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)	)	
	)	May 3, 2013

ENTERGY'S REPLY TO NEW YORK STATE AND NRC STAFF FINDINGS OF FACT AND CONCLUSIONS OF LAW FOR CONTENTION NYS-37 (ENERGY ALTERNATIVES)

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Pursuant to the Atomic Safety and Licensing Board's ("Board") February 28, 2013 Order,[1] Entergy Nuclear Operations, Inc. ("Entergy") submits its Reply to the New York State ("New York") and U.S. Nuclear Regulatory Commission ("NRC" or "Commission") Staff Findings of Fact and Conclusions of Law on New York Contention 37 ("NYS-37"). These Reply Findings and Conclusions are based on the evidentiary record in this proceeding, and are set out in numbered paragraphs, with corresponding citations to the record of this proceeding.

I. INTRODUCTION

1. On March 22, 2013, Entergy, the NRC Staff, and New York filed proposed findings of fact and conclusions of law on NYS-37.[2] NYS-37 raises a National Environmental Policy Act ("NEPA") challenge to whether the NRC Staff Final Supplemental Environmental Impact Statement ("FSEIS") reasonably addresses the environmental impacts of energy

[1] Licensing Board Order (Granting Parties Joint Motion for Alteration of Filing Schedule) at 1 (Feb. 28, 2013) (unpublished).

[2] Entergy's Proposed Findings of Fact and Conclusions of Law for Contention NYS-37 (Energy Alternatives) (Mar. 22, 2013) ("Entergy Proposed Findings"), *available at* ADAMS Accession No. ML13081A744; NRC Staff's Proposed Findings of Fact and Conclusions of Law Part 8: New York State Contentions 9, 33, And 37 (No-Action Alternative) (Mar. 22, 2013), *available at* ADAMS Accession No. ML13081A690; State of New York's Proposed Findings of Fact and Conclusions of Law as to Consolidated Contention NYS-37 (Mar. 22, 2013) ("New York Proposed Findings"), *available at* ADAMS Accession No. ML13081A770.

conservation, renewable generation, and other energy sources that would likely replace Indian Point Nuclear Generating Units 2 and 3's (respectively, "IP2" and "IP3," and collectively, "Indian Point") 2158 megawatts-electric ("MWe") of baseload power under the "no-action alternative."

2. The parties' filings demonstrate that several key issues are not in dispute. For example, New York agrees that the FSEIS considers and discusses the environmental impacts of a fossil alternative (new natural gas-fired generation); an all energy conservation alternative; and two alternative combination scenarios, including a scenario combining considerable amounts of conservation (1000 to 1200 MWe) and renewable generation (400 to 600 MWe) with natural gas (400 to 600 MWe).[3] New York also acknowledges that the FSEIS indicates that purchased power is a reasonable alternative but does not count the potential adverse environmental impacts of additional transmission against any alternative generation source.[4] Further, New York acknowledges that the NRC Staff developed many of these alternatives specifically to address New York's comments on the Draft Supplemental Environmental Impact Statement ("DSEIS").[5]

3. With respect to those issues that remain in dispute, New York's overarching argument is not that the FSEIS fails to acknowledge these alternative energy sources, but rather that, in addressing them, the FSEIS strikes the wrong tone and does not sufficiently stress which alternatives, or combinations thereof, are "serious" alternatives.[6] According to New York, the FSEIS is "slanted" toward license renewal and the construction of new fossil-fuel generation and away from renewable generation, conservation, and purchased power.[7] According to New York,

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3 *See, e.g.*, New York Proposed Findings at 31 (¶ 90), 37 (¶ 108), 41-42 (¶122).

4 *See, e.g.*, New York Proposed Findings at 32 (¶ 92).

5 *See, e.g.*, New York Proposed Findings at 30 (¶ 85), 37 (¶108), 41-42 (¶122).

6 *See* New York Proposed Findings at 38 (¶ 114), 50 (¶150), 54 (¶161), 55-56 (¶164).

7 New York Proposed Findings at 2 (¶ 3).

this alleged bias is demonstrated by: (1) the absence of an alternative combination scenario considering only conservation and renewable generation together; (2) the lack of detail in the standalone conservation alternative analysis; and (3) the flawed analysis of the purchased power alternative.[8] New York's claims amount to impermissible flyspecking; the Board does not sit to add unnecessary detail or nuance to the FSEIS.

4. First, New York has produced insufficient evidence to establish that the FSEIS must consider a combination scenario of only renewables and conservation. For over five years, New York has asserted that the NRC Staff must consider a standalone conservation alternative.[9] The NRC Staff then evaluated conservation as a standalone alternative in FSEIS and did so, in large part, based on New York's claim that more than enough conservation would be available to offset Indian Point's generation.[10] But New York now argues that the FSEIS conservation alternative is not "realistic" and, instead, the FSEIS should also have evaluated its proposed scenario involving renewables and conservation.[11] This argument, although bold, ignores that analysis of any non-baseload energy sources is unnecessary under Commission and federal case law, and is directly contrary to New York's own practice under the state-equivalent of NEPA.[12]

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8 New York Proposed Findings at 60-61 (¶ 179).

9 David Schlissel, Report on the Availability of Replacement Capacity and Energy for Indian Point Units 2 & 3 at 3 (Nov. 28, 2007) ("Synapse Report") (NYS000052); State of New York Contentions Concerning NRC Staff's Draft Supplemental Environmental Impact Statement at 25 (Feb. 27, 2009) ("NYS-33"), *available at* ADAMS Accession No. ML090690303; 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 25 (Mar. 18, 2009) ("New York DSEIS Comments") (NYS000134); State of New York Contention Concerning NRC Staff's Final Supplemental Environmental Impact Statement at 27-28 (Feb. 3, 2011) ("NYS-37"), *available at* ADAMS Accession No. ML110680290.

10 NUREG-1437, Supp. 38, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Regarding Indian Point Nuclear Generating Units Nos. 2 and 3, Final Report at 8-42 (Dec. 2010) ("FSEIS") (NYS00133C); NRC Staff's Testimony of Andrew L. Stuyvenberg Concerning Contention NYS-9, NYS-33 and NYS-37 (Alternatives, Consolidated) at 10 (A14) (Mar. 30, 2012) ("NRC Staff Testimony") (NRC000133).

11 New York Proposed Findings at 58 (¶¶ 172-73), 59 (¶ 175).

12 *See* Section II.D.1 *infra*.

The FSEIS already exceeds NEPA's requirements and considers an energy alternatives combination with considerable amounts of conservation and renewable generation with a natural gas facility—a combination that New York itself suggested.[13] In demanding analysis of yet another combination scenario, however, New York never shows that a scenario involving only renewables and conservation is actually likely to replace Indian Point's baseload generation. New York also fails to show that such a scenario has different or fewer environmental impacts than the alternatives already examined in the FSEIS.

5. Second, in light of New York's concession that replacing Indian Point's baseload generation with conservation in 2015 is not "realistic," New York's claim that the FSEIS is somehow biased against conservation is senseless.[14] To the contrary, the FSEIS is clearly optimistic in considering conservation as a stand-alone alternative. Nor is there any lack of substance or improper "tone." The FSEIS and its appendices contain the very details that New York asserts is missing and thus, meaningfully discuss conservation.[15]

6. Third, New York fails to establish any need to further consider purchased power. To address comments from New York, the FSEIS indicates that all generation alternatives considered in the FSEIS could supply purchased power and that because each generation source has its own set of environmental impacts, those impacts are evaluated elsewhere in the FSEIS.[16] To the extent that New York suggests that the FSEIS is flawed because it does not examine the environmental impacts of transmission necessary to carry power from these generation sources, that decision, if anything, understates the no-action alternative's environmental impacts. Nor is

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13 *See* New York DSEIS Comments at 35-36 (NYS000134).

14 *See* New York Proposed Findings at 58 (¶¶ 172-73), 59 9 (¶ 175).

15 *See* FSEIS at 8-41 to 8-43 (NYS00133C); *id.* at A-1007 to -1013 (NYS00133G).

16 *Id*. at 8-39 (NYS00133C).

there merit to New York's suggestion that the FSEIS must act as a running, ever-changing catalogue of all New York State transmission projects that are proposed, approved, cancelled, constructed, or under regulatory development.[17] Such a requirement is unnecessary and would set the bar impossibly high.

7. Contrary to New York's assertions, the FSEIS takes the required "hard look" at the environmental impacts of a reasonable range of energy scenarios that could replace Indian Point's 2158 MWe of baseload generation under the no-action alternative. Given that the actual combinations that might be examined are nearly limitless, the FSEIS evaluation represents a sound approach to presenting a reasonable range of alternatives.

8. Notwithstanding the overall finding that the range of alternatives considered in the FSEIS is reasonable, substantial additional evidence supports this conclusion. Entergy's highly-qualified experts, Dr. David Harrison, Jr. and Mr. Eugene T. Meehan, demonstrated that New York's approach of citing various, potential energy market developments does not undermine the FSEIS. Specifically, New York's approach: (1) fails to recognize the manner in which market forces and cost-minimization would dictate future developments given New York's deregulated energy markets; (2) incorrectly treats developments that are occurring or would occur regardless of whether IP2 and IP3 license renewal occurs as consequences of the no-action alternative; (3) fails to consider that factors such as lower natural gas prices make conservation and renewables relatively more expensive compared to fossil generation and thus makes conservation and renewables less likely to replace Indian Point under the no-action

[17] New York Proposed Finding at 53 (¶ 160).

alternative; and (4) fails to provide any independent empirical analysis of likely replacement energy sources.[18]

9. Based on their own economic analyses using a state-of-the-art energy model—the National Energy Modeling System ("NEMS")—Dr. Harrison and Mr. Meehan also demonstrated that market forces would primarily dictate that the energy needed to replace Indian Point's baseload power would come mainly from fossil power plants, including natural gas, with a much smaller amount from renewables and conservation.[19] This NEMS analysis is directly relevant and admissible as it specifically addresses claims raised by New York in its testimony that there are additional, allegedly unexamined alternatives that are likely to be implemented under the no-action alternative.[20] The NEMS analysis refuted those claims and confirmed that the FSEIS bounds a reasonable range of likely energy scenarios.[21] The NEMS analysis is not intended to supplant the FSEIS or as a need for power analysis.[22]

10. Finally, New York's various criticisms do not credibly undermine the FSEIS conclusion that, when compared to alternatives, Indian Point's adverse environmental impacts are not so great that preserving the option for license renewal is unreasonable. The FSEIS concludes that, except for the conservation alternative, the other alternatives all have greater environmental impacts than license renewal.[23] The FSEIS further concludes that, similar to

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18 *See* Section II.E *infra*.

19 *See* Section II.F *infra*.

20 *See* State of New York Initial Statement of Position Contention NYS-9/33/37 ("NYS-37") at 3-4, 12, 28, 41, 43, 57 (Dec. 22, 2011) ("New York Position Statement") (NYSR00045); 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 8 (Feb. 17, 2012) ("New York MIL Answer"), *available at* ADAMS Accession No. ML12048B408; State of New York's Revised Statement of Position Regarding Contention NYS-37 at 8 (Jun. 29, 2012) ("New York Rebuttal Position Statement") (NYS000436).

21 *See* Entergy Proposed Findings at 106-13 (¶¶ 198-211).

22 *See* Section III *infra*.

23 *See* FSEIS at 9-7, 9-9 to 9-10 (NYS00133C).

license renewal, the conservation alternative has SMALL environmental impacts for all but one relevant environmental issue.[24] Nothing in New York's Proposed Findings alters these fundamental conclusions. Because the Commission has determined that it would only be unreasonable to preserve the option for license renewal if all (or almost all) of the alternatives considered by the NRC have significantly fewer environmental impacts than the proposed action,[25] the environmental impacts of license renewal for IP2 and IP3 are not so great that preserving the license renewal option is unreasonable.

11. For the reasons fully set forth below, and for those expressed in the NRC Staff's and Entergy's Proposed Findings, the NRC Staff and Entergy carried their respective burdens of proof. Based on the entire evidentiary record of this proceeding, the NRC has satisfied its NEPA obligations under 10 C.F.R. Part 51 with respect to NYS-37. The preponderance of the evidence establishes that the FSEIS considers the environmental impacts of a reasonable range of energy scenarios that could replace Indian Point's baseload generation under the no-action alternative. The preponderance of the evidence also shows that when compared to alternatives, IP2 and IP3's adverse environmental impacts are not so great that preserving the license renewal option for decisionmakers is unreasonable. The Board should therefore resolve NYS-37 in favor of the NRC Staff and Entergy.

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[24] *See id.*; *see also id.* at 8-73 (NYS00133C).

[25] *See* Final Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467, 28,473 (June 5, 1996) (NYS000127).

II. REPLY TO NEW YORK'S PROPOSED FINDINGS

A. New York Incorrectly Claims That the Board's Decision Cannot Supplement or Amend the FSEIS

12. As a threshold legal issue, New York incorrectly claims that the Board's decision cannot supplement or amend the FSEIS based on the hearing record.[26] According to New York, supplementing or amending the FSEIS through the Board's initial decision is contrary to NEPA and NRC's NEPA regulations.[27] As discussed below, this argument ignores binding precedent and, if adopted, would likely establish an indefinite cycle of litigation over the FSEIS's adequacy.

13. New York's assertion that the FSEIS cannot be supplemented or revised based on the hearing record ignores binding Commission precedent.[28] This precedent clearly mandates that if the entire record of this proceeding (including the hearing record) contains sufficient information to allow for an adequate environmental analysis of the issues raised in a contention, then the FSEIS, as supplemented and/or modified by Board's decision, will constitute the NRC's NEPA record of decision.[29] As such, there is no need or basis for the Board to remand any and all FSEIS deficiencies or modifications to the NRC Staff so that it may prepare an FSEIS supplement that is circulated for public comment and that is subject to challenge in new or amended contentions.[30]

14. New York argues that the Commission's deliberate elimination of an earlier regulation, 10 C.F.R. § 51.52 (1983), "that permitted licensing boards to 'modify the content' of

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[26] *See* New York Proposed Findings at 98-107 (¶¶ 181-99).

[27] *See id*.

[28] *See* Entergy Proposed Findings at 47-53 (¶¶ 82-93).

[29] *See id*.

[30] *See, e.g.*, *Hydro Res. Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-04, 53 NRC 31, 53 (2001) (explaining that "the hearing process itself 'allows for additional and . . . more rigorous public scrutiny of the [FSEIS] than does the usual 'circulation for comment").

an [FSEIS] precludes any suggestion that post hoc supplementation by the Board might be available to cure deficiencies in the challenged FSEIS."[31] The *Limerick* Appeal Board rejected this argument in ALAB-819.[32] In that case, an intervenor argued, like New York does here, that the Commission's decision to not readopt the "deemed modified" language in 10 C.F.R. § 51.52 (1983) when it promulgated a new regulation, 10 C.F.R. § 51.102, as part of a 1984 rulemaking, means that any NEPA deficiency can only be cured by recirculating the FSEIS for public comment.[33] The Appeal Board held that "section 51.102 serves the same purpose as its differently worded predecessor, section 51.52(b)(3)" and, "[o]n its face, 10 C.F.R. § 51.102 thus merges the [FSEIS] with any relevant licensing board decision to form the complete environmental record of decision—just as former 51.52(b)(3) did."[34] Further, the Appeal Board noted that nothing in current 10 C.F.R. § 51.102 "precludes modification of an [FSEIS] by licensing board decision."[35]

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31 New York Proposed Findings at 61 (¶ 181), 63 (¶ 184).

32 *Phila. Elec. Co.* (Limerick Generating Station, Units 1 & 2), ALAB–819, 22 NRC 681, 705-07 (1985), *aff'd in part and review otherwise declined*, CLI-86-5, 23 NRC 125 (1986), *remanded in part on other grounds sub nom. Limerick Ecology Action, Inc. v. NRC*, 869 F.2d 719 (3d Cir. 1989). Appeal Board precedent is binding on the Board. *See Entergy Nuclear Operations, Inc.* (James L. FitzPatrick Nuclear Power Plant), CLI-08-19, 68 NRC 251, 260 n.23 (2008); *Sequoyah Fuels Corp.* (Gore, OK, Site), CLI-94-11, 40 NRC 55, 59 n.2 (1994).

33 *See Limerick*, ALAB-819, 22 NRC at 705-06.

34 *Id.* at 706. In addition to the lack of support for New York's argument in the case law, nothing in the regulatory history of 10 C.F.R. § 51.102 or its predecessor suggests that the NRC "lacks the power" to follow its longstanding practice of using adjudicatory decisions to modify the Staff's NEPA analyses. New York Proposed Findings at 63 (¶ 184).

35 *Limerick*, ALAB-819, 22 NRC at 706. Contrary to this holding, New York also argues that 10 C.F.R. § 51.103(c) does not explicitly authorize the Board to incorporate by reference material in the hearing record and thus precludes supplementation because the Board's decision will not "include" testimony or exhibits. New York points to nothing in NEPA (or any general administrative law principle) requiring that an agency decision actually "include" all underlying documents. To the contrary, agencies are encouraged to summarize relevant materials in their NEPA documents rather than simply wholesale include voluminous materials. *See* 10 C.F.R. Part 51, App. A, § (b); 40 C.F.R. § 1502.21. Nor does anything in 10 C.F.R. § 51.103(c) (or in any other regulation) preclude the Board's decision from including, as appropriate, relevant material from the hearing record in its decision. In fact, the parties proposed findings all request that the Board do just that and integrate relevant evidence into an initial decision.

15. Although New York cites ALAB-819, it does so only to claim that it, and later Commission decisions, are "inconsistent" with 10 C.F.R. § 51.102(c) and NEPA.[36] ALAB-819, however, sets forth a contrary interpretation of both 10 C.F.R. § 51.102(c) and NEPA that is binding on this Board.[37] Moreover, even aside from ALAB-819, New York ignores the numerous more recent decisions that continue to endorse the holding that it is entirely proper for an adjudicatory decision to supplement or amend an FSEIS.[38] Thus, the governing case law is clear that the Commission's NEPA regulations allow an adjudicatory decision to supplement or amend an FSEIS. And although New York attempts to narrowly distinguish the D.C. Circuit decision in *Nuclear Info. & Res. Serv. v. NRC* as not interpreting NRC's NEPA regulations, it ignores the court's holding that the administrative record in that case, including the hearing record, showed that the NRC "plainly met its NEPA obligation to take a 'hard look' at the environmental consequences."[39]

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[36] New York Proposed Findings at 68-69 (¶ 194).

[37] *See Entergy Nuclear Operations, Inc.* (James L. FitzPatrick Nuclear Power Plant), CLI-08-19, 68 NRC 251, 260 n.23 (2008); *Sequoyah Fuels Corp.* (Gore, OK, Site), CLI-94-11, 40 NRC 55, 59 n.2 (1994).

[38] *See* Entergy Proposed Findings at 48-49 (¶¶ 83-85) (citing *Nuclear Innovation North America LLC* (South Texas Project, Units 3 & 4), CLI-11-6, 74 NRC __, slip op. at 8 n.33 (2011); *Pac. Gas & Elec. Co.* (Diablo Canyon Power Plant Indep. Spent Fuel Storage Installation), CLI-08-26, 68 NRC 509, 526-27 n.87 (2008); *Dominion Nuclear N. Anna, LLC* (Early Site Permit for North Anna ESP Site), CLI-07-27, 66 NRC 215, 230 n.79 (2007); *Hydro Res., Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-01-04, 53 NRC 31, 53 (2001); *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-01, 75 NRC __, slip op. at 30 (Feb. 9, 2012); *La. Energy Servs. L.P.* (Nat'l Enrichment Facility), CLI-06-15, 63 NRC 687, 707 n.91 (2006); *La. Energy Servs., L.P.* (Nat'l Enrichment Facility), CLI-05-28, 62 NRC 721, 731 (2005); *La. Energy Servs., L.P.* (Claiborne Enrichment Ctr.), CLI-98-3, 47 NRC 77, 87-89 (1998); *S. Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-09-7, 69 NRC 613 (2009)). New York attempts, unsuccessfully, to distinguish *two* of these nine decisions: CLI-98-3 and CLI-06-15. *See* New York Proposed Findings at 67-68 (¶¶ 192-93 n.10). All of these cases show that an adjudicatory decision may modify or supplement an FEIS in all types of NRC proceedings regardless of the whether the NRC ultimately regulates the environmental impact at issue. Indeed, in this case, as in CLI-06-15, the Commission does not regulate the environmental concern at issue; *i.e.*, the selection of which energy sources would replace Indian Point's baseload power under the no-action alternative. *See id.* at 67-68 (¶ 192) (noting that CLI-06-15 involved the environmental impacts of an issue not regulated by the Commission—depleted uranium disposal). Nor is there any significant difference between the procedural posture of this proceeding and the purportedly "highly specific" circumstances in CLI-98-3. *See id.* at 68 (¶ 193 n.10).

[39] *Nuclear Info. & Res. Serv. v. NRC*, 509 F.3d 562, 569 (D.C. Cir. 2007).

16. Rather than fully acknowledge the considerable precedent that is directly adverse to its position, New York cites to general federal NEPA principles and non-binding cases involving other agencies.[40] But the U.S. Courts of Appeals, across multiple circuits, have consistently upheld the NRC's practice as consistent with the Atomic Energy Act[41] and NEPA.[42] New York attempts to dismiss some of these cases as inapplicable because they were decided under a superseded version of 10 C.F.R. § 51.52.[43] However, as the *Limerick* Appeal Board held, "[t]here is no reason to believe that the courts would not be just as approving of the same procedure today, either as embodied in section 51.102 or, indeed, in the absence of any regulation, as a matter of board practice."[44]

17. New York argues that the Commission's practice of supplementing the NEPA record with its adjudicatory decisions is akin to impermissible *post hoc* rationalizations that courts have rejected,[45] but these cases are readily distinguished because this hearing is part of the NRC's decisionmaking process, not a judicial review of the NRC's decision. The NRC has not yet issued renewed licenses for Indian Point and the hearing record is an element of the overall record of the NRC's decision. In contrast, in *Pennaco Energy v. U.S. Dep't of Interior*, the

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40 Appeals Boards have readily distinguished these cases, holding that they are inapplicable to the NRC hearing process. *See* Entergy Proposed Findings at 51-53 (¶¶ 90-92). Similarly, the potential supplementation of the record through the Board's decision does not violate the general NEPA principles recited in New York's new cases. *See Brodsky v. U.S. Nuclear Regulatory Comm'n*, 704 F.3d 113, 119 (2d Cir. 2013); *Sierra Club v. Watkins*, 808 F. Supp. 852, 858 (D.D.C. 1991); *South Fork Band Council of W. Shoshone v. U.S. Dep't of Interior*, 588 F.3d 718, 726 (9th Cir. 2009).

41 *Nuclear Info. & Res. Serv.*, 509 F.3d at 562, 568 (holding that supplementing an EIS through the hearing record does not violate the Atomic Energy Act).

42 *See id.* at 568-69; *Citizens for Safe Power, Inc. v. NRC*, 524 F.2d 1291 1294 n.5 (D.C. Cir. 1975) (holding that the "deemed modified" principle did not depart "from either the letter or the spirit" of NEPA); *Ecology Action v. AEC*, 492 F.2d 998, 1001-02 (2nd Cir. 1974) (omissions from an FEIS can be cured by subsequent consideration of the issue in an agency hearing); *New England Coalition on Nuclear Pollution v. NRC*, 582 F.2d 87, 94 (1st Cir. 1978) (having "no trouble finding" that the NRC's supplementation process satisfies NEPA); *see also Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 & 2), CLI-78-1, 7 NRC 1 (1978).

43 *See* New York Proposed Findings at 69 (¶ 196 & nn. 11-12).

44 *Limerick*, ALAB-819, 22 NRC at 706-07.

45 *See, e.g.*, New York Proposed Findings at 65-66 (¶¶ 188-89).

affidavit at issue in that case was prepared and submitted to the Interior Board of Land Appeals ("IBLA") *after* the agency had acted by completing the disputed lease sale.[46]

18. Furthermore, there is no merit to New York's specter of harm that would ostensibly result from allowing supplementation or amendment of the FSEIS in this case.[47] First, in arguing that it would be unclear which part of the record the Board decision was relying upon to cure any NEPA deficiency,[48] New York overlooks that the Board is more than capable of writing a clear decision with citations to the record. Second, New York's claim that any supplemental information would not necessarily have been meaningfully analyzed by the NRC Staff[49] ignores that Commission regulations authorize the Board—not the NRC Staff—to resolve NEPA disputes through the hearing process and that the Staff fully participated in that process as a party.[50] Third, the Commission has already rejected the argument that supplementation is inconsistent with NEPA's public participation process because the hearing process allows for

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[46] *See Pennaco Energy v. U.S. Dep't of Interior*, 377 F.3d 1147, 1152 (10th Cir. 2004). The *Pennaco* decision and the other IBLA cases cited by New York are inapplicable for a variety of additional reasons: (1) the 10th Circuit's decisions are not binding outside of that circuit; (2) nothing in the IBLA jurisprudence undermines the validity of the NRC's processes under NEPA; and (3) New York's interpretations of the IBLA decisions are oversimplified and gloss over significant internal disputes over the interpretation of IBLA's precedent. *See, e.g.*, *Wyoming Outdoor Council*, 158 IBLA 155, 171 (IBLA 2003) ("While the Board may look to post-EA [environmental assessment] generated materials in search of BLM's 'hard look,' those materials, *in this case*, present unresolved water quality issues.") (emphasis added); *see also id.* at 177 (Admin. J. Grant, dissenting) ("In evaluating whether BLM has taken a hard look at environmental impacts necessary to support a FONSI, this Board has found it proper to consider the entire record including comments, responses, and analysis generated before and after the EA was prepared"); *see also id.* at 180 ("while on appeal the appellants have made many assertions . . . these concerns have been addressed in the record, and when viewed in its entirety, the record supports the FONSI").

[47] *See* New York Proposed Findings at 70 (¶ 197) (arguing that supplementation would be "fraught with problems").

[48] *Id*.

[49] *Id*.

[50] *See* 10 C.F.R. §§ 2.1202(b)(2)-(3), 51.104(a)(2)-(3). Contrary to New York's focus on the NRC Staff, NEPA "is addressed to agencies as a whole, not only to their professional staffs." *Calvert Cliffs' Coordinating Comm. v. U.S. Atomic Energy Comm'n*, 449 F.2d 1109, 1118 (D.C. Cir. 1971).

greater public participation than NEPA otherwise requires.[51] Fourth, contrary to New York's argument,[52] NEPA does not preclude supplementation because it would mean that "all the pertinent environmental information would no longer appear in one document."[53]

19. Finally, New York's proposal would elevate form over substance and would likely undermine the efficient resolution of this adjudicatory proceeding. Surely, any change in the FSEIS—particularly one that is fully documented in the hearing record—does not require the publication of an FSEIS supplement for comment and subsequent hearing opportunity. If it did, then the result could be an endless series of challenges, hearings, and FSEIS supplements. Drawing out the NEPA review in such an indefinite fashion would undermine the Commission's goals of an efficient, stable, and predictable regulatory process for license renewal.[54] It would also undermine NEPA's ultimate purpose, which is not better documents but better decisions.[55]

20. In summary, this adjudicatory proceeding is not isolated from the requisite "hard look" required of the NRC by NEPA; it is a key part of it. The Board must follow binding NRC precedent and reject New York's claim that "no 'adjudicatory findings' could cure" the defects

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51 *Hydro Res.*, CLI-01-04, 53 NRC at 53. For this same reason, New York incorrectly relies on the Board's decision granting New York summary disposition on NYS-35/36 as support for its claim that a remand to the NRC Staff is the appropriate remedy for any NEPA deficiency. *See* New York Proposed Findings at 70-71 (¶ 198). That decision is distinguishable because resolution of that contention did not involve an evidentiary hearing (*i.e.*, there was no public airing of the issues). Entergy also respectfully notes that it believes that Board erred in that decision.

52 *Id*. at 70 (¶ 197).

53 To the contrary, NEPA allows agencies to rely on environmental analyses in multiple documents. *See, e.g.*, 10 C.F.R. Part 51, App. A, § (b) (authorizing tiering and incorporation by reference).

54 *See* Final Rule, Nuclear Power Plant License Renewal; Revisions, 60 Fed. Reg. 22,461, 22,461 (May 8, 1995); Proposed Rule, Revisions to Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 74 Fed. Reg. 38,117, 38,118 (July 31, 2009).

55 40 C.F.R. § 1500.1(c) ("Ultimately, of course, it is not better documents but better decisions that count. NEPA's purpose is not to generate paperwork—even excellent paperwork—but to foster excellent action. The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.").

New York purports to identify.[56] As discussed below and detailed in Entergy's and NRC Staff's Proposed Findings, to the extent any further NEPA analysis is required beyond the FSEIS for this contention, there is ample information in the record from which Board can draw to supplement the FSEIS.

B. Controlling NEPA Principles

21. New York suggests that the Board consider the following three factors in evaluating whether the FSEIS complies with NEPA: (1) whether the NRC has, in good faith, objectively taken a "hard look" at the environmental consequences of the proposed project and reasonable alternatives; (2) whether the FSEIS provides sufficient detail to allow those who did not participate in its preparation to understand the pertinent environmental issues; and (3) whether the FSEIS explanation of alternatives is sufficient to permit a reasoned choice among different courses of action.[57] Entergy generally agrees with these factors, but, as noted in the previous section, the Board must consider the entire record when evaluating whether the NRC has complied with NEPA.

22. In determining whether the NRC took the requisite "hard look," the Board must also apply a "rule of reason."[58] This rule of reason "governs 'both *which* alternatives the agency must discuss, and the *extent* to which it must discuss them.'"[59] For example, an agency need not

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56 *See* New York Proposed Findings at 68 (¶ 192).

57 *Id.* at 20 (¶ 55).

58 *New York v. Kleppe*, 429 U.S. 1307, 1311 (1976); *see also U.S. 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 *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 195 (DC Cir. 1991) (quoting *Alaska v. Andrus*, 580 F.2d 465, 475 (D.C. Cir. 1978) (emphasis in original).

consider "remote and speculative" alternatives.[60] In other words, NEPA does not require discussion of every conceivable possibility, but only reasonably foreseeable ones.[61]

23. NEPA also does not require a separate analysis of alternatives that are not significantly distinguishable from alternatives actually considered, or which have substantially similar consequences.[62] Instead, an agency's evaluation of alternatives is sufficient if it considers an appropriate range of alternatives, even if it does not consider every available alternative within that range or every piece of new information involving minor variations of an alternative already discussed in an FSEIS.[63] Indeed, requiring an agency to consider every conceivable alternative proposed after an FSEIS is complete would "task agencies with a sisyphean feat of forever starting over in their environmental evaluations, regardless of the usefulness of such efforts."[64]

24. In accordance with these NEPA and administrative law principles, NRC hearings must focus on whether the FSEIS takes the required "hard look" at relevant, non-speculative environmental impacts from the proposed action and its reasonable alternatives.[65] But it is not a game of "gotcha," in which the NRC Staff's work can be rejected based on trivial, speculative,

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

61 *See* 40 C.F.R. §§ 1508.7, 1508.8(b); *see also USEC Inc.* (Am. Centrifuge Plant), CLI-06-10, 63 NRC 451, 468 (2006).

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

63 *Id.*; *see also* Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18,026, 18,026-27, 18,035 (Mar. 23, 1981) (ENT000147) (acknowledging that certain projects could involve an infinite number of alternatives, but indicating that an agency need only discuss a "reasonable number of examples, covering the full spectrum of alternatives").

64 *Price Road Neighborhood Ass'n, Inc. v. U.S. Dep't of Transp.*, 113 F.3d 1505, 1510 (9th Cir. 1997); *see also Citizens Against Burlington Inc.*, 938 F.2d at 196 (an agency may not "frame its goals in terms so unreasonably broad that an infinite number of alternatives would accomplish those goals and the project would collapse under the weight of possibilities").

65 *See LES*, CLI-98-3, 47 NRC at 87-88; *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).

regulatorily-foreclosed, or irrelevant considerations. As the Commission has explained, "[t]here may, of course, be mistakes in the [FSEIS], 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."[66]

25. New York recognizes that the overall NEPA standard for evaluating a license renewal application is found in 10 C.F.R. § 51.95(c)(4) and 51.103(a)(5).[67] Those regulations indicate that the Board must "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."[68]

26. New York, however, incorrectly suggests that the record provides no standard under which the NRC determines whether preserving the license renewal option is unreasonable.[69] To the contrary, New York's own exhibit, the Statements of Consideration for 10 C.F.R. §§ 51.95(c)(4) and 51.103(a)(5), makes clear that 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."[70] As discussed below, the FSEIS, as supplemented by the hearing record, fully complies with NEPA and provides more than sufficient detail to demonstrate that preserving the option of license renewal is reasonable.

27. Finally, New York acknowledges that the FSEIS need not include a need for

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66 *Exelon Generating Co., LLC* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 811 (2005).

67 New York Proposed Findings at 1 (¶ 1), 45(¶ 132).

68 10 C.F.R. §§ 51.95(c)(4), 51.103(a)(5).

69 *See* New York Proposed Findings at 47 (¶ 137).

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

power analysis.[71] As 10 C.F.R. § 51.95(c)(2) indicates, need for power is *per se* outside the scope of license renewal NEPA review.[72]

C. Issues Not Disputed By New York

28. As an initial matter, there are several relevant conclusions and findings on which Entergy and New York agree, or that New York does not challenge. Importantly, New York does not challenge that Entergy's witnesses, Mr. Donald P. Cleary, Dr. David Harrison, Jr., and Mr. Eugene T. Meehan are qualified to testify as experts on the issues raised in Contention NYS-37.[73] Nor does New York dispute that NRC Staff's witness, Mr. Andrew L. Stuyvenberg, is qualified to testify as an expert on the issues raised in NYS-37.[74]

29. New York also does not dispute several other key facts relevant to NYS-37. In particular, New York does not dispute that Entergy is a merchant power producer that currently sells all of Indian Point's power in New York's competitive market.[75] Nor does New York challenge that Indian Point is a large baseload power facility.[76] New York also does not claim that conservation and renewables are baseload energy sources.[77]

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71 *See* New York Proposed Findings at 45 (¶ 133).

72 *See* Entergy Proposed Findings at 41-42 (¶ 74), 58-62 (¶¶106-13). In any event, the need for power analysis initially demanded by New York would have been superfluous given the cautious approach taken by the NRC Staff in the FSEIS, which gave full credence to New York's assertions on the efficacy of its conservation programs and, as a result, fully evaluated the environmental impacts of a standalone conservation alternative. *See* Entergy Proposed Findings at 62 (¶ 113).

73 *See* Entergy Proposed Findings at 54-55 (¶¶ 94-98).

74 *Id*. at 55-56 (¶¶ 99-100).

75 *See generally* New York Proposed Findings.

76 *See* Entergy Proposed Findings at 66 (¶ 121).

77 *See* New York Proposed Findings at 37-41 (¶¶ 108-20).

30. New York now acknowledges that FSEIS Section 8.3 (Alternative Energy Sources) addresses conservation and replacement energy sources.[78] As such, New York no longer argues that FSEIS Section 8.3 is irrelevant to the no-action alternative evaluation.[79]

31. In addition, New York no longer argues that the FSEIS combination alternative analysis should have included combined heat and power.[80] Other than listing combined heat and power as an alternative dismissed from detailed consideration, New York does not mention this issue in its Proposed Findings.[81]

32. Finally, New York agrees that the FSEIS addresses a wide range of alternative energy sources, including an all fossil scenario (new natural gas-fired generation), a standalone conservation scenario, and a scenario with a combination of conservation, renewables, and natural gas (FSEIS Combination 2).[82] New York does not dispute the FSEIS environmental impact conclusions for the natural gas alternative or FSEIS Combination 2, which establish the environmental impacts for those alternatives are greater than the environmental impacts for license renewal.[83] New York also acknowledges that the FSEIS states that purchased power

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78 *See id*. at 29-44 (¶¶ 81-130).

79 *See* State of New York Motion to Strike Portions of Entergy and NRC Staff Witness Testimony as Impermissible Under NRC Regulations at 18-21 (Apr. 30, 2012), *available at* ADAMS Accession No. ML12121A702.

80 *See* New York Position Statement at 59 (NYSR00045).

81 New York Proposed Findings at 41 (¶ 121). Entergy's Proposed Findings, however, explain why this claim lacks merit. *See* Entergy Proposed Findings at 83-85 (¶¶ 151-54). Briefly, Indian Point provides no heat, there is no indication that the surrounding area needs heat from a combined heat and power facility, and, in any event, the environmental impacts from adding combined heat and power to FSEIS Combination 2 would not significantly change that alternative's environmental impact. *See* NRC Staff Testimony at 16-17 (A17) (NRC000133); Official Transcript of Proceedings, Indian Point Nuclear Generating Units 2 & 3 at 3132:10-3133:12 (Oct. 24, 2012) (Stuyvenberg) ("Oct. 24, 2012 Tr."); *id*. at 3119:16-3120:21 (Meehan).

82 New York Proposed Findings at 31(¶ 90), 37 (¶ 108), 41-42 (¶ 122).

83 *See id*. at 32 (¶ 91), 43-44 (¶¶125-127), 44 (¶ 129).

could be an alternative to IP2 and IP3.[84] New York recognizes that the NRC Staff developed many of these alternatives specifically to address New York's comments on the DSEIS.[85]

D. The FSEIS Considers a Reasonable Range of Alternative Energy Scenarios

33. New York argues that the FSEIS does not take a "hard look" at the environmental impacts of the no-action alternative because it is "slanted" toward license renewal and the construction of new fossil-fuel generation and away from renewable generation, conservation, and purchased power.[86] According to New York, this alleged bias is demonstrated by: (1) the absence of an alternative combination scenario considering only conservation and renewable generation together; (2) the lack of detail in the standalone conservation alternative analysis; and (3) the flawed analysis of the purchased power alternative.[87] As discussed below, there is no material deficiency or omission in the energy scenarios considered in the FSEIS, and the FSEIS takes the required "hard look" at a reasonable range of energy scenarios that could replace Indian Point's baseload generation under the no-action alternative.

1. The FSEIS Is Not Required to Consider Another Combination Scenario Involving Only Renewable Generation and Conservation

34. New York argues that the FSEIS is deficient because it ignores "a combination of renewable generation and energy efficiency proposed by New York State witness David Schlissel in his 2007 Synapse Report."[88] According to New York, the FSEIS should have considered this combination because its March 2009 comments on the DSEIS "specifically referenced" the 2007 Synapse Report.[89] New York also claims that whether or not it advanced

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84 *Id*. at 32 (¶ 92).

85 *Id*. at 37 (¶ 108).

86 *Id*. at 2 (¶ 3).

87 *Id*. at 59 (¶ 175), 60-61 (¶ 179).

88 *Id*. at 42 (¶ 123).

89 *Id*. at 42-43 (¶ 124), 58-59 (¶ 174).

that specific combination in its DSEIS comments, the FSEIS should have considered a renewable and conservation combination because it is "more realistic" than the "full" conservation alternative that New York previously proposed and acknowledges is addressed in the FSEIS.[90] As discussed below, New York's argument is without merit because: (1) the FSEIS is not required to consider non-baseload energy sources; (2) the FSEIS already reasonably considers renewables and conservation and a reasonable set of combination scenarios; and (3) New York did not meaningfully alert the NRC of the need consider a combination of only renewables and conservation.

a. The FSEIS Is Not Required to Consider Non-Baseload Energy Sources

35. As a fundamental legal matter, Commission case law instructs that the FSEIS need only analyze alternatives that are capable of providing "technically feasible and commercially viable" baseload power during the license renewal period.[91] New York points to no evidence that its proposed renewables and conservation combination provides baseload power.[92] To the contrary, New York's witness, Mr. Schlissel readily conceded that conservation and renewables cannot provide baseload power.[93] New York's insistence that the baseload power limitation described above does not apply to the "no-action" alternative is unpersuasive for three primary reasons.[94]

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90 *Id*. at 58 (¶ 172), 59 (¶ 175).

91 *See NextEra Energy Seabrook, LLC* (Seabrook Station Unit 1), CLI-12-05, 75 NRC __, slip op. at 55 (Mar. 8, 2012).

92 *See* New York Proposed Findings at 37-41 (¶¶ 108-20).

93 *See* Oct. 24, 2012 Tr. at 2938:16-19 (Schlissel) ("I don't think that it's feasible to think about retiring a large generating unit or in this case two large generating units in three or four years and instantly replacing them by energy efficiency."); *see also id.* at 2946:8-10 (Schlissel) ("I agree that you can't replace a base load power plant only with wind. I have no argument with that."); *id.* at 3139:6-18 (Schlissel) (agreeing that conservation efficiency and demand side management are not baseload alternatives).

94 *See* Entergy Proposed Findings at 68-71 (¶¶ 125-28).

36. First, neither the Commission nor the courts have suggested that an applicant's baseload power goal should be ignored in the no-action alternative evaluation. In explaining why the NRC need only analyze the environmental impacts of baseload power alternatives, the Commission and the courts have recognized that under NEPA's rule of reason, the NRC should appropriately consider an applicant's economic goals (*e.g.*, the goal of generating baseload power) when developing reasonable alternatives.[95] Under binding Commission case law, that principle applies equally to the no-action alternative.[96] Thus, in accordance with this case law, the FSEIS need not consider the non-baseload conservation and renewable combination alternatives under the no-action alternative.

37. Second, there is nothing inconsistent with this conclusion and the GEIS statement that conservation is a potential consequence of the no-action alternative.[97] As an initial matter, the GEIS alternatives discussion establishes no binding requirements.[98] Even so, implementing conservation measures may very well be a reasonable alternative for non-merchant applicants.[99] For such applicants, the GEIS discussion of conservation provides potentially helpful information that can be used in a site-specific review. That GEIS conservation discussion does

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95 *See Beyond Nuclear*, 704 F.3d at 19 (holding that an agency need only consider a means which will "'bring about the ends' of the proposed action") (citing *Citizens Against Burlington, Inc.*, 938 F.2d at 195); *Seabrook*, CLI-12-05, slip op. at 49 (holding that reasonable alternatives are those that will enable the proposed action's end while considering the private applicant's economic goals); *FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-08, 75 NRC __, slip op. at 9 (Mar. 27, 2012). Although New York cites the First Circuit's *Beyond Nuclear* decision, *see* New York Proposed Findings at 55 (¶ 163), it fails to cite the actual holding in that case approving the NRC's decision to consider and accord substantial weight to an applicant's goal of generating baseload power for NEPA purposes. *See Beyond Nuclear*, 704 F.3d at 18-19.

96 *See USEC*, CLI-06-10, 63 NRC at 468 (holding that the NRC accords "substantial weight" to the applicant's goals for purposes of the no-action alternative analysis).

97 *See* NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants at 8-2 (May 1996) ("GEIS") (NYS00131D).

98 *Seabrook*, CLI-12-05, slip op. at 49.

99 *See S.C. Elec. & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 & 3), CLI-10-1, 71 NRC 1, 20-21 (2010) (holding that conservation may be a viable alternative for a public utility that produces power for a designated service territory).

not, however, establish that the Board should ignore Entergy's economic goal as the merchant operator of a baseload plant.

38. Third, New York's position that a conservation and renewables combination is a reasonable alternative for baseload generation is directly contrary to how New York itself evaluates the no-action alternative under the New York State equivalent of NEPA. Specifically, in the recent State Environmental Quality Review Act ("SEQRA")[100] Finding Statement for the Cricket Valley natural-gas fired "baseload" generation project, the New York State Department of Environmental Conservation ("NYSDEC") declined to consider conservation, renewables, or a combination of the two as reasonable alternatives to a baseload plant or in its no-action alternative analysis.[101] New York fails to explain why it has taken a directly-contradictory position in this proceeding. Therefore, New York's claim that the FSEIS must further evaluate the environmental impacts of conservation and renewables in this proceeding is unsupported.

b. The FSEIS Already Gives Reasonable Consideration to Renewables and Conservation

39. According to New York, the FSEIS should have addressed an additional conservation and renewable alternative because the standalone conservation alternative might be too "aggressive" and "may very well be less reasonably likely than a combination of conservation and renewable generation."[102] As support for this argument, New York relies on its own witness concession at hearing that it would not be feasible to replace all of Indian Point

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100 SEQRA is the New York State-level counterpart of NEPA. *See Jackson v. N.Y. State Urban Dev. Corp.*, 67 N.Y.2d 400, 415, 494 N.E.2d 429, 434 (1986) (noting SEQRA is modeled after NEPA).

101 New York State Department of Environmental Conservation, State Environmental Quality Review (SEQR) at 28-29, 33 (Sept. 26, 2012) ("Cricket Valley SEQR") (NYS000444).

102 New York Proposed Findings at 58 (¶ 172), 59 (¶ 175).

baseload generation with conservation in 2015.[103] Surely, this argument runs afoul of the "chutzpah doctrine."[104] For over five years, New York has asserted that the NRC Staff must consider conservation as a reasonable alternative to completely replace IP2 and IP3.[105] The NRC Staff then evaluated conservation as a standalone alternative in FSEIS and did so, in large part, based on New York's claim that more than enough conservation would be available to offset Indian Point's generation.[106] New York cannot now argue, at least rationally, that the FSEIS is inadequate or not "realistic" because the NRC Staff relied on New York's erroneous claim that conservation is a reasonable alternative.[107]

40. Additionally, even if the standalone conservation alternative were less "realistic" than New York earlier claimed, that does not establish that the FSEIS omits a reasonable alternative. In addition to the standalone conservation scenario, the FSEIS also considers an all fossil scenario (new natural gas-fired generation) and a scenario with a combination of conservation, renewables, and natural gas (FSEIS Combination 2). New York cites no evidence that its proposed conservation and renewable alternative is "more realistic" than either of these alternatives. To the contrary, New York's own witnesses, Mr. Schlissel testified that the projected low costs of natural gas would result in Indian Point's generation being replaced by new natural-gas combined-cycle capacity in New York City or Westchester County.[108] New York also has not shown that more than the 600 MWe of renewables addressed in the FSEIS is

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103 *See id.* at 58 ((¶ 172) (citing Oct. 24, 2012 Tr. at 2937:19-2938:19 (Schlissel) (agreeing that it would not be possible to reduce demand by an amount equal to Indian Point's baseload generation).

104 *Caribbean Shippers Ass'n v. Surface Transp.*, 145 F.3d 1362, 1365 n. 3 (D.C. Cir. 1998); *Harbor Ins. Co. v. Schnabel Found. Co.*, 946 F.2d 930, 937 & n. 5 (D.C. Cir. 1991).

105 Synapse Report at 3 (NYS000052); NYS-33 at 25; New York DSEIS Comments at 25 (NYS000134); NYS-37 at 27-28.

106 *See* NRC Staff Testimony at 10 (A14) (NRC000133).

107 New York Proposed Findings at 58 (¶ 172), 59(¶ 175).

108 Pre-filed Written Rebuttal Testimony of David A. Schlissel Regarding Contention NYS-37 at 23:16-24:6 (June 29, 2012) ("Schlissel Rebuttal Testimony") (NYS000437).

likely to replace Indian Point's baseload generation under the no-action alternative.[109] The record thus fails to show that New York's conservation and renewable combination is likely to replace Indian Point's baseload generation under the no-action alternative.

41. Furthermore, New York also has not shown that its proposed conservation and renewables combination has significantly different or fewer environmental impacts than the alternatives already addressed in the FSEIS. FSEIS Combination 2 already contains considerable amounts of conservation (1000 to 1200 MWe) and renewable generation (400 to 600 MWe) in addition to natural gas generation (400 to 600 MWe). It is unclear how exactly New York proposes to alter this combination. After all, there is a virtually limitless number of ways to combine conservation and renewables. Regardless, New York never establishes that any such combination would involve significantly different or fewer environmental impacts than FSEIS Combination 2. For example, increasing the amount of wind in FSEIS Combination 2, would for example, if anything, increase the land-use impacts.[110] As such, the environmental impacts from New York's combination would likely be similar to (if not greater than) the impacts from FSEIS Combination 2.

42. Moreover, New York's suggestion that the FSEIS should somehow have considered "dynamic" energy combination scenarios that change throughout the license renewal period is well beyond what is required by NEPA.[111] As an initial matter, New York did not previously raise this argument in its contentions, prefiled testimony, or comments on the DSEIS, and the Board should therefore deem this argument waived.[112] Nor is it entirely clear what

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109 *See* Entergy Proposed Findings 75-77 (¶¶ 136-41).

110 *See id*. at 78 (¶ 142).

111 New York Proposed Findings at 44 (¶ 127).

112 *See* Entergy Proposed Findings at 92-93 (¶¶ 170-171).

specific dynamic scenario New York believes should have been addressed in the FSEIS or even how such a dynamic analysis would be conducted or documented in the FSEIS. Thus, the Board should reject New York's request that the NRC speculate on how the alternatives mix might evolve over a two decade period.

c. New York Never Meaningfully Alerted the NRC of the Need to Consider a Combination of Only Renewables and Conservation

43. According to New York, the FSEIS should have considered a renewable and conservation combination because its March 2009 comments on the DSEIS referenced the 2007 Synapse Report.[113] A review of those comments, however, reveals that New York never actually requested that the NRC consider such a combination. To the contrary, New York's comments cited the Synapse Report because it contained "[i]nformation on the potential for energy efficiency and renewable energy resources, *combined heat and power*, and *power plant repowering*."[114] Likewise, in the section of its comments addressing "combination" alternatives, New York requested that the NRC consider two particular combinations "derived from the November 2007 Synapse Report," but again, those combinations involved renewables, conservation, *and fossil-fired generation*.[115] Accordingly, the FSEIS cannot be faulted for combining renewables and conservation with fossil-fired generation. As the Supreme Court has noted, NRC proceedings "should not be a game or a forum to engage in unjustified

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113 New York Proposed Findings 42-43 (¶ 124), 58-59 (¶ 174).

114 New York DSEIS Comments at 22 (NYS000134) (emphasis added to fossil-fired generation sources).

115 *See id.* at 35-36. Like New York's DSEIS comments, the Synapse Report focused on the combinations involving renewables, conservation, and fossil-fired generation. Synapse Report at 2, 18 (NYS000052) ("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.") (emphasis added).

obstructionism by making cryptic and obscure reference to matters that 'ought to be' considered."[116]

2. The FSEIS Meaningfully Considers the Standalone Energy Conservation Alternative

44. New York concedes that the FSEIS discusses the environmental impacts of a standalone conservation alternative and instead argues that this discussion was a "throw away" and "does not reflect a specific analysis" of conservation programs.[117] In order to give "reality and substance" to the conservation alternative, New York argues that the FSEIS should have defined which specific conservation program(s) would likely replace Indian Point's generation under the no-action alternative.[118] According to New York, this lack of emphasis is illustrated by the fact that the conservation alternative analysis is only one-and-a-half pages whereas the coal-fired generation analysis is ten pages, even though the NRC Staff found coal generation was not a reasonable alternative.[119]

45. As an initial matter, in light of New York's concession that replacing Indian Point's baseload generation with conservation in 2015 is not "realistic," New York's claim that the FSEIS is biased against conservation is baseless.[120] If anything, the FSEIS is clearly optimistic in considering conservation as a stand-alone alternative. As such, reviewing conservation as a standalone alternative hardly constitutes underemphasis.

46. Furthermore, in terms of the availability of conservation programs, New York glosses over the fact that the FSEIS discusses the New York State "15 by 15" energy efficiency

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116 *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 554 (1978).

117 New York Proposed Findings at 37-38 (¶ 112), 38-39 (¶¶ 114-115), 54 (¶ 161), 55 (¶ 164).

118 *Id*. at 38-39 (¶¶ 113-115), 54 (¶ 161).

119 *Id*. at 54-55 (¶¶ 161-163).

120 *See id*. at 58-59 (¶¶ 172-175).

plan, including the resulting Energy Efficiency Portfolio Standard established by the New York Public Service Commission.[121] Additionally, the FSEIS discusses various conservation program areas that have been implemented in New York State, including programs focused on existing buildings, new buildings, industrial processes, and transportation.[122] New York provides no evidence that it is necessary, or even feasible, to further "define" or "anticipate" which specific programs would be implemented to replace Indian Point's baseload generation.[123] Nor has New York offered any evidence that environmental impacts differ significantly program-to-program

47. As Mr. Stuyvenberg testified, the FSEIS relies heavily on these state-specific programs and New York's assertions about the availability of state conservation programs as the basis for including the standalone conservation alternative in the FSEIS.[124] The FSEIS also includes New York's comments providing further details on potential conservation programs.[125] Thus, again, there is no lack of substance because the FSEIS and its appendices contain the very details that New York asserts is missing.[126]

48. In addition, New York's challenge to the FSEIS for not devoting sufficient text to this alternative is baseless. The FSEIS concludes that the environmental impacts of conservation would generally be SMALL—a fact which New York's witnesses did not dispute.[127] In order to meet the requirement that the FSEIS remain concise, the FSEIS need only discuss such minor

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121 FSEIS at 8-43 (NYS00133C).

122 *Id*. at 8-42.

123 *See* New York Proposed Findings at 38 (¶ 113).

124 NRC Staff Testimony at 8-9 (A13) (NRC000133).

125 FSEIS at A-1007 to -1013 (NYS00133G).

126 To the extent that New York argues that the FSEIS should have identified potential conservation programs that differ than the ones identified in the FSEIS, New York ignores that conservation "suggests a virtually limitless range of possible actions and developments that might, in one way or another, ultimately reduce projected demands for electricity." *Vermont Yankee*, 435 U.S. at 552.

127 *See* FSEIS at 8-43 (NYS00133C).

impacts briefly.[128] On the other hand, and not surprisingly, the more significant environmental impacts from coal required more detailed treatment and explanation. Thus, to the extent that New York challenges the level of detail in the FSEIS on issues for which New York agrees the FSEIS reaches the correct conclusion, the Board should reject that claim as impermissible flyspecking.[129]

49. New York also ignores the plain text in the FSEIS when it suggests that the ten pages devoted to the coal generation alternative somehow demonstrates that the NRC Staff was biased against the conservation alternative.[130] The FSEIS plainly states that the NRC Staff "removed the coal-fired alternative from the range of alternatives considered in depth" based on "comments indicating that coal-fired power would be *infeasible*."[131] As such, the FSEIS does not include coal generation in the comparative analysis of alternatives and the proposed action.[132] In contrast, the FSEIS specifically considers conservation as a reasonable alternative and includes conservation in the comparative analysis of alternatives and the proposed action.[133] Under NEPA, these distinctions matter more than New York's page-count argument.

50. To the extent that New York challenges the FSEIS conclusion that conservation would result in SMALL to MODERATE adverse socioeconomic impacts, New York's argument lacks merit.[134] Contrary to New York's claim, the FSEIS provides a site-specific analysis of

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128 *See* 40 C.F.R. § 1502.2(b)-(c).

129 *See Clinton*, CLI-05-29, 62 NRC at 811 (indicating that "boards do not sit to flyspeck environmental documents or to add details or nuances") (citation and internal quotes omitted).

130 New York Proposed Findings 54-55 (¶¶ 162-163).

131 FSEIS at A-151 (NYS00133D) (emphasis added); *see also id.* at 8-43 (NYS00133C).

132 *See id*. Table 9-1, §§ 8.4, 9.2 (NYS00133C).

133 *See id.*

134 *See* New York Proposed Findings at 39-41 (¶¶ 117-20), 57 (¶¶ 169-70).

socioeconomic impacts.[135] Based on that analysis, the FSEIS reasonably concludes that any socioeconomic benefits of conservation would not offset the SMALL to MODERATE adverse impacts resulting from the significant reduction in Entergy's tax payments and payment-in-lieu-of-taxes ("PILOT") after IP2 and IP3 cease operations.[136] New York offered no evidence—site-specific or otherwise—demonstrating that the socioeconomic benefits of conservation resulting from the no-action alternative would be so significant that it would counterbalance these adverse site-specific impacts. Instead, New York's witnesses only speculated that these attenuated socioeconomic benefits of conservation are beneficial and significant.

51. For example, Mr. Bradford claimed that local communities would receive substantial property tax payments after operations cease because the facility would likely to continue to store spent fuel.[137] This gross (and optimistic) speculation is contradicted by the overwhelming weight of evidence in this proceeding demonstrating that a plant's property tax payments are greatly reduced after operations end.[138] Accordingly, New York has not

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135 *See* Entergy Proposed Findings at 81-82 (¶ 149).

136 New York quotes Mr. Stuyvenberg's testimony indicating that there is a "flaw" in NRC's system when it comes to addressing LARGE positive impacts. Nothing in the record indicates that there is a generic flaw in the NRC NEPA's procedures. Moreover, the record reflects that the FSEIS is "even-handed" in its consideration of "socioeconomic effects, both positive and negative." NUREG-1555, Supp. 1, Standard Review Plans for Environmental Reviews for Nuclear Power Plants: Environmental Standard Review Plan for Operating License Renewal at 8.2-3 (Mar. 2000) ("NUREG-1555, Supp. 1") (ENT00019B).

137 New York Proposed Finding at 40 (¶ 119).

138 *See* FSEIS at 8-25 (NYS00133C); Testimony of Entergy Witnesses Donald P. Cleary, C. William Reamer, and George S. Tolley Regarding Contention NYS-17B at 102-03 (A131) (Mar. 28, 2012) (ENT000132); Official Transcript of Proceedings, Indian Point Nuclear Generating Units 2 & 3 at 2624:11-2625:11 (Oct. 22, 2012) (Reamer); Declaration of Cory Gruntz ¶ 9 (Nov. 21, 2012) (ENT000591); NUREG-0586, Supp. 1, Vol. 1, Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities at J-4 to J-8 (Nov. 2002) (ENT000163); Levitan & Assocs., Inc., Indian Point Retirement Options, Replacement Generation, Decommissioning/Spent Fuel Issues, and Local Economic/Rate Impacts at 102-103 (June 9, 2005) (NYS000056); New Horizon Scientific, LLC, Maine Yankee Decommissioning Experience Report Detailed Experiences 1997-2004 (2005) (ENT000164); A. Philippidis, Nuclear Plant Closing, 41 Westchester Cnty. Bus. J. 19 (May 13, 2002), *available at* 2002 WLNR 5180165 (ENT000165); John Mullin and Zenia Kotval, The Closing of the Yankee Rowe Nuclear Power Plant: The Impact on a New England Community, in Univ. of Mass. – Amherst, Landscape & Regional Planning Faculty Publication Series (1997) (ENT000166).

demonstrated that its alleged significant, beneficial socioeconomic impacts are anything but remote and speculative.

3. The FSEIS Is Not Required to Further Consider Purchased Electric Power

52. As New York acknowledges, the FSEIS specifically considers purchased power as a reasonable alternative to license renewal and states that given New York State's competitive power market, all alternative generation sources considered in the FSEIS could provide purchased power absent electric transmission constraints.[139] New York, however, claims that the FSEIS discussion of transmission constraints fails to account for various recently completed and recently planned transmission projects, and thus, the FSEIS erroneously states that significant resource commitments are necessary to develop transmission capacity.[140] New York also asserts that the FSEIS fails to evaluate the environmental impacts of purchased power and erroneously references the New York Regional Interconnect ("NYRI") transmission project even though that project has been cancelled.[141] As discussed below, New York's arguments fail to demonstrate any material flaw in the FSEIS.

53. As an initial matter, New York's own documents make clear that transmission constraints remain an issue notwithstanding recent transmission capacity additions. New York concedes as much in its findings.[142] Moreover, New York itself points to the need to build

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139 New York Proposed Findings at 32 (¶ 92), 51 (¶ 154).

140 *Id*. at 51 (¶ 154), 53 (¶ 159).

141 *Id*. at 33 (¶ 96), 34-35 (¶ 100), 36 (¶ 107).

142 *Id*. at 33 (¶ 94 n.4) (stating that "the electric transmission system in New York contains certain locations, or transmission interfaces, where the designed capacity limits the amount of power capable of moving from one part of the state to another" and that "[o]ne of these interfaces limits the amount of power moving from the northern and western portions of the state to the eastern and southeastern portions of the state"). *See also* New York Energy Highway Task Force, New York Energy Highway Blueprint at 28 (Oct. 22, 2012) (NYS00448A) ("Congestion points, or bottlenecks, on the electric transmission system prevent lower-cost and/or cleaner power from flowing easily from upstate to downstate, increasing costs for consumers and preventing improvements in environmental quality because the older and less efficient power plants are forced to run more frequently than would otherwise be necessary.").

roughly $1 billion worth of transmission projects to address this issue.[143] Thus, notwithstanding New York's suggestion to the contrary, the FSEIS accurately states that "[s]ignificant resource commitments would also be required for the development of transmission capacity."[144]

54. Moreover, New York's claim that the NRC Staff failed to analyze the environmental impacts of purchased power does not identify any material error in the FSEIS.[145] New York's claim only tells part of the story. The FSEIS conservatively assumes that the primary environmental impacts from the no-action alternative would result from energy generation sources—not transmission.[146] The FSEIS accurately states that each generation source has its own set of environmental impacts and those impacts are evaluated elsewhere in the FSEIS.[147] Further, the FSEIS does not rule out any generation sources based on transmission constraints.[148] New York offered no evidence to the contrary, and the evaluation of these generation sources would not have differed if the FSEIS duplicated them under the "purchased power" heading.

55. To the extent that New York suggests that the FSEIS is flawed because it does not examine the environmental impacts of transmission necessary to carry power from these

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143 *See* New York Proposed Findings at 17 (¶ 44) (citing Press Release, New York State Public Service Commission, "Governor's Energy Highway Gains Momentum - New Transmission Projects, Power Plant Planning & Gas Distribution Expansion" at 2 (Nov. 27, 2012) (NYS000466)).

144 FSEIS at 9-6 (NYS00133C). Notwithstanding Mr. Stuyvenberg's apparent concession that this statement should have been removed from the FSEIS, *see* New York Proposed Finding at 34 (¶ 99), there is no inconsistency between this statement and the NRC Staff decision to not use transmission constraints to rule out any generation source as a reasonable alternative. On the one hand, the NRC Staff decision to not use transmission constraints to rule out any generation source allowed the Staff to consider a broader range of alternatives than NEPA might otherwise require. On the other hand, the FSEIS accurately informs decisionmakers that implementing those alternatives may involve developing transmission capacity, which involves significant resource commitments.

145 New York Proposed Finding at 36 (¶ 107).

146 *See* Oct 24, 2012 Tr. at 2973:21-2974:16 (Stuyvenberg); Official Transcript of Proceedings, Indian Point Nuclear Generating Units 2 & 3 at 3214:19-23 (Nov. 28, 2012) (Stuyvenberg) ("Nov. 28, 2012 Tr.").

147 FSEIS at 8-41 (NYS00133C); *see also* NRC Staff Testimony at 15 (A15) (NRC000133).

148 *See* Oct 24, 2012 Tr. at 2973:21-2974:16 (Stuyvenberg); Nov. 28, 2012 Tr. at 3214:19-23 (Stuyvenberg).

generation sources, that decision, if anything, understates the no-action alternative's environmental impacts.[149] In other words, contrary to New York's claim, that decision does not skew the FSEIS analysis in favor of license renewal.[150]

56. Likewise, because the FSEIS does not separately evaluate the environmental impacts from any specific transmission project, the reference to the NYRI project is immaterial to the FSEIS no-action alternative evaluation.[151] Even so, New York provides no support for its argument that the FSEIS must act as a running catalogue of all transmission projects that are "'up and running,' approved and being constructed, and under regulatory development."[152] Such a requirement would set the bar impossibly high, as there are new projects that are proposed, cancelled, and modified on a continuing basis. Ultimately, the FSEIS takes a reasonable approach and discusses potential transmission projects—including the NYRI project—to illustrate possible transmission improvements that could increase the availability of purchased power.[153]

57. In response, New York argues that the NYRI project was not necessarily a representative transmission project because it would have involved overhead transmission lines rather than submarine cables.[154] But New York offered no evidence demonstrating any material difference in terms of environmental impacts. New York's argument further ignores that the FSEIS also references the Champlain Hudson project, which, like the projects cited by New

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149 *See* Entergy Proposed Findings at 90 (¶ 165).

150 *See id*.

151 *See* NRC Staff Testimony at 15 (A15), 54 (A69) (NRC000133); Nov. 28, 2012 Tr. at 3214:14-19 (Stuyvenberg) ("In addition to the extent that discussion included the New York Regional Interconnect, which was a project that has since been withdrawn, I should note, it was again on an illustrative basis and not as a means of assigning specific impacts.").

152 New York Proposed Finding at 53 (¶ 160).

153 NRC Staff Testimony at 15 (A15) (NRC000133); FSEIS at 8-41 (NYS00133C).

154 New York Proposed Findings at 36 (¶¶ 104-105).

York, involves submarine cables.[155] Thus, the FSEIS reasonably references two general types of transmission projects—overhead and submarine—to illustrate possible transmission improvements that could increase purchased power's availability.

4. Summary of New York's Failure to Identify Any Material Deficiency in the FSEIS Consideration of Alternative Energy Scenarios

58. In summary, New York's criticisms of the FSEIS lack merit because, contrary to New York's claims, the FSEIS takes the required "hard look" at the environmental impacts of a reasonable range of energy scenarios that could replace Indian Point's 2158 MWe of baseload generation under the no-action alternative. Contrary to New York's claim of bias, the record also reflects that the NRC Staff developed many of these alternatives specifically to address New York's comments on the DSEIS and in doing so made conservative assumptions that tended to understate the environmental impacts of the no-action alternative. Given that the actual combinations that might be examined are nearly limitless, the FSEIS evaluation represents a sound approach to presenting a reasonable range of alternatives.

E. Dr. Harrison and Mr. Meehan's Criticisms of New York's Claims Further Confirm the Reasonableness of the FSEIS Alternatives Evaluation

59. Notwithstanding the overall finding that the range of alternatives considered in the FSEIS is reasonable, substantial additional evidence supports this conclusion. Mr. Schlissel, Mr. Bradford, and Mr. Lanzalotta cited to various recent and proposed energy projects and related developments allegedly ignored by the FSEIS, including various New York State programs to encourage renewables and energy conservation as well as recent reductions in

[155] NRC Staff Testimony at 15 (A15) (NRC000133); FSEIS at 8-41 (NYS00133C).

projected electricity demand and natural gas prices.[156] Separate from their NEMS analysis, Dr. Harrison and Mr. Meehan refuted this testimony.[157]

60. In particular, as Dr. Harrison and Mr. Meehan convincingly explained, Mr. Schlissel's, Mr. Bradford's, and Mr. Lanzalotta's criticisms do not undermine the FSEIS because New York's witnesses: (1) failed to recognize the manner in which market forces and cost-minimization would dictate future developments given New York's deregulated energy markets; (2) incorrectly treated developments that are occurring now or would occur regardless of whether the IP2 and IP3 licenses are renewed as consequences of the no-action alternative; (3) failed to consider that lower natural gas prices make conservation and renewables even more expensive compared to fossil generation and thus makes them less likely to replace Indian Point under the no-action alternative; and (4) failed to provide any independent empirical analysis of likely replacement energy sources.[158]

61. New York offered no findings addressing or challenging these arguments. Accordingly, the Board should find that Dr. Harrison and Mr. Meehan demonstrated that the approach taken by Mr. Schlissel, Mr. Bradford, and Mr. Lanzalotta suffered from fundamental flaws, and that this provides a further basis to conclude that New York's expert testimony does not undermine the FSEIS alternatives evaluation.

F. Dr. Harrison and Mr. Meehan's NEMS Analysis Is Admissible and Also Confirms the Reasonableness of the FSEIS Alternatives Evaluation

62. Separate from their analysis discussed in the preceding section, Dr. Harrison and Mr. Meehan used NEMS, a widely-respected energy model maintained by the Energy Information Administration, to model the energy sources that would replace Indian Point's

156 *See* New York Position Statement at 1-5 (NYSR00045).

157 *See* Entergy Proposed Findings at 94-106 (¶¶ 174-197).

158 *See id*.

baseload power under the no-action alternative.[159] Dr. Harrison and Mr. Meehan performed the NEMS analysis to address New York's argument that the FSEIS ignored the "likely" consequences of the no-action alternative and determine whether the FSEIS examined a reasonable range of alternatives.[160] That analysis found that most replacement energy would come from fossil plants, not from conservation or renewables.[161] New York argues that the Board should give no weight to those results because: (1) Dr. Harrison and Mr. Meehan developed the NEMS analysis after the FSEIS was issued; and (2) NEMS provides only simplified descriptions of the electric grid and dispatch process because it was developed to perform macro-level policy analysis.[162] As discussed below, both of New York's arguments lack merit.

63. First, as noted above, Dr. Harrison and Mr. Meehan performed the NEMS analysis to specifically address claims that New York raised in its testimony concerning whether the FSEIS examined a reasonable range of alternatives. New York cannot act surprised that the NEMS analysis, which is part of Entergy's testimony on NYS-37, was prepared after the FSEIS. Thus, the NEMS analysis is directly relevant and admissible.[163]

64. At the hearing, Judge Wardwell stated that what is important is what the NRC Staff did in its FSEIS "regardless of the NEMS" analysis.[164] Entergy respectfully disagrees. Whether the FSEIS references or the NRC Staff considered the NEMS analysis has no bearing on its relevance or admissibility. NRC regulations make clear that, when a hearing is held in a

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159 *Id*. at 106-07 (¶ 199).

160 *See* New York Position Statement at 3-4, 12, 28, 41, 43, 57 (NYSR00045); New York MIL Answer at 8; New York Rebuttal Position Statement at 8 (NYS000436).

161 Entergy Proposed Findings at 30 (¶ 51), 107-108 (¶ 201).

162 New York Proposed Findings at 76-81 (¶¶ 138-148), 96 (¶¶ 176-177).

163 *See* 10 C.F.R. § 2.337(a).

164 Oct. 24, 2012 Tr. at 3109:6-8 (Judge Wardwell).

proceeding where the NRC Staff has prepared an FSEIS, other parties can "take a position and offer evidence" on issues within the scope of NEPA.[165] Thus, as discussed above in Section II.A, the Board can and should rely on all information developed at and for the hearing to resolve the merits of this contention.[166] Accordingly, Dr. Harrison and Mr. Meehan's report and testimony based on the NEMS analysis is relevant and admissible.

65. Second, Dr. Harrison and Mr. Meehan, two expert economists and energy analysts with undisputed qualifications, testified that they appropriately used NEMS to gain an understanding of what resources would replace Indian Point's baseload generation in direct response to New York's assertions in NYS-37.[167] As they explained, they selected NEMS because, in their professional judgment, NEMS is capable of conducting such an analysis.[168] In particular, NEMS adds new units and retires existing units based on least-cost market forces, including changes in fuel prices, and thus predicts plant additions and retirements over time.[169] In contrast, the models that Mr. Schlissel argued should have been used for this analysis lack these features; *i.e.*, they require the user to manually input new units and retirements and they do not include effects on fuel prices.[170]

66. In its Proposed Findings, New York cites only one example of the so-called

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165 10 C.F.R. § 51.104(a)(2).

166 Although New York improperly defines "relevant" information as information which existed and was considered by the NRC Staff when it prepared the FSEIS, New York has regularly disregarded its own standard and relied on studies and evaluations that were created specifically for the hearing. *See, e.g.*, Tim Woolf et al., Indian Point Replacement Analysis: A Clean Energy Roadmap (Oct. 11, 2012) ("Riverkeeper Synapse Report") (NYS000447); Stephen C. Sheppard, Impacts of the Indian Point Energy Center on Property Values (Dec. 2011) (revised Jan. 30, 2012) (NYSR00231); ISR, Review of Indian Point Severe Accident Off Site Consequence Analysis, International Safety Research, Inc. (Dec. 21, 2011) (NYS000242).

167 *See* Entergy Proposed Findings at 54-55 (¶¶ 96-98).

168 *See id*. at 111-12 (¶ 208).

169 *See id*.

170 *See id*. at 112 (¶ 209).

"gross distortions" resulting from NEMS alleged oversimplification of the electric system.[171] Particularly, New York claims that NEMS does not properly treat energy efficiency as an "additional resource" or reflect the "15 by 15 goal.[172] Contrary to New York's claim, NEMS does account for existing efficiency programs.[173] Additionally, the NEMS model forecasts that New York State would miss its "15 by 15" goal by about one percent, which is reasonable and comparable to the New York Independent System Operator's projections, which likewise indicate that New York is not expected to meet its "15 by 15" goal.[174] Mr. Schlissel did not dispute these points and New York's own exhibits confirm that New York is unlikely to meet its "15 by 15" goal.[175] Thus, there is nothing inappropriate with the NEMS model's treatment of energy efficiency or more generally, its modeling of the electric grid and dispatch process.

G. Based on the Comparison of Energy Alternatives, Preserving the License Renewal Option Is Not Unreasonable

67. As discussed above, 10 C.F.R. §§ 51.95(c)(4) and 51.103(a)(5) require that the Board "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."[176] The Commission has 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."[177]

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171 New York Proposed Findings at 48 (¶¶ 142-43).

172 *Id*.

173 *See* Oct. 24, 2012 Tr. at 3031:22-3032:3 (Harrison); Annual Energy Outlook 2012 Assumptions at 32, 44, 179 (ENT000587).

174 *See* Entergy Proposed Findings at 110-11 (¶ 207).

175 Riverkeeper Synapse Report at § 3.3 (NYS000447) ("In comparison to other states, New York has realized much lower levels of energy savings and is not on track to meet its 15 by 15 energy efficiency goals.").

176 New York Proposed Findings at 45 (¶ 132).

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

68. Based on a comparison between energy alternatives and license renewal, the FSEIS reasonably finds 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."[178] Mr. Stuyvenberg testified that FSEIS Table 9-1 summarizes the environmental impacts of license renewal, the no-action alternative, and alternative generation sources considered in detail (*i.e.*, natural gas-fired generation, energy conservation, FSEIS Combination 1, and FSEIS Combination 2).[179] As Mr. Stuyvenberg also confirmed at hearing, Table 9-1 does not establish that license renewal is unreasonable when compared to these alternatives.[180] When asked by the Board about this table, Mr. Bradford indicated that he does not have "specific expertise" to address the environmental impacts addressed in Table 9-1 and thus offered no contrary opinion.[181]

69. As discussed above, New York has not demonstrated any material flaw in the FSEIS. The record shows that the FSEIS is not biased in favor of either license renewal or fossil-fuel alternatives. To the contrary, the FSEIS includes a standalone conservation alternative, the most environmentally-benign alternative, even though New York now believes that it is too optimistic to assume that conservation can replace all of Indian Point's baseload generation. The FSEIS also notes that purchased power is a reasonable alternative but does not count the environmental impacts of additional transmission against any alternative even though New York indicates that such transmission is associated with purchased power. Further, even though there is no requirement to do so, the FSEIS gives reasonable consideration to

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178 FSEIS at 9-8 (NYS00133C).

179 Oct 24, 2012 Tr. at 3049:11-3050:7, 3131:7-18 (Stuyvenberg); Nov. 28, 2012 Tr. at 3245:19-3255:22 (Stuyvenberg).

180 Oct. 24, 2012 Tr. at 3049:11-3050:7, 3131:7-18 (Stuyvenberg); Nov. 28, 2012 Tr. at 3245:19-3255:22 (Stuyvenberg).

181 Nov. 28, 2012 Tr. at 3256:7-9 (Bradford).

conservation and renewables by combining the two with natural gas. In light of these decisions, it is fully appropriate to rely on Table 9-1 to evaluate whether preserving the license renewal option is unreasonable.

70. Table 9-1 demonstrates that license renewal would result in SMALL environmental impacts for all but one relevant issue (aquatic impacts), whereas the natural gas alternative and two combination alternatives each had environmental impacts in at least four resource areas that are greater than SMALL.[182] Similar to license renewal, the conservation alternative has SMALL environmental impacts for all but one relevant issue.[183] As such, the impacts of license renewal do not exceed the impacts of all or almost all of the alternatives. Accordingly, 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 decisionmakers is unreasonable.

III. REPLY TO NRC STAFF'S PROPOSED FINDINGS

71. The NRC Staff suggests that Dr. Harrison and Mr. Meehan's NEMS evaluation, and Mr. Schlissel's response to that evaluation, "are, at base, arguments over need for power" and therefore, "New York and Entergy both erred in focusing on whether or not New York needs Indian Point."[184] Entergy disagrees with the NRC Staff on this point. As discussed below, 10 C.F.R. § 51.95(c)(2) precludes a need for power analysis, but does not bar an analysis of the type of generation that would likely replace Indian Point's generation under the no-action alternative and their associated environmental impacts.[185]

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182 *See* FSEIS at 9-7 (NYS00133C).

183 *Id.* at 8-73.

184 NRC Staff Proposed Findings at 25 (¶¶ 8.27-29).

185 *See* Entergy Proposed Findings at 41-42 (¶ 74), 58-62 (¶¶ 106-113), 105-106 (¶ 197).

72. As an initial matter, Entergy agrees with NRC Staff that pursuant to 10 C.F.R. § 51.95(c)(2), the FSEIS is not required to discuss the need for power. The Commission has stated that unlike a new plant, "the significant environmental impacts associated with the siting and construction of a nuclear power plant have already occurred by the time a licensee is seeking a renewed license."[186] Because the impacts for license renewal are more limited, the NRC does not assess the proposed action's benefits (*e.g.*, electrical power), but instead determines only "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."[187]

73. Although that determination does not entail a need for power analysis, it does involve a comparison between the environmental impacts of license renewal and its alternatives. Thus, the NRC must make a judgment about *which* alternatives it must evaluate and the *extent* to which it must discuss them.[188] Under NEPA's rule of reason, however, the FSEIS evaluation is sufficient if it considers an appropriate range of alternatives, even if it does not consider every available alternative within that range.[189]

74. While not necessary to produce a reasonable range of energy alternatives, economic modeling can be useful in addressing whether the FSEIS explores a reasonable range of energy scenarios. This is especially true in this case, where New York claims that there are additional, allegedly unexamined alternatives that are likely to be implemented under the no-

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186 Nuclear Energy Institute; Denial of Petition for Rulemaking, 68 Fed. Reg. 55,905, 55,910 (Sept. 29, 2003) (NYS000130).

187 10 C.F.R. §§ 51.95(c)(4), 51.103(a)(5); *see also* Nuclear Energy Institute; Denial of Petition for Rulemaking, 68 Fed. Reg. at 55,910 (NYS000130).

188 *See Burlington*, 938 F.2d at 195.

189 *See Headwaters*, 914 F.2d at 1181; Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18,026, 18,026-27, 18,035 (Mar. 23, 1981) (ENT000147).

action alternative.[190] Dr. Harrison and Mr. Meehan's entire testimony, including their empirical analyses using the well-respected NEMS model, tested those claims and confirmed that the FSEIS bounds a reasonable range of likely energy scenarios.[191] In other words, rather than "focusing on whether or not New York needs Indian Point,"[192] Entergy's experts confirmed the small role renewables and conservation would likely play in the no-action alternative, and thus demonstrated the reasonableness of the FSEIS alternative evaluation.[193]

IV. CONCLUSION

75. In summary, the preponderance of the evidence establishes that the FSEIS considers the environmental impacts of a reasonable range of energy scenarios that could replace Indian Point's baseload generation under the no-action alternative. In fact, to accommodate New York's comments, the FSEIS exceeds NEPA's requirements and considers several non-baseload energy sources as replacements to Indian Point's baseload generation. The preponderance of the evidence also shows that when compared to alternatives, IP2 and IP3's adverse environmental impacts are not so great that preserving the license renewal option for decisionmakers is unreasonable. Nothing in New York's Proposed Findings alters these fundamental conclusions. Accordingly, the NRC Staff and Entergy have carried their respective burdens of proof, and that, based on the entire record of this proceeding, the NRC has satisfied its NEPA obligations under 10 C.F.R. Part 51.

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190 *See, e.g.*, New York MIL Answer at 8 (claiming that "in order for NRC Staff to evaluate the likely environmental impact of the no-action alternative, it must make some judgments about the likely scenarios that will evolve if Indian Point is not relicensed").

191 Entergy Proposed Findings at 106-13 (¶¶ 198-211).

192 NRC Staff Proposed Findings at 25 (¶ 8.29).

193 *See* Entergy Proposed Findings at 106-108 (¶¶ 198-201), 112 (¶ 209).

Respectfully submitted,

Executed in Accord with 10 C.F.R. § 2.304(d)

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Dated in Washington, D.C.
this 3rd day of May 2013

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)	)	
	)	May 3, 2013

CERTIFICATE OF SERVICE

Pursuant to 10 C.F.R. § 2.305 (as revised), I certify that, on this date, copies of "Entergy's Reply to New York State and NRC Staff Proposed Findings of Fact and Conclusions of Law For Contention NYS-37 (Energy Alternatives)" were served upon the Electronic Information Exchange (the NRC's E-Filing System), in the above-captioned proceeding.

Signed (electronically) by Lance A. Escher

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