

**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))		
)	April 5, 2010	

**APPLICANT'S ANSWER TO NEW YORK STATE'S NEW AND AMENDED
CONTENTIONS CONCERNING ENTERGY'S DECEMBER 2009 REVISED SAMA ANALYSIS**

William C. Dennis, Esq.
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601
Phone: (914) 272-3202
Fax: (914) 272-3205
E-mail: wdennis@entergy.com

Kathryn M. Sutton, Esq.
Paul M. Bessette, Esq.
MORGAN, LEWIS & BOCKIUS LLP
1111 Pennsylvania Avenue, N.W.
Washington, D.C. 20004
Phone: (202) 739-5738
E-mail: ksutton@morganlewis.com
E-mail: pbessette@morganlewis.com

Martin J. O'Neill, Esq.
MORGAN, LEWIS & BOCKIUS LLP
1000 Louisiana Street
Suite 4000
Houston, TX 77002
Phone: (713) 890-5710
E-mail: martin.oneill@morganlewis.com

COUNSEL FOR ENTERGY NUCLEAR
OPERATIONS, INC.

TABLE OF CONTENTS

	Page
I. INTRODUCTION	1
II. BACKGROUND	4
A. Regulatory Framework – SAMA Analysis Under 10 C.F.R. Part 51	4
1. Applicable NRC Requirements.....	4
2. NRC/Industry Guidance for SAMA Analyses.....	6
B. Overview of IPEC SAMA Analyses.....	6
1. Entergy’s April 2007 SAMA Analysis	6
2. Entergy’s February 2008 and May 2008 RAI Responses.....	8
3. Entergy’s December 2009 Revised SAMA Analysis	10
C. Overview of NYS’s Amended and New Contentions	12
1. Contentions NYS-12B and NYS-16B	12
2. Contention NYS-35	13
3. Contention NYS-36	13
III. LEGAL STANDARDS	14
A. Legal Standards Governing Admission of New and Amended Contentions.....	14
B. Controlling NEPA Principles and Case Law	16
1. The Supreme Court’s Controlling Methow Valley Decision	16
2. The Commission’s Application of Methow Valley in NRC License Renewal Proceedings	17
IV. ENTERGY’S RESPONSES TO NYS’S AMENDED AND NEW CONTENTIONS.....	19
A. Entergy Does Not Oppose the Admission of NYS-12B.....	19
B. Entergy Opposes the Admission of NYS-16B To the Extent It Raises Issues That Are Outside the Scope of Admitted Contention NYS-16A or Are Not Timely	19
C. Entergy Opposes the Admission of NYS-35 and NYS-36 Because They Are Not Timely and Do Not Raise A Genuine Dispute on a Material Issue of Law or Fact.....	21
1. Both NYS-35 and NYS-36 Are Impermissibly Late Because They Raise Issues That Could Have Been Raised Much Earlier in This Proceeding.....	21

TABLE OF CONTENTS
(continued)

	Page
2. NYS-35 and NYS-36 are Inadmissible Because They Fail to Raise a Genuine Dispute on a Material Issue of Law or Fact and Lack Adequate Support.....	24
a. NEPA Is a Procedural Statute That Does Not Mandate Implementation of Potentially Cost-Beneficial SAMAs as a Condition of License Renewal.....	24
b. Entergy Has Provided a Sufficiently “Thorough” and “Complete” Cost-Benefit Analysis.....	27
c. NYS Does Not Allege That Entergy Should Have Identified Additional SAMAs As “Potentially Cost-Beneficial” Beyond Those Already Identified in Its Revised SAMA Analysis.....	30
V. CONCLUSION.....	31

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	Docket Nos. 50-247-LR and
ENTERGY NUCLEAR OPERATIONS, INC.)	50-286-LR
(Indian Point Nuclear Generating Units 2 and 3))	
)	April 5, 2010

**APPLICANT’S ANSWER TO NEW YORK STATE’S NEW AND AMENDED
CONTENTIONS CONCERNING ENTERGY’S DECEMBER 2009 REVISED SAMA ANALYSIS**

I. INTRODUCTION

Pursuant to 10 C.F.R. § 2.309(h)(1), Entergy Nuclear Operations, Inc. (“Entergy”) submits this Answer to the New and Amended Contentions filed by New York State (“NYS”) on March 11, 2010.¹ NYS proffers two amended contentions (NYS-12B and NYS-16B) and two new contentions (NYS-35 and NYS-36), nominally based on Entergy’s revised analysis of severe accident mitigation alternatives (“SAMA”) for Indian Point Units 2 and 3 (“IP2” and “IP3”).² As set forth below, Entergy does not oppose the admission of NYS-12B because it reasserts the same claims as admitted contention NYS-12/NYS-12A. Entergy opposes the admission of NYS-16B insofar as it (1) seeks to interject emergency planning issues previously excluded by this Board and, (2) belatedly challenges Entergy’s assumptions regarding transient populations (*i.e.*, tourists and commuters). Entergy opposes the admission of NYS-35

¹ See 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) (“Motion for Leave”); State of New York’s New and Amended Contentions Concerning the December 2009 Reanalysis of Severe Accident Mitigation Alternatives (Mar. 11, 2010) (“New and Amended Contentions”). NYS also filed the Statement of David Chanin, dated March 11, 2010 (“Chanin Statement”).

² See NL-09-165, Letter from Fred Dacimo, Entergy, to NRC, “License Renewal Application: Revised SAMA Analysis Using Alternate Meteorological Data” (Dec. 11, 2009) (“Revised SAMA Analysis”), available at ADAMS Accession No. ML093580089.

and NYS-36 because they are untimely, lack adequate factual and legal support, and fail to raise a genuine dispute on a material issue of law or fact.³

NYS's New and Amended Contentions inaccurately portray the Revised SAMA Analysis and reflect NYS's fundamental misunderstanding of the pertinent regulatory scheme under 10 C.F.R. Part 51. The requirement for a SAMA analysis under Part 51 is derived from the National Environmental Policy Act ("NEPA").⁴ Accordingly, Part 51 requires a SAMA analysis to consider possible mitigation measures with respect to severe accident impacts, but it does not require that the applicant implement potentially cost-beneficial SAMAs or any other particular mitigation measures.

Entergy prepared a SAMA Analysis as part of its license renewal application ("LRA") in accordance with NRC and industry guidance.⁵ The Revised SAMA Analysis is not an "entirely new analysis" or "do over" of the original SAMA Analysis.⁶ Rather, it specifically addresses the Staff's question concerning the meteorological data used in the original SAMA Analysis. Consistent with Part 51 and the original SAMA Analysis, the Revised SAMA Analysis uses the same probabilistic safety assessment ("PSA") and cost-benefit analysis techniques to identify possible mitigation alternatives.

NYS's amended and new contentions are premised on NYS's misunderstanding of Part 51's requirements and the Revised SAMA Analysis. NYS-12B and NYS-16B reprise NYS's allegations from admitted contentions that Entergy's SAMA analysis underestimates the costs of a severe accident. Entergy does not oppose these amendments to the extent they repeat the admitted contentions. But to the extent NYS-16B adds new allegations that Entergy cannot meet its emergency planning obligations and that its SAMA analysis ignores transient populations, those arguments are untimely and, in any case, foreclosed by the Board's previous rulings excluding emergency planning issues.

³ See 10 C.F.R. § 2.309(f)(2), (c)(1); 10 C.F.R. § 2.309(f)(1)(iv)-(vi).

⁴ 42 U.S.C. § 4321 et seq.

⁵ See Applicant's Environmental Report, Operating License Renewal Stage (Apr. 23, 2007) (Indian Point Units 2 & 3, License Renewal Application, Section 4.21 & app. E), available at ADAMS Accession No. ML071210530 ("ER").

⁶ Motion for Leave at 1-2; see also New and Amended Contentions at 13, 36; Chanin Statement, ¶ 8.

NYS also erroneously contends in NYS-35 and NYS-36 that Entergy must implement potentially cost-beneficial SAMAs “as a condition of license renewal.”⁷ These new contentions are impermissibly late because they raise purely legal issues that NYS could have raised at the outset of this proceeding based on Entergy’s April 2007 ER or, at the latest, based on the NRC’s December 2008 Draft Supplemental Environmental Impact Statement (“DSEIS”).⁸

As a substantive legal matter, NYS’s position is squarely contradicted by Supreme Court and Commission precedent construing NEPA. NYS confuses NEPA’s and Part 51’s requirements with the safety requirements of Part 54, which focuses solely on aging management matters and, in any event, *excludes* current licensing basis (“CLB”) issues addressed under 10 C.F.R. Part 50 (which encompasses the question of whether to implement any particular SAMA). This is directly contrary to this Board’s own observation that “SAMAs are procedural analyses promulgated . . . to implement NEPA” and “do not change a CLB.”⁹ Consequently, the relief sought by NYS in NYS-35 and NYS-36 is not cognizable in this license renewal proceeding.

NYS-35 also mistakenly suggests that Entergy must complete additional cost analyses to satisfy its NEPA obligations to identify and disclose possible mitigation measures. NYS contradicts its own argument, however, concluding in NYS-36 that the additional “refined cost estimates” it deems “necessary” in NYS-35 “are unlikely to dramatically change the outcome” of the Revised SAMA Analysis.¹⁰ There simply is no basis for NYS’s assertion that further cost analyses are required by NEPA or 10 C.F.R. Part 51.

⁷ New and Amended Contentions at 34 & 40-41. *See also* Motion for Leave at 9, 11, 13 & 15 (stating that implementation of certain “cost-effective” SAMAs should be made a condition of any extended operating licenses for IP2 and IP3).

⁸ NUREG-1437, Supp. 38, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3, Draft Report for Comment (Dec. 2008) (“DSEIS”).

⁹ *Entergy Nuclear Operations, Inc.* (Indian Pt. Nuclear Generating Units 2 & 3), LBP-08-13, 68 NRC 43, 105 (2008).

¹⁰ Motion for Leave at 10 & 12.

II. BACKGROUND

A. Regulatory Framework – SAMA Analysis Under 10 C.F.R. Part 51

NYS fundamentally misconstrues the nature and scope of the SAMA analysis requirement imposed by 10 C.F.R. Part 51, as well as its relationship to the NRC’s aging-based safety regulations in 10 C.F.R. Part 54. NYS also misunderstands and incorrectly characterizes Entergy’s Revised SAMA Analysis, particularly its cost analyses. Accordingly, Entergy briefly summarizes the relevant regulatory and factual background.

1. **Applicable NRC Requirements**

At the license renewal stage, Part 51 requires that “[i]f the staff has not previously considered [SAMAs] for the applicant’s plant in an environmental impact statement or in an environmental assessment, a consideration of alternatives to mitigate severe accidents must be provided.”¹¹ The NRC established this requirement despite determining, in its *Generic Environmental Impact Statement for License Renewal of Nuclear Plants* (“GEIS”), that the “probability-weighted” consequences of impacts resulting from severe accidents would be small.¹² As the Commission recently explained in CLI-10-11:

Significantly, NRC SAMA analyses are not a substitute for, and do not represent, the NRC NEPA analysis of potential impacts of severe accidents. The NRC’s GEIS for license renewal provides a generic evaluation of severe accident impacts and the technical basis for the NRC’s conclusion that “the probability-weighted consequences of atmospheric releases, fallout onto open bodies of water, releases to groundwater, and societal and economic impacts from severe accidents are small for all plants.” ... Because the GEIS provides a severe accident impacts analysis that envelopes the potential impacts at *all* existing plants, the environmental impacts of severe accidents during the license renewal term already have been addressed generically in bounding fashion.¹³

¹¹ 10 C.F.R. § 51.53(c)(3)(ii)(L); *see also* 10 C.F.R. pt. 51, subpt. A, app. B, tbl. B-1.

¹² *See* NUREG-1437, *Generic Environmental Impact Statement for License Renewal of Nuclear Plants*, Vol. 1 (Final Report) at 5-115 (May 1996) (“GEIS”).

¹³ *Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station)*, CLI-10-11, slip op. at 37-38 (Mar. 26, 2010) (*quoting* 10 C.F.R. pt. 51, subpt. A, app. B, tbl. B-1 and *citing* GEIS, Final Report, vol. 1 at 5-12 to 5-106).

Rather than trying to identify severe accident impacts—which are fully evaluated in the GEIS—NRC SAMA analysis under Part 51 “is a site-specific *mitigation* analysis.”¹⁴ It uses PSA and cost-benefit analysis techniques to identify and assess possible changes to plant hardware, procedures, or programs that could significantly reduce the radiological risk from a severe accident by preventing substantial core damage or by limiting releases from containment in the event that substantial core damage occurs.¹⁵ As such, it “is neither a worst-case nor a best-case impacts analysis,” but “an averaging of potential consequences.”¹⁶

Towards that end, “[i]t is NRC practice to utilize the *mean* values of the consequence distributions for each postulated release scenario or category—the mean estimated value for predicted total population dose and predicted off-site economic costs.”¹⁷ These mean consequence values are multiplied by the estimated frequency of occurrence of specific accident scenarios to determine population dose risk (“PDR”) and offsite economic cost risk (“OECR”) for each type of accident sequence studied.¹⁸ Whether a SAMA may be worthwhile to implement is based upon a weighing of the cost to implement the SAMA with the reduction in risks to public health, occupational health, offsite and onsite property.¹⁹ Actual implementation of SAMAs is not required by NEPA because “NEPA demands

¹⁴ *Id.* at 38.

¹⁵ See Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467, 28,480-82 (June 5, 1996); *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-17, 56 NRC 1, 5 (2002).

¹⁶ *Pilgrim*, CLI-10-11, slip op. at 38-39.

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ *Catawba/McGuire*, CLI-02-17, 56 NRC at 7-8. Severe accident risk is assessed in terms of total averted risk, which includes averted public exposure (health risk converted into dollars to estimate the cost of the public health consequence), averted onsite cleanup cost, averted offsite property damage costs, averted occupational exposure costs, and averted power replacement costs. *Id.* at 8 n. 14. NUREG/BR-0184 provides detailed information on how averted risk is calculated. *Id.* (citing NUREG/BR-0184, “Regulatory Analysis Technical Evaluation Handbook” (1997)).

no fully developed plan or detailed examination of specific measures which will be employed to mitigate adverse environmental effects.”²⁰

2. NRC/Industry Guidance for SAMA Analyses

The NRC and the industry have issued guidance to facilitate the preparation of SAMA analyses and the Staff’s review thereof. In particular, the Nuclear Energy Institute (“NEI”) has developed an industry template, NEI 05-01, Revision A, for completing SAMA analyses that “relies upon NUREG/BR-0184 regulatory analysis techniques, is a result of experience gained through past SAMA analyses, and incorporates insights gained from review of NRC evaluations of SAMA analyses and associated RAIs [requests for additional information].”²¹ The Staff has endorsed NEI 05-01, Revision A.²²

B. Overview of IPEC SAMA Analyses

1. Entergy’s April 2007 SAMA Analysis

Entergy submitted its SAMA analysis for IP2 and IP3 in April 2007 as part of the ER for the IPEC LRA.²³ Entergy followed the NRC-approved guidance contained in NEI 05-01 in preparing its SAMA analysis. Consistent with the methodological approach described above, the IPEC SAMA analysis consists of four principal steps.

First, Entergy quantified the level of risk associated with potential reactor accidents using the plant-specific PSA and insights acquired from other risk assessments previously performed for each unit. Entergy used the MELCOR Accident Consequence System 2 (“MACCS2”) code to perform Level 3 PSA

²⁰ *Pilgrim*, CLI-10-11, slip op. at 38 (quoting *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC 419, 431 (2003); *Methow Valley*, 490 U.S. at 353) (internal quotation marks omitted).

²¹ NEI 05-01, Severe Accident Mitigation Alternatives (SAMA) Analysis, Guidance Document, Rev. A at i (Nov. 2005), available at ADAMS Accession No. ML060530203 (“NEI 05-01”).

²² See Final License Renewal Interim Staff Guidance LR-ISG-2006-03: Staff Guidance for Preparing Severe Accident Mitigation Alternatives Analyses (Aug. 2007) (“LR-ISG-2006-03”). See also Draft Regulatory Guide DG-4015, Preparation of Environmental Reports for Nuclear Power Plant License Renewal Applications at 48 (July 2009), available at ADAMS Accession No. ML091620409 (stating that applicants “should consider . . . the guidance provided in NEI 05-01”).

²³ See generally, ER Section 4.21 & att. E (Severe Accident Mitigation Alternatives Analysis).

models for IP2 and IP3 and calculate the offsite consequences using site-specific meteorological, population, and economic data.²⁴

Second, Entergy identified possible SAMAs for reducing the risk associated with the major risk contributors for each unit. In evaluating potential SAMAs, Entergy considered SAMAs that addressed the major contributors to core damage frequency (“CDF”) and large early release frequency (“LERF”) at IP2 and IP3, as well as SAMA candidates for other operating plants that have submitted LRAs.²⁵ Entergy identified 231 candidate SAMAs for IP2 and 237 SAMAs for IP3 (*i.e.*, “Phase I” SAMAs).²⁶ Entergy then performed an initial screening in which it removed Phase I SAMAs that (1) were not applicable to IP2 and IP3 for design-related reasons, (2) were already implemented at IPEC, or (3) could be combined with other, similar SAMA candidates.²⁷ This screening process reduced the list of potential SAMAs to 68 for IP2 and 62 for IP3 (*i.e.*, “Phase II” SAMAs).²⁸

Third, Entergy performed a more detailed evaluation of each of the remaining Phase II SAMAs. Specifically, Entergy prepared estimates (stated in terms of dollars) of how much each SAMA could reduce risk in accordance with NRC guidance (NUREG/BR-0184) for performing regulatory analyses.²⁹ It also developed cost estimates for implementing each candidate.³⁰ This process included reviewing cost estimates prepared by other licensees for similar improvements considered in prior NRC-approved

²⁴ DSEIS, vol. 1, at 5-5; vol. 2, app. G at G-1, G-17.

²⁵ *Id.*, vol. 1 at 5-5 to 5-6; vol. 2, app. G at G-1 to G-3.

²⁶ *Id.*, vol. 1 at 5-4; vol. 2, app. G at G-1 & G-20.

²⁷ *Id.*, vol. 1 at 5.4; vol. 2, app. G at G-20.

²⁸ *Id.*, vol. 1 at 5.4; vol. 2, app. G at G-20.

²⁹ *Id.*, vol. 1 at 5-5 & 5-8; vol. 2, app. G at G-1, G-22 to G-24.

³⁰ *Id.*, vol. 1 at 5-5 & 5-8; vol. 2, app. G at G-1 & G-24.

SAMA analyses.³¹ The cost of implementing each SAMA candidate was estimated to an extent that allowed Entergy to reasonably assess the economic viability of the proposed improvement.³²

Finally, Entergy compared the costs and benefits of each of the remaining SAMAs to determine whether the SAMA was cost-beneficial; *i.e.*, whether the benefits of the SAMA exceeded the cost of implementing the SAMA.³³ To account for uncertainties associated with the internal events CDF calculations, Entergy also compared the cost of SAMA implementation with a benefit value estimated by applying an uncertainty multiplier to the internal and external events estimated benefit. This value is defined as the “baseline benefit with uncertainty.”³⁴ The cost-benefit analyses in the April 2007 ER showed that five IP2 and five IP3 SAMA candidates were potentially cost beneficial in either the “baseline” analysis or “sensitivity” analysis using a 3 percent discount rate.³⁵ Based on consideration of analysis uncertainties, Entergy identified two additional potentially cost-beneficial SAMAs for IP2 in the ER (IP2 SAMAs 44 and 56).³⁶

2. Entergy’s February 2008 and May 2008 RAI Responses

Entergy responded to Staff RAIs concerning its SAMA analysis in 2008.³⁷ Several RAI responses are directly relevant to the timeliness of arguments made by NYS. In its February 2008

³¹ *Id.*, vol. 1 at 5-5; vol. 2, app. G at G-24.

³² ER, att. E at E.2-3 to E.2-4 & E.4-3 to E.4-4. The NRC Staff reviewed Entergy’s cost estimates for implementing SAMA candidates and “found them to be reasonable and generally consistent with estimates provided in support of other licensees’ analyses.” DSEIS, vol. 2, app. G at G-24.

³³ DSEIS, vol. 1, at 5-8 to 5-10; vol. 2, app. G at G-27 to G-35.

³⁴ ER at 4-64 & att. E at E.1-31; DSEIS, vol. 2, app. G at G-31 to G-33.

³⁵ DSEIS, vol. 2, app. G at G-30.

³⁶ DSEIS, vol. 1 at 5-8; vol. 2, app. G at G-30. Specifically, in accordance with NEI 05-01 recommendations, the original SAMA analyses described in the ER included multiple cases, including a baseline case with uncertainty (using a 7-percent discount rate) and three sensitivity cases (use of a 3 percent discount rate, use of a longer plant life, and consideration of economic losses by tourism and business). The sensitivity cases in the ER did not identify additional potentially cost beneficial SAMAs beyond those already identified by the baseline with uncertainty case.

³⁷ NL-08-02, Letter from Fred Dacimo, Entergy to NRC, “Reply to Request for Additional Information Regarding License Renewal Application – Severe Accident Mitigation Alternatives Analysis” (Feb. 5, 2008) (“February 2008 RAI Response”), available at ADAMS Accession No. ML080420264; NL-08-086, Letter from Fred Dacimo, Entergy, to NRC, “Supplemental Reply to Request for Additional Information Regarding License Renewal Application – Severe Accident Mitigation Alternatives Analysis” (May 22, 2008) (“May 2008 RAI Response”), available at ADAMS Accession No. ML081490336.

response to Staff RAI 4e, Entergy provided an additional analysis case in which the impact of lost tourism and business was analyzed as the baseline analysis and multiplied to account for uncertainties.³⁸ This new baseline with uncertainty case resulted in the identification of two additional potentially cost-beneficial SAMAs for IP2 (9, 53) and one additional potentially cost-beneficial SAMA for IP3 (53).³⁹ Also, in its February 2008 response to Staff RAI 5g, Entergy corrected the benefit analysis for one of the IP3 SAMAs (30), finding it no longer potentially cost-beneficial.⁴⁰

In its May 2008 response to Round 2 RAI 5, Entergy provided the results of a sensitivity study in which it increased the conditional thermally-induced steam generator tube rupture (“TI-SGTR” probability to values comparable to those reported in NUREG-1570, *Risk Assessment of Severe Accident-Induced Steam Generator Tube Rupture* (March 1998).⁴¹ Entergy identified the candidate SAMAs potentially affected by the TI-SGTR assumption and reassessed the benefits for these SAMAs.⁴² No additional cost-beneficial SAMAs were identified.⁴³

The Staff inquired about estimated benefits for certain SAMAs and lower-cost alternatives in Round 2 RAI 6. In its May 2008 response, Entergy identified one additional potentially cost-beneficial SAMA that is applicable to SGTR events in both units. In particular, Entergy identified a dedicated “gagging device” (used to close a stuck open steam generator safety valve on an SGTR before core damage occurred) as potentially cost-beneficial.⁴⁴

In sum, Entergy identified a total of 16 potentially cost-beneficial SAMAs, including nine out of 68 Phase II SAMAs for IP2 (9, 28, 44, 53, 54, 56, 60, 61, and 65) and five out of 62 Phase II SAMAs for

³⁸ February 2008 RAI Response, att. 1 at 25-37; DSEIS, vol. 2, app. G at G-32 to G-33.

³⁹ DSEIS, vol. 2, app. G at G-33.

⁴⁰ February 2008 RAI Response, att. 1 at 44-47; DSEIS, vol. 2, app. G at G-33.

⁴¹ May 2008 RAI Response, att. 1, at 6-8; DSEIS, vol. 2, app. G at G-33 to G-34.

⁴² May 2008 RAI Response, att. 1, at 6-8; DSEIS, vol. 2, app. G at G-33 to G-34.

⁴³ May 2008 RAI Response, att. 1, at 7; DSEIS, vol. 2, app. G at G-33 to G-34.

⁴⁴ May 2008 RAI Response, att. 1, at 9-10; DSEIS, vol. 2, App. G at G-34 to G-35.

IP3 (52, 53, 55, 61, and 62), and an additional (unnumbered) SAMA for both IP2 and IP3 involving a dedicated gagging device for SGTR events. Although technically not related to adequately managing the effects of aging during the period of extended operation, Entergy submitted all 16 potentially cost-beneficial SAMAs for detailed engineering project cost-benefit analysis.⁴⁵ In its Revised SAMA Analysis, Entergy reiterated that it had submitted all of the potentially cost-beneficial SAMAs for engineering project cost-benefit analysis.⁴⁶

3. Entergy's December 2009 Revised SAMA Analysis

As part of its ongoing environmental review, the NRC Staff sought clarification regarding certain wind direction data used by Entergy as an input to the MACCS2 code.⁴⁷ In the course of reviewing the Staff's inquiry, Entergy determined that the 5-year averaged wind direction data used in the original SAMA Analysis were not representative of the region's wind direction conditions for the five-year period (2000-2004) originally considered by Entergy.⁴⁸ Accordingly, Entergy committed to correct the wind direction inputs and revise the SAMA analyses for both units.⁴⁹

⁴⁵ ER at 4-73.

⁴⁶ Revised SAMA Analysis, att. 1 at 32. Notably, NYS has not alleged that any of these potentially cost-beneficial SAMAs are related to, or necessary for, aging management.

⁴⁷ See Email from Kimberly Green, NRC, to Michael Stroud, Entergy, "Subject: Telecon Summaries for November 3rd and 9th" (Nov. 18, 2009) (telecon summaries attached), available at ADAMS Accession No. ML093220329.

⁴⁸ See NL-09-151, Letter from Fred Dacimo, Entergy, to NRC, "Telephone Conference Call Regarding Met Tower Data for SAMA Analysis" at 1 (Nov. 16, 2009) ("NL-09-151"), available at ADAMS Accession No. ML093340049. The MACCS2 model requires meteorological data for wind speed, wind direction, atmospheric stability, accumulated precipitation, and atmospheric mixing heights. Revised SAMA Analysis, att. 1 at 3. The MACCS2 meteorological file contains these weather data at hourly intervals for a full year (8760 hours of data). *Id.* at 4. The IPEC SAMA analysis described in Entergy's April 2007 ER used site-specific data obtained from the IPEC onsite meteorological monitoring system. *Id.* As permitted by NEI 05-01 (at 15), five years of meteorological data (2000-2004) originally were averaged and used in the original SAMA analyses. Revised SAMA Analysis, att. 1, at 3. Since the SAMA analyses began in the fall of 2005, these five years were the most recent data available at the time of the original analyses. *Id.*

⁴⁹ NL-09-151, at 1. Specifically, Entergy committed to provide the following: (1) the meteorological data and justification supporting its use in the SAMA analysis; (2) revised estimates of the offsite population dose and offsite economic costs; (3) identification of the meteorological tower elevation from which meteorological data were obtained and the rationale for selecting the data from that tower elevation; (4) revised SAMA analysis results, specifically for the analysis case discussed in response to RAI 4e, dated February 5, 2008; and (5) the complete MACCS2 input file used for the revised analysis (in electronic format). *Id.*

In its December 2009 Revised SAMA Analysis, Entergy addressed the Staff's inquiry by using a single, representative year of meteorological data.⁵⁰ It selected the year 2000 because, of the five years of data used in the original analysis, this year resulted in the most conservative (*i.e.*, largest) calculated population doses.⁵¹ The use of one year of meteorological data also is permitted by NEI 05-01.⁵²

Entergy performed the revised analysis only for the most conservative case; *i.e.*, the RAI 4e analysis case in which the impact of lost tourism and business was analyzed as the baseline analysis and multiplied to account for uncertainties.⁵³ The Revised SAMA Analysis uses the same non-meteorological data input data as the original RAI 4e analysis case. Thus, "the only difference between the original RAI 4e analysis and the reanalysis is the meteorological data."⁵⁴ Entergy also provided updated responses to Round 2 RAI 5 (TI-SGTR sensitivity analysis) and Round 2 RAI 6 (main steam safety valve gagging SAMA) to reflect its use of the year-2000 meteorological data.⁵⁵

The Revised SAMA Analysis applies the same methods described in the April 2007 ER to estimate the implementation cost of each candidate SAMA.⁵⁶ Except for a limited number of SAMAs, Entergy used the same implementation cost estimates reported in Tables E.2-2 and E.4-2 of the ER.⁵⁷ In some cases, Entergy presented more detailed cost estimates to meaningfully compare the cost of implementing a particular SAMA relative to its benefit.⁵⁸

As reported in Section 9 (Conclusion) of the Revised SAMA Analysis, Entergy identified three additional potentially cost-beneficial SAMAs for IP2 (SAMAs 21, 22, 62) and three additional potentially

⁵⁰ Revised SAMA Analysis, att. 1 at 1.

⁵¹ *Id.* at 1, 5.

⁵² NEI 05-01 at 15 (stating that an applicant may use a "full year" of consecutive hourly values).

⁵³ Revised SAMA Analysis, att. 1 at 3-4.

⁵⁴ *Id.* at 5.

⁵⁵ *Id.* at 29-31.

⁵⁶ *Id.* at 7-8.

⁵⁷ *Id.*

⁵⁸ *Id.* at 8-9.

cost-beneficial SAMAs for IP3 (SAMAs 7, 18, 19).⁵⁹ As with the other SAMAs, Entergy submitted these six SAMAs for further engineering project cost-benefit analysis despite there being no requirement that these new cost-beneficial SAMAs be implemented as part of license renewal pursuant to Part 54.⁶⁰ At IP2 and IP3, Entergy has internal engineering change request processes in place for requesting plant modifications, as part of current plant operations, and evaluating the technical, regulatory, and economic feasibility of such proposed modifications.

C. Overview of NYS’s Amended and New Contentions

On March 11, 2010, NYS submitted proposed contentions NYS-12B, NYS-16B, NYS-35, and NYS-36, which are summarized below.

1. Contentions NYS-12B and NYS-16B

In these amended contentions, NYS seeks to “reassert” admitted contentions NYS-12A and NYS-16A to apply them to the Revised SAMA Analysis.⁶¹ In NYS-12B, NYS repeats its allegation that Entergy’s SAMA analysis, which uses the MACCS2 code, does not accurately reflect “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.”⁶² Similarly, in NYS-16B, NYS repeats its allegation that, by relying on MACCS2, Entergy’s Revised SAMA Analysis does not “accurately predict the geographic dispersion of [released] radionuclides” and “will not present an accurate estimate of the costs of human exposure.”⁶³ NYS further contends that Entergy cannot meet its emergency planning obligations under 10

⁵⁹ *Id.* at 31-32. These are in addition to the total of 16 SAMAs that Entergy previously identified as potentially cost-beneficial for IP2 and IP3 in its April 2007 ER and February 2008 and May 2008 RAI Responses, as described above.

⁶⁰ *Id.* at 32.

⁶¹ Motion for Leave at 10.

⁶² New and Amended Contentions at 1.

⁶³ *Id.* at 7.

C.F.R. § 50.47(b)(9),⁶⁴ and that the Revised SAMA Analysis does not adequately account for tourists and daily commuters who are not included in New York City’s resident population.”⁶⁵

2. Contention NYS-35

In this new contention, NYS complains that, with respect to potentially cost-beneficial SAMAs identified in the Revised SAMA Analysis, Entergy “indefinitely postpones the engineering cost-benefit analyses required to determine whether a proposed mitigation measure is cost-effective and thus will be implemented.”⁶⁶ By NYS’s account, this has “deprived” the Staff and the Board of “the ability to evaluate, and render a rational decision regarding which mitigation measures, if any, are sufficiently cost-effective that their inclusion as a condition for an extended operating license period and a new operating license is warranted.”⁶⁷ NYS contends that Entergy and the Staff consequently have failed to comply with NRC regulations and guidance, ignored the “legal mandate” imposed by the Third Circuit’s *Limerick* decision,⁶⁸ and violated the Atomic Energy Act (“AEA”), NEPA and the Administrative Procedure Act (“APA”).⁶⁹ It further asserts that Entergy cannot justify these alleged violations by claiming that Part 54 excuses an applicant from implementing these SAMAs, because SAMA analysis “is focused on imposition of additional safety requirements.”⁷⁰

3. Contention NYS-36

Mirroring NYS-35, NYS-36 alleges that the Revised SAMA Analysis is deficient because it fails to include a commitment to implement the nine SAMAs identified by NYS.⁷¹ But whereas NYS-35 contends that Entergy should conduct further costs analyses, NYS-36 suggests such analyses would serve

⁶⁴ *Id.* at 10 n.4.

⁶⁵ *Id.* at 8 n.3.

⁶⁶ New and Amended Contentions at 25; *see also* Motion for Leave at 11.

⁶⁷ New and Amended Contentions at 15.

⁶⁸ *Limerick Ecology Action, Inc., v. NRC*, 869 F.2d 719 (3d Cir. 1989).

⁶⁹ New and Amended Contentions at 14-17 & 27-35.

⁷⁰ *Id.* at 16 n.6 & 31 n.13.

⁷¹ *Id.* at 50.

no purpose: “[T]he difference between estimated cost and calculated benefit [for the nine specified cost-beneficial SAMAs] is so great that refined cost estimates are unlikely to dramatically change the outcome.”⁷² NYS evidently seeks to draw a distinction between “only marginally cost-effective” SAMAs and “substantially cost-effective” SAMAs, suggesting that the latter must be implemented as license conditions.⁷³ NYS concludes that a SAMA requirement not resulting in the implementation of cost-effective SAMAs “would be rendered meaningless,”⁷⁴ and that any contrary conclusion lacks a legal basis.⁷⁵ NYS also avers that “Part 54 specifically requires full compliance with the requirements of 10 C.F.R. Part 51.”⁷⁶ Like NYS-35, this contention alleges that Entergy and the Staff have acted without a “rational basis” and in violation of NRC regulations and guidance, the AEA, NEPA, and the APA.⁷⁷

III. LEGAL STANDARDS

A. Legal Standards Governing Admission of New and Amended Contentions

An intervenor may file new environmental contentions “if there are data or conclusions in the NRC draft or final environmental impact statement, environmental assessment, or any supplements relating thereto, that differ significantly from the data or conclusions in the applicant’s documents.”⁷⁸ Absent such circumstances, an intervenor may file new contentions only with leave of the presiding officer upon a showing that the new or amended contention is based on information that was not previously available and is materially different than information previously available.⁷⁹ Furthermore, the

⁷² Motion for Leave at 12; *see also* New and Amended Contentions at 50 (stating that “these SAMAs are more likely to remain cost-effective even after further upward ratcheting of the cost estimate.”).

⁷³ New and Amended Contentions at 37.

⁷⁴ *Id.* at 39.

⁷⁵ *Id.* at 41.

⁷⁶ *Id.*

⁷⁷ *Id.* at 38-41 & 43-46; *see also* Motion for Leave at 12.

⁷⁸ 10 C.F.R. § 2.309(f)(2).

⁷⁹ *Id.* § 2.309(f)(2)(i)-(iii) (emphasis added).

Petitioner must act “promptly” to bring the new or amended contention.⁸⁰ A new contention “is not an occasion to raise additional arguments that could have been raised previously.”⁸¹

If an intervenor cannot satisfy the criteria of Section 2.309(f)(2), then a contention is considered “nontimely,” and the intervenor must successfully address the late-filing criteria in 10 C.F.R. § 2.309(c)(1)(i)-(viii).⁸² The first factor identified in that regulation, whether “good cause” exists for the failure to file on time, is entitled to the most weight.⁸³ Without good cause, a “petitioner’s demonstration on the other factors must be particularly strong.”⁸⁴

A proposed contention also “must satisfy, without exception, each of the criteria set out in 10 C.F.R. § 2.309(f)(1)(i) through (vi).”⁸⁵ Failure to meet each of the criteria is grounds for dismissal of a proposed new or amended contention.⁸⁶ Among other things, the petitioner must “[d]emonstrate that the issue raised in the contention is *material* to the findings the NRC must make to support the action that is involved in the proceeding,” and “provide sufficient information to show that a genuine dispute exists with the applicant/licensee on a *material* issue of law or fact.”⁸⁷ “A dispute is material if its resolution would make a difference in the outcome of the licensing proceeding.”⁸⁸

⁸⁰ *Entergy Nuclear Vt. Yankee, LLC* (Vt. Yankee Nuclear Power Station), LBP-06-14, 63 NRC 568, 573 & 579-80 (2006) (rejecting petitioner’s attempt to “stretch the timeliness clock” because its new contentions were based on information that was previously available and petitioners failed to identify precisely what information was “new” and “different”).

⁸¹ *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-28, 56 NRC 373, 385-86 (2002). This Board has emphasized that that it “will not entertain contentions based on environmental issues that could have been raised when the original contentions were filed.” Memorandum and Order (Summarizing Pre-Hearing Conference) at 3 (Feb. 4, 2009) (unpublished) (“Pre-Hearing Conference Order”).

⁸² See 10 C.F.R. § 2.309(c)(2) (“The requestor/petitioner shall address the factors in paragraphs (c)(1)(i) through (c)(1)(viii) of this section in its nontimely filing.”).

⁸³ See *New Jersey* (Dep’t of Law & Pub. Safety’s Requests Dated Oct. 8, 1993), CLI-93-25, 38 NRC 289, 296 (1993).

⁸⁴ *Tex. Utils. Elec. Co.* (Comanche Peak Steam Elec. Station, Units 1 & 2), CLI-92-12, 36 NRC 62, 73 (1992) (quoting *Duke Power Co.* (Perkins Nuclear Station, Units 1, 2, & 3), ALAB-431, 6 NRC 460, 462 (1977)).

⁸⁵ *S.C. Elec. & Gas Co.* (Virgil C. Summer Nuclear Station, Units 2 & 3), LBP-10-06, slip op. at 3 (Mar. 17, 2010).

⁸⁶ See Changes to Adjudicatory Process, 69 Fed. Reg. at 2221; see also *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999).

⁸⁷ 10 C.F.R. § 2.309(f)(1)(iv) & (vi) (emphasis added).

⁸⁸ *Virgil C. Summer*, LBP-10-06, slip op. at 4 (quoting *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, & 3), CLI-99-11, 49 NRC 328, 333-34 (1999)) (internal quotation marks omitted).

B. Controlling NEPA Principles and Case Law

1. The Supreme Court's Controlling *Methow Valley* Decision

As a NEPA-derived requirement, consideration of SAMAs, like other mitigation measures, is governed by the NEPA “rule of reason.”⁸⁹ An EIS, therefore, need contain only a “*reasonably thorough discussion* of the significant aspects of the probable environmental consequences” of a proposed action.⁹⁰ In *Methow Valley*, the U.S. Supreme Court considered the nature and extent of an agency’s obligations under NEPA with respect to the evaluation of mitigation measures.⁹¹ That case stemmed from the U.S. Forest Service’s decision to issue a special use permit authorizing the development of a major Alpine ski resort at Sandy Butte in the North Cascade Mountains. The Supreme Court agreed that an agency must “discuss the extent to which adverse effects can be avoided” through potential mitigation measures,⁹² but reversed the Ninth Circuit’s holding that the Forest Service had a legal duty to develop or require implementation of any mitigation measures discussed in its EIS.⁹³

In so ruling, the Court first noted that the environmental effects at issue could only be mitigated by state and local agencies.⁹⁴ Then, citing its own precedent, the Court stated that “it is now well settled that NEPA itself does not mandate particular results, but simply prescribes the necessary process.”⁹⁵

Applying this principle, the Court concluded that:

There is a fundamental distinction . . . between a requirement that mitigation be *discussed in sufficient detail* to ensure that environmental consequences have been fairly evaluated, on the one hand, and a substantive requirement that a complete mitigation plan be actually formulated and adopted, on the other. . . . Even more significantly, it would be inconsistent with NEPA’s

⁸⁹ *Catawba/McGuire*, CLI-03-17, 58 NRC at 431 (stating that “the SAMA issue is one of mitigation” under NEPA); *Natural Res. Def. Council v. Morton*, 458 F.2d 827, 834 (D.C. Cir. 1972).

⁹⁰ *Cent. for Biological Diversity v. U.S. Forest Serv.*, 349 F.3d 1157, 1166 (9th Cir. 2003) (emphasis added).

⁹¹ *Methow Valley*, 490 U.S. at 352.

⁹² *Id.* at 351-52.

⁹³ *Id.* at 352-53.

⁹⁴ *Id.*

⁹⁵ *Id.* at 350 (citing *Stryker’s Bay Neighborhood Council, Inc. v. Karlen*, 444 U.S. 223, 227-228 (1980) (per curiam); *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc.*, 435 U.S. 519, 558 (1978)).

reliance on procedural mechanisms—as opposed to substantive, result-based standards—to demand the presence of a fully developed plan that will mitigate environmental harm before an agency can act.⁹⁶

In short, “NEPA imposes no substantive requirement that mitigation measures actually be taken.”⁹⁷

2. The Commission’s Application of *Methow Valley* in NRC License Renewal Proceedings

The Commission has adhered closely to the holding of *Methow Valley* in its adjudicatory proceedings, as particularly evidenced by the *Catawba/McGuire* proceeding. In that case, the Board admitted a contention, filed by the Blue Ridge Environmental Defense League (“BREDL”), challenging the SAMA analyses submitted by Duke Energy Corporation (“Duke”) for the Catawba and McGuire plants. As admitted, the contention alleged that Duke’s SAMA analysis was deficient because it did not include information from a then-recent Sandia study, NUREG/CR-6427, particularly its assessment of the early containment failure probability during station blackout accidents.⁹⁸

On appeal, the Commission affirmed in part the Board’s admission of the contention, agreeing that “a sufficient genuine dispute existed on whether the SAMAs should have applied the containment failure probability from the Sandia study, which would have resulted in larger ‘benefits’ associated with the individual SAMAs.”⁹⁹ The Commission rejected the applicant’s argument that a SAMA contention is *per se* inadmissible because, “regardless of how the cost-benefit calculations come out, . . . NEPA imposes no substantive requirement that mitigation measures actually be taken.”¹⁰⁰ The Commission noted that “the adequacy and accuracy of environmental analyses and proper disclosure of information are

⁹⁶ *Id.* at 352-53 (citing *Baltimore Gas & Electric Co.*, 462 U.S. 87, 100 (1983) (“NEPA does not require agencies to adopt any particular internal decisionmaking structure”) (emphasis added); *see also Laguna Greenbelt, Inc. v. U.S. Dep’t of Transp.*, 42 F.3d 517, 528 (9th Cir. 1994) (“NEPA does not require a fully developed plan that will mitigate all environmental harm before an agency can act; NEPA requires only that mitigation be discussed in sufficient detail to ensure that environmental consequences have been fully evaluated.”) (citations omitted).

⁹⁷ *Methow Valley*, 490 U.S. at 353 n.16.

⁹⁸ *Catawba/McGuire*, CLI-02-17, 56 NRC at 5 (citing *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2) LBP-02-4, 55 NRC 49, 126-27 (2002)).

⁹⁹ *Id.* at 9-10.

¹⁰⁰ *Id.* at 10.

always at the heart of NEPA claims,” and that “[i]f further analysis is called for, that in itself is a valid and meaningful remedy under NEPA.”¹⁰¹

Thereafter, the Commission noted that the contention appeared to be moot because the Staff’s draft EISs discussed the Sandia study’s findings, thereby curing the alleged omission.¹⁰² The Commission stated that “it is unclear what additional result or remedy would prove meaningful to the intervenors,”¹⁰³ and that “the ultimate agency decision on whether to require facilities with ice condenser containments to implement any particular SAMA will fall under a Part 50 current licensing basis review.”¹⁰⁴

In the interim, BREDL had filed an amended contention with leave of the Board. The Board rejected that contention as inadmissible.¹⁰⁵ Importantly, in affirming the Board’s denial of the amended contention, the Commission—quoting *Methow Valley*—stated as follows:

While the cost-benefit discussion in the EISs may not be as detailed or unequivocal as BREDL would like, the Supreme Court has made clear that the underlying statute, NEPA, demands no “fully developed plan” or “detailed explanation of specific measures which will be employed” to mitigate adverse environmental effects.

Under NEPA, mitigation (and the SAMA issue is one of mitigation) need only be discussed in “sufficient detail to ensure that environmental consequences [of the proposed project] have been fairly evaluated.” Here, in a generic EIS the NRC has conducted a thorough NEPA evaluation of the probability and consequences of severe reactor plant accidents, and in plant-specific EISs the NRC staff has discussed at length possible mitigation measures. The mitigation analysis outlines relevant factors, discloses opposing viewpoints, and indicates particular assumptions under which the staff ultimately concludes that “providing backup power to hydrogen igniters is cost-beneficial.” The staff presented its analysis and conclusion based upon the “available technical information.” NEPA requires no more.¹⁰⁶

¹⁰¹ *Id.* (internal quotation marks omitted) (emphasis added).

¹⁰² See *Catawba/McGuire*, CLI-02-28, 56 NRC at 387-88.

¹⁰³ *Id.* at 388.

¹⁰⁴ *Id.* n.77 (emphasis added).

¹⁰⁵ See *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), LBP-03-17, 58 NRC 221 (2003).

¹⁰⁶ *Catawba/McGuire*, CLI-03-17, 58 NRC at 431 (quoting *Methow Valley*, 490 U.S. at 353).

As the foregoing makes clear, NEPA and Part 51 do not mandate that any particular SAMA be adopted or made legally enforceable as part of license renewal or a plant's CLB.¹⁰⁷ "The ultimate concern here is whether any *additional* SAMA should have been identified as potentially cost-beneficial, not whether further analysis may refine the details in the SAMA NEPA analysis."¹⁰⁸ The Commission recently affirmed these principles in CLI-10-11.¹⁰⁹

IV. ENERGY'S RESPONSES TO NYS'S AMENDED AND NEW CONTENTIONS

A. Energy Does Not Oppose the Admission of NYS-12B

Although Entergy believes that NYS-12B lacks merit, it does not oppose the admission of NYS-12B based on NYS's representations that (a) it is only reasserting the claims already admitted by the Board in NYS-12/NYS-12A, and (b) NYS-12B relies on the same "supporting evidence" as those contentions.

B. Energy Opposes the Admission of NYS-16B To the Extent It Raises Issues That Are Outside the Scope of Admitted Contention NYS-16A or Are Not Timely

NYS-16 likewise lacks merit, but Entergy does not oppose its admission to the limited extent that it reasserts claims already admitted by the Board in NYS-16/NYS-16A and relies on the same supporting evidence as NYS-16/NYS-16A. That said, Entergy opposes the admission of NYS-16B with respect to two issues.

¹⁰⁷ As this Board aptly noted:

SAMAs are *procedural analyses* promulgated consistent with NRC Regulations to implement NEPA. These analyses are performed to assure that the NRC Staff has considered the cost-effectiveness of mitigating severe accidents in its FEIS. *As an analysis process, in and by itself, SAMAs do not change a CLB.*

Indian Pt., LBP-08-13, 68 NRC at 105 (emphasis added).

¹⁰⁸ *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-09-11, 69 NRC 529, 533 (2009) (emphasis added).

¹⁰⁹ See *Pilgrim*, CLI-10-11, slip op. at 7 n.26 (stating that none of the SAMAs identified as potentially cost-effective "need be implemented as part of the license renewal safety review, pursuant to 10 C.F.R. Part 54"); *id.* at 38 (quoting *Catawba/McGuire*, CLI-03-17, and *Methow Valley*, and stating that NEPA does not require "'a detailed examination of specific measures which will be employed' to mitigate adverse environmental effects"); *id.* at 39 (stating that "no purpose would be served to further refine the SAMA analysis" where including additional factors or using other assumptions would not "change the cost-benefit conclusions for the SAMA candidates evaluated").

First, in footnote 4 of its filing, NYS again asserts that Entergy cannot meet its emergency planning obligations under 10 C.F.R. § 50.47(b)(9), and that the Staff cannot meet its “concurrent obligations under NEPA.”¹¹⁰ This issue is outside the scope of NYS-16A as admitted by the Board, which excluded the issue of emergency planning.¹¹¹ The Board’s prior admission of SAMA contention NYS-16/16A does not make it litigable here.¹¹²

Second, in footnote 3 of its New and Amended Contentions, NYS challenges, for the first time, Entergy’s assumptions concerning New York City tourists and daily commuters.¹¹³ NYS does not explain why it failed to raise this issue based on Entergy’s original SAMA Analysis or, at the latest, on Entergy’s February 2008 RAI responses. NYS acknowledges that Entergy provided additional information about its assumptions concerning lost tourism and business in its February 5, 2008 response to RAI 4c.¹¹⁴ In addition, in response to RAI 4e, Entergy provided an uncertainty analysis in which the impact of lost tourism and business was analyzed as the baseline analysis and multiplied to account for uncertainties.¹¹⁵ The Revised SAMA Analysis incorporates the same assumptions reflected in these February 2008 RAI responses.¹¹⁶ NYS provides no valid or compelling justification for having delayed raising this challenge for more than two years, and accordingly that challenge is impermissibly late.¹¹⁷

¹¹⁰ New and Amended Contentions at 10 n.4. Entergy addressed the inadmissibility of emergency planning issues under 10 C.F.R. § 2.309(f)(1) in its March 24, 2009 answer to contention NYS-16A. *See* Answer of Entergy Nuclear Operations, Inc. Opposing New and Amended Environmental Contentions of New York State at 14-15 (Mar. 24, 2009) (“Entergy March 24, 2009 Answer”). Entergy incorporates its response to NYS-16A by reference here.

¹¹¹ Licensing Board Memorandum Order (Ruling on New York State’s New and Amended Contentions) (June 16, 2009) at 6 (unpublished) (“June 2009 Order”) (stating 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”). Notably, in also rejecting proposed contention NYS-29 as outside the scope of the proceeding in July 2008, this Board stated that “the NRC Regulation dealing with emergency plans, 10 C.F.R. § 50.47(a)(1)(i), provides that no finding relating to emergency planning is necessary for issuance of a renewed nuclear power reactor operating license.” *Indian Point*, LBP-08-13, 68 NRC at 149.

¹¹² *See Pilgrim*, CLI-10-11, slip op. at 20 (stating that “the issue of emergency planning” is “beyond the scope of SAMA analysis”).

¹¹³ New and Amended Contentions at 8 n.3.

¹¹⁴ *Id.*; *see also* Chanin Statement ¶ 12 (*citing* Entergy’s February 2008 RAI Response).

¹¹⁵ February 2008 RAI Response at 25-37.

¹¹⁶ Revised SAMA Analysis at 3-5 & 7.

¹¹⁷ *See* 10 C.F.R. § 2.309(f)(2).

C. **Entergy Opposes the Admission of NYS-35 and NYS-36 Because They Are Not Timely and Do Not Raise A Genuine Dispute on a Material Issue of Law or Fact**

As noted above, contentions NYS-35 and NYS-36 are nearly identical. Both contentions rest on the same faulty premise; *i.e.*, that Entergy is required to implement SAMAs identified as potentially cost-beneficial via a formal commitment or license condition. Given their similarities, Entergy provides a consolidated response to both new contentions. As shown below, NYS's arguments are not timely, lack adequate factual and legal support, and fail to establish a genuine dispute with Entergy or the NRC Staff on a material issue of law or fact.

1. **Both NYS-35 and NYS-36 Are Impermissibly Late Because They Raise Issues That Could Have Been Raised Much Earlier in This Proceeding**

Having waited over two years to raise arguments available since the beginning of this proceeding, both NYS-35 and NYS-36 are untimely. NYS argues that “[t]here is no legal basis for not providing the ‘engineering project cost-benefit analysis’ as part of the SAMA, nor is there any legal basis for not implementing cost-effective mitigation alternatives.”¹¹⁸ If NYS had concerns about the alleged need for further cost analyses or Entergy’s purported legal obligation to implement potentially cost-beneficial SAMAs as part of license renewal, then it could have and should have raised these issues in its original contentions.¹¹⁹ Setting aside their lack of merit, NYS’s allegations are inexcusably late.

Entergy’s April 2007 ER contains discussion that is both germane to these issues and sufficiently detailed to have elicited the very objections NYS now raises *over two years later*. For example, after identifying potentially cost-beneficial SAMAs, Section 4.21.6 of the April 2007 ER states:

The above SAMA candidates for IP2 and IP3 do not relate to adequately managing the effects of aging during the license renewal period. In addition, *since the SAMA analysis is conservative and is not a complete engineering project cost-benefit analysis*, it does not estimate all the benefits or all of the costs of a SAMA. For instance, it does not consider increases or decreases in maintenance or operation costs following SAMA implementation. Also, it does not consider the possible adverse

¹¹⁸ New and Amended Contentions at 23.

¹¹⁹ See *Catawba/McGuire*, CLI-03-17, 58 NRC at 427.

consequences of the changes. *Although not related to adequately managing the effects of aging during the period of extended operation, the above, potentially cost-beneficial SAMAs have been submitted for detailed engineering project cost-benefit analysis.*¹²⁰

In addition, as noted above, in responding to Round 2 RAI 4e in May 2008, Entergy identified two additional SAMAs (9 and 53) for IP2 and one additional SAMA (53) for IP3 as potentially cost-beneficial. Entergy similarly indicated that these three SAMA also “have been submitted for engineering project cost-benefit analysis for more detailed examination of viability and implementation cost.”¹²¹

Given those statements, NYS has no excuse for waiting until now to raise issues it should have raised at the outset of this proceeding.¹²² At the very latest, NYS should have raised its concerns relative to the need for, and timing of, further cost analyses and implementation of potentially cost-beneficial SAMAs when the Staff issued its December 2008 DSEIS, which explicitly sets forth Entergy’s and the Staff’s positions on these issues.¹²³ Thus, NYS-35 and NYS-36 do not meet the timeliness criteria of 10 C.F.R. § 2.309(f)(2).

NYS attempts to resuscitate its untimely arguments by depicting the Revised SAMA Analysis as an “entirely new analysis.”¹²⁴ That characterization does not square with the facts. The Revised SAMA Analysis uses the same non-meteorological input data as the original RAI 4e analysis case.¹²⁵ Although using the alternate (year 2000) meteorological data resulted in identification of some additional cost-

¹²⁰ ER at 4-73 (emphasis added).

¹²¹ May 2008 RAI Response, att. 1, at 10.

¹²² See *Catawba/McGuire*, CLI-03-17, 58 NRC at 429 (“Petitioners have an obligation to examine the application and publicly available information, and to set forth their claims at the earliest possible moment.”).

¹²³ See DSEIS, vol. 1, at 5-10 (stating that the SAMAs identified by Entergy as potentially cost-beneficial “need not be implemented as part of license renewal pursuant to 10 CFR Part 54”); see also *id.*, vol. 2, app. G at G-36.

¹²⁴ Motion for Leave at 1.

¹²⁵ As such, NYS is incorrect in stating that in its Revised SAMA Analysis, Entergy, for the first time, “further incorporated in to the ‘base case’ analysis additional factors related to lost tourism and business as the result of a severe accident” and “ran new sensitivity analyses incorporating a new severe accident scenario.” Motion for Leave at 2. As detailed in Section II.B.2, *supra*, Entergy took these specific actions as part of its February 2008 and May 2008 RAI responses. NYS did not cite these additional actions in a new or amended contention until now—approximately two years later.

beneficial SAMAs, Entergy did not alter the probabilistic or cost-benefit analysis techniques used to obtain the results documented in its 2007 ER and 2008 RAI responses.

NYS also incorrectly states that the Revised SAMA Analysis identified nine new mitigation measures “not previously identified as cost-effective.”¹²⁶ In fact, Entergy identified a total of six new potentially cost-beneficial SAMAs.¹²⁷ Regardless, the identification of additional SAMAs does not revive the long-standing, purely legal issue underlying NYS-35 and NYS-36: whether the NRC can and must compel implementation of a potentially cost-beneficial SAMA pursuant to NEPA and Part 51.¹²⁸

NYS also misses the mark by suggesting that good cause for its belated contentions flows from its allegation that for some SAMAs, “the dollar difference between baseline benefit and estimated cost has widened considerably,” such that certain SAMAs that were “marginally cost-effective” are now “substantially cost-effective.”¹²⁹ NYS asserts that, as a result, only now could it posit its core argument that “a cost-effective SAMA must, absent a rational basis for exclusion, be included as a condition for an extended operating license.”¹³⁰ But that is no answer to the fact that NYS could have raised this purely legal issue based on the April 2007 ER or December 2008 DSEIS. For example, by its own logic, NYS should have raised this argument with respect to the SAMA involving use of a dedicated gagging device for SGTR events. As discussed in the May 2008 RAI response and the Staff’s DSEIS, Entergy originally estimated the benefits of this SAMA to be about \$3 million (IP2) and \$4.5 million (IP3) against an implementing cost of approximately \$50,000 per unit.¹³¹ Conspicuously, NYS never argued—then or

¹²⁶ Motion for Leave at 8-9.

¹²⁷ The six new potentially cost-beneficial SAMAs include three for IP2 (21, 22, and 62) and three for IP3 (7, 18, and 19). The other three SAMAs cited by NYS as newly “cost-effective”—IP2 9, IP2 53, and IP3 53—were previously identified as potentially cost-beneficial in Entergy’s February 2008 response to RAI 4e (and in the NRC’s DSEIS). *See* February 2008 RAI Response at 37; DSEIS, vol. 1 at 5-9.

¹²⁸ NYS concedes the purely legal nature of its claims. *See* Motion for Leave at 14 (“Contentions 35 and 36 are essentially based on legal deficiencies in the December 2009 Revised SAMA Analysis.”).

¹²⁹ *Id.* at 9, 11 & 14.

¹³⁰ *Id.* at 13.

¹³¹ May 2008 RAI Response, att. 1 at 9-10; DSEIS, vol. 2 at G-35.

now—that this SAMA is so “substantially” cost-beneficial that it must be included as a condition for an extended operating license. This omission serves to underscore that the “ratio between estimated cost and baseline benefit” for certain SAMAs is irrelevant to NYS’s ability to raise this argument. Having failed to raise this issue at a more seasonable opportunity, NYS has not made a compelling showing pursuant to Section 2.309(c)(1) that litigation of this issue is warranted.¹³²

2. NYS-35 and NYS-36 Are Inadmissible Because They Fail to Raise a Genuine Dispute on a Material Issue of Law or Fact and Lack Adequate Support

NYS-35 and NYS-36 also must be rejected because they lack adequate support in law or fact and fail to raise a genuine dispute on a material legal or factual issue, contrary to 10 C.F.R. § 2.309(f)(1)(iv), (v), and (vi). “[I]t is the burden of the petitioner to come forward with contentions meeting the pleading rules.”¹³³ Here, NYS completely ignores 10 C.F.R. § 2.309(f)(1) and makes no affirmative showing that it meets each of the six contention admissibility requirements.¹³⁴ Nor could NYS make such a showing, as discussed below.

a. NEPA Is a Procedural Statute That Does Not Mandate Implementation of Potentially Cost-Beneficial SAMAs as a Condition of License Renewal

Contrary to NYS’s claim, NEPA does *not* “bind the applicant to implement sufficiently cost-effective measures” identified in its SAMA analysis.¹³⁵ The Supreme Court squarely rejected the twin notions that (1) NEPA “requires that action be taken to mitigate the adverse effects of major federal actions,” and (2) an EIS must include “a detailed explanation of specific measures which *will* be

¹³² See *Catawba/McGuire*, CLI-03-17, 58 NRC at 428-29 (“But there would be no end to NRC licensing proceedings if petitioners could disregard our timeliness requirements every time they realize[d] . . . that maybe there was something after all to a challenge it either originally opted not to make or which simply did not occur to it at the outset.”) (internal quotation marks and citations omitted).

¹³³ *Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), LBP-01-35, 54 NRC 403, 422 (2001) (citing *Balt. Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 & 2), CLI-98-14, 48 NRC 39, 41 (1998)).

¹³⁴ See 10 C.F.R. § 2.309(f)(1)(i)-(vi); *U.S. Army* (Jefferson Proving Ground Site), LBP-06-27, 64 NRC 438, 447 (2006) (“A contention that fails to comply with each of these requirements must be rejected.”) (citations omitted).

¹³⁵ New and Amended Contentions at 27.

employed to mitigate the adverse impacts.”¹³⁶ There simply is no basis to suggest that Entergy’s and the NRC Staff’s adherence to these controlling legal principles, applied in every NRC license renewal proceeding to date, is anything but “rational.”¹³⁷

NYS misunderstands the distinct regulatory purposes behind Part 51 and Part 54. In particular, NYS mistakenly asserts that Part 54 specifically requires full compliance with the requirements of 10 C.F.R. Part 51, and that “[n]othing in Part 54 justifies the failure to complete the engineering cost analyses.”¹³⁸ It also contends that SAMA analysis “is focused on *imposition* of additional *safety* requirements.”¹³⁹ That reading, however, is fundamentally mistaken.

The Commission has stated clearly: “There is no requirement in 10 CFR Part 54 for analysis of SAMAs.”¹⁴⁰ The Commission has explained the AEA (Part 54)-NEPA (Part 51) dichotomy as follows:

The AEA and NEPA contemplate *separate* NRC reviews of proposed licensing actions. See *Limerick Ecology Action v. NRC*, 869 F.2d 719, 729-31 (3d Cir. 1989). The AEA “endows the NRC with significant discretion to determine the information that is necessary to support the factual findings of the agency during the licensing process.” *Kelley v. Selin*, 42 F.3d 1501, 1516 (6th Cir.), *cert. denied*, 515 U.S. 1159 (1995). The Commission reasonably chose to focus its AEA-based Part 54 safety review on the potential

¹³⁶ *Methow Valley*, 490 U.S. at 353 (internal quotation marks omitted).

¹³⁷ While NYS fails to cite *Methow Valley*, the relevant and controlling case here, it cites several other Supreme Court cases concerning judicial review of agency actions under the APA’s “arbitrary and capricious” standard. New and Amended Contentions at 14-15, 40. However, those cases—none of which involved NEPA—lend no support to NYS’s new contentions. The portions of those cases cited by NYS stand for the proposition that federal administrative agencies must make rational decisions and disclose the bases for their decisions, as supported by the underlying factual record. See *Burlington Truck Lines v. United States*, 371 U.S. 156, 168 (1962) (stating that an agency must articulate a “rational connection between the facts found and the choice made”); *Bowman Transp., Inc. v. Arkansas-Best Freight Sys., Inc.*, 419 U.S. 281, 285-286 (1974) (stating that a court will uphold a decision “if the agency’s path may reasonably be discerned”); *Motor Vehicle Mfrs. Ass’n of the U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 57 (1983) (holding that the NHTSA arbitrarily revoked a “passive restraint” motor vehicle safety standard because it ignored the possibility of modifying the standard to require use of airbag technology and dismissed the safety benefits of automatic seatbelts). Plainly, the NRC’s conclusion that implementation of SAMAs is not required by NEPA has a rational basis in law.

¹³⁸ New and Amended Contentions at 16, 31 & 41. Specifically, NYS cites 10 C.F.R. 54.29(b), which states only that, before the NRC issues a renewed operating license, it must find that “[a]ny applicable requirements of Subpart A of 10 CFR Part 51 have been satisfied.” See also 10 C.F.R. § 54.23 (“Each application must include a supplement to the environmental report that complies with the requirements of Subpart A of 10 CFR Part 51.”). These regulations simply indicate that, to be considered complete and ultimately granted, a license renewal application must contain an adequate environmental report, as judged against the applicable requirements of 10 C.F.R. Part 51.

¹³⁹ New and Amended Contentions at 16 n.6 & 31 n.13 (emphasis added).

¹⁴⁰ See Nuclear Energy Institute; Denial of Petition for Rulemaking, 66 Fed. Reg. 10,834, 10,834 (Feb. 20, 2001) (“NEI Rulemaking Petition Denial”).

detrimental effects of aging, instead of treating license renewal as the occasion for a broad-based reassessment of all operational safety issues. While the aging issues the NRC considers in its Part 54 safety review may overlap some environmental issues it considers in its Part 51 review, *the two inquiries are analytically separate*: one (Part 54) examines radiological health and safety, while the other (Part 51) examines environmental effects of all kinds.¹⁴¹

Part 54 simply does not command the result that NYS seeks here; *i.e.*, NRC-mandated implementation of potentially cost-beneficial SAMAs by Entergy as part of license renewal.

NYS's reliance on the Third Circuit's 1989 *Limerick* decision is also misplaced. In *Limerick*, the court held that the NRC could not generically dispense with the consideration of SAMAs, under NEPA, through a policy statement issued pursuant to its AEA authority.¹⁴² That holding has no bearing on the issues here. Neither Entergy nor the NRC has disregarded the "legal mandate" imposed by *Limerick* or suggested that the "AEA precludes NEPA."¹⁴³ Moreover, *Limerick* does not alter NEPA's command, which compels reasonable evaluation and disclosure—but not implementation—of possible mitigation measures, including SAMAs.

As the Commission noted in the *Turkey Point* license renewal proceeding: "The Commission's AEA review under Part 54 does not compromise or limit NEPA."¹⁴⁴ As the Commission made clear in denying an NEI petition for rulemaking in 2001, this includes SAMA analysis under NEPA and Part 51:

The NRC believes that it should continue to consider SAMAs for individual license renewal applications to continue to meet its responsibilities under NEPA. That statute requires NRC to analyze the environmental impacts of its actions and consider those impacts in its decisionmaking. In doing so, Section 102(2)(C) of NEPA implicitly requires agencies to consider measures to mitigate those impacts when preparing impact statements. *See Robertson v. Methow Valley Citizens Council*, 490 U.S. 332 (1989). NRC's obligation to consider mitigation exists whether or not mitigation is

¹⁴¹ *Fla. Power & Light Co. (Turkey Pt. Nuclear Power Plant, Units 3 & 4)*, CLI-01-17, 54 NRC 3, 13 (2001) (emphasis added).

¹⁴² *Limerick Ecology Action v. NRC*, 869 F.2d 719, 736-39 (3rd Cir. 1989).

¹⁴³ New and Amended Contentions at 32, 35, 41 (quoting *Limerick*, 869 F.2d at 729).

¹⁴⁴ *Turkey Point*, CLI-01-17, 54 NRC at 13 ("Our aging-based safety review does not in any sense 'restrict NEPA' or 'drastically narrow[] the scope of NEPA'").

ultimately found to be cost-beneficial *and whether or not mitigation ultimately will be implemented by the licensee.* *Id.*¹⁴⁵

Entergy has properly conducted a reasonable evaluation and disclosure of possible mitigation measures, and neither NEPA nor *Limerick* requires that Entergy do more.

Nor does NEPA confer authority on the NRC to “compel” an applicant to commit to implement those SAMA mitigation measures that are potentially cost-beneficial. The Commission has noted that the decision “to implement any particular SAMA will fall under a Part 50 current licensing basis review.”¹⁴⁶ Insofar as NYS-35 and NYS-36 seek to compel implementation of specific SAMAs, they raise issues and seek relief that are not cognizable here, contrary to 10 C.F.R. § 2.309(f)(1)(iv) and (vi).

b. *Entergy Has Provided a Sufficiently “Thorough” and “Complete” Cost-Benefit Analysis*

NYS misunderstands and incorrectly describes the process used by Entergy in its Revised SAMA Analysis (which is consistent with NEI 05-01) to develop conceptual-level estimates of the costs of implementing Phase II SAMAs. Entergy has not “indefinitely postpone[d]” further analyses or “frustrated” the NRC’s Standard Review Plan for license renewal.¹⁴⁷ As discussed above, Entergy has followed applicable NRC and NEI guidance in preparing its Revised SAMA Analysis.

¹⁴⁵ NEI Rulemaking Petition Denial, 66 Fed. Reg. at 10,836 (emphasis added). In denying NEI’s petition for rulemaking to abolish the SAMA analysis requirement, the Commission discussed *Limerick* at length. *See id.* at 10,838-39. Furthermore, in its June 1996 revisions to Part 51, the NRC attributed its decision to require plant-specific SAMA analyses, in part, to the Third Circuit’s *Limerick* decision. *See* Final Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. at 28,480-81. It is evident that the Commission has not viewed SAMA analysis under Part 51 as a “meaningless” or “mere academic exercise” or otherwise disregarded the holding of *Limerick*, as NYS wrongly suggests. New and Amended Contentions at 27 & 41.

¹⁴⁶ *Catawba/McGuire*, CLI-02-28, 56 NRC at 388 n.77. NRC license renewal guidance is consistent with this conclusion. NUREG-1850, Frequently Asked Questions on License Renewal of Nuclear Power Reactors (Mar. 2006), states that plant enhancements that appear to be cost-beneficial “are considered as current operating issues and are further evaluated as changes that might appropriately be made under the current operating license rather than as a license renewal issue.” NUREG-1850 at 4-34. Insofar as NYS also cites the “backfitting” provisions of 10 C.F.R. § 50.109, such provisions clearly relate to a plant’s CLB—not to aging management under Part 54—and are outside the scope of this proceeding. *See Indian Point*, LBP-08-13, 68 NRC at 70 & 81 (stating that “CLB issues” and “current operation issues” “are outside the scope of this proceeding.”). In the same vein, NYS’s repeated suggestions that the Indian Point site is not an acceptable site for a nuclear power reactor (*see* New and Amended Contentions at 17-20, 42-44) is beyond the scope of this license renewal proceeding. *See* 10 C.F.R. § 2.309(f)(1)(iii). Moreover, from a NEPA perspective, “the GEIS provides a severe accident impacts analysis that envelopes the potential impacts at *all* existing plants.” *Pilgrim*, CLI-10-11, slip op. at 38.

¹⁴⁷ New and Amended Contentions at 17, 25.

In performing its Revised SAMA Analysis, Entergy applied the same process described in its ER to develop conceptual estimates of the cost of implementing each Phase II SAMA candidate.¹⁴⁸ ER Section 4.21.5.4 and Attachment E to the ER (Sections E.2.3 and E.4.3), in particular, describe this process.¹⁴⁹ To a large extent, Entergy used existing estimates for similar modifications contained in prior NRC-approved SAMA analyses, combined with engineering judgment.¹⁵⁰ To add conservatism, Entergy excluded from these cost estimates the cost of replacement power (during extended outages required to implement certain plant modifications) and adjustments for inflation.¹⁵¹

As the ER further explains, because this portion of the SAMA analysis focused on establishing the economic viability of potential plant enhancements when compared to attainable benefit, detailed cost estimates often were not required to make informed decisions regarding the economic viability of a particular modification.¹⁵² Specifically, for some Phase II SAMA candidates, the implementation costs clearly exceeded the attainable benefit estimated from a particular analysis case, rendering those SAMAs not potentially cost-beneficial and eliminating the need for further estimates.¹⁵³ For less clear cases, Entergy reasonably applied engineering judgment to determine if more detailed cost estimates were necessary to assess adequately the economic viability of the SAMAs.¹⁵⁴ In some cases, Entergy performed successively more detailed cost estimates to determine if the SAMA was, in fact, potentially

¹⁴⁸ Revised SAMA Analysis, att. 1 at 7-8.

¹⁴⁹ ER. at 4-70 to 4-71, att. E.2, at E.2-2 to E.2-4, & att. E.4, at E.4-2 to E.4-4. *See also* ER tbls. E.2-2 & E.4-2 (presenting the cost-benefit comparison and disposition of each of the Phase II SAMA candidates for IP2 and IP3).

¹⁵⁰ *Id.*, att. E at E.2-2 to E.2-3 (stating that Entergy consulted prior estimates from SAMA analyses conducted for Arkansas Nuclear One Unit 2, Calvert Cliffs, Donald C. Cook, Fort Calhoun Unit 1, Joseph M. Farley, and McGuire).

¹⁵¹ *Id.*, att. E.2, at E.2-3 & att. E.4, at E.4-3.

¹⁵² *Id.*

¹⁵³ *Id.*

¹⁵⁴ *Id.*

cost-beneficial.¹⁵⁵ This progressive approach to estimating SAMA implementation costs is consistent with NEI 05-01 guidelines and prior NRC-approved SAMA analyses.¹⁵⁶

As the Revised SAMA Analysis explains, Entergy followed this same cost estimating process in its December 2009 analysis of Phase II SAMA candidates. For the majority of SAMAs, Entergy used the same implementation cost estimates reported in Tables E.2-2 and E.4-2 of the April 2007 ER.¹⁵⁷ In some cases, however, it was necessary to perform more detailed, plant-specific cost estimates to confirm whether certain SAMAs were, in fact, potentially cost-beneficial.¹⁵⁸ Tables 4 through 7 of the Revised SAMA Analysis document the results of Entergy's updated cost-benefit analyses.¹⁵⁹

Significantly, NYS-35 and NYS-36 fail to controvert any particular SAMA implementation cost estimate contained in the Revised SAMA Analysis. For example, NYS does not allege that Entergy has substantially overestimated the implementation cost of any SAMA, thereby arbitrarily precluding its identification as cost-beneficial. Nor does NYS explain how, in following the guidance contained in NEI 05-01, Entergy failed to provide implementation cost estimates sufficient to identify possible mitigation measures in accordance with NEPA and Part 51. Curiously, NYS confesses in NYS-36 that “clearly cost-effective” SAMAs are not likely to “to be dismissed even as the result of more engineering analysis.”¹⁶⁰

¹⁵⁵ *Id.*

¹⁵⁶ *See* NEI 05-01, at 28.

¹⁵⁷ Revised SAMA Analysis, att. 1 at 7.

¹⁵⁸ *Id.* at 7-8. As the Revised SAMA Analysis explains, the development of these progressively more comprehensive implementation cost estimates takes into account typical expenses associated with project cost estimating, such as calculations, drawing updates, specification updates, bid evaluations, contract issuance, design package preparation, walkdowns, planning and scheduling, estimating, procurement, configuration management, as-low-as-reasonably-achievable (ALARA), quality control and quality assurance, training, simulator changes, information technology, design basis update, construction, multi-discipline and independent review of design concepts and calculations, 50.59 review, final safety analysis report (FSAR) update, cost control, contingency, security, procedures, post work testing, and project management and close-out. In addition, the project cost estimates include corporate indirect charges. *Id.* at 9.

¹⁵⁹ *Id.* at 10-28, 30-31. Tables 4 through 7 clearly indicate those SAMAs for which revised, more detailed cost estimates were prepared. *Id.* Section 6 of the Revised SAMA Analysis discusses two specific SAMAs (IP2 SAMA 62 and IP3 SAMA 40) as examples. *Id.* at 8-9.

¹⁶⁰ New and Amended Contentions at 47.

In asserting that Entergy’s cost estimates are a “moving target,” NYS evidently fails to apprehend the critical distinction between the conservative, conceptual-level cost estimates that an applicant performs as part of its SAMA analysis (to determine whether SAMA candidates are *potentially* cost-beneficial), and subsequent engineering project cost-benefit analyses that an applicant may perform to assess the viability of implementing a particular SAMA (or, for that matter, any other proposed plant modification) under its *current* operating licenses.¹⁶¹ In any case, NYS fails to raise any genuine material factual or legal dispute concerning the adequacy of Entergy’s cost-benefit analyses.

c. *NYS Does Not Allege That Entergy Should Have Identified Additional SAMAs As “Potentially Cost-Beneficial” Beyond Those Already Identified in Its Revised SAMA Analysis*

The key consideration in determining the materiality of a SAMA contention is whether it purports to show that an “additional SAMA should have been identified as potentially cost-beneficial.”¹⁶² As a result of using the alternate meteorological data, Entergy identified a total of six additional SAMAs as potentially cost-beneficial in its Revised SAMA Analysis. Notably, NYS does not allege that Entergy should have identified any additional SAMAs as potentially cost-beneficial. Thus, NYS does not seek the type of “further analysis” that the Commission has described as “a valid and meaningful remedy under NEPA.”¹⁶³ As the Commission recently noted, “[u]nless 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, no purpose would be served to further refine the SAMA analysis.”¹⁶⁴

Additionally, there is no legal basis for NYS’s claim that the NRC must circulate a “new DSEIS” pursuant to 40 C.F.R. § 1502.9(c)(ii) (or the NRC’s corresponding regulation in 10 C.F.R. § 51.72) as a result of Entergy’s Revised SAMA Analysis. As stated in the GEIS, the environmental impacts of a

¹⁶¹ *Id.* at 23 n.10.

¹⁶² *Pilgrim*, CLI-09-11, slip op. at 6-7.

¹⁶³ *Catawba/McGuire*, CLI-02-17, 56 NRC at 10.

¹⁶⁴ *Pilgrim*, CLI-10-11, slip op. at 39.

postulated severe accident are small, and the six additional potentially cost-beneficial SAMAs identified by Entergy certainly do not paint a “seriously different picture of the environmental landscape.”¹⁶⁵ Moreover, those six SAMAs were among the SAMAs originally identified by Entergy as candidate SAMAs. The Commission has held that a final EIS “might typically add ‘mitigation measures’ to an alternative, or might suggest a new alternative that is a variation upon one or more previously proposed alternatives,”¹⁶⁶ especially where, as here, “the alternatives in the final EIS were well within the ‘spectrum’ and ‘range’ of alternatives discussed in the draft EIS.”¹⁶⁷ In short, the Revised SAMA Analysis does not constitute “a substantial change in the description of the project” warranting further circulation of the DSEIS.¹⁶⁸ NYS offers no analysis to cast doubt on that conclusion, and consequently its new contentions lack sufficient factual or legal foundations and fail to raise any genuine dispute on a material factual or legal issue, contrary to 10 C.F.R. § 2.309(f)(1)(iv), (v), and (vi).

V. CONCLUSION

For the reasons set forth above, Entergy does not oppose the admission of NYS-12B, but opposes the admission of NYS-16B insofar as it raises issues that are outside scope or untimely. Entergy opposes the admission of new contentions NYS-35 and NYS-36 in their entirety because they fail to meet the requirements of 10 C.F.R. § 2.309(c), (f)(1), and (f)(2). NYS’s Motion for Leave and New and Amended Contentions accordingly should be granted in part and denied in part.

¹⁶⁵ *Private Fuel Storage, L.L.C.* (Indep. Spent Fuel Storage Installation), CLI-06-3, 63 NRC 19, 28 (2006) (quoting *Wisconsin v. Weinberger*, 745 F.2d 412, 418 (7th Cir. 1984); *Nat’l Comm. for the New River, Inc. v. FERC*, 373 F.3d 1323, 1330 (D.C. Cir. 2004)).

¹⁶⁶ *Hydro Res., Inc.* (P.O. Box 15910, Rio Rancho, NM 87174) CLI-01-4, 53 NRC 31, 52-53 (2001) (citing Forty Most Asked Questions Concerning CEQ’s NEPA Regulations, 46 Fed. Reg. 18,026, 18,035 (Mar. 23, 1981) (Question 29b)).

¹⁶⁷ *Id.* at 53 (quoting *Dubois v. U.S. Dep’t of Agric.*, 102 F.3d 1273, 1292-93 (1st Cir. 1996), cert. denied, 521 U.S. 1119 (1997)).

¹⁶⁸ *Id.* at 52.

Respectfully submitted,

Martin J. O'Neill for Paul Bessette

William C. Dennis, Esq.
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601
Phone: (914) 272-3202
Fax: (914) 272-3205
E-mail: wdennis@entergy.com

Kathryn M. Sutton, Esq.
Paul M. Bessette, Esq.
MORGAN, LEWIS & BOCKIUS LLP
1111 Pennsylvania Avenue, N.W.
Washington, D.C. 20004
Phone: (202) 739-5738
E-mail: ksutton@morganlewis.com
E-mail: pbessette@morganlewis.com

Martin J. O'Neill

Martin J. O'Neill, Esq.
MORGAN, LEWIS & BOCKIUS LLP
1000 Louisiana Street
Suite 4000
Houston, TX 77002
Phone: (713) 890-5710
E-mail: martin.oneill@morganlewis.com

COUNSEL FOR ENTERGY NUCLEAR
OPERATIONS, INC.

Dated in Washington, D.C.
this 5th day of April 2010

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

_____)	Docket Nos. 50-247-LR and
In the Matter of)	50-286-LR
ENTERGY NUCLEAR OPERATIONS, INC.)	
)	
(Indian Point Nuclear Generating Units 2 and 3))	
_____)	April 5, 2010

CERTIFICATE OF SERVICE

I hereby certify that copies of the "Applicant's Answer to New York State's New and Amended Contentions Concerning Entergy's December 2009 Revised SAMA Analysis" dated April 5, 2010, were served this 5th day of April, 2010 upon the persons listed below, by first class mail and e-mail as shown below.

Administrative Judge
Lawrence G. McDade, Chair
Atomic Safety and Licensing Board Panel
Mail Stop: T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
(E-mail: lgml@nrc.gov)

Administrative Judge
Kaye D. Lathrop
Atomic Safety and Licensing Board Panel
190 Cedar Lane E.
Ridgway, CO 81432
(E-mail: kdl2@nrc.gov)

Administrative Judge
Richard E. Wardwell
Atomic Safety and Licensing Board Panel
Mail Stop: T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
(E-mail: rew@nrc.gov)

Office of the Secretary*
Attn: Rulemaking and Adjudications Staff
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
(E-mail: hearingdocket@nrc.gov)

Office of Commission Appellate Adjudication
U.S. Nuclear Regulatory Commission
Mail Stop: O-16G4
Washington, DC 20555-0001
(E-mail: ocaamail@nrc.gov)

Zachary S. Kahn, Law Clerk
Josh Kirstein, Law Clerk
Atomic Safety and Licensing Board Panel
Mail Stop: T-3 F23
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
(E-mail: zxk1@nrc.gov)
(E-mail: Josh.Kirstein@nrc.gov)

Sherwin E. Turk, Esq.
Beth N. Mizuno, Esq.
David E. Roth, Esq.
Brian G. Harris, Esq.
Andrea Z. Jones, Esq.
Office of the General Counsel
Mail Stop: O-15 D21
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
(E-mail: set@nrc.gov)
(E-mail: bnml@nrc.gov)
(E-mail: david.roth@nrc.gov)
(E-mail: brian.harris@nrc.gov)
(E-mail: andrea.jones@nrc.gov)

Manna Jo Greene
Environmental Director
Hudson River Sloop Clearwater, Inc.
724 Wolcott Avenue
Beacon, NY 12508
(E-mail: mannajo@clearwater.org)

Stephen C. Filler, Board Member
Hudson River Sloop Clearwater, Inc.
303 South Broadway, Suite 222
Tarrytown, NY 10591
(E-mail: sfiller@nylawline.com)

Ross Gould, Member
Hudson River Sloop Clearwater, Inc.
10 Park Avenue, #5L
New York, NY 10016
(E-mail: rgouldesq@gmail.com)

Greg Spicer, Esq.
Office of the Westchester County Attorney
148 Martine Avenue, 6th Floor
White Plains, NY 10601
(E-mail: gss1@westchestergov.com)

Thomas F. Wood, Esq.
Daniel Riesel, Esq.
Ms. Jessica Steinberg, J.D.
Sive, Paget & Riesel, P.C.
460 Park Avenue
New York, NY 10022
(E-mail: driesel@sprlaw.com)
(E-mail: jsteinberg@sprlaw.com)

John Louis Parker, Esq.
Regional Attorney
Office of General Counsel, Region 3
NYS Dept. of Environmental Conservation
21 S. Putt Corners Road
New Paltz, New York 12561-1620
(E-mail: jlparker@gw.dec.state.ny.us)

Michael J. Delaney, V.P. – Energy
New York City Economic Development Corp.
110 William Street
New York, NY 10038
(E-mail: mdelaney@nycedc.com)

Phillip Musegaas, Esq.
Deborah Brancato, Esq.
Riverkeeper, Inc.
828 South Broadway
Tarrytown, NY 10591
(E-mail: phillip@riverkeeper.org)
(E-mail: dbrancato@riverkeeper.org)

Daniel E. O'Neill, Mayor
James Siermarco, M.S.
Liaison to Indian Point
Village of Buchanan
Municipal Building
236 Tate Avenue
Buchanan, NY 10511-1298
(E-mail: yob@bestweb.net)

Robert D. Snook, Esq.
Assistant Attorney General
Office of the Attorney General
State of Connecticut
55 Elm Street
P.O. Box 120
Hartford, CT 06141-0120
(E-mail: Robert.Snook@po.state.ct.us)

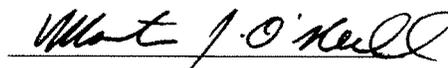
Mylan L. Denerstein, Esq.
Executive Deputy Attorney General,
Social Justice
Office of the Attorney General
of the State of New York
120 Broadway, 25th Floor
New York, New York 10271
(E-mail: Mylan.Denerstein@oag.state.ny.us)

Andrew M. Cuomo, Esq.
Attorney General of the State of New York
John J. Sipos, Esq.
Charlie Donaldson Esq.
Assistants Attorney General
The Capitol
Albany, NY 12224-0341
(E-mail: john.sipos@oag.state.ny.us)

Janice A. Dean
Office of the Attorney General
of the State of New York
Assistant Attorney General
120 Broadway, 26th Floor
New York, New York 10271
(E-mail: Janice.Dean@oag.state.ny.us)

Joan Leary Matthews, Esq.
Senior Attorney for Special Projects
Office of the General Counsel
New York State Department of
Environmental Conservation
625 Broadway, 14th Floor
Albany, NY 12207
(E-mail: jlmatthe@gw.dec.state.ny.us)

* Original and 2 copies provided to the Office of the Secretary.



Martin J. O'Neill, Esq.
Counsel for Entergy Nuclear Operations, Inc.