facilities, and facilities are dispatched to provide energy at minimum cost while meeting reliability and operating requirements. [161] This combination of market forces based on cost-minimization principles means that lower-cost fossil generation rather than higher-cost renewable generation or energy efficiency would constitute the bulk of generation to replace IPEC's baseload generation. NYS's witnesses fail to demonstrate any other outcome is anything other than remote and speculative.

b. Conflation of Developments Affecting the Baseline with Developments Affecting the No-Action Alternative

The bulk of NYS's testimony involves discussing recent or planned developments that relate to baseline conditions. They mention a host of developments that they claim were not considered by the NRC Staff in developing the FSEIS, and that they claim would lead to different conclusions regarding the energy mix and environmental impacts of the no-action alternative. However, these developments have occurred or will occur regardless of the no-action alternative, and thus, cannot be considered consequences of the no-action alternative.

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160 *See* Entergy Test. at A55, 58-74 (ENT000479).

161 *Id.* at A55.

For example, Mr. Schlissel notes that the total conservation goal in 2015 under the "15 x 15" goal is larger than the typical annual energy from IPEC.[162] As Dr. Harrison and Mr. Meehan demonstrate, these comparisons exemplify the conflation of the baseline with the "no-action" alternative.[163] The savings under the "15 x 15" goal and Energy Efficiency Portfolio Standard are already slated to occur irrespective of IPEC's status.[164] Considering these savings as a replacement for IPEC's energy in the "no-action" alternative would essentially be double-counting because additional savings beyond those achieved under the "15 x 15" goal and Energy Efficiency Portfolio Standard would be needed to replace IPEC's baseload power under the "no-action" alternative.[165]

Similarly, statements by NYS's experts regarding federal support for renewable energy under the American Recovery and Reinvestment Act of 2009 ("ARRA") provide another example of the conflation of changes in the baseline and changes in the incremental impact of the no-action alternative.[166] As Entergy's witnesses demonstrate, ARRA provided temporary federal support for renewable energy as a response to the recession, but several of the support mechanisms have already expired.[167] Thus, the federal support mechanisms under ARRA will play no role with respect to potential replacement of IPEC's baseload energy with renewable energy in the years ahead.[168]

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162 *See* Schlissel Test. at 18 (NYS000046); *see also id.* at 19-20.

163 Entergy Test. at A136 (ENT000479).

164 *Id.*

165 *Id.*

166 *Id.* at A107 (ENT000479); *see also* Schlissel Test. at 48 (NYS000046).

167 Entergy Test. at A107 (ENT000479).

168 *Id.* at A170.

Mr. Schlissel, Mr. Bradford, and Mr. Lanzalotta likewise discuss recent expansions in New York's transmission system.[169] Such statements also exemplify their conflation of baseline conditions with the no-action alternative.[170] Recent expansions in New York's transmission system have no direct relevance to the no-action alternative because such expansions are in the baseline—they exist under both license renewal and the no-action alternative.[171]

In summary, NYS fails to recognize that these developments represent part of the baseline conditions that would occur irrespective of IPEC's status. Put another way, the various factors identified by NYS-37 and its experts—such as additional renewable generation or energy efficiency resulting from New York State goals—would not be "available" to replace lost baseload IPEC generation because they all would exist regardless of the status of IPEC. Accordingly, the claims raised by NYS do not show a defect in the FSEIS's evaluation of the generation that would replace IPEC baseload power under the no-action alternative.

c. Failure to Evaluate the Impacts of Baseline Changes

As Dr. Harrison and Mr. Meehan demonstrate, to the extent that the preceding developments NYS's experts cite indirectly affect the baseline, those developments generally would, if anything, reduce the roles of conservation and renewables as IPEC replacements under the no-action alternative. Developments such as lower electricity demand and lower natural gas prices would tend to increase the subsidies that would be necessary to fund the higher marginal costs of the conservation and renewables alternatives—while at the same time decreasing the marginal costs of fossil resources.[172] As a result, these market developments will make

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169 *See* Schlissel Test. at 9 (NYS000046); Bradford Test. at 11 (NYS000048); Lanzalotta Test. at 9 (NYS000047).

170 Entergy Test. at A147 (ENT000479).

171 *Id.*

172 *Id.* at A55.

renewables and energy efficiency less economic relative to fossil-fueled power options. NYS's experts provide no analysis of such indirect impacts.[173]

For example, NYS's experts do not indicate which transmission lines have excess capacity and thus would be able to carry additional power in the "no-action" alternative. As Dr. Harrison and Mr. Meehan demonstrate, if new transmission lines between PJM and New York have excess capacity and, if some of the replacement power in the "no-action" alternative came from PJM over these new transmission lines, these new transmission lines could allow for coal-fired generation to be a larger part of the replacement because PJM has a higher portion of coal in its generation mix than New York.[174] Thus, new transmission lines between PJM and New York with excess baseline capacity would only lead to greater environmental impacts under the "no-action" alternative than if the new transmission lines had not been built.[175]

Dr. Harrison and Mr. Meehan explain that the indirect effects of changes in the baseline can also have counterintuitive effects.[176] For example, a baseline with high levels of conservation is likely to have higher costs of additional conservation per MWh as part of replacing IPEC than a baseline with lower levels of conservation because the existing programs have already taken advantage of "low-hanging fruit."[177] Thus, a baseline with the higher levels of conservation would make it more expensive, and therefore less likely, that substantial amounts of additional conservation would be used to replace IPEC's baseload energy.[178]

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173 *Id.*

174 *Id.* at A123.

175 *Id.* at A147.

176 *Id.* at A116.

177 *Id.*

178 *See id.* at A70, 116.

d. Failure to provide empirical modeling

NYS and its experts fail to provide any studies or other analyses quantifying how the electric system would respond to the loss of IPEC baseload generation. In contrast, Dr. Harrison and Mr. Meehan's analysis using NEMS shows that conservation (in the form of response to higher prices) and renewables would play modest roles, and that the primary impact would be increased generation from fossil-fired sources. This deficiency on the part of NYS's experts is important because, without some empirical modeling, they fail to provide a reasonable or reliable basis for evaluating which alternatives actually would be dispatched if IPEC generation were made unavailable, and thus, they cannot evaluate the environmental consequences of the no-action alternative.[179] As a result, NYS's experts provide no substantive evidence suggesting any significant omissions or errors in the FSEIS.

V. CONCLUSION

For the foregoing reasons, the FSEIS takes the required "hard look" at the no-action alternative. Entergy's experts demonstrate that the FSEIS contains a conservative evaluation of alternatives and considers, among other things, the environmental impacts of new natural gas-fired generation, energy conservation, and combinations of alternatives, including a combination involving repowering an existing fossil-powered plant (400 to 600 MW); renewable generation (600 MW); and a considerable amount of conservation (1000 to 1200 MW). Empirical analyses show that IPEC baseload generation would actually be replaced primarily by fossil-fueled generation, not renewable generation and additional conservation. As a result, the FSEIS, if anything, likely underestimates the adverse environmental impacts of the no-action alternative. NYS fails to establish NEPA requires any further consideration of the environmental impact of

[179] *Id.* at A55.

alternative energy sources beyond that already contained in the FSEIS. Nor has NYS substantiated its allegations that non-fossil energy sources could replace IPEC baseload power with any analyses or studies, or even assuming it could, that such sources would have less significant environmental impacts than IPEC's continued operation. Accordingly, Entergy respectfully requests that the Board resolve Contention NYS-37 in favor of Entergy and the NRC Staff.

Respectfully submitted,

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Dated in Washington, D.C.
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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	Docket Nos. 50-247-LR and
	)	50-286-LR
ENTERGY NUCLEAR OPERATIONS, INC.	)	
	)	
(Indian Point Nuclear Generating Units 2 and 3)	)	
	)	March 30, 2012

CERTIFICATE OF SERVICE

I certify that, on March 30, 2012, copies of Entergy's Statement of Position, Testimony, and associated exhibits on Contention NYS-37 were served electronically with the Electronic Information Exchange on the following recipients:

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