

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Lawrence G. McDade, Chairman  
Dr. Kaye D. Lathrop  
Dr. Richard E. Wardwell

In the Matter of  
ENTERGY NUCLEAR OPERATIONS, INC.  
(Indian Point Nuclear Generating Units 2 and 3)

Docket Nos. 50-0247-LR and  
50-286-LR  
ASLBP No. 07-858-03-LR-BD01  
June 30, 2010

MEMORANDUM AND ORDER

(Ruling on the Admissibility of New York's New and Amended Contentions 12B, 16B, 35, and 36)

On December 11, 2009, Entergy Nuclear Operations, Inc. (hereinafter Entergy or the Applicant) filed a Severe Accident Mitigation Alternative (SAMA) Reanalysis Using Alternate Meteorological Tower Data (Entergy's December 2009 SAMA Reanalysis).<sup>1</sup> Before this Licensing Board is a Motion by the State of New York (New York) for leave to file new and amended contentions arising from that SAMA Reanalysis.<sup>2</sup> The State of Connecticut (Connecticut) filed an Answer supporting the admission of New York's new and amended

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<sup>1</sup> See Letter from Fred Dacimo, Entergy Nuclear Northeast, to U.S. Nuclear Regulatory Commission, NL-09-165 (Dec. 11, 2009) (ADAMS Accession No. ML093580089) [hereinafter NL-09-165].

<sup>2</sup> State of New York's Motion for Leave to File New and Amended Contentions Concerning the December 2009 Reanalysis of Severe Accident Mitigation Alternatives (Mar. 11, 2010) [hereinafter New York's Motion]. In response to a request by New York, the Board originally set a February 25, 2010 deadline for filing contentions arising from Entergy's Revised SAMA Analysis, which was subsequently extended to March 11, 2010. See Licensing Board Order (Extending Time Within Which to File New Contentions) (Feb. 24, 2010) (unpublished).

contentions.<sup>3</sup> Entergy and the NRC Staff each filed Answers supporting in part and opposing in part the admission of the contentions.<sup>4</sup> New York filed a Reply on April 12, 2010.<sup>5</sup> For the reasons explained below, the Board hereby admits Contention NYS-12B in whole and Contentions NYS-16B, NYS-35, and NYS-36 in part.

I. Legal Standards Governing the Timeliness of New and Amended Contentions

In addition to the general contention admissibility requirements,<sup>6</sup> NRC regulations require that amended or new contentions filed after an intervenor's initial filing be admitted only upon "leave of the presiding officer" and include a demonstration that:

- (i) The information upon which the amended or new contention is based was not previously available;
- (ii) The information upon which the amended or new contention is based is materially different than information previously available; and
- (iii) The amended or new contention has been submitted in a timely fashion based on the availability of the subsequent information.<sup>7</sup>

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<sup>3</sup> Answer of the Attorney General of the State of Connecticut to State of New York's Motion for Leave to File New and Amended Contentions Concerning the December 2009 Reanalysis of Severe Accident Mitigation Alternatives (Apr. 1, 2010) [hereinafter Connecticut's Answer].

<sup>4</sup> Applicant's Answer to New York State's New and Amended Contentions Concerning Entergy's December 2009 Revised SAMA Analysis (Apr. 5, 2010) [hereinafter Entergy's Answer]; NRC Staff's Answer to State of New York's New and Amended Contentions Concerning the December 2009 Severe Accident Mitigation Alternative Reanalysis (Apr. 5, 2010) [hereinafter NRC Staff's Answer].

<sup>5</sup> State of New York's Combined Reply to Entergy and NRC Staff Answers to the State's New and Amended Contentions Concerning the December 2009 Severe Accident Mitigation Alternative Reanalysis (Apr. 12, 2010) [hereinafter New York's Reply].

<sup>6</sup> As we have explained in detail earlier in this proceeding, in order for a contention to be admissible under 10 C.F.R. § 2.309(f)(1)(i)-(vii), it must (1) "provide a specific statement of the" legal or factual issue sought to be raised; (2) "provide a brief explanation of the basis for the contention"; (3) "demonstrate that the issue raised . . . is within the scope of the proceeding"; (4) "demonstrate that the issue raised . . . is material to the findings the NRC must make to support the action that is involved in the proceeding"; (5) "provide a concise statement of the alleged facts or expert opinions," including "references to specific sources and documents," that support the petitioner's position and upon which the petitioner intends to rely at hearing; and (6) "provide sufficient information to show that a genuine dispute exists with . . . [regard to] a material issue of law or fact," including "references to specific portions of the application that the petitioner disputes," or where the application is alleged to be deficient, the identification of such deficiencies and supporting reasons for this belief.

<sup>7</sup> 10 C.F.R. § 2.309(f)(2)(i)-(iii).

Responding to a request by New York, the Board declared that “new contentions filed by the State of New York on or before February 25, 2010, which arise out of Entergy’s revised SAMA submissions from December 21, 2009, through January 20, 2010, will be deemed timely under 10 C.F.R. § 2.309(f)(2).”<sup>8</sup> Complying with the requirement of Section 2.309(f)(2)(iii) regarding timely submission, New York submitted its new and amended SAMA contentions within the deadline we set. We analyze New York’s compliance with the “not previously available” and “materially different” factors of Section 2.309(f)(2)(i), (ii) in Sections IV and V below.

II. Legal Standards Governing SAMA Analyses and Environmental Contentions

The scope of license renewal review for a nuclear power reactor is generally restricted by Part 54 “to a review of the plant structures and components that will require an aging management review for the period of extended operation and the plant’s systems, structures and components that are subject to an evaluation of time-limited aging analysis.”<sup>9</sup> However, Part 54 also mandates environmental review of certain site-specific environmental impacts pursuant to the NRC’s implementation of the National Environmental Policy Act (NEPA) in Part 51.<sup>10</sup> In fact, the NRC’s “aging-based safety review” in its license renewal review “does not in

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<sup>8</sup> Licensing Board Order (Granting New York’s Motion To Establish February 25, 2010 As The Date By Which New York May File Contentions Related To Entergy’s Revised Submission Concerning Severe Accident Mitigation Alternatives) (Jan. 22, 2010) at 2 (unpublished). We extended the deadline to file new contentions arising from Entergy’s SAMA analyses from February 25, 2010 to March 11, 2010. Licensing Board Order (Extending Time Within Which to File New Contentions) (Feb. 24, 2010) at 1 (unpublished).

<sup>9</sup> LBP-08-13, 68 NRC 43, 66 (2008) (citing Florida Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-00-23, 52 NRC 327, 329 (2000)).

<sup>10</sup> Id.; 10 C.F.R. § 54.29(b) (“A renewed license may be issued by the Commission up to the full term authorized by § 54.31 if the Commission finds that: . . . [a]ny applicable requirements of Subpart A of 10 CFR Part 51 have been satisfied.”). Cf. Nuclear Energy Institute; Denial of Petition for Rulemaking, 66 Fed. Reg. 10,834, 10,834-36 (Feb. 20, 2001) (acknowledging that “[t]here is no requirement in 10 CFR part 54 for analysis of SAMAs” but concluding that “[i]n the case of license renewal, it is the Commission’s responsibility under NEPA to consider all environmental impacts stemming from its decision to allow the continued operation of the entire plant for an additional 20 years.”).

any sense 'restrict NEPA' or 'drastically narrow[] the scope of NEPA.'"<sup>11</sup> Moreover, the NRC has the authority and responsibility to supplement or to amend conditions to the current licensing basis (CLB)<sup>12</sup> of an existing operating license at the time of license renewal if such supplements or amendments are deemed necessary to protect the environment.<sup>13</sup>

Relative to the agency's acknowledged NEPA responsibilities in the license renewal context, the NRC's regulatory framework divides NEPA issues between Category 1 issues, which are those generically addressed by the NRC's Generic Environmental Impact Statement for License Renewal and thus inadmissible in a license renewal proceeding, and Category 2 issues, which are those issues that must be analyzed on a site-by-site basis and thus are within the scope of license renewal proceedings.<sup>14</sup> NRC regulations define severe accident mitigation alternatives (SAMAs) as a Category 2 issue that demands a site-specific analysis.<sup>15</sup> In reviewing a license renewal application, Part 51 mandates that "[i]f the [NRC] staff has not previously considered severe accident mitigation alternatives for the applicant's plant in an

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<sup>11</sup> Florida Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 13 (2001).

<sup>12</sup> See 10 C.F.R. § 54.3(a). See also Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), CLI-10-14, 71 NRC \_\_, \_\_ (slip op. at 4) (June 17, 2010) ("The current licensing basis (CLB) is the set of NRC requirements (including regulations, orders, technical specifications, and license conditions) applicable to a specific plant, and includes the licensee's written, docketed commitments for ensuring compliance with applicable NRC requirements and the plant specific design basis.").

<sup>13</sup> 10 C.F.R. § 54.33(c). But see infra note 18.

<sup>14</sup> LBP-08-13, 68 NRC at 67 (citing Turkey Point, CLI-01-17, 54 NRC at 11-12).

<sup>15</sup> See 10 C.F.R. Part 51, Subpart A, App. B, Table B-1 (under "Postulated Accidents," classifying severe accidents as Category 2 issues and explaining that "[t]he probability weighted consequences of atmospheric releases, fallout onto open bodies of water, releases to ground water, and societal and economic impacts from severe accidents are small for all plants. However, alternatives to mitigate severe accidents must be considered for all plants that have not considered such alternatives.").

environmental impact statement or related supplement or in an environmental assessment, a consideration of alternatives to mitigate severe accidents must be provided.”<sup>16</sup>

The Commission has held that a litigable NEPA issue is one that concerns whether the NRC Staff has taken the requisite “hard look” at “mitigation (and the SAMA issue is one of mitigation) . . . in ‘sufficient detail to ensure that environmental consequences [of the proposed project] have been fairly evaluated.’”<sup>17</sup> The NRC Staff’s obligation regarding SAMAs under NEPA and Part 51 is met by taking a hard look at those SAMAs identified as potentially cost-beneficial. While the only SAMAs that an applicant must implement as part of a license renewal safety review are those dealing with aging management,<sup>18</sup> an order by the NRC Staff to implement SAMAs not dealing with aging management can be issued concurrently as part of a Part 50 CLB review.<sup>19</sup> Consistent with the mandate of the Administrative Procedure Act (APA) and NEPA, if properly carried out, the NRC Staff’s hard look analysis of all potentially cost-beneficial SAMAs under NEPA and Part 51 (not just those that are aging-related) ensures that it has given proper consideration to all relevant factors in granting a license renewal.<sup>20</sup>

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<sup>16</sup> 10 C.F.R. § 51.53(c)(3)(ii)(L).

<sup>17</sup> Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Generating Station, Units 1 and 2), CLI-03-17, 58 NRC 419, 431 (2003) (citing Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352 (1989)).

<sup>18</sup> Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), CLI-10-11, 71 NRC \_\_, \_\_ (slip op. at 7 n.26) (Mar. 26, 2010).

<sup>19</sup> Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 NRC 373, 388 n.77 (2002). See also 10 C.F.R. § 50.109(a)(3) (“[t]he Commission shall require the backfitting of a facility only when it determines, based on the analysis described in paragraph (c) of this section, that there is a substantial increase in the overall protection of the public health and safety or the common defense and security to be derived from the backfit and that the direct and indirect costs of implementation for that facility are justified in view of this increased protection.”).

<sup>20</sup> Cf. Hanley v. Kleindienst, 471 F.2d 823, 828-29 (2d Cir. 1972), cert. denied, 412 U.S. 908 (1973).

III. Factual Background of Entergy's December 2009 SAMA Reanalysis

Entergy's original Environmental Report (ER) for its Indian Point license renewal application (LRA) in 2007 contained a chapter on SAMAs.<sup>21</sup> The SAMAs were analyzed using a five-step procedure: (1) "Establish the Baseline Impacts of a Severe Accident"; (2) "Identify SAMA Candidates"; (3) "Phase I: Preliminary Screening"; (4) "Phase 2: Final Screening and Cost Benefit Evaluation"; and (5) "Sensitivity Analyses."<sup>22</sup> Entergy conducted its analysis utilizing

the most recent IP2 [Indian Point Unit 2] and IP3 [Indian Point Unit 3] PSA [probabilistic safety assessment] available at that time, a plant-specific offsite consequence analysis performed using the MELCOR Accident Consequence Code System 2 (MACCS2) computer program, and insights from the IP2 and IP3 individual plant examination . . . and individual plant examination of external events.<sup>23</sup>

Out of 231 identified SAMA candidates at Indian Point Unit 2 (IP2), Entergy found that it would be possible to implement sixty-eight. Out of 237 identified SAMA candidates at Indian Point Unit 3 (IP3), Entergy found that it would be possible to implement sixty-two.<sup>24</sup> Entergy then subjected the sixty-eight SAMAs at IP2 and the sixty-two SAMAs at IP3 to the "Phase 2: Final Screening and Cost Benefit Evaluation," determining that a total of twelve SAMAs were potentially cost-beneficial—five for IP2 and five for IP3 as a result of the baseline and sensitivity analyses, and two for IP2 as a result of an uncertainties analysis.<sup>25</sup>

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<sup>21</sup> Indian Point Energy Center, License Renewal Application, Appendix E, Environmental Report "Severe Accident Mitigation Alternatives" at 4-47 to 4-78 [hereinafter Entergy's ER].

<sup>22</sup> See id. at 4-47 to 4-50.

<sup>23</sup> Office of Nuclear Reactor Regulation, Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3, Draft Report for Comment, Main Report, NUREG-1437, at 5-5 (Supp. 38, Vol. 1 Dec. 2008) (ADAMS Accession No. ML083540594) [hereinafter Draft SEIS].

<sup>24</sup> Entergy's ER at E.2-2, E.4-2.

<sup>25</sup> See Draft SEIS at 5-4 to 5-5, 5-8.

In 2008, in the course of the NRC Staff's environmental review of Indian Point's SAMAs for its Draft Supplemental Environmental Impact Statement (Draft SEIS), the NRC Staff asked Entergy to revise its SAMA analyses to consider "the impact of lost tourism and business . . . in the baseline analysis (rather than as a separate sensitivity case)."<sup>26</sup> As a result of this reanalysis, the NRC Staff identified a total of fourteen potentially cost-beneficial SAMAs—nine for IP2 (IP2-009,<sup>27</sup> 028, 044, 053, 054, 056, 060, 061, and 065) and five for IP3 (IP3-052, 053, 055, 061, and 062).<sup>28</sup> The NRC Staff's review also showed that one SAMA (IP3-030) was erroneously designated as potentially cost-beneficial by Entergy.<sup>29</sup> The NRC Staff concurred with Entergy that further cost-benefit analyses of these SAMAs would be appropriate, but also concluded that since none of these SAMAs related to aging management, "they need not be implemented as part of the license renewal pursuant to Part 54."<sup>30</sup>

In December 2009, Entergy submitted the SAMA Reanalysis that is the focus of the new and amended contentions now before us in response to a series of teleconferences with the NRC Staff in November 2009.<sup>31</sup> Entergy addressed the NRC Staff's comments by endeavoring to present information regarding:

- The meteorological data and justification supporting its use in the SAMA analysis (e.g., if a single year is used or an average of several years),
- Revised estimates of the offsite population dose and offsite economic costs,
- Identification of the meteorological tower elevation from which meteorological data were obtained and the rationale for selecting the data from that tower elevation,

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<sup>26</sup> Id. at 5-9.

<sup>27</sup> Instead of using the full labels by Entergy of each SAMA, we refer to each SAMA by its numerical identification.

<sup>28</sup> Id. at 5-9 to 5-10.

<sup>29</sup> Id. at 5-10.

<sup>30</sup> Id.

<sup>31</sup> See NL-09-165 at 1.

- Revised SAMA analysis results, specifically for the analysis case discussed in response to [Request for Additional Information (] RAI 4e [)], dated February 5, 2008, and
- The complete MACCS2 input file used for the reanalysis (in electronic format).<sup>32</sup>

In the original SAMA Analysis of its ER, Entergy used an average of five years (2000-2004) of meteorological data, consisting of “wind speed, wind direction, temperature, and accumulated precipitation,” derived from Indian Point’s onsite meteorological monitoring system.<sup>33</sup>

Conceding that the wind direction was incorrectly averaged during that five-year period, Entergy, purportedly in accordance with the dictates of NEI-05-01, reanalyzed its SAMAs using measurements from only the year 2000 because the year 2000’s data “resulted in the most conservative (i.e. largest) calculated population doses.”<sup>34</sup> As it did in response to the NRC Staff’s reviews for the Draft SEIS, Entergy also re-conducted a sensitivity study, using values originating in NUREG-1750, for those SAMAs that were previously found to pass the Phase 1 Preliminary Screening but had not yet been determined to be potentially cost-beneficial.<sup>35</sup>

Entergy’s cost-benefit reanalysis revealed that a total of nineteen SAMAs continued to be potentially cost-beneficial, twelve for IP2 (IP2-009, 021, 022, 028, 044, 053, 054, 056, 060, 061, 062, and 065) and seven for IP3 (IP3-007, 019, 052, 053, 055, 061, and 062).<sup>36</sup>

In addition to the fourteen SAMAs previously designated for further cost-benefit analyses in the NRC Staff’s Draft SEIS, Entergy stated that its reanalysis identified six additional SAMAs (IP2-021, 022, and 062 and IP3-007, 018, and 019) that “have been submitted for engineering

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<sup>32</sup> Id.

<sup>33</sup> See Letter from Fred Dacimo, Entergy Nuclear Northeast, to U.S. Nuclear Regulatory Commission, Attachment 1, “License Renewal Application–SAMA Reanalysis Using Alternate Meteorological Tower Data” (Dec. 11, 2009) at 3 (ADAMS Accession No. ML093580089) [hereinafter Entergy’s December 2009 SAMA Analysis].

<sup>34</sup> Id. at 3.

<sup>35</sup> Id. at 4, 29-31.

<sup>36</sup> Id. at 10-19, 20-28.

project cost benefit analysis.”<sup>37</sup> Echoing statements made before, Entergy also reiterated its position that its aging management programs

are sufficient to manage the effects of aging during the license renewal period without implementation of the above SAMA candidates for IP2 and IP3, these potentially cost beneficial SAMAs need not be implemented as part of license renewal pursuant to 10 CFR Part 54.<sup>38</sup>

#### IV. New York’s Amended Contentions

With this background, we turn first to an analysis of the admissibility of each of New York’s amended contentions.

- A. NYS-12B – The December 14, 2009 SAMA Re-analysis for IP2 and IP3 underestimates decontamination and clean up costs associated with a severe accident in the New York metropolitan area and, therefore, underestimates the cost of a severe accident and fails to consider mitigation measures which are related to license renewal in violation of NEPA.

- 1. New York’s Argument

Like NYS-12<sup>39</sup> and NYS-12A,<sup>40</sup> NYS-12B contends that Entergy’s December 2009 SAMA Reanalysis improperly uses the MACCS2 code to estimate how radiation would be dispersed in the event of a severe accident, which in turn underestimates likely decontamination and cleanup costs in the event of a severe accident.<sup>41</sup> New York continues to assert that the MACCS2 code is inadequate because it assumes the release of large-sized radionuclides, which are easier to clean up and to remove compared to small-sized radionuclides, while New

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<sup>37</sup> Id. at 31-32.

<sup>38</sup> Id. at 32.

<sup>39</sup> See LBP-08-13, 68 NRC at 100-02.

<sup>40</sup> See Licensing Board Order (Ruling on New York State’s New and Amended Contentions) (June 16, 2009) at 3-4 (unpublished) [hereinafter June 16, 2009 Order].

<sup>41</sup> State of New York’s New and Amended Contentions Concerning the December 2009 Severe Accident Mitigation Alternatives Reanalysis (Mar. 11, 2010) at 1 [hereinafter New York’s New and Amended Contentions].

York contends that small-sized radionuclides would be spread during a severe accident at the Indian Point Nuclear Plant.<sup>42</sup> New York insists in this regard that Entergy should have used the 1996 Sandia National Laboratories Site Restoration Study results for more precise input to its December 2009 SAMA Reanalysis, thus resulting in what New York predicts would be much higher cleanup costs, making mitigation more cost-beneficial.<sup>43</sup>

## 2. Entergy's, the NRC Staff's, and Connecticut's Answers

Neither Entergy,<sup>44</sup> the NRC Staff,<sup>45</sup> nor Connecticut<sup>46</sup> opposes admission of NYS-12B as a modification to NYS-12/12A.

## 3. Board's Decision

There is no material opposition by Entergy or the NRC Staff to admission of NYS-12B to the degree New York is relying on the same analytic framework that the Board accepted in admitting NYS-12/12A. Accordingly, finding this contention meets the "not previously available" and "materially different" standards of Section 2.309(f)(2)(i) and (ii), and the contention admissibility standards of Section 2.309(f)(1), we admit NYS-12B as an adjunct to NYS-12/12A and hereby consolidate it with NYS-12/12A as NYS-12/12A/12B.

- B. NYS-16B – The December 2009 SAMA Reanalysis for IP2 and IP3 uses an air dispersion model which will not accurately predict the geographic dispersion of radionuclides released in a severe accident and will not present an accurate estimate of the costs of human exposure.

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<sup>42</sup> Id. at 2.

<sup>43</sup> Id. at 3-6 (citations omitted).

<sup>44</sup> Entergy's Answer at 19. Entergy continues to assert its disagreement with NYS-12/12A on the merits, but does not resist admission of NYS-12B to the extent that the amended contention reasserts what the Board already admitted as NYS-12/12A and that NYS-12B relies on the same evidence as the previously admitted contention. Id.

<sup>45</sup> NRC Staff's Answer at 11-12.

<sup>46</sup> Connecticut's Answer at 3-4.

1. New York's Argument

Like NYS-16<sup>47</sup> and NYS-16A,<sup>48</sup> NYS-16B challenges Entergy's use of the ATMOS model (which is an element of the MACCS2 code used in Entergy's December 2009 SAMA Reanalysis) to predict the spread of radionuclides in the event of a severe accident. Because of Entergy's reliance on the straight line Gaussian plume model used in ATMOS, New York asserts that Entergy's December 2009 SAMA Reanalysis does not accurately measure the effects that changing wind direction and speed will have on such dispersion due to the varied terrain near Indian Point.<sup>49</sup> According to New York this does not predict a "conservative" (i.e., large) population dose as Entergy claims, but rather results in a smaller population dose that has the effect of underestimating the benefit of implementing identified SAMAs.<sup>50</sup> Further, New York charges in a footnote that Entergy's calculations also underestimate the population dose and possible benefit of each SAMA because they do not consider the daily tourist and commuter population of New York City affected by a radioactive dispersion.<sup>51</sup> In another footnote, New York also emphasizes that such underestimations mislead the public and emergency response officials responsible for dealing with such accidents and therefore preclude Entergy from satisfying "its obligations under 10 C.F.R. § 50.47(b)(9) . . . and NRC Staff [from] meet[ing] its concurrent obligations under NEPA."<sup>52</sup>

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<sup>47</sup> See LBP-08-13, 68 NRC at 110-13.

<sup>48</sup> See June 16, 2009 Order at 4-7.

<sup>49</sup> New York's New and Amended Contentions at 9-11 (citations omitted).

<sup>50</sup> Id. at 8-11 (citations omitted).

<sup>51</sup> Id. at 8 n.3 (citations omitted).

<sup>52</sup> Id. at 10 & n.4 (citations omitted).

## 2. Entergy's Answer

Paralleling its position taken in response to NYS-12B, Entergy does not resist admission of NYS-16B to the extent that it “relies on the same supporting evidence as NYS-16/16A.”<sup>53</sup> Entergy nonetheless challenges two aspects of New York’s amended contention. First, Entergy insists that NYS-16B’s assertion “that Entergy cannot meet its emergency planning obligations under 10 C.F.R. § 50.47(b)(9), and . . . the [NRC] Staff cannot meet its ‘concurrent obligations under NEPA,’” are beyond what the Board admitted in NYS-16/16A, since emergency planning issues are outside the scope of license renewal proceedings.<sup>54</sup> Second, Entergy stresses that the issue of whether its December 2009 SAMA Reanalysis fails to take into account the influx of tourists and commuters into New York City’s daily population is “impermissibly late” and therefore should not be admitted as a part of NYS-16B. Asserting that New York has failed to justify why it has waited until now to raise this issue, Entergy also maintains that New York had the opportunity to address this claim in response to Entergy’s original SAMA analysis or when Entergy, in responding to an NRC RAI in 2008, dealt with assumptions of lost tourism and business and their role in Entergy’s SAMA analysis.<sup>55</sup>

## 3. NRC Staff's Answer

Like Entergy, the NRC Staff does not challenge the admission of NYS-16B “as limited by the Board’s previous rulings on Contentions 16 and 16-A.”<sup>56</sup> Yet, the NRC Staff also takes issue with New York’s assertions relating to “daytime transients and tourism,” given that New York “has not shown that it could not have raised this issue regarding the Applicant’s previous SAMA analyses independently from the [NRC] Staff, or that this additional issue arose from”

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<sup>53</sup> Entergy’s Answer at 19.

<sup>54</sup> Id. at 19-20 (citations omitted).

<sup>55</sup> Id. at 20 (citations omitted).

<sup>56</sup> NRC Staff’s Answer at 12.

Entergy's December 2009 SAMA Reanalysis.<sup>57</sup> Accordingly, the NRC Staff concludes that this part of NYS-16B should not be admitted because it is not timely filed and lacks the requisite showing under 10 C.F.R. § 2.309(c)(1).<sup>58</sup>

#### 4. Connecticut's Answer

Connecticut supports admission of NYS-16B as timely under 10 C.F.R. § 2.309(f)(2) due to the December 2009 recalculation of these SAMAs.<sup>59</sup> Specific to this contention, Connecticut claims that the December 2009 SAMA Reanalysis mistakenly relies on the ATMOS air dispersion model, thus incorrectly stating the wind direction and underestimating the population dose used to determine the benefit of implementing SAMAs.<sup>60</sup>

#### 5. New York's Reply

New York responds that NYS-16B's statements regarding tourists and commuters are timely because this aspect of its contention relates strictly to population levels used as inputs into Entergy's SAMA Reanalysis, whereas Entergy's Answer focuses on the impacts that severe accidents have on tourism and temporary visitors to New York.<sup>61</sup> Moreover, New York argues that the Board already admitted the question of underestimation of population projections as part of NYS-16/16A, and the issue of offsite population doses was part of the impetus for Entergy's December 2009 SAMA Reanalysis.<sup>62</sup> Therefore, New York reasons that this portion

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<sup>57</sup> Id. at 12-13 (citations omitted).

<sup>58</sup> Id. at 13.

<sup>59</sup> Connecticut's Answer at 1-2. The portion of Connecticut's Answer cited here begins on the "cover page" to its Answer, which has no page number. The pagination begins on the "second" full page of Connecticut's Answer. We note that our citation to Connecticut's Answer here includes that cover page as well as numbered pages 1-2. Subsequent citations to Connecticut's Answer will refer to the number mentioned at the bottom of each page.

<sup>60</sup> Id. at 3-4.

<sup>61</sup> New York's Reply at 32.

<sup>62</sup> Id. at 32-33.

of NYS-16B is timely in the sense that Entergy has raised this issue for the first time in its December 2009 SAMA Reanalysis by attempting to address the NRC Staff's questions of offsite population doses.<sup>63</sup>

Additionally, New York criticizes Entergy's statement that NYS-16B improperly seeks to raise emergency planning issues that the Board has already excluded from this proceeding. New York repeats its arguments cited in our Order that admitted NYS-16A: "the State does not challenge Entergy's compliance 'but simply describes one of the possible consequences of Entergy's continued reliance on what is known to be a deficient and outdated air dispersion model.'"<sup>64</sup>

## 6. Board's Decision

We agree with New York that the focus of NYS-16B is not the effect of the loss of tourism itself on the cost-benefit analysis in Entergy's revised SAMA analyses. New York's criticism, which makes NYS-16B relevant to the concerns it raised in NYS-16/16A, is over the population figure used to estimate the population dose. It is not clear that Entergy's December 2009 SAMA Reanalysis adds the infusion of tourists and commuters in New York City to the population used for its SAMA analysis—an absence that might underestimate the exposed population in a severe accident and, in turn, underestimate the benefit achieved in implementing a SAMA. As we said in discussing both NYS-16 and NYS-16A, the question "whether the population projections used by Entergy are underestimated" is admissible.<sup>65</sup> Moreover, while New York did not expressly articulate this issue in either NYS-16 or NYS-16A, Entergy's December 2009 SAMA Reanalysis shows cost-benefit determinations and conclusions regarding implementation that diverge from those reached previously by Entergy. Accordingly,

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<sup>63</sup> Id. at 33.

<sup>64</sup> Id. (citing June 16, 2009 Order at 5-6).

<sup>65</sup> June 16, 2009 Order at 6 (quoting LBP-08-13, 68 NRC 43, 112 (2008)).

we find that this contention arises out of Entergy's SAMA Reanalysis and that New York was confronted with materially new information sufficient to establish that the contention complies with 10 C.F.R. § 2.309(f)(2)(i) and (ii).

Further, while this addition does not materially change the contention as admitted, it does contain sufficient information to support its admissibility as an amendment under Section 2.309(f)(1). New York was not required to present all of its supporting information in its petition to intervene; it must only supply an adequate basis for admission of the contention.<sup>66</sup> Therefore, recognizing that it repeats the allegations in NYS-16/16A, we admit NYS-16B inasmuch as it deals with the additional aspect of tourist and commuter populations.

Finally, we reaffirm that the adequacy of emergency planning is outside the scope of license renewal proceedings.<sup>67</sup> Moreover, in line with our June 16, 2009 Order, we reiterate our statement that "New York will not be allowed to address arguments from the original NYS-16 that went beyond the limiting language of the admitted contention."<sup>68</sup> Because the emergency planning question was not previously admitted in either NYS-16 or NYS-16A, and in contrast to population estimates, emergency planning is not within the scope of NYS-16, we do not adjust our prior rulings to widen the scope of NYS-16/16A to include consideration of fulfillment of Entergy's emergency planning obligations or the NRC Staff's NEPA obligations related to emergency planning. Therefore, we reject this aspect of NYS-16B and only admit NYS-16B in part as described above and consolidate it with NYS-16/16A as NYS-16/16A/16B.

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<sup>66</sup> Cf. Progress Energy Florida, Inc. (Combined License Application for Levy County Nuclear Power Plant, Units 1 and 2), LBP-09-10, 70 NRC 51, 100 (2009) ("Challenges to the admissibility of a contention pursuant to [10 C.F.R.] § 2.309(f)(1)(ii) on the ground that it does not include an 'adequate basis' because it does not include sufficient facts, evidence, or supporting factual information are thus misguided. If the petitioner provides a brief explanation of the rationale underlying the contention, it is sufficient to satisfy 10 C.F.R. § 2.309(f)(1)(ii).").

<sup>67</sup> See LBP-08-13, 68 NRC at 149-50 (citations omitted).

<sup>68</sup> June 16, 2009 Order at 6.

V. New York's New Contentions

We move next to an analysis of the admissibility of New York's new contentions.

A. NYS-35 – The December 2009 Severe Accident Mitigation Alternatives (“SAMA”) Reanalysis does not comply with the requirements of the National Environmental Policy Act (42 U.S.C. Sections 4332(2)(C)(iii) and (2)(E)), the President's Council on Environmental Quality's Regulations (40 C.F.R. Section 1502.14), the Nuclear Regulatory Commission's Regulations (10 C.F.R. Section 51.53(c)(3)(ii)(L)) or controlling federal court precedent (Limerick Ecology Action, Inc. v. NRC, 869 F.2d 719 (3d Cir. 1989)) because it identifies nine mitigation measures which have not yet been finally determined to be cost-effective and which, if they are sufficiently cost-effective, must be added as license conditions before a new and extended operating license can be issued.

1. New York's Argument

With its two parts, NYS-35 (1) calls for a complete cost-benefit analysis of nine SAMAs deemed potentially cost-beneficial; and (2) states that any SAMA deemed “sufficiently” cost-beneficial must be added as a license condition to a renewed operating license for IP2 and IP3.<sup>69</sup> According to New York, the NRC Staff is obligated to consider SAMAs if it has not already done so as part of its NEPA obligations in a license renewal review.<sup>70</sup> As a consequence, the absence of a complete cost-benefit analysis of SAMAs in the NRC Staff's Environmental Impact Statement (EIS) necessarily precludes the required hard look under NEPA.<sup>71</sup> New York represents that such a requirement is not foreclosed in this license renewal proceeding by Part 54's prohibition on consideration of “an applicant's non-compliance with its current licensing basis (‘CLB’)” because SAMAs are part of a NEPA alternatives analysis that demands examination of which alternatives are preferable.<sup>72</sup>

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<sup>69</sup> New York's New and Amended Contentions at 13-14.

<sup>70</sup> Id. (citing 10 C.F.R. § 51.53(c)(3)(ii)(L)).

<sup>71</sup> Id. at 31-33 (citations omitted).

<sup>72</sup> Id. at 31 n.13 (referencing 10 C.F.R. § 54.30).

The nine SAMAs for which New York demands a complete analysis are divided into two groups. The first group consists of those SAMAs in the December 2009 SAMA Reanalysis that Entergy promises to subject to further cost-benefit screening because it deems them sufficiently cost-beneficial for the first time. For IP2, these are IP2-021, 022, and 062; and for IP3, they are IP3-007, 018, and 019.<sup>73</sup> The second group consists of SAMAs that were not identified in Entergy's ER but were found to be cost-beneficial by the NRC Staff in its Draft SEIS and that Entergy in its December 2009 SAMA Reanalysis committed to subject to further cost-benefit screening.<sup>74</sup> These are IP2-009, IP2-053, and IP3-053.<sup>75</sup> New York argues that because Entergy has committed to a complete cost-benefit analysis for both groups of SAMAs but has not yet done so, the NRC Staff (and, by extension, the Board) is unable to take the hard look necessary to make an informed decision, with a rational basis, as to which SAMAs would be cost-beneficial to implement.<sup>76</sup>

Second, regarding license conditions, New York argues that, if the NRC Staff finds any SAMA conferring a substantial benefit compared to its cost of implementation, it must make such SAMA a license condition for the renewed operating license. To do otherwise, according to New York, would allow the NRC Staff to make its licensing decision without the requisite rational basis required by the APA.<sup>77</sup> Similarly, New York reasons that, because the NRC Staff,

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<sup>73</sup> Id. at 33-34.

<sup>74</sup> See Entergy's December 2009 SAMA Reanalysis at 11, 17, 27, 32; see also Draft SEIS at 5-9 to 5-10.

<sup>75</sup> New York's New Contentions at 34.

<sup>76</sup> Id. at 15.

<sup>77</sup> Id. at 14-15 (citing Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 57 (1983); Bowman Transp., Inc. v. Arkansas-Best Freight Sys., Inc., 419 U.S. 281, 285-86 (1974); Burlington Truck Lines v. United States, 371 U.S. 156, 168 (1962); Office of Nuclear Reactor Regulation, Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Supplement 1: Operating License Renewal, NUREG 1555, at 5.1.1-8 to 5.1.1-9 (Supp. 1 Oct. 1999) (ADAMS Accession No. ML003702019) [hereinafter NUREG-1555, Supp. 1]).

pursuant to its own Guidance, must include a statement in its Final Environmental Impact Statement (FEIS) explaining when the implementation of SAMAs are not “warranted,” conversely the NRC Staff must require implementation of any SAMAs that are “warranted.” Failure to do so, reasons New York, would be acting irrationally, in contravention of the APA.<sup>78</sup> If the NRC Staff has not required implementation of cost-beneficial SAMAs, then, New York argues, the NRC Staff is acting without a rational basis.<sup>79</sup> New York suggests that even without additional cost-benefit analyses, the NRC Staff must require the implementation of SAMAs IP2-009 and IP3-007 because

(1) each of these SAMAs is cost-effective using both the baseline and the conservative benefit calculation; (2) some additional engineering cost estimates have already been done making it less likely further analysis will change the outcome; (3) the safety benefit of each mitigation measure is substantial – reducing the population dose risk by 47.03% and 24.16% respectively; and (4) the difference between the cost and the benefit is significant – amounting to \$1-2 million for each one.<sup>80</sup>

## 2. Entergy’s Answer

Entergy’s Answer opposing admission of NYS-35 rests upon two arguments: (1) NYS-35 does not satisfy the Section 2.309(f)(2)(i) timeliness requirement because it is based on previously available information; and (2) under Section 2.309(f)(1), NYS-35 “lack[s] adequate support in law or fact and fail[s] to raise a genuine dispute on a material legal or factual issue.”<sup>81</sup> The first is a procedural challenge to contention admissibility and the second is a substantive challenge.

Regarding Entergy’s procedural challenge, Entergy represents that its original ER and the Draft SEIS contained statements similar to those found in its December 2009 SAMA

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<sup>78</sup> Id. at 14, 26 (citing NUREG-1555, Supp. 1, at 5.1.1-7 to 5.1.1-8).

<sup>79</sup> Id. at 15.

<sup>80</sup> Id. at 34 n.15.

<sup>81</sup> Entergy’s Answer at 21, 24.

Reanalysis pledging to conduct a complete analysis of potentially cost-beneficial SAMAs.<sup>82</sup>

Therefore, Entergy reasons that NYS-35 should have been filed shortly after the ER was issued or, at the very latest, after the Draft SEIS was issued, since that document “explicitly sets forth Entergy’s and the [NRC] Staff’s positions on these issues.”<sup>83</sup> Entergy disputes New York’s characterization of the December 2009 SAMA Reanalysis as completely new, noting that the December 2009 SAMA Reanalysis used the same non-meteorological input data with changed meteorological input data.<sup>84</sup>

Entergy stresses that it “did not alter the probabilistic or cost-benefit techniques used to obtain the results . . . in its” earlier documents containing SAMA analyses.<sup>85</sup> Further, Entergy says that New York has not explained why it did not raise challenges to the three SAMAs found potentially cost-beneficial in Entergy’s earlier analysis from 2008 (SAMAs IP2-009 and 053 for IP2 and SAMA IP3-053 for IP3).<sup>86</sup> Nor, Entergy says, was the December 2009 SAMA Reanalysis the first instance that Entergy included factors such as lost tourism and business in its SAMA analyses.<sup>87</sup> In the same vein, according to Entergy, because some of its earlier cost-benefit determinations resulted in ratios favoring implementation, New York could (and thus should) have raised challenges to Entergy’s promise to conduct further analyses and its failure to implement these SAMAs only as late as when the Draft SEIS was issued.<sup>88</sup> Therefore, Entergy sees NYS-35 as untimely and urges dismissal of the contention.

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<sup>82</sup> Id. at 21-22 (citations omitted).

<sup>83</sup> Id. at 22 (citations omitted).

<sup>84</sup> Id. at 22-23 (citations omitted).

<sup>85</sup> Id. at 23.

<sup>86</sup> Id. at 23 n.127.

<sup>87</sup> Entergy’s Answer at 22 n.125.

<sup>88</sup> Id. at 23.

Entergy's substantive argument against admission of NYS-35 contains three sub-arguments: (1) "NEPA is a Procedural Statute That Does Not Mandate Implementation of Potentially Cost-Beneficial SAMAs as a Condition of License Renewal"; (2) "Entergy Has Provided a Sufficiently 'Thorough' and 'Complete' Cost-Benefit Analysis"; and (3) New York "Does Not Allege That Entergy Should Have Identified Additional SAMAs As 'Potentially Cost-Beneficial' Beyond Those Already Identified in Its Revised SAMA Analysis."<sup>89</sup> Entergy criticizes New York for relying on inapposite precedent, which it argues has nothing to do with NEPA, in order to attempt to raise the "arbitrary and capricious" standard. Instead, it suggests that the Supreme Court's Methow Valley decision is controlling<sup>90</sup> in that it interprets NEPA to mandate neither mitigative action against harmful effects of major federal actions nor in-depth statements of planned actions to be taken to dull such impacts.<sup>91</sup>

According to Entergy, Part 54 compliance is not dependent on complete fulfillment of Part 51 requirements given that the Commission has explicitly excluded SAMA analysis from Part 54 and distinguished the safety requirements of Part 54 from the environmental evaluation commanded by Part 51.<sup>92</sup> Moreover, Entergy alleges that New York misinterprets the Third Circuit's Limerick decision because, according to Entergy, Limerick only "held that the NRC could not generically dispense with the consideration of SAMAs, under NEPA, through a policy statement issued pursuant to its AEA [Atomic Energy Act] authority."<sup>93</sup> Rather, Entergy describes Limerick as prescribing "reasonable evaluation and disclosure—but not

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<sup>89</sup> Id. at 24-31.

<sup>90</sup> Id. at 25 n.137.

<sup>91</sup> Id. at 24-25 (citing Methow Valley, 490 U.S. at 353).

<sup>92</sup> Id. at 25-26 (citing Florida Power & Light Co. (Turkey Point Nuclear Power Plant, Units 3 & 4), CLI-01-17, 54 NRC 3, 13 (2001); 66 Fed. Reg. 10,834, 10,834 (Feb. 20, 2001)).

<sup>93</sup> Id. at 26 (citing Limerick Ecology Action v. U.S. Nuclear Regulatory Comm'n, 869 F.2d 719, 736-39 (3d Cir. 1989)).

implementation—of possible mitigation measures, including SAMAs.”<sup>94</sup> Therefore, Entergy reasons, NYS-35 is outside the scope of this proceeding because, as long as Entergy has conducted this evaluation and disclosure, it has satisfied its obligations under the NRC’s NEPA regulation, and the only way the NRC Staff could oblige Entergy to implement these mitigation measures would be through a Part 50 CLB review.<sup>95</sup>

Entergy goes on to insist that it has conducted a sufficiently complete SAMA cost-benefit analysis. Rather than delaying indefinitely this analysis or running contrary to NRC license renewal procedures, Entergy stresses that, like the SAMA analyses in its ER, its December 2009 SAMA Reanalysis has adhered to both engineering judgment and “existing estimates for similar modifications contained in prior NRC-approved SAMA analyses.”<sup>96</sup> Entergy justifies the multi-step procedure of subjecting only a few SAMA candidates to the full battery of cost-benefit tests, which it depicts as sanctioned by NEI-05-01, because some SAMAs were clearly not cost-beneficial after initial tests, while others merited further scrutiny to ascertain whether they would truly be cost-beneficial.<sup>97</sup> Additionally, Entergy regards New York as not taking issue with any specific SAMA cost estimate and conflating the analysis for potentially cost-beneficial SAMAs under Part 51 with the analysis undertaken merely to assess the viability of implementation under Entergy’s current operating license. Therefore, Entergy claims that NYS-35 raises no genuine dispute over Entergy’s SAMA analyses themselves.<sup>98</sup>

Likewise, Entergy portrays NYS-35 as beyond the bounds of an admissible SAMA contention because it “does not allege that Entergy should have identified any additional SAMAs

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<sup>94</sup> Id.

<sup>95</sup> Id. at 27 (citations omitted).

<sup>96</sup> Id. at 28 (citations omitted).

<sup>97</sup> Id. at 28-29 (citations omitted).

<sup>98</sup> Id. at 29-30 (citations omitted).

as potentially cost-beneficial,” thus running counter to the Commission’s instructions in Pilgrim to admit SAMA contentions only if “it looks genuinely plausible that inclusion of an additional factor or use of other assumptions or models may change the cost-benefit conclusions for the SAMA candidates evaluated.”<sup>99</sup> Finally, Entergy argues that the NRC Staff need not issue a new Draft SEIS including and evaluating the results of the December 2009 SAMA Reanalysis since the Commission has on previous occasions allowed discussions of mitigation measures, not originally featured in a Draft SEIS, to be included in a Final EIS as long as they are within the same range of alternatives mentioned in the Draft SEIS, while the December 2009 SAMA Reanalysis does not reflect any dramatic differences in the environmental evaluation of Indian Point.<sup>100</sup>

### 3. NRC Staff’s Answer

The NRC Staff agrees with Entergy’s objection to the admission of NYS-35. At the outset, the NRC Staff notes that since NEPA does not require a specific outcome regarding “mitigation of potential environmental impacts,” it also does not mandate the implementation as license conditions of those SAMAs identified as potentially cost-beneficial.<sup>101</sup> Citing, inter alia, the Board’s contention admissibility decision in this proceeding,<sup>102</sup> the NRC Staff says that it is not bound by NEPA to “require the Applicant to reach a ‘final’ determination as to the cost-beneficial status of SAMAs which the Applicant has already identified as potentially cost-beneficial, or to implement such ‘finally-determined’ cost-beneficial SAMAs as license

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<sup>99</sup> Id. at 30 (citing Pilgrim, CLI-10-11, 71 NRC \_\_, \_\_ (slip op. at 6-7, 39); Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-17, 56 NRC 1, 10 (2002)).

<sup>100</sup> Id. at 30-31 (citations omitted).

<sup>101</sup> NRC Staff’s Answer at 17-18 (citations omitted).

<sup>102</sup> See LBP-08-13, 68 NRC at 201 n.1038.

conditions.”<sup>103</sup> Furthermore, contrary to the position put forward by New York, the NRC Staff asserts that it has included a rational basis for its own SAMA analysis in its Draft SEIS, and thus characterizes New York as having “not identified any deficiency in the [NRC] Staff’s analysis.”<sup>104</sup> Instead, it argues that New York “simply disagrees with the [NRC] Staff’s determination not to impose the identified SAMAs as a condition for license renewal.”<sup>105</sup>

According to the NRC Staff, NYS-35 misinterprets 10 C.F.R. § 51.52(c)(3)(ii)(L), given that the regulation only dictates consideration of SAMAs in the NRC Staff’s environmental review, whereas NYS-35 calls for a final determination and imposition as license conditions of cost-beneficial SAMAs.<sup>106</sup> The NRC Staff also challenges New York’s reading of NRC Staff guidance documents. The NRC Staff urges that New York incorrectly construes these documents as authority for the NRC Staff to identify and require the implementation of mitigative alternatives as part of license renewal.<sup>107</sup> The NRC Staff contends that these documents do not provide authority for the NRC Staff to require implementation of any SAMAs.<sup>108</sup>

As a factual matter, the NRC Staff describes NYS-35 as failing to present a material issue in this proceeding, given that New York has not challenged Entergy’s methods for conducting SAMA reviews and not predicted that a complete review would necessarily result in identification of any additional SAMAs that have not already been identified as potentially cost-beneficial. Additionally, the NRC Staff affirms that those SAMAs that are planned for more

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<sup>103</sup> NRC Staff’s Answer at 18-19 (citations omitted) (emphasis added).

<sup>104</sup> Id. at 19.

<sup>105</sup> Id.

<sup>106</sup> Id. at 20-21.

<sup>107</sup> Id. at 21-22 (citations omitted).

<sup>108</sup> Id. at 22.

review could not be required for implementation as license renewal conditions.<sup>109</sup> The NRC Staff also analogizes the instant contention to contentions that were disposed of in the McGuire/Catawba decision, reasoning that there has already been a determination that certain SAMAs were potentially cost-beneficial in the Draft SEIS and there is no remedy of implementation, or even further review, available to New York. This is because, in the NRC Staff's view, the SAMAs named in NYS-35 do not relate to aging management and New York does not specify what is missing from the December 2009 SAMA Reanalysis that further review would elicit.<sup>110</sup> The NRC Staff cites the Pilgrim decision for the proposition that New York's contention is deficient because it "does not allege that additional SAMAs should have been identified as potentially cost-beneficial, nor does it allege that any significant errors were made in the Applicant's SAMA Reanalysis."<sup>111</sup> Therefore, the NRC Staff urges rejection of NYS-35 as failing to raise a material issue in this proceeding.

Finally, citing the Commission's Oyster Creek decision, the NRC Staff describes NYS-35 as based on old information that is not rendered new due simply to the publication of a new document. Therefore, the NRC Staff labels NYS-35 as untimely since the information that is at the heart of the contention, Entergy's decision not to implement any of its analyzed SAMAs and the NRC Staff's conclusion not to require implementation, has been available to New York from at least the time of the submission of Entergy's ER.<sup>112</sup>

#### 4. Connecticut's Answer

Connecticut endorses admission of NYS-35. Citing Limerick, Connecticut urges a full review of SAMAs, explaining that because the NRC Staff may not engage in an ad hoc policy of

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<sup>109</sup> Id. at 23-24 (citations omitted).

<sup>110</sup> Id. at 24-26 (citations omitted).

<sup>111</sup> Id. at 26-27 (citing Pilgrim, CLI-10-11, 71 NRC at \_\_\_ (slip op. at 37, 39)).

<sup>112</sup> Id. at 32-33 (citing Amergen Energy Co., LLC (Oyster Creek Nuclear Generating Station), CLI-09-07, 69 NRC 235, 272-274 (2009)).

evaluating severe accidents under NEPA, it is required to “carefully evaluate the environmental impacts that could result from severe accidents and the means to mitigate such impacts in order to comply with NEPA.”<sup>113</sup>

#### 5. New York’s Reply

In its Reply, New York asserts that the NRC Staff and Entergy fail to offer a rational basis for not implementing potentially cost-beneficial SAMAs.<sup>114</sup> New York dismisses Entergy’s rationalizations for why it has not yet agreed to implement potentially cost-beneficial SAMAs because, according to New York, such justification should have been included in Entergy’s ER. Therefore, New York characterizes these as merely post hoc bases having no legal effect on the ER.<sup>115</sup> Entergy’s allusion to Part 54 is not a sufficient rationalization, New York argues, because Part 54 explicitly conditions receipt of a renewed license upon satisfactory compliance with Part 51’s environmental regulations.<sup>116</sup> Because the NRC Staff and Entergy have both alluded to the fact that the impending reviews of the SAMAs in NYS-35 will eventually be conducted anyway, New York urges that they must be conducted within the NRC Staff’s environmental review in order for the public to be able to adequately understand the NRC Staff’s decision-making process under NEPA and confirm that the NRC Staff has made its decision with a rational basis.<sup>117</sup> Moreover, New York contests Entergy’s claimed adherence to NEI-05-01 and NRC Staff Guidance because Entergy has not yet fully determined the economic viability

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<sup>113</sup> Connecticut’s Answer at 5-6 (citing Limerick, 869 F.2d 719).

<sup>114</sup> New York’s Reply at 7.

<sup>115</sup> Id. at 7 n.2 (referencing Morgan Stanley Capital Group, Inc. v. Pub. Util. Dist. No. 1 of Snohomish County, Wash., 128 S.Ct. 2733, 2758 (2008); Fed. Power Comm’n v. Texaco, 417 U.S. 380, 397 (1974)).

<sup>116</sup> Id. at 9.

<sup>117</sup> Id. at 9-12 (citations omitted).

of the SAMAs subject to further cost-benefit analysis, which in turn leaves the NRC Staff unable to decide whether implementation of any SAMAs is warranted.<sup>118</sup>

As a procedural matter, citing the Board's January 22, 2010 Order, New York argues that NYS-35 is indeed timely because NYS-35 arises out of Entergy's December 2009 SAMA Reanalysis, which identifies nine SAMAs as cost-effective or potentially cost-beneficial that were not previously labeled as such in the baseline analysis found in Entergy's ER.<sup>119</sup> Specifically, New York identifies nine SAMAs from the December 2009 Reanalysis as resulting in a material change in the degree to which the benefit outweighs the cost of implementing the SAMA at this stage in the analysis.<sup>120</sup> According to New York, it was only when the new SAMA analysis substantively increased the benefits of these nine mitigation measures that it became relevant to insist that the cost analysis be completed in order to determine if the SAMAs would be cost-effective. Therefore, New York emphasizes that it was not able to raise NYS-35 in response to Entergy's ER or the NRC Staff's Draft SEIS since neither document included the inputs used in the December 2009 SAMA Reanalysis.<sup>121</sup>

## 6. Board's Decision

We find that NYS-35 presents a genuine issue of material fact and admit it in part. As New York noted, Entergy's December 2009 SAMA Reanalysis entailed a new analysis, with different inputs used to arrive at revised determinations of the costs and benefits associated with implementation. The six SAMAs not previously identified as potentially cost-beneficial that are now planned by Entergy for further analyses (SAMAs IP2-021, 022 and 062 and SAMAs IP3-007, 018, and 019) were not deemed worthy of additional analysis by Entergy in its ER or

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<sup>118</sup> Id. at 12 (citations omitted).

<sup>119</sup> Id. at 7 n.3, 22-23 (citations omitted).

<sup>120</sup> Id. at 23-24.

<sup>121</sup> Id. at 26-28 (citations omitted).

the NRC Staff's Draft SEIS.<sup>122</sup> Thus, the challenge to the decision to subject them to further review is a result and arises out of the December 2009 SAMA Reanalysis. Moreover, although the other three SAMAs on which NYS-35 focuses (SAMAs IP2-009, IP2-053, and IP3-053) were categorized in the NRC Staff's Draft SEIS as potentially cost-beneficial,<sup>123</sup> the actual numbers reached in Entergy's decision whether to subject any of them to further analysis have changed significantly since the NRC Staff's Draft SEIS.<sup>124</sup>

We are not persuaded by the NRC Staff's comparison of the timeliness of NYS-35 to that disposed of in Oyster Creek.<sup>125</sup> The underlying information that sparked this contention appeared for the first time in Entergy's December 2009 SAMA Reanalysis, in which Entergy utilized different inputs in its analysis, thus creating a new cost-benefit picture. Even though, at each stage, neither Entergy nor the NRC Staff concluded that implementation was necessary, it is the new analysis that led to the conclusion that New York argues is insufficient. Therefore,

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<sup>122</sup> See Entergy's December 2009 SAMA Reanalysis at 32 ("[C]onsistent with those SAMAs identified previously as cost beneficial, the above potentially cost beneficial SAMAs have been submitted for engineering project cost benefit analysis.").

<sup>123</sup> See Draft SEIS at 5-9 to 5-10.

<sup>124</sup> For example, in Entergy's December 2009 SAMA Reanalysis for IP2, SAMA 009 featured an estimated cost of \$4,100,000 with a baseline benefit of \$6,347,528 and a benefit with uncertainty of \$13,363,217. Entergy's December 2009 SAMA Reanalysis at 11. However, the analysis of that same SAMA, as cited in the NRC Staff's December 2008 Draft SEIS, showed an estimated cost of \$3,714,000 and an estimated benefit with uncertainty of \$3,797,152. Letter from Fred Dacimo to U.S. Nuclear Regulatory Commission, Reply to Request for Additional Information Regarding License Renewal Application - Severe Accident Mitigation Alternatives Analysis (Feb. 5, 2008) at 26 (ADAMS Accession No. ML080420264). Furthermore, in Entergy's original ER, that same SAMA showed an estimated cost of \$3,714,000 with a baseline benefit of \$1,697,309 and a baseline benefit with uncertainty of \$3,573,283. Entergy's ER at E.2-38.

<sup>125</sup> Cf. Oyster Creek, CLI-09-07, 69 NRC at 272-74.

we find New York's submission of NYS-35 timely because it is based on materially different information that was previously unavailable under 10 C.F.R. § 2.309(f)(2)(i) and (ii).<sup>126</sup>

This contention alleges that the NRC Staff has not been presented with a sufficiently complete SAMA analysis and, accordingly, it does not have sufficient information to enable it to take a "hard look" at the mitigation alternative nor sufficient information to explain, with a rational basis, why it would allow the license to be renewed without the implementation of cost-beneficial SAMAs under a backfit to the CLB.

"[T]he adequacy and accuracy of environmental analyses and proper disclosure of information are always at the heart of NEPA claims. If 'further analysis' is called for, that in itself is a valid and meaningful remedy under NEPA."<sup>127</sup> Moreover, if the benefit to cost ratio is glaringly large for a potentially cost-beneficial SAMA, the NRC Staff must, as a prerequisite to extending the license, impose implementation of that SAMA as a license condition or, in the alternative, explain why it is not requiring implementation of that SAMA. The failure to do either of these alternatives would be to act arbitrarily and capriciously.

While it may be that implementation of non-aging related SAMAs is not directly required as license conditions within a Part 54 license renewal review, the NRC Staff nonetheless is authorized to impose such conditions that are necessary to protect the environment to an applicant's CLB under a Part 50 backfit procedure.<sup>128</sup> Thus, when faced with cost-beneficial SAMAs, an alleged failure by the NRC Staff to explain why it has not instituted a backfit to a CLB as a condition precedent to license renewal could constitute a failure to meet the hard look obligations the NRC Staff has under the APA and NEPA. Moreover, simply saying that implementation of SAMAs is outside of the scope of license renewal review is not sufficient to

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<sup>126</sup> We have already noted our finding that this is timely under Section 2.309(f)(2)(iii) because it was submitted in response to and arises out of Entergy's December 2009 SAMA Reanalysis. See supra Section I.

<sup>127</sup> McGuire/Catawba, CLI-02-17, 56 NRC at 10.

<sup>128</sup> See 10 C.F.R. § 54.33(b).

meet that obligation because the NRC Staff must review SAMAs under Part 51 and has the option, if necessary, to institute a backfit prior to license renewal under Part 50 as a result of its SAMA review.

That being said, as we noted before, the NRC Staff does not have to require implementation, and an intervenor such as New York cannot demand implementation from the NRC Staff as part of a license renewal proceeding. Consequently, pursuant to Section 2.309(f)(1)(iii), we reject that portion of NYS-35 demanding implementation of the six SAMAs newly deemed potentially cost-beneficial (SAMAs IP2-021, 022, and 062; and IP3-007, 018, and 019) as outside the scope of this proceeding.

On the other hand, challenges to Entergy's environmental review are permissible in a license renewal proceeding, and in the proceeding the NRC Staff must demonstrate that it would be acting with a rational basis if it were to allow the licenses to be renewed. Based on these principles and finding the contention and its supporting information to be in accord with the standards set forth in Section 2.309(f)(1), we admit NYS-35 insofar as it alleges that the Applicant has not provided the NRC Staff with the necessary information regarding specific SAMAs that New York maintains are potentially cost-beneficial.

It may be that at the end of Entergy's analysis of these SAMAs they are not sufficiently cost-beneficial to warrant implementation. However, until that determination regarding their status is made, the NRC Staff has not been presented with the sufficient facts to satisfy its obligations under NEPA to take a hard look at the environmental consequences that would result from license renewal. Accordingly, we admit the portion of NYS-35 calling for completion of the cost-benefit analysis to determine which SAMAs are cost-beneficial to implement as a contention of omission.

In addition, with regard to the three SAMAs that were identified in the December 2009 SAMA Reanalysis as cost-effective, i.e., IP2-009, IP2-053, and IP3-053, and any SAMAs classified as cost-effective in any final analysis, the contention is admitted as a contention of

omission, meeting the requirements of Section 2.309(f)(1), insofar as it alleges that the Draft SEIS does not provide a rational basis for granting the license extension without mandating a CLB backfit as a prerequisite for the extension.

- B. NYS-36 – The December 2009 Severe Accident Mitigation Alternatives (“SAMA”) Reanalysis does not comply with the requirements of the National Environmental Policy Act (“NEPA”) (42 U.S.C. Sections 4332(2)(C)(iii) and (2)(E)), the President’s Council on Environmental Quality’s regulations (40 C.F.R. Section 1502.14), the Nuclear Regulatory Commission’s regulations (10 C.F.R. Section 51.53(c)(3)(ii)(L)), the Administrative Procedure Act (5 U.S.C. Sections 553(c), 554(d), 557(c), and 706, or controlling Federal court precedent (Limerick Ecology Action, Inc. v. NRC, 869 F.2d 719 (3d Cir. 1989)) because this SAMA Reanalysis identifies a number of mitigation alternatives which are now shown, for the first time, to have substantially greater benefits in excess of their costs than previously shown yet are not being included as conditions of the proposed new operating license.

1. New York’s Argument

NYS-36’s underlying legal bases are similar to NYS-35,<sup>129</sup> but deviate from NYS-35 to the extent that it asserts there is a

failure to commit to implement those SAMAs which now, for the first time, have been shown to provide both a substantial increase in safety and where the margin of benefit over cost is so high that there is little chance that even a more complete cost estimate will be able to eliminate the substantial benefit.<sup>130</sup>

Like NYS-35, NYS-36 also takes issue with nine SAMAs (albeit not the same SAMAs in NYS-35) that are divided into two groups. The first group consists of SAMAs that “have now become cost-effective for the baseline benefit comparison and not just for the benefit with uncertainty comparison,” namely, for IP2, SAMAs IP2-028 and 044, and for IP3, SAMA IP3-055.<sup>131</sup> By way of example, for IP2-044, the original baseline benefit was \$984,503, original baseline benefit with uncertainty was \$2,072,638, and original cost was \$1,656,000. As a result

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<sup>129</sup> See New York’s New and Amended Contentions at 36-42 (citations omitted). See also Section V.A.1 supra for a summary of the legal bases that this contention and NYS-35 have in common.

<sup>130</sup> Id. at 46 (footnotes omitted).

<sup>131</sup> Id. at 50 (citations omitted).

of Entergy's December 2009 SAMA Reanalysis, New York represents that the new baseline benefit is \$2,350,530, the new baseline benefit with uncertainty is \$4,948,485, and the new cost remains \$1,656,000.<sup>132</sup>

The second group consists of SAMAs in which New York asserts, "the differences between the original calculation and the new calculation are dramatic, particularly the sheer dollar value of the difference."<sup>133</sup> These are, for IP2, SAMAs IP2-054, 060, 061, and for IP3, SAMAs IP3-061 and 062.<sup>134</sup> Because of the general differences in both sets of SAMAs between the original analysis in Entergy's ER and the December 2009 SAMA Reanalysis, New York claims that admission of NYS-36 is timely under Section 2.309(f)(2)(i) because it arises from new information in that reanalysis.<sup>135</sup> For example, New York highlights the following changes in SAMA IP3-062: its original baseline benefit was \$1,365,046, its original baseline benefit with uncertainty was \$1,978,328, and its original cost was \$196,800. As a result of Entergy's December 2009 SAMA Reanalysis, New York represents that the new baseline benefit is \$4,359,371, the new baseline benefit with uncertainty is \$6,317,929, and the new cost remains \$196,800.<sup>136</sup>

Accordingly, New York seeks implementation of the above-named SAMAs, a plan for which it asserts is missing from Entergy's Application and the NRC Staff's Draft SEIS.<sup>137</sup>

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<sup>132</sup> Id. at 48.

<sup>133</sup> Id. at 50.

<sup>134</sup> Id. New York also appears to include SAMA IP2-065 in this SAMA group in which it alleges there is a dramatic change in values, rather than in the first group that purportedly showed a difference between the baseline and uncertainties analyses.

<sup>135</sup> Cf. New York's Motion at 8-9.

<sup>136</sup> New York's New and Amended Contentions at 49.

<sup>137</sup> Id. at 50.

## 2. Entergy's Answer

Entergy's opposes admission of NYS-36. Its analysis for this position follows its analysis in response to NYS-35, which we have summarized supra at Section V.A.2.

## 3. NRC Staff's Answer

The NRC Staff's Answer to NYS-36 largely repeats its response to NYS-35. Like its response to NYS-35, the NRC Staff argues that no NRC regulation requires the NRC Staff to impose implementation of cost-beneficial SAMAs, and that compelling a license renewal applicant to implement potentially cost-beneficial SAMAs not related to aging can only be instituted pursuant to a Part 50 backfit proceeding, thus rendering NYS-36 outside the scope of this proceeding.<sup>138</sup> Further, the NRC Staff asserts that New York's submission of NYS-36 is untimely under Section 2.309(f)(2)(i)-(ii) and thus should be dismissed.<sup>139</sup>

In this regard, the NRC Staff says that "[t]he Commission has rejected the idea that publication of a new document can transform previously available material into new information sufficient to support a new contention," comparing NYS-36 to information rejected by the Commission as "new" since the underlying information, even though used in recent presentations and studies, had been available since at least 1991.<sup>140</sup> Accordingly, the NRC Staff regards NYS-36 as untimely since both Entergy in its ER and subsequent SAMA analyses and the NRC Staff in its Draft SEIS have repeated that they neither find implementation of any of Entergy's analyzed SAMAs necessary nor will they commit to implement them (in the case of Entergy) or require implementation of them (in the case of the NRC Staff).<sup>141</sup>

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<sup>138</sup> NRC Staff's Answer at 27-29 (citations omitted).

<sup>139</sup> Id. at 30-35 (citations omitted).

<sup>140</sup> Id. at 32-33 (citing Oyster Creek, CLI-09-07, 69 NRC at 272-74).

<sup>141</sup> Id. at 30-32.

4. Connecticut's Answer

Connecticut supports admission of NYS-36. Its analysis for this position parallels its analysis in response to NYS-35, which we previously have summarized. Accordingly, see supra at Section V.A.4.

5. New York's Reply

New York attempts in its Reply to clarify NYS-36 by first distinguishing the situation here from that faced by the Supreme Court in Methow Valley. New York interprets Methow Valley as not condoning Entergy's and the NRC Staff's "refus[al] to implement those specifically identified mitigation alternatives that are significantly cost-effective and will provide a substantial increase in safety and a substantial reduction in potential adverse environmental impacts."<sup>142</sup> New York concedes that Part 50 is the vehicle in license renewal for imposing new conditions like non-aging management related SAMAs on a renewed license. However, New York also points out that the SAMA alternatives analysis is the source for identifying mitigation measures that, if preferable to relicensing under the current CLB, must be implemented.<sup>143</sup> Moreover, New York attempts to undermine Entergy's and the NRC Staff's argument that Part 51 is unrelated to Part 54 by asserting that an environmental review is not restricted to the aging management confines of Part 54.<sup>144</sup>

Regarding implementation itself, New York construes the GEIS as necessitating the "implementation of cost-effective mitigation SAMAs."<sup>145</sup> In response to Entergy's and the NRC Staff's citation of the Pilgrim decision, New York acknowledges that SAMAs may not be directly implemented as part of a safety review. But New York interprets Pilgrim as "confirming that the

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<sup>142</sup> New York's Reply at 15.

<sup>143</sup> Id. at 17.

<sup>144</sup> Id. at 17-18 (citations omitted).

<sup>145</sup> Id. at 19-20 (citations omitted).

implementation of SAMAs must occur through the NEPA process and Part 51, just as the GEIS Statement of Considerations and Interim Policy Statement on severe accidents under NEPA contemplated.”<sup>146</sup>

Finally, New York distinguishes NYS-36 from the SAMA in question in McGuire/Catawba since there, unlike here,

the Commission . . . offered a rational basis for why implementation as part of the license renewal process is not required—not because there can never be such a requirement, but because another process was already in place [i.e., the generic issues process.] that was focused on the particular SAMA at issue and the outcome of which would determine whether implementation was “warranted.”<sup>147</sup>

The issue of implementation of that “SAMA was already the subject of a generic issues process and, . . . for that reason, it did not require implementation of the SAMA.”<sup>148</sup> Finally, New York proffers the same timeliness argument for NYS-36 as it used for NYS-35, which is summarized supra at Section V.A.5.<sup>149</sup>

#### 6. Board’s Decision

The Board admits NYS-36 in part for the same procedural and substantive reasons we admit NYS-35 in part. What separates these two groups of SAMAs is that one group, those referenced in NYS-35, has only been deemed potentially cost-beneficial in Entergy’s December 2009 SAMA Reanalysis (SAMAs IP2-021, 022, and 062 for IP2 and SAMAs IP3-007, 018, and 019 for IP3) or in the NRC Staff’s Draft SEIS (SAMAs IP2-009 and 053 for IP2 and SAMA IP3-053 for IP3). In contrast, all the SAMAs in NYS-36 were deemed at least somewhat cost-beneficial in Entergy’s original ER, but after the latest analysis appear to be dramatically more cost-beneficial in both the baseline and sensitivity analyses. Yet, because all these cost-benefit determinations arise out of the same change in inputs and all arrived at different cost-benefit

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<sup>146</sup> Id. at 20 (citing Pilgrim, CLI-10-11, 71 NRC \_\_\_ (slip op. at 7 n.26)).

<sup>147</sup> Id. at 21 (citing McGuire/Catawba, CLI-02-28, 56 NRC at 388 n.7).

<sup>148</sup> Id.

<sup>149</sup> See id. at 22-31 (citations omitted).

calculations than before, they all constitute the requisite new, materially different information so as to permit the admission of NYS-36 as timely under Section 2.309(f)(2)(i) and (ii), in the same way as NYS-35.

In accord with the substantive admissibility provisions of Section 2.309(f)(1), the triable issue of fact established in NYS-36 is whether the NRC Staff has fulfilled its duty to take a hard look at SAMAs deemed potentially cost-beneficial in Entergy's December 2009 SAMA Reanalysis by explaining in its record of decision why it would allow the license to be renewed without requiring the implementation of those SAMAs that are plainly cost-beneficial as a condition precedent to the granting of license renewal.

As a part of this license renewal proceeding, Entergy was required pursuant to 10 C.F.R. § 51.53(c)(3)(ii)(L) to incorporate, as part of its ER, a consideration of alternatives to mitigate severe accidents. This review was not limited to consideration of accidents that would be the result of aging. Pursuant to NRC regulations, as required by the Limerick decision, the NRC Staff must evaluate an applicant's submission and take appropriate action in deciding whether to grant the requested license renewal. We hold that in order to meet its obligations under NEPA, once a SAMA has been identified as plainly cost-effective, the NRC Staff must either require implementation or, in the alternative, explain why it has decided not to require implementation prior to license renewal. Likewise, the applicant must supply information that is sufficiently complete for the Commission to be able to explain its decision. Accordingly, we admit NYS-36 in part and consolidate it with NYS-35 as NYS-35/36.

VI. Conclusion

For the foregoing reasons, the Board hereby admits NYS-12B in whole and admits NYS-16B, NYS-35, and NYS-36 in part.

It is so ORDERED.

THE ATOMIC SAFETY  
AND LICENSING BOARD<sup>150</sup>

***/RA/***

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Lawrence G. McDade, Chairman  
ADMINISTRATIVE JUDGE

***/RA/ T. S. Moore for***

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Dr. Kaye D. Lathrop  
ADMINISTRATIVE JUDGE

***/RA/ T. S. Moore for***

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Dr. Richard E. Wardwell  
ADMINISTRATIVE JUDGE

Rockville, Maryland  
June 30, 2010

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<sup>150</sup> Copies of this Order were sent this date by Internet e-mail to: (1) Counsel for the NRC Staff; (2) Counsel for Entergy; (3) Counsel for the State of New York; (4) Counsel for Riverkeeper, Inc.; (5) Manna Jo Green, the Representative for Clearwater; (6) Counsel for the State of Connecticut; (7) Counsel for Westchester County; (8) Counsel for the Town of Cortlandt; (9) Mayor Sean Murray, the Representative for the Village of Buchanan; and (10) Counsel for the New York City Economic Development Corporation.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

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

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing MEMORANDUM AND ORDER (RULING ON THE ADMISSIBILITY OF NEW YORK'S NEW AND AMENDED CONTENTIONS 12B, 16B, 35 AND 36) (LBP-10-13) have been served upon the following persons by U.S. mail, first class, or through NRC internal distribution.

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Docket Nos. 50-247-LR and 50-286-LR  
MEMORANDUM AND ORDER (RULING ON THE ADMISSIBILITY OF NEW YORK'S NEW AND  
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Docket Nos. 50-247-LR and 50-286-LR  
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[Original signed by Christine M. Pierpoint]  
Office of the Secretary of the Commission

Dated at Rockville, Maryland  
this 30<sup>th</sup> day of June, 2010.