UNITED STATES
NUCLEAR REGULATORY COMMISSION

BEFORE COMMISSIONERS
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WILLIAM D. MAGWOOD, IV,
GEORGE APOSTOLAKIS, AND
WILLIAM C. OSTENDORFF AND
CHAIRPERSON ALLISON M. MACFARLANE

In re:	Docket Nos. 50-247-LR; 50-286-LR
License Renewal Application Submitted by	ASLBP No. 07-858-03-LR-BD01
Entergy Nuclear Indian Point 2, LLC, Entergy Nuclear Indian Point 3, LLC, and Entergy Nuclear Operations, Inc.	DPR-26, DPR-64 March 25, 2014

STATE OF NEW YORK'S ANSWER TO ENTERGY AND STAFF PETITIONS FOR REVIEW OF ATOMIC SAFETY AND LICENSING BOARD DECISIONS LBP-08-13 AND LBP-13-13 WITH RESPECT TO CONTENTION NYS-8 AND FOR INTERLOCUTORY REVIEW OF LBP-10-13 AND LBP-11-17 WITH RESPECT TO CONTENTION NYS-35/36

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GLOSSARY OF TERMS, ACRONYMS, & ABBREVIATIONS

AMP	Aging Management Program
AMR	Aging Management Review
Board or ASLB	Atomic Safety and Licensing Board
CLB	Current Licensing Basis
CLI-10-30	*Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3), CLI-10-30, 72 N.R.C. 564, 569 (Nov. 30, 2010)
CLI-11-14	*Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), CLI-11-14, 74 N.R.C. 801, 803 (Dec. 22, 2011)
December 2009 SAMA Reanalysis	ENT000009, Entergy NL-09-165, License Renewal Application – SAMA Reanalysis Using Alternate Meteorological Tower Data (Dec. 14, 2009), Attachment 1
DRAI	Draft Request for Additional Information
DSEIS	Draft Supplemental Environmental Impact Statement NUREG-1437, *Draft Supplemental Environmental Impact Statement for License Renewal of Nuclear Plants: Regarding Indian Point Units 2 and 3, Supplement 38, Volumes 1 and 2* (Dec. 2008) (NYS00132A-D)
EIS	Environmental Impact Statement
FSEIS	Final Supplemental Environmental Impact Statement NUREG-1437, *Volumes 1-3: Supplement 38: Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3 – Final Report* (Dec. 2010) (NRC000004)[1] (NYS00133A-J)
GEIS	NUREG-1437, *Generic Environmental Impact Statement for License Renewal of Nuclear Plants Vol. 1-2* (May 1996) (NRC000002)[2] (NYS00131A-I)

[1] NRC000004 is a one-page exhibit that "[i]ncorporates New York Exhibit NYS000133A-J."

[2] NRC000002 is a one-page exhibit that "[i]ncorporates New York Exhibit NYS00131A-I."

LBP-10-13	*Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3), LBP-10-13, 71 N.R.C. 673, (June 30, 2010)
LBP-11-17	*Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), LBP-11-17, 74 N.R.C. 11, 27 (July 14, 2011).
Limerick	*Limerick Ecology Action, Inc. v. NRC*, 869 F.2d 719 (3d Cir. 1989)
LRA	License Renewal Application
May 2013 SAMA Reanalysis	NL-13-075, *License Renewal Application-Completed Engineering Project Cost Estimates for SAMAs Previously Identified as Potentially Cost-Beneficial* (May 6, 2013) (ML13127A459)
NEI 05-01 (Rev. A)	NEI 05-01(Rev. A) Nuclear Energy Institute, Severe Accident Mitigation Alternatives (SAMA) Guidance Document at 28 (Nov. 2005) (NYS000287)
NEI 95-10	NEI 95-10 (Industry Guideline for Implementing the Requirements of 10 C.F.R. Part 54 – The License Renewal Rule) (June 2005) (from ENT000098)
NEPA	National Environmental Policy Act
NRC	Nuclear Regulatory Commission
NRC Reg. Guide 4.2	Preparation of Supplemental Environmental Reports for Applications to Renew Nuclear Power Plant Operating Licenses, Supplement 1 (September 2000)
NUREG/BR-0058	NRC Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission, Revision 4 (September 2004)
NUREG/BR-0184	Regulatory Analysis Technical Evaluation Handbook, Final Report (January 1997)
NUREG-1555	NRC Standard Review Plan for Environmental Reviews for Nuclear Power Plants - Supplement 1: Operating License Renewal (Oct. 1999/March 2000) ("Standard Review Plan") at 5.1.1-8 to 5.1.1-9
NYS-35/36	Consolidated Contention NYS-35/36

GLOSSARY OF TERMS, ACRONYMS, & ABBREVIATIONS

NYS-35/36 Motion for Leave	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) (ML100780366)
NYS-8	Contention NYS-8
PID or LBP-13-13	Partial Initial Decision, *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3), LBP-13-13, 78 N.R.C. _, slip op. (Nov. 27, 2013) (ML13331B465).
SAMA	Severe Accident Mitigation Alternatives
SECY-00-0210	Denial of Petition (PRM-51-7) for Rulemaking to Delete the Requirement from 10 CFR Part 51 to Consider Severe Accident Mitigation Alternatives in Operating License Renewal Reviews (Oct. 20, 2000)
SECY-93-086	S. Chilk, Staff Requirements Memorandum to J.M. Taylor and W; C. Parler, "SECY-93-086-Backfit Considerations," (June 30, 1993) PDR Accession No. 9307300095 930630
SOC	Statement of Consideration
SSC	System, Structure or Component
Tr.	Transcript of Evidentiary Hearing before Atomic Safety and Licensing Board, Docket Nos. 50-247-LR & 50-286-LR, ASLBP No. 07-858-03-LR-BD01

I. INTRODUCTION

Pursuant to 10 C.F.R. § 2.341(b)(3), the State of New York submits the following combined answer to NRC Staff and Entergy's February 14, 2014, petitions to the U.S. Nuclear Regulatory Commission for review of the Atomic Safety and Licensing Board's November 27, 2013, Partial Initial Decision ("PID" or "LBP-13-13") concerning NYS-8 (transformers), as well as interlocutory petitions for review of the Board's 2008 decision concerning NYS-8, and 2010 and 2011 decisions concerning NYS-35/36 (Severe Accident Mitigation Measures or "SAMAs").[1] For the reasons set forth below, the Commission should deny NRC Staff and Entergy's petitions for review of NYS-8 and NYS-35/36.

II. CONTENTION NYS-8

Entergy seeks review of the Board's July 31, 2008 decision (LBP-08-13) admitting contention NYS-8, arguing that the decision to admit NYS-8 rested on legal conclusions that depart from established law. In addition, Entergy and NRC Staff seek review of the Board's First Partial Initial Decision, LBP-13-13, on NYS-8, issued on November 27, 2013, arguing that the Board's findings of material fact are clearly erroneous, that its legal conclusions are contrary to established law, and that its decision raises substantial legal and policy questions, a review of which is in the public interest. For the reasons discussed below, the Commission should deny the petitions for review and affirm the well-supported and well-reasoned decisions by the Board admitting NYS-8 and finding that transformers are subject to Aging Management Review ("AMR").

[1] *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), LBP-13-13, Partial Initial Decision (Ruling on Track 1 Contentions), 78 N.R.C. _, slip op. (Nov. 27, 2013) (ML13331B465). The Commission granted the parties' joint request to extend both the time to answer as well as the page limitation. *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), Commission Order (Feb. 28, 2014) (ML14059A539).

A. Statement of the Case

On November 30, 2007, the State filed a petition for leave to intervene in the Indian Point Energy Center ("Indian Point") relicensing proceeding, asserting numerous contentions regarding critical deficiencies in Entergy's Indian Point LRA including Contention 8, which reads in its entirety:

> The LRA for IP2 and IP3 Violates 10 C.F.R. §§ 54.21(a) and 54.29 Because it Fails to Include an Aging Management Plan for Each Electrical Transformer Whose Proper Function is Important for Plant Safety. [2]

The State asserted that transformers at Indian Point require AMR because: (1) they perform a passive function as described in 10 C.F.R. §§ 54.4(a)(1), (2) & (3); (2) they function without moving parts or without a change in configuration or properties; and (3) the failure to properly manage the aging of electrical transformers could have safety implications for the plant, such as affecting station blackout recovery.[3] On January 22, 2008, Entergy and Staff filed responses opposing the admission of Contention 8 and alleging that transformers do not require an Aging Management Program ("AMP") because industry and Staff guidance documents list transformers as components excluded from AMR.[4] The State responded to Entergy's and Staff's opposition by asserting that neither industry practices nor Staff guidance is binding upon the Board.[5] On July 31, 2008, following a three-day contention admissibility oral argument on March 10-12, 2008, the Board admitted Contention 8 with respect to "safety-related electrical transformers that are required for compliance with 10 C.F.R. §§ 50.48 and 50.63," finding that

[2] New York State Notice of Intention to Participate and Petition to Intervene ("NYS Petition to Intervene") at 103 (Nov. 30, 2007) (ML073400187).

[3] NYS Petition to Intervene at 103-104.

[4] Answer of Entergy Nuclear Operations, Inc. Opposing New York State Notice of Intention to Participate and Petition to Intervene ("Entergy Opposition to Petition to Intervene") at 69-73 (Jan. 22, 2008) (ML080300149); NRC Staff's Response to Petitions for Leave to Intervene ("Staff Opposition to Petition to Intervene") at 44-46 (Jan. 22, 2008) (ML080230649).

[5] State of New York's Reply in Support of Petition to Intervene at 59 (Feb. 22, 2008) (ML080600444).

"[n]either Entergy nor the NRC Staff provided any legally binding justification to exclude transformers from AMR."[6]

On August 14, 2009, Entergy filed a motion for summary disposition of Contention 8, arguing that transformers do not require AMR or an AMP because transformers undergo a "change in state" when voltage travels through them.[7] The State opposed Entergy's motion on the bases that Entergy conflated the changing properties of the power passing through the transformer with a change in the transformer itself, and that transformers are the type of component for which the Commission intended an AMP to be required, because transformers are passive, degrade in ways not easily monitorable, and are long-lived.[8] On November 3, 2009, the Board denied Entergy's motion for summary disposition of Contention 8, concluding that "there remains a genuine issue of material fact—whether the electrical transformers within the scope of this license renewal proceeding perform their function 'without a change in their configuration or properties.'"[9]

On December 13, 2012, after the parties had submitted their statements of position, expert reports, pre-filed expert testimony and exhibits, the Board heard live testimony from: the State's witness, Dr. Robert Degeneff; Entergy's witnesses Mr. Roger Rucker, Dr. Steven Dobbs, Mr. John Craig and Mr. Thomas McCaffrey; and Staff's witnesses Mr. Roy Mathew and Ms. Sheila Ray. The Board issued its Partial Initial Decision, LBP-13-13, on November 27, 2013, and made the following factual determinations: (1) transformers do not change properties or state

[6] *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), LBP-08-13, 68 N.R.C. 43, 86-89 (2008).

[7] Applicant's Motion for Summary Disposition of New York State Contention 8 ("Entergy Summary Disposition Motion") (Aug. 14, 2009) (ML092330784).

[8] Response of the State of New York to Entergy's Summary Disposition Motion and NRC Staff's Supporting Answer (Sept. 23, 2009); The State of New York's Counterstatement of Material Facts, 2009 Declaration of Paul Blanch, and Exhibits (Sept. 23, 2009) (ML092930142).

[9] *Entergy Nuclear Operations, Inc.* (Indian Point, Units 2 and 3), Memorandum and Order (Ruling on Motions for Summary Disposition) at 6 (Nov. 3, 2009) (unpublished) (ML093070521).

during operations; (2) transformers are not readily monitored for aging degradation; and (3) transformers are more closely aligned with those components that require AMR.[10] The Board reached the legal conclusion that since transformers are "passive" components with no moving parts, and no change in configuration, properties, or state, transformers fall within the scope of 10 C.F.R. Part 54 and must undergo AMR pursuant to 10 C.F.R. § 54.21(a)(1).[11]

B. Legal Standards

Pursuant to 10 C.F.R. § 2.341(b)(4), a timely petition for review is granted only at the discretion of the Commission, giving due weight to the existence of a substantial question with respect to the following considerations:

(i) A finding of material fact is clearly erroneous or in conflict with a finding as to the same fact in a different proceeding;
(ii) A necessary legal conclusion is without governing precedent or is a departure from or contrary to established law;
(iii) A substantial and important question of law, policy, or discretion has been raised;
(iv) The conduct of the proceeding involved a prejudicial procedural error; or
(v) Any other consideration which the Commission may deem to be in the public interest.

Where the "brief on appeal points to no error of law or abuse of discretion that might serve as grounds for reversal," the Commission generally declines to accept a petition for review of a Board decision.[12] Further, when considering a petition for review, the Commission is free to affirm a Board decision on any ground finding support in the record, whether previously relied on or not.[13]

[10] LBP-13-13 at 256-258.

[11] LBP-13-13 at 259.

[12] *Private Fuel Storage, L.L.C.* (Indep. Spent Fuel Storage Installation), CLI-00-21, 52 N.R.C. 261, 265 (2000); *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-04-36, 60 N.R.C. 631, 637 (2004).

[13] *Private Fuel Storage, L.L.C.* (Indep. Spent Fuel Storage Installation) CLI-05-08, 61 N.R.C. 129, 166 (2005).

C. Entergy's Petition for Review of LBP-08-13 Should Be Rejected Because NYS-8 Was Properly Admitted

1. NYS-8 Satisfied the Contention Admissibility Requirements

Entergy argues that the Board's decision to admit NYS-8 should be overturned as an error of law because the State failed to provide any support for why transformers are subject to AMR under 10 C.F.R. Part 54 and because the Board improperly shifted the burden onto Entergy and NRC Staff to provide support for rejecting the contention.[14] Contrary to Entergy's assertions, the Board properly admitted NYS-8 because the State provided sufficient support to make "a minimal showing that material facts are in dispute."[15]

The contention admissibility requirements, contained in 10 C.F.R. § 2.309(f)(1)(i)-(v), do "not call upon the intervenor to make its case at [the contention admissibility] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention."[16] First, the State properly relied upon the expert opinions of Mr. Paul Blanch, who received a Bachelor of Science in Electrical Engineering and has over 25 years of engineering, engineering management, and project coordination experience in the construction and operation of nuclear power plants, including Indian Point.[17] Although not required by the contention admissibility

[14] Although some Commission precedent suggests otherwise, under 10 C.F.R. § 3.41, the Board's contention admissibility decision on NYS-8 is not yet ripe for review (see Section III(A)(2) below).

[15] *Detroit Edison Co.*, (Fermi Nuclear Power Plant, Unit 3), LBP-11-14, 73 N.R.C. 591, 609 (2011) (quoting *Gulf States Utilities Co.* (River Bend Station, Unit 1), CLI-94-10, 40 N.R.C. 43, 51 (1994)).

[16] *Tennessee Valley Authority*, (Watts Bar Unit 2), LBP-09-26, 70 N.R.C. 939, 955 (2009) (quoting 54 Fed. Reg. 33,168, 33,170 (Aug. 11, 1989)).

[17] New York State Notice of Intention to Participate and Petition to Intervene and Supporting Declarations and Exhibits, Vol. I of II, Declaration of Paul Blanch ("NYS Blanch Declaration") at 1, ¶ 2 (PDF page 41), (Nov. 30, 2007) (ML073400205).

rules,[18] Mr. Blanch's expert opinions were set forth in an affidavit, which was attached to the State's petition to intervene. Entergy did not take issue with Mr. Blanch's affidavit in its answer to the State's Petition to Intervene.[19] Yet Entergy now argues that Mr. Blanch's affidavit is defective because it "merely states a conclusion . . . without providing a reasoned basis or explanation for that conclusion."[20] But Mr. Blanch's *conclusion* is that AMR is required for transformers at Indian Point and his affidavit sets forth a reasoned basis for that conclusion by explaining that: (1) transformers fall within the scope of the license renewal rule by performing a function described in 54.4(a)(1)/(2) and (3); (2) transformers function without moving parts or without a change in configuration or properties; and (3) failure to properly manage transformer aging may compromise the safety of Indian Point.[21] As such, Mr. Blanch's affidavit does not merely state the *conclusion* that AMR is required, but instead, provides the *reasons* for that conclusion based on his expertise. According to Entergy, Mr. Blanch also had to provide evidence to support the reasons for his conclusion. This is simply not required by the contention admissibility regulations which require only a "*concise statement* of the alleged . . . *expert opinions which support* the [State's] position on the issue and on which the [State] intend[ed] to

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[18] The factual support for a contention "'need not be in affidavit or formal evidentiary form.'" *Detroit Edison Co.*, 73 N.R.C. at 609 (quoting 54 Fed. Reg. at 33,171).

[19] *See* Entergy Opposition to Petition to Intervene at 69-73. In its answer, Entergy did not mention Mr. Blanch's affidavit, much less assert it was defective.

[20] Applicant's Petition for Review of Board Decisions Regarding Contentions NYS-8 (Electrical Transformers), CW-EC-3A (Environmental Justice), and NYS-35/36 (SAMA Cost Estimates) ("Entergy Petition for Review") at 11 (Feb. 14, 2014) (ML14045A332). Entergy cites *USEC, Inc.* (Am. Centrifuge Plant), CLI-06-10, 63 N.R.C. 451, 472 (2006) for this proposition. However, that case is distinguishable. There, the petitioner offered no expert affidavit in support of its hearing request, and instead, the support offered for the contention consisted of brief quotes from the petitioners' correspondence with a physicist. In that case, the Commission affirmed the Board's rejection of the contention, finding that it was not clear from the expert's remarks whether he had been provided with the entire relevant environmental report, that the expert's remarks were difficult to comprehend, and that it was not clear that the petitioner understood the expert's statements. *USEC, Inc.* 63 N.R.C. at 472; *see Progress Energy Fla., Inc.*, (Combined License Application, Levy County Nuclear Power Plant, Units 1 and 2), CLI-10-02, 71 N.R.C. 27, 40 (2010) (explaining the Commission's findings in *USEC, Inc.*).

[21] NYS Blanch Declaration at 5-6.

rely at hearing."[22] The State was not required to submit evidence of the quality necessary to withstand a summary disposition motion.[23]

Second, in addition to expert opinions, the State provided supporting factual evidence for NYS-8.[24] This included evidence that there are transformers at Indian Point that fall within the scope of the license renewal rule and evidence that transformers play a central role in the electrical system of Indian Point.[25] The State also cited a Staff Draft Request for Additional Information ("DRAI") for Indian Point, which the State understood as categorizing transformers as long-lived passive components. The relevant part of that document states:

> For purposes of the license renewal rule, the staff has determined that the plant system portion of the offsite power system that is used to connect the plant to the offsite power source should be included within the scope of the rule. *This path typically includes . . . the transformers themselves* . . . Ensuring that the appropriate offsite power system *long-lived passive structures and components that are part of this circuit path are subject to an AMR* will assure that the bases underlying the SBO requirements are maintained over the period of extended license. . . . According to the above, both paths, from the safety-related 480 Volt (V) buses to the first circuit breaker from the offsite line, used to control the offsite circuits to the plant *should be age managed*.[26]

On its face, this DRAI can be interpreted to conflict with Staff's guidance that transformers need not be age managed. The State was justified in relying on this DRAI at the contention admissibility stage and did not need to prove its assertions were correct.[27]

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[22] 10 C.F.R. § 2.309(f)(1)(v) (emphasis added).

[23] *Detroit Edison Co.*, 73 N.R.C. at 609 (quoting 54 Fed. Reg. at 33,171). At the summary judgment phase, when additional evidence was required, the State provided additional support for its expert opinions. *See* The State of New York's Counterstatement of Material Facts (Sept. 23, 2009) (ML092930142).

[24] NYS Petition to Intervene at 105.

[25] *Id*. at 105, ¶¶ 6-7.

[26] *Id*. at 105, ¶8; State of New York's Reply in Support of Petition to Intervene, at 59-60.

[27] *See Duke Energy Corp*. (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-17, 56 N.R.C. 1, 9 (2002) ("But for an admissible contention the petitioners did not have to prove outright that [the licensee's] . . . analysis was deficient."); *Georgia Institute of Technology* (Georgia Tech Research Reactor) CLI-95-12, 42 N.R.C. 111, 117 (1995).

Entergy also faults the State for failing to cite or discuss transformer guidance in its Petition to Intervene.[28] But neither Entergy nor NRC Staff cited or discussed the 1997 Grimes Letter, which contains Staff's guidance on transformers, in their oppositions to the State's Petition to Intervene. Instead, Entergy cited only industry guidance (specifically, Item 104 of Appendix B of NEI 95-10), which is not entitled to any special weight,[29] and Staff cited its Standard Review Plan, NUREG-1800, Rev. 1. Both of these references[30] contain nearly identical tables that merely state the conclusion that transformers do not "meet 10 CFR 54.21(a)(1)(i)."[31] Thus, in their opposition briefs, neither Entergy nor Staff gave any explanation for why transformers are excluded from AMR, aside from the fact that they are listed in a chart as excluded from AMR.[32] Entergy and Staff failed to demonstrate the validity of the guidance on which they sought to rely.[33]

Nonetheless, contrary to Entergy's assertions, the expert opinions of Mr. Paul Blanch directly challenge the non-binding agency guidance concerning transformers. His opinions challenge the conclusion in the charts contained in NEI 95-10 and NUREG 1800 by giving three reasons why AMR is required for transformers (see discussion above). And his opinions also

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[28] Entergy Petition for Review at 10.

[29] *See Entergy Nuclear Vt. Yankee, L.L.C.*, (Vermont Yankee Nuclear Power Station), LBP-08-25, 68 N.R.C. 763, 868-869 (2008) ("While this Board agrees that some special weight should be given to some NRC guidance documents, the same does not apply to EPRI guidance documents."), *rev'd in part on other grounds*, CLI-10-17, 72 N.R.C. 1 (2010).

[30] Item 104 of Appendix B of NEI 95-10 (Industry Guideline for Implementing the Requirements of 10 C.F.R. Part 54 – The License Renewal Rule) (June 2005) is contained in Entergy Exhibit ENT000098. NUREG-1800, Rev. 1: Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants (Sept. 2005) at 2.1-23 is contained in NRC Staff Exhibit NRC000010.

[31] Although the table in NEI 95-10 states "See Appendix C Reference 2," Entergy did not mention, discuss, or specifically rely on that reference (the 1997 Grimes Letter).

[32] In its decision admitting NYS-8, the Board found that neither Entergy nor NRC Staff "provided any explanation on how a transformer changes its configuration or properties in performing its functions." LBP-08-13 at 45.

[33] *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), ALAB-698, 16 N.R.C. 1290, 1299 (1982), (". . .[T]he staff is required to demonstrate the validity of its guidance if it is called into question during the course of litigation."), rev'd in part on other grounds, CLI-83-22, 18 N.R.C. 299 (1983).

challenge the Grimes Letter. For example, the Grimes Letter asserts that transformers "function through a change in state,"[34] while Mr. Blanch provides the expert opinion that transformers "function without moving parts or without a change in configuration or properties."[35] The Grimes Letter asserts that transformers do not require aging management review because "[a]ny degradation of the transformer's ability to perform its intended function is readily monitorable by a change in the electrical performance of the transformer and the associated circuits."[36] In contrast, Mr. Blanch asserts that "[f]ailure to properly manage aging of electrical transformers could result in loss of emergency power to the 480 volt safety equipment and 6.9kV busses including station blackout loads."[37] Mr. Blanch takes issue not only with the Grimes Letter's description of transformer functionality but also with its assertion that transformer functionality can be maintained without aging management review.[38] Furthermore, the State explicitly responded to Staff's argument that NUREG 1800 does not mandate AMR for transformers by asserting that NRC Staff guidance on transformers is not binding on the Board.[39]

Moreover, the State offered additional support for NYS-8 at the hearing on contention admissibility on March 10, 2008. The State explained that although a current runs through a transformer, the transformer itself does not move.[40] Counsel for the State also agreed with Judge Wardwell's statement that when a transformer changes the electricity flowing through it, that

[34] Letter from Christopher Grimes to Douglas Walters Regarding Determination of Aging Management Review for Electrical Components ("Grimes Letter") at 2, (Sept. 19, 1997) (Exhibit ENT000097).

[35] NYS Blanch Declaration at 5, ¶21.

[36] Grimes Letter at 2.

[37] NYS Blanch Declaration at 6, ¶24.

[38] In fact, at the contention admissibility hearing, counsel for NRC Staff admitted that the State had raised a general dispute with the Staff's interpretation that transformers are active devices. Transcript of Contention Admissibility Hearing at 214:9-20 (Mar. 10, 2008) (ML080720442).

[39] State of New York's Reply in Support of Petition to Intervene at 59.

[40] Transcript of Contention Admissibility Hearing at 209:7-13.

changes the electricity but not the transformer itself.[41] The State compared a transformer to a component that changes water to steam—in both situations, the device causes a change in what flows through it, but the device itself does not change.[42] The State noted that it takes issue with the Grimes Letter because in that letter Staff improperly asserts that changes occurring in something flowing through a component constitute a change to that component. The State concluded that the opinion set forth in the Grimes Letter concerning transformers "proves too much."[43] Also, as evidence of the importance of transformer safety, the State cited a 2007 transformer explosion and fire that required one of the Indian Point units to shut down.[44]

The Board did not shift the burden to Entergy and Staff, but merely afforded more weight to the State's evidence than to the non-binding guidance charts cited by Entergy and Staff. In determining whether material facts were in dispute, it was proper for the Board to accord significant weight to Mr. Blanch's expert opinions, which were based on his 25 years of electrical engineering experience in the nuclear field and his review of the Indian Point License Renewal Application. In contrast, neither Entergy nor NRC Staff offered expert opinions at the contention admissibility stage or offered any evidence in their opposition papers aside from two guidance charts. The Board also properly relied on the State's factual evidence that transformers at Indian Point are within the scope of the license renewal rule and that Staff's DRAI identified Indian Point transformers as part of an offsite power system with long-lived passive structures and components that need to be age managed. It was appropriate for the Board to view the

[41] Transcript of Contention Admissibility Hearing at 216:1-4 (Mr. Sipos agreeing with Judge Wardwell's statement at 213:23-214:8).

[42] *Id*. at 216:8-15.

[43] *Id*.

[44] *Id*. at 34:20-24, and 209:17-21.

State's support for its contention in a light that was favorable to the State.[45] As the "agency's expert body on matters of contention admissibility,"[46] the Board's decision to admit NYS-8 is entitled to substantial deference.[47]

2. *Seabrook* is Distinguishable from the Indian Point Board's Decision to Admit NYS-8

Entergy argues that rejection of NYS-8 as inadmissible is required by *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1) ("*Seabrook*"), CLI-12-05, 75 N.R.C. 301 (2012), because "the original *Indian Point* and *Seabrook* transformer contentions are materially indistinguishable."[48] But Entergy fails to acknowledge the significant differences between the Seabrook and Indian Point transformer contentions, expert declarations and supporting documents, which make *Seabrook* distinguishable from the Indian Point Board's decision admitting NYS-8.

First, Entergy obscures the fact that the Seabrook intervenors copied large portions of the State's transformer contention, NYS-8, and expert declaration, without making those portions relevant to the Seabrook facility. In Attachment 1 of its petition for review, Entergy writes: "Portions [of the contention and Blanch Declaration] that were added from the *Seabrook* version to the *Indian Point* version are identified with an underline, and portions that were deleted are indicated by ~~strikethrough~~." However, no portion of the Seabrook contention was added to or

[45] *Luminant Generation Co., LLC* (Comanche Peak Nuclear Power Plant, Units 3 and 4), LBP-09-17, 70 N.R.C. 311, 328 (2009) (quoting *Arizona Pub. Serv. Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 N.R.C. 149, 155 (1991)).

[46] *Va. Elec. & Power Co.*, (Combined License Application for North Anna Unit 3), CLI-12-14, 75 N.R.C. 692, 702 (2012).

[47] *AmerGen Energy Co., LLC* (License Renewal for Oyster Creek Nuclear Generating Station), CLI-06-24, 64 N.R.C. 111, 121 (2006) (citing *Private Fuel Storage, L.L.C.* (Indep. Spent Fuel Storage Installation), CLI-99-10, 49 N.R.C 318, 324 (1999)).

[48] Entergy Petition for Review at 12.

deleted from the Indian Point contention, because the Indian Point contention was filed approximately three years *before* the Seabrook contention.[49]

The fact that the Seabrook intervenors copied the Indian Point transformer contention makes *Seabrook* distinguishable in two respects. First, the 1989 revisions to the NRC contention admissibility rules were specifically designed to prevent intervenors from copying contentions from other proceedings.[50] Therefore, the Seabrook intervenors' plagiarism of the Indian Point transformer contention was in disregard of the contention admissibility standards. Second, because the Seabrook intervenors copied the contention from the Indian Point proceeding, all of their supporting evidence and many of their expert opinions apply only to Indian Point Units 2 & 3, not to the Seabrook facility. For example, paragraphs 31, 32, and 37 of the Seabrook expert declaration and paragraphs 4, 5 and 10 of the Seabrook transformer contention reference the Indian Point LRA and do not apply to the Seabrook LRA.[51] By copying the contention from another proceeding and failing to provide evidence or expert opinion specifically applicable to the Seabrook facility, the Seabrook intervenors failed to meet the contention admissibility requirements.

The Seabrook transformer contention and expert declaration contain other significant and fundamental defects that distinguish them from the Indian Point transformer contention and

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[49] *Compare* NYS Petition to Intervene (Nov. 30, 2007) *and* Friends of the Coast and New England Coalition, Petition for Leave to Intervene, Request for Hearing, and Admission of Contentions ("Friends Petition to Intervene") (Oct. 20, 2010) (ML102940558).

[50] *See* 51 Fed. Reg. 24,365, 24,366 (July 3, 1986); *Seabrook* at 307 ("Prior to our 1989 rule revision, intervenors were able to trigger hearings after merely copying a contention from another proceeding, even though these '[a]dmitted intervenors often had negligible knowledge' of the issues 'and, in fact, no direct case to present.'" (citations omitted)).

[51] *See* Friends Petition to Intervene, Attachment 7, Declaration of Paul Blanch ("Friends Expert Declaration"), at 11-13 (Oct. 18, 2010) (ML102940557); Friends Petition to Intervene at 21-22; NextEra Energy Seabrook, LLC's Answer Opposing the Petition to Intervene and Request for Hearing of Friends of the Coast and the New England Coalition at 43, FN 32 ("NextEra Answer") (Nov. 15, 2010) (ML103190494); and *Seabrook* at 321.

expert declaration. For example, in his declaration, Seabrook's expert, Mr. Blanch, never states that he has reviewed the Seabrook LRA. Instead, he states that he has "reviewed Vermont Yankee's License Renewal Application and the subsequent submittals by Entergy to renew the operating licenses for Indian Point Unit 2 and Unit 3."[52] It is unclear how Seabrook's expert could assert that the Seabrook LRA is deficient if he never reviewed it. In contrast, in the Indian Point expert declaration, Mr. Blanch states that he has "reviewed the April 30, 2007 License Renewal Application submitted by Entergy to renew the operating licenses for Indian Point Unit 2 and Unit 3."[53]

Further, the Seabrook contention and expert declaration contain contradictory assertions wherein transformers are identified as both "active" and "passive" devices.[54] In contrast, the Indian Point contention and expert declaration consistently state that "[t]ransformers function without moving parts or without a change in configuration or properties."[55]

Importantly, the Seabrook intervenors failed to identify any transformers at Seabrook that are within the scope of the license renewal rule.[56] Without asserting that transformers at Seabrook were within the scope of the license renewal rule, the Seabrook contention was inadmissible.[57] In contrast, NYS-8 references portions of the Indian Point Unit 2 and Unit 3 UFSARs that list the specific Indian Point transformers within the scope of the license renewal

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[52] Friends Expert Declaration at 4, ¶13. Also, it is not clear that Mr. Blanch's Seabrook declaration was properly signed or affirmed in accordance with 10 C.F.R. § 2.304(d).

[53] NYS Blanch Declaration at 2, ¶ 3.

[54] Friends Petition to Intervene at 22, ¶¶8-9; Friends Expert Declaration at 12, ¶¶35-36.

[55] NYS Petition to Intervene at 103, ¶1.

[56] *See* Friends Petition to Intervene at 21-22, ¶¶ 7-8; Friends Expert Declaration at 12, ¶¶ 34-35. Contrary to the Seabrook intervenors' claims, the Seabrook UFSAR was available at the time of their petition to intervene. *See* NextEra Answer at 47, FN 36.

[57] *See* 10 C.F.R. §§ 2.309(f)(1)(iii) & (iv); *Duke Energy Corp.* (Catawba Nuclear Station, Units 1 and 2) LBP-04-04, 59 N.R.C. 129, 147 (2004) ("[C]ontentions are necessarily limited to issues that are germane to the application pending before the Board.").

rule.[58] The Indian Point contention also identified a DRAI that supported the State's position that Indian Point transformers are within the scope of the license renewal rule.[59]

Finally, *Seabrook* is also distinguishable because the Commission found that the Seabrook intervenors failed to challenge Staff guidance documents—the Grimes Letter in particular—asserting that transformers are active devices. [60] In the Seabrook proceeding, the applicant (NextEra Energy) and NRC Staff specifically discussed and relied upon the Grimes Letter in their opposition to the intervenors' petition to intervene.[61] Both parties reproduced the relevant section of the Grimes Letter discussing transformer functionality and explaining why AMR is supposedly not necessary for transformers. As discussed above, in the Indian Point proceeding, neither Entergy nor NRC Staff cited or discussed the Grimes Letter in their opposition to the State's Petition to intervene. This further shows that the Seabrook and Indian Point Licensing Boards had very different evidentiary records before them at the contention admissibility stage. In Seabrook, the expert's opinions were contradictory and the supporting documents did not apply to the nuclear plant at issue, and the applicant and Staff discussed the Grimes Letter in their opposition papers. However, in Indian Point, the State's expert opinions, coupled with relevant supporting evidence, was sufficient to demonstrate a material factual dispute, particularly because Entergy and Staff failed to establish the validity of the guidance charts they cited in their opposition papers. Moreover, as discussed above, the State specifically challenged Staff guidance documents and explained its basis for asserting that transformers are subject to AMR.

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[58] New York Petition to Intervene at 105, ¶¶6-7.

[59] *Id*. at 105, ¶8.

[60] *Seabrook* at 319-20.

[61] NextEra Answer at 44-45; NRC Staff's Answer to Petitions to Intervene and Requests for Hearing Filed by Friends of the Coast and New England Coalition at 29 (Nov. 15, 2010) (ML103190764).

3. Finding NYS-8 Inadmissible Would Harm the Public Interest

Although the contention admissibility rules are "strict by design,"[62] they are not meant to create a "fortress to deny intervention."[63] The purpose of the strict rules is to prevent intervenors from copying contentions from other proceedings, to ensure that intervenors can "meaningfully participate and inform a hearing,"[64] and to put parties and Boards on notice of the issues being litigated so they may prepare for summary disposition or hearing. Here, none of these purposes would be served by finding NYS-8 inadmissible. The State was the original author of the transformer contention, and it supported NYS-8 with evidence directly relevant to Indian Point, which makes the Board's decision to admit NYS-8 distinguishable from *Seabrook*. Further, Entergy had sufficient knowledge of the State's claims to make a motion for summary judgment. At the hearing, the State presented an affirmative case, including an expert with knowledge of transformer and nuclear power issues, and did not attempt to "unearth a case through cross-examination."[65] That the State won on the merits of NYS-8 is evidence that its contention is not frivolous. And the "requirement for specificity and factual support [in petitions to intervene] is not intended to prevent intervention when material and concrete issues exist."[66]

Dismissing the State's contention on admissibility grounds, despite the fact that the State won the contention on the merits, would truly turn the admissibility requirements into a fortress to deny intervention and thereby harm the public interest. Public participation through

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[62] *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Unit 3), CLI-08-17, 68 N.R.C. 231, 233 (2008).

[63] *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 N.R.C. 328, 335 (1999) *(quoting Philadelphia Elec. Co.* (Peach Bottom Atomic Power Sta., Units 2 and 3), 8 A.E.C. 13, 21 (1974), *rev'd in part,* CLI-74-32, 8 A.E.C. 217 (1974), *rev'd in part, York Committee for a Safe Environment v. N.R.C.*, 527 F.2d 812 (D.C. Cir. 1975)).

[64] *FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-08, 75 N.R.C. 393, 416 (2012).

[65] *Dominion Nuclear Power Conn.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 N.R.C. 349, 358 (2001) (citations omitted).

[66] *Matter of Fansteel, Inc.* (Muskogee, Oklahoma, Site), CLI-03-13, 58 N.R.C. 195, 203 (2003).

intervention is a positive factor in the licensing process and intervenors perform a valuable function, therefore, intervenors are to be encouraged.[67] It is neither Congressional nor Commission policy to avoid important issues on technicalities; instead, "[s]ounder practice is to decide issues on their merits."[68] In particular, it is important that the merits of Contention NYS-8 be considered because transformers at Indian Point are relied upon for fire protection and station blackout recovery, and thus their failure can compromise plant safety. At least one Indian Point transformer has already failed due to undetected functional degradation, highlighting the validity of this issue.[69]

D. Entergy's and NRC Staff's Petitions for Review of LBP-13-13 Should Be Rejected Because the Board Properly Ruled in the State's Favor on Contention NYS-8

1. The Board's Findings of Fact Are Well Supported by the Evidence

Entergy and NRC Staff argue that the Board's findings of fact concerning transformers in LPB-13-13 are clearly erroneous because they are implausible in light of the record as a whole. However, neither Entergy nor NRC Staff point to any deficiencies in the Board's findings that warrant Commission review. Instead, they demonstrate that the Board afforded greater weight to the State's evidence than to Entergy's or Staff's evidence. This is not a basis for overturning the Board's decision.[70] A Board's findings are not clearly erroneous where, as here, the "Board considered both parties' lines of argument, and it provided a detailed description of them and its

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[67] *See, e.g., Virginia Elec. & Power Co.* (North Anna Power Station, Units 1 & 2), ALAB-256, 1 N.R.C. 10, 18 n.9 (1975); *Shaw Areva Mox Servs.* (Mixed Oxide Fuel Fabrication Facility), LBP-07-14, 66 N.R.C. 169, 202 (2007) ("'when the public has an opportunity to . . . participate in our decision-making process, nuclear safety is enhanced and public confidence in the NRC as a fair, stable and strong nuclear regulator is strengthened.'" (citing Commissioner Peter B. Lyons)); *see* 1957 Congressional Record 4093-94 (Mar. 21, 1957) (statement of Sen. Anderson supporting legislation that became AEA § 189, 42 U.S.C. § 2239).

[68] *Houston Lighting and Power Co.* (South Texas Project, Units 1 and 2), ALAB-549, 9 N.R.C. 644, *11-12 (1979).

[69] New York State Proposed Findings of Fact and Conclusions of Law For Contention NYS-8 ("NYS-8 State Proposed Findings") at 68-69, ¶¶ 171-173 (Mar. 22, 2013) (ML13081A766).

[70] *David Geisen*, CLI-10-23, 72 N.R.C. 210, 225 (2010).

underlying facts in its decision" but "after weighing the conflicting evidence and arguments" it ultimately found that one party's "proffered facts and arguments, when taken in their entirety, were less persuasive."[71] Nor should the Commission overturn a Licensing Board's factual findings simply because it would have reached a different result.[72]

Furthermore, where the Board's "factual determinations are based in significant part on its assessment of expert testimony and the credibility of the witnesses offering that testimony," the deference due to the Board is "particularly high."[73] Such deference is warranted here, where the Board heard and assessed live testimony from four witnesses for Entergy, two witnesses for Staff, and one witness for the State.[74]

a. The Board Properly Found That Transformers Function Without a Change in Configuration, Properties, or State

Entergy and NRC Staff argue that the Board's finding that transformers function without a change in configuration, properties, or state is clearly erroneous because they presented evidence that transformers experience a change in properties and/or state during operation.[75] However, the Board's finding[76] is properly supported by considerable evidence offered through the State and the testimony of the State's expert, Dr. Degeneff.[77] The Board was justified in

[71] *Honeywell Int'l, Inc.*, (Metropolis Works Uranium Conversion Facility), CLI-13-01, 2013 NRC LEXIS 1, *36 (Jan. 9, 2013) (ML13009A039).

[72] *Pa'ina Haw., LLC*, (Materials License Application), CLI-10-18, 72 N.R.C. 56, 80 (2010) (citation omitted).

[73] *Honeywell Int'l, Inc.*, CLI-13-01, 2013 NRC LEXIS at *33.

[74] *Id.*

[75] Entergy Petition for Review at 15; NRC Staff's Petition for Commission Review of LBP-13-13 in Part (Contentions NYS-8 and CW-EC-3A), and LBP-11-17 (Contention NYS-35/36) ("Staff Petition for Review") at 16 (Feb. 14, 2014) (ML14045A088).

[76] *See* LPB-13-13 at 211-213 and 215-216.

[77] All of the State's evidence cited in this brief is incorporated by reference: Report of Dr. Robert C. Degeneff in Support of Contention NYS-8 ("Degeneff Report") at 1-4 and 22-31 (Dec. 12, 2011) (NYS000005) (ML12334A512); Pre-Filed Written Testimony of Dr. Robert C. Degeneff Regarding Contention NYS-8 ("Degeneff Initial Testimony") at 6-14 (Dec. 14, 2012) (NYSR00003) (ML12334A511); Rebuttal Testimony of Dr. Robert C. Degeneff, D. Eng., Regarding Contention NYS-8 ("Degeneff Rebuttal Testimony") at 9-21 (Aug. 6, 2012)

relying on Dr. Degeneff's opinions because he has over forty years of experience working, teaching, and researching in the power engineering field, with an emphasis on the electrical behavior and design of power transformers.[78] Dr. Degeneff testified that a transformer's properties include its turns ratio, winding conductor dimensions, insulation type and thickness, core dimensions, and cooling capability.[79] These are the constituent parts of the transformer whose traits define the transformer's function, and they remain the same before, during, and after a transformer's operation.[80] Dr. Degeneff explained that Entergy's and Staff's argument that transformers are active devices hinges on their conflation of the properties of the electricity running through the transformer and the properties of the transformer itself.[81] Current, voltage, and magnetic field are not properties of a transformer.[82] Instead, they are properties of the electricity flowing through the transformer.[83] The change in current, voltage, and/or magnetic field that occurs as the electricity passes through a transformer does not have an effect on the properties of the transformer, which remain invariant.[84]

Moreover, Dr. Degeneff explained that the "change in state" that Staff's witnesses and Staff guidance refer to is not a change in the transformer's state but a change in the state of the electrical power moving through the transformer. In their written testimony, Staff's witnesses

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NYSR00414) (ML12340A667); Transcript of Indian Point Evidentiary Hearing ("Tr.") (Dec. 13, 2012) at 4337-4344; and NYS-8 State Proposed Findings at 35-45.

[78] NYS-8 State Proposed Findings at 15, ¶35; Degeneff Curriculum Vitae (Dec. 12, 2011) (NYS000004).

[79] Degeneff Initial Testimony at 9:10-19.

[80] Degeneff Initial Testimony at 11:3-6; Degeneff Rebuttal Testimony at 14:21-15:1; Tr. 4343:7-16.

[81] Degeneff Rebuttal Testimony at 11:12-15 and 20:8-19.

[82] Degeneff Initial Testimony at 9:20-11:2; Degeneff Rebuttal Testimony at 11:19-14:16; Tr. 4337:21-4340:7.

[83] Degeneff Rebuttal Testimony at 12:7-15; 13:8-21.

[84] Degeneff Initial Testimony at 11:3-12:11; Degeneff Rebuttal Testimony at 13:8-21 and 14:18-15:1.

noted that the change in state they refer to is "a change in voltage, current, and magnetic flux."[85] However, Dr. Degeneff explained that the voltage is not created by the transformer, but by a generator; the current flows into the transformer due to the laws of physics; the current (not the transformer) creates the magnetic flux. A transformer that is separated from a source and a load has no voltage, current, or magnetic flux, and is incapable of producing them.[86] Thus, current, voltage, and magnetic flux are not part of a transformer's state.[87]

Second, contrary to Entergy's assertion that the Board offered little explanation for its finding, the Board specifically discussed each of Entergy's and Staff's positions and explained its disagreement with them.[88] In fact, the evidence cited by Entergy and NRC Staff in their petitions for review was discussed by the Board in its decision.[89] For example, the Board explained that it disagreed that the properties or state of the transformer change as electrical energy passes through it because "transformer parts are the same prior to, during, and after being energized" and a "change in voltage and current occurs not in the transformers parts, but in the characteristics of the energy passing through these components."[90] In addition, it stated that:

> a transformer does not generate the magnetism, but, instead the magnetism is generated by the flow of electricity passing through the input electrical cable. The varying magnetism as it is passed into the primary winding is passively captured by the core of a transformer, which efficiently transfer the varying magnetism to the secondary side where it passively induces electrical current in the secondary coil that is connected to the output electrical cable.[91]

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[85] NRC Staff's Testimony of Roy Mathew and Sheila Ray Concerning Contention NYS-8 ("Staff Initial Testimony") at 11 (Mar. 22, 2012) (NRC000031) (ML12338A589).

[86] Degeneff Rebuttal Testimony at 13:12-15 and 16:4-9.

[87] Degeneff Rebuttal Testimony at 20:2-19.

[88] *See* LBP-13-13 at 213-217.

[89] *See* LBP-13-13 at 208-217. For example, Entergy cites its Pre-Filed Testimony (ENTR00091) at A24, as evidence opposing the Board's position. Entergy Petition for Review at 15, FNs 70-72. But this evidence was considered by the Board in LBP-13-13. LBP-13-13 at 214-215, FN 1184. Similarly, Staff's evidence was considered by the Board on pages 208-210 and 217 of LBP-13-13.

[90] LBP-13-13 at 216.

[91] *Id.*

The Board also explained why it rejected Entergy's position that transformers are active because of the change in state from idle to active when they are energized from an electrical source. The Board "reject[ed] this position because to accept it would mean that all electrical devices be considered 'active' because they change state when they are turned on . . .[this] position is at odds with the list of passive components required AMR listed in 10 C.F.R. 54.21(a)(1)(i)."[92] Finally, the Board discussed why it disagreed with Entergy and Staff's argument that transformers are active because the electrons within a transformer change. [93]

Entergy also argues that the Board erroneously "relied upon industry concepts—the 'engineering community's view—on passive and active components."[94] However, it is clear that the Board relied not upon industry concepts, but upon the definition of passive set forth in the Commission's Statement of Consideration ("SOC"). As explained in the SOC, some industry literature categorizes devices that experience a change in state as passive.[95] The Commission explicitly rejected that industry definition of passive, concluding that a "change in properties" should be interpreted to include "a change in state" and devices that change their properties or state are considered active for purposes of 10 C.F.R. Part 54.[96] By examining whether transformers change their properties *or state*, the Board adhered to the SOC's definition of passive.[97] Furthermore, the Board found that Dr. Degeneff's "assessment is relevant to

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[92] *Id.*

[93] *Id.* at 217.

[94] Entergy Petition for Review at 14.

[95] Nuclear Power Plant License Renewal Revisions Statement of Consideration ("SOC"), 60 Fed. Reg. 22,461, 22,477 (May 8, 1995) (NYS000016) (ML12334A509).

[96] *Id.*

[97] *See* SOC at 22,477 ("The Commission has determined that passive structures and components for which aging degradation is not readily monitored *are those that perform an intended function without moving parts or without a change in configuration or properties*." (emphasis added)).

determining whether [transformers] are 'active' or 'passive' *as used in the context of this 10 C.F.R. Part 54 proceeding*."[98]

It is clear that the Board's determination rests on how transformers function—*i.e.* whether they change configuration, properties, or state. The Board found that Entergy and NRC Staff's position that transformers change their state during operation runs counter to the prevailing view of the electrical engineering community.[99] Thus, the Board applied the Commission's definition of active (experiencing a change in state) to the electrical engineering community's view of transformer functionality. The SOC precludes reliance on "industry concepts of 'passive' structures and components," it does not preclude reliance on electrical engineering theories of how a component functions. As transformers are electrical engineering devices, the Board was correct in looking to the electrical engineering community for guidance on how transformers operate.

b. The Board Correctly Concluded That Transformers Are Not Readily Monitorable

(1) The Board Did Not Create a New Definition of Passive

Entergy argues that the Board's finding of fact that transformers are not readily monitorable is erroneous because the Board created a new definition of "passive" that includes components that cannot be readily monitored for incremental degradation. Entergy asserts that

[98] LBP-13-13 at 215-216 (emphasis added). Entergy asserts that the Board took a statement by its witness, Dr. Dobbs, concerning Dr. Degeneff out of context. Entergy Petition for Review at 15, FN 66. Dr. Dobbs stated that Dr. Degeneff relied on the "academic community for support, and the academic community's opinions do not apply in the case of nuclear power." Entergy asserts that Dr. Dobbs was not addressing Dr. Degeneff's credentials but rather the SOC's definition of passive. But Dr. Dobbs was not asked about the SOC, he was asked if any of his testimony was "contrary to the knowledge that a competent expert in the electrical field would have?" In his response he implied that Dr. Degeneff's opinions are not valid because they rely on the academic community for support. *See* Tr. at 4450-51. However, as explained above, Dr. Degeneff did not rely on academic definitions of "active" and "passive," rather he relied on electrical engineering theories of transformer operation.

[99] LBP-13-13 at 215.

"the applicable test for an active component is whether its functionality can be directly monitored, not whether incremental functional degradation can be detected to prevent failure."[100] But the test set forth by Entergy is contrary to the Commission's SOC, which states that the purpose of the license renewal rule is to detect functional degradation, not simply to monitor the functionality of a system, structure, or component ("SSC").

Throughout the proceeding, Entergy has argued that the performance or condition of active components is readily monitored because "the parameter of concern (required function), including any design margins, can be directly measured or observed."[101] Staff asserted that "performance and functionality can be readily monitored in active components"[102] and "active components provide clear indications of gross failure."[103] The State disagreed with their positions, arguing that the purpose of the license renewal rule is not merely to detect functionality or performance, but instead, to detect aging (*i.e.* functional) degradation. [104] Therefore, a component is only readily monitorable if its performance and condition can be monitored for aging degradation. Moreover, because the purpose of AMR is to *prevent* gross failure, not to detect it, whether or not gross failure is readily detectable is irrelevant. [105] Passive SSCs require AMR because their *aging degradation* is difficult to detect, not their failure.[106] The Board agreed with the State, finding that "the ability to detect functional degradation (as

[100] Entergy Petition for Review at 17.

[101] Applicant's Statement of Position Regarding Contention NYS-8 (Electrical Transformers) ("Entergy SOP") at 15 (Mar. 28, 2012) (ENT000090) (ML12338A510).

[102] Staff Initial Testimony at 9.

[103] NRC Staff's Initial Statement of Position on Contention NYS-8 ("Staff SOP") at 12-13 (Mar. 29, 2012) (NRC000030) (ML12338A594).

[104] State of New York Revised Statement of Position NYS-8 at 6-7 (Aug. 6, 2012) (NYSR00413) (ML12340A668).

[105] *Id.*

[106] SOC at 22,476 ("[T]he detrimental effects of aging affecting passive functions of structures and components are less apparent than the detrimental effects of aging affecting the active functions of structures and components.").

opposed to gross failure) is the important criteria for an SSC to be considered 'readily' monitorable."[107]

The Board's position is supported by the SOC, which states that the license renewal rule's "intent was to concentrate efforts on identification of functional degradation."[108] The SOC explains that passive components require AMR because their functional degradation is not as readily apparent as active components' functional degradation.[109] The Commission is concerned with detecting this functional degradation in time so that corrective actions can be taken to prevent future failure.[110] The purpose of the "timely detection of degraded conditions as a result of aging during the period of extended operation"[111] is to maintain an SSC's functionality—*i.e.* to prevent its failure. The SOC explains, "The *focus on maintaining functionality* results in the continuing capability of systems, structures, and components, including supporting systems, structures, and components, to perform their intended functions as designed."[112] Entergy takes issue with the Board's use of the term "incremental," arguing that the SOC "does not discuss 'incremental' functional degradation when discussing the standard for whether a component is active."[113] But the Board uses the term "incremental" interchangeably with the term

[107] LBP-13-13 at 219-20.

[108] SOC at 22,469.

[109] As discussed in the proposed rule amendment, the Commission concluded that "passive, long-lived components should be subject to an aging management review because, in general, *functional degradation of these components is not as readily revealable* so that the regulatory process and existing licensee programs may not adequately manage the detrimental effects of aging in the period of extended operation." SOC at 22,486-87 (emphasis added).

[110] The SOC states, "an appropriate license renewal review would ensure that licensee programs adequately monitor performance or condition in a manner *that allows for the timely identification and correction* of degraded conditions." SOC at 22,469 (emphasis added).

[111] SOC at 22,486.

[112] SOC at 22,475 (emphasis added).

[113] Entergy Petition for Review at 17.

"functional."[114] And the term "incremental" is appropriate in this context because it refers to the functional degradation that occurs slowly over time during the period of extended operations, which is the focus of the license renewal rule.[115]

Entergy and NRC Staff also argue that the Board's finding of fact that transformers are not readily monitorable is erroneous because the Board incorrectly found "that monitorability must include the ability to predict impending failure."[116] Staff asserts that "the purpose of monitoring is not to predict failure, but to prevent it,"[117] while Entergy argues that the SOC "does not require prediction of future failure."[118] But what the Board meant by "predict impending failure" is that existing monitoring programs must yield data that can be used to identify and correct degraded conditions that may cause failure, so that failure can be prevented.[119] If current monitoring of a component's performance and condition does not yield information that will alert a licensee of the need to take corrective action to prevent failure, then that component is not readily monitorable. The Board explained that for passive components there are a "lack of methods that can provide the necessary information about the condition of a component as reflective of the extent of aging degradation on the component's remaining

[114] The Board states: "But, in order for a transformer to be considered 'readily monitorable,' consistent with the direction provided by the Commission in its SOC, a transformer would have to be susceptible to monitoring for *incremental (i.e., functional) degradation*." LBP-13-13 at 231 (citations omitted and emphasis added).

[115] The SOC states, "the changes resulting from detrimental aging effects are gradual." SOC at 22,475.

[116] Staff Petition for Review at 21.

[117] *Id.*

[118] Entergy Petition for Review at 17.

[119] The Board explained that for a component to be readily monitorable, the data produced by the performance and condition monitoring of that component must be "useful in effectively tracking the incremental degradation of [the component] and providing trending data needed to predict its future life—actions that are required in aging management to implement corrective actions before there is a complete loss of the intended function of this component." LBP-13-13 at 234.

qualified life."[120] The Board did not add an additional requirement by calling this the ability to "predict impending failure." In fact, the Board's position is completely consistent with the Commission's SOC, which states that readily monitorable components are those for which performance and condition monitoring can be used to detect functional degradation, in advance of failure, so that corrective actions can be applied and functionality can be maintained.[121] If current performance and condition monitoring of a component does not yield such information, then that component is not readily monitorable.[122]

Finally, Entergy takes issue with the Board's use of the term "trending" in its statement that "those SSCs within the scope of 10 C.F.R. Part 54 that cannot be measured for trending data to predict impending failure could not realistically be considered to be 'readily' monitorable."[123] Entergy asserts that the SOC "does not rely on trending" when discussing the standard for whether a component is active.[124] But the Board's reference to "trending data" is just a reference to the condition monitoring discussed in the SOC. The Board states, "condition monitoring is concerned with changes in performance with time (*i.e.*, trends) in order to predict failure."[125]

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[120] LBP-13-13 at 218, citing to the SOC at 22,477 ("Although there have been significant advances in this area, there is no single method or combination of methods that can provide the necessary information about the condition of electrical cable currently in service regarding the extent of aging degradation or remaining qualified life.").

[121] SOC at 22,471-72 ("On the basis of consideration of the effectiveness of existing programs which monitor the performance and condition of systems, structures, and components that perform active functions, the Commission concludes that structures and components associated only with active functions can be generically excluded from a license renewal aging management review. Functional degradation resulting from the effects of aging on active functions is more readily determinable, and existing programs and requirements are expected to directly detect the effects of aging. . . . As a result of the continued applicability of existing programs and regulatory requirements, the Commission believes that active functions of systems, structures, and components will be reasonably assured in any period of extended operation.").

[122] SOC at 22,486 ("Therefore, *without readily monitorable performance and/or condition characteristics to reveal degradation that exceeds CLB levels (as in the case of passive, long-lived structures and components*) the Commission believes it inappropriate to permit generic exclusion of redundant, long-lived, passive structures and components." (emphasis added)).

[123] Entergy Petition for Review at 16, referring to LBP-13-13 at 220.

[124] Entergy Petition for Review at 17.

[125] LBP-13-13 at 218.

Thus "trending data" is information produced by condition monitoring, which alerts a licensee to functional degradation occurring within a component. This statement is fully supported by the SOC: "Once functional degradation is identified through performance or condition monitoring, corrective actions can be applied."[126] Entergy's narrow focus on semantics does not point to a material error in the Board's decision, especially because as agency guidance, the SOC, is not binding and does not trump NRC regulations.[127]

(2) The Board Correctly Found That Performance and Condition Monitoring Do Not Readily Monitor Aging Degradation in Transformers

Both Entergy and NRC Staff assert that the Board's finding that transformers are not readily monitorable is erroneous because they presented evidence that transformer function can be directly monitored through output voltage and current at the terminals. However, the Board properly found that a transformer's functional degradation cannot be detected by monitoring its voltage and current. Throughout the proceeding, both Entergy and NRC Staff argued that transformers are readily monitorable because changes in transformer terminal voltages and currents are directly measurable and "[a]ny degradation of the transformer's ability to perform its intended function is readily monitorable by a change in the electrical performance of the transformer and the associated circuits."[128] The State disagreed with their positions, presenting evidence that transformers will experience various kinds of age related degradation that are not detectable by monitoring a transformer's electrical performance.[129] For example, polymerization—the disintegration of longer polymer chains into smaller polymer chains—

[126] SOC at 22,469.

[127] *See New Jersey v. U.S. Nuclear Regulatory Comm'n*, 526 F.3d 98, 103 (3d Cir. 2008).

[128] *See e.g.* Entergy SOP at 30-31(quoting the Grimes Letter); Staff SOP at 5-6.

[129] Degeneff Report at 14-17 and 27-32; Degeneff Initial Testimony at 29-37; Degeneff Rebuttal Testimony at 38-43; NYS-8 State Proposed Findings at 59-63.

results from normal transformer operation and diminishes the insulation integrity of the transformer windings. Polymerization has a dramatic effect on the electrical strength of the transformer, but until an electrical failure occurs, polymerization does not affect the operating characteristics of the transformer.[130] This evidence disproved Entergy's and Staff's position that functional degradation will be apparent in the electrical performance of the transformer. Furthermore, at the evidentiary hearing, witnesses for Entergy and Staff admitted that monitoring a transformer's electrical performance does not give an indication of the transformer's internal condition.[131] After weighing the evidence, the Board properly concluded that "monitoring voltage, current, and magnetism within a transformer is not effective in monitoring the functional degradation of this component as it ages during the PEO."[132] Entergy and NRC Staff further asserted that transformers are readily monitorable because their failure is obvious.[133] However, as discussed above, the Board properly found that the purpose of the license renewal rule is to prevent failure, not to detect it, so detecting failure cannot make transformers readily monitorable.[134]

Entergy and Staff argue that even if the correct test for monitorability is whether transformers can be monitored for functional degradation, the Board ignored evidence that transformer performance and condition are monitored through ongoing 10 C.F.R. Part 50 preventative maintenance programs. While the Board considered this evidence, it instead found

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[130] Degeneff Report at 14; Degeneff Initial Testimony at 31-32; Degeneff Rebuttal Testimony at 43; NYS-8 State Proposed Findings at 64. Dr. Degeneff gave other examples including diminished mechanical and structural integrity of the core and coil assembly, deformed windings, and movement of the winding structure. Degeneff Initial Testimony at 32-33.

[131] NYS-8 State Proposed Findings at 61-62.

[132] LBP-13-13 at 231.

[133] Staff SOP at 9-10 and 12-13; Staff Initial Testimony at 8; Entergy SOP at 31; Testimony of Applicant Witnesses Roger Rucker, Steven Dobbs, John Craig, and Thomas McCaffrey ("Entergy Initial Testimony") at 107, A116 (Mar. 30 2012) (ENTR00091) (ML12339A578).

[134] LBP-13-13 at 258.

that "Entergy and NRC Staff did not provide evidence sufficient to establish that these alternative tests would be successful in consistently tracking the progressive degradation of transformers so as to make these components 'monitorable.'"[135] The Board's finding is supported by record. The State presented evidence that the monitoring that takes place under preventative maintenance programs does not identify all forms of aging degradation in transformers.[136] It also presented evidence that some forms of aging degradation can only be identified by taking the transformer offline and conducting an internal inspection of it.[137] Moreover, the State provided evidence that the infrequent testing that occurs under the preventative maintenance program has been unable to prevent numerous transformer failures at nuclear plants around the country, including several transformer failures at Indian Point.[138] All of this evidence showed that transformers are not easily monitored for aging degradation.

(3) The Board Did Not Challenge the Current Licensing Basis

Entergy argues that the Board erred in its finding that transformers are not readily monitored because its "conclusions regarding the insufficiency of ongoing transformer preventive maintenance . . . represent an impermissible challenge to current operations."[139] Entergy is mistaken.[140] The Board did not examine ongoing transformer preventive maintenance in order to determine if those activities are sufficient under the current licensing basis ("CLB"). Instead, it looked at those activities to determine if functional degradation is readily monitored in

[135] LBP-13-13 at 232.

[136] Degeneff Report at 31-32; Degeneff Initial Testimony at 34-37; NYS-8 State Proposed Findings at 63-65.

[137] *Id.*

[138] Degeneff Report at 17-22; Degeneff Initial Testimony at 38-41; NYS-8 State Proposed Findings at 65-74.

[139] Entergy Petition for Review at 18.

[140] As explained below, Entergy erroneously argued that AMR is not required for transformers because they are covered under the maintenance rule. However, coverage under the maintenance rule does not affect whether a component is subject to AMR.

transformers. The Board found that "Entergy is using a variety of tests to monitor transformers under its CLB, but no evidence has been provided by any of the parties indicating that the incremental degradation of transformers can be successfully monitored to predict impending failure on a consistent basis."[141] The Board did not find that Entergy's transformer maintenance program is insufficient for purposes of the CLB, nor does its ruling have any effect on Indian Point's CLB. In fact, the Board expressly stated, "the mere fact that the intended function of transformers is being monitored in accordance with the CLB does not exempt them from needing to be included in an AMR program for license renewal."[142]

c. The Board Did Not Err in Comparing Transformers to Other Components

Entergy argues that the Board's finding that transformers are more similar to devices and components that require AMR than with those that do not require AMR is facially deficient because the Board's findings only focused on a few specific examples of AMR-excluded components and did not fully consider or address Entergy's testimony.[143] But "the Board was not required to address every piece of record evidence" and "[i]ts decision not to do so here does not constitute clear error, nor does it indicate that the Board did not take that evidence into account."[144] The Board required representations from the parties to help it determine whether transformers are more similar to the included or excluded component examples in 10 C.F.R. § 54.21(a)(1)(i). Approximately twenty-two pages of the Board's decision on NYS-8 are devoted to its comparison of transformers to other components.[145] The Board gave detailed descriptions

[141] LBP-13-13 at 257.

[142] LBP-13-13 at 258.

[143] Entergy Petition for Review at 20-21.

[144] *Honeywell Int'l, Inc.*, CLI-13-01, 2013 NRC LEXIS *52.

[145] LBP-13-13 at 235-256.

of the parties' evidence concerning electrical cables, piping, transistors, batteries, heat exchangers, steam generators, reactor vessels, power supplies, inverters, circuit boards, battery chargers, and circuit breakers. The Board considered the positions of the parties, stating: "Ultimately, the best we can hope for is to weigh the arguments provided by the parties and determine to what group of components, generally, a transformer is most similar to and what group a transformer is most dissimilar."[146] After weighing the evidence accordingly, the Board concluded that the State's evidence, offered through the testimony of Dr. Degeneff, was more persuasive.[147] The Board was justified in focusing its decision on those components that are more relevant to transformers, as well as those components on which the parties submitted the bulk of their evidence.

Entergy complains that the Board did not engage in a more detailed discussion of electrical components such as relays, power inverters, battery chargers and power supplies. However, Entergy grouped these components together, arguing that their construction details are "irrelevant" and that they are all excluded from AMR for one reason: "The common characteristic of these electrical components is that each has terminal voltages and currents (*i.e.*, properties) that change as the component performs its required function, and which can be directly measured or observed."[148] The Board addressed this argument in its decision, concluding that it "ultimately collapse[s] under our finding that transformers do not change properties or state during operation."[149] Entergy is dissatisfied with this explanation, stating that "the Board erred in its consideration of substantial Entergy and Staff evidence about how

[146] LBP-13-13 at 252.

[147] *See* Degeneff Report at 6-13; Degeneff Initial Testimony at 16-29; Degeneff Rebuttal Testimony at 21-33; NYS-8 State Proposed Findings at 45-58.

[148] Entergy SOP at 33 (internal citations omitted).

[149] LBP-13-13 at 253.

transformers are more like AMR-excluded electrical components." First, as explained above, Entergy and Staff's evidence was far from "substantial"—Entergy did not discuss the construction or functional details of these components, but instead gave only one reason for their alleged similarity to transformers. Second, the Board's rejection of Entergy's argument is well supported by its decision, which explains why terminal voltages and currents are not properties of a transformer and also explains that directly measuring or observing terminal voltages tells nothing of a transformer's internal condition, and thus is of little use in detecting functional degradation.[150] Moreover, evidence provided by the State explains the relevant differences between transformers and AMR excluded electrical components.[151]

Entergy also asserts that the Board erred by finding transformers more closely aligned with mechanical components that require AMR, than with electrical components that do not. But Entergy ignores the Board's finding that transformers are similar to electrical cables, which require AMR. The Board stated, "We find that transformer parts are the same prior to, during, and after being energized, similar to electrical cables that are designated "passive" components that do not change with the flow of electricity."[152] Moreover, the Board found that the challenges of monitoring functional degradation in transformers are similar to those in cables.[153] This finding is supported by the testimony of Dr. Degeneff.[154]

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[150] LPB-13-13 at 213-17 and 230-35.

[151] Degeneff Report at 8-13; Degeneff Initial Testimony at 21-29; Degeneff Rebuttal Testimony at 28-32; NYS-8 Proposed State Findings at 55-58.

[152] LBP-13-13 at 216.

[153] LBP-13-13 at 232 ("Consistent with the thorough discussion in the SOC regarding the challenges in monitoring electrical cables, we find that there has been no persuasive evidence proffered in this proceeding that any of these other tests will effectively monitor for impending failure of a transformer.").

[154] Dr. Degeneff explained: "Just as aging degradation can cause embrittlement in cables that is difficult to detect, it can also cause embrittlement (reducing the degree of polymerization) in transformer insulation structures that cannot be detected simply by monitoring the voltage and current moving through the transformer. The concern with both is exactly the same—as the insulation embrittles and degrades, the component's ability to withstand electrical stress

Entergy also alleges that the Board erred in its comparison of transformers and transistors because transistors are "perhaps the item in the AMR-excluded list that is most similar to transformers," but the evidence shows that is not the case. Entergy argues that the two components are similar because "the change in resistivity in a transistor is directly analogous to the change in the magnetic field inside a transformer."[155] But the Board considered and rejected this argument, finding that "the change in magnetism does not occur in the transformer itself (as the change in state does with transistor operation), but, rather is caused by the changes in the alternating current flowing through the transformer."[156] Further it found Entergy's argument flawed since to accept it, "one also would have to consider cables to be 'active' devices because of this change in magnetism."[157] The Board's findings are supported by the record.[158]

In its petition for review, Entergy asserts that "there is no monitoring of transistors for slow degradation . . . which is directly contrary to the Board's new requirement for whether a component is active."[159] First, this is a new fact-based argument that Entergy did not raise before the Board and did not present any evidence to support, therefore, it cannot be raised for the first time on appeal. Second, and more to the point, the Board has not imposed a new requirement mandating that a component be monitored for slow degradation in order to be active. Instead, the Board found that transformers would need to be "susceptible" to monitoring

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decreases. This decrease cannot be observed in the electrical performance of the transformer or the cable, and left undetected will lead to catastrophic insulation failures." Degeneff Rebuttal Testimony at 23-24.

[155] Entergy Petition for Review at 20.

[156] LBP-13-13 at 255.

[157] LBP-13-13 at 255.

[158] Degeneff Report at 8-13; Degeneff Initial Testimony at 21-26; Degeneff Rebuttal Testimony at 28-30; NYS-8 Proposed Findings at 55-57.

[159] Entergy Petition for Review at 20.

for functional degradation in order to be considered *readily monitorable*.[160] It concluded that "this inability to readily monitor a device is *a characteristic associated with* a 'passive' SSC that *indicates* the component must be included under AMR for license renewal."[161]

2. The Board's Legal Conclusions Are Not a Departure from Established Law

Although it reviews a Board's legal conclusions *de novo*, the Commission will reverse those conclusions only "if they are a departure from or contrary to established law."[162] The Commission should uphold the Board's legal conclusions because Entergy and NRC Staff have failed to meet this standard.

a. The Board Did Not Depart from Established Law Because Agency Guidance is Not Binding

Entergy and NRC Staff argue that the Board's decision departs from established law because it dismisses longstanding regulatory guidance. However, since regulatory guidance is merely "NRC staff advice,"[163] the Board's decision does not depart from established law. The Commission, Atomic Safety and Licensing Boards ("ASLBs"), and federal courts have consistently held that guidance documents are not binding and do not have the force of regulations. [164] When a guidance document on which an agency has relied is challenged in an

[160] LBP-13-13 at 231.

[161] *Id*. at 257-258.

[162] *Tennessee Valley Authority* (Watts Bar Nuclear Plant, Unit 1; Sequoyah Plants, Units 1 & 2; Browns Ferry Nuclear Plant, Units 1, 2 & 3), CLI-04-24, 60 N.R.C. 160, 190 (2004) (internal quotations omitted).

[163] *International Uranium (USA) Corp.* (Request for Materials License Amendment), CLI-00-01, 51 N.R.C. 9, 19 (2000).

[164] *See New Jersey v. U.S. Nuclear Regulatory Comm'n*, 526 F.3d at 103 ("NRC has characterized NUREGs and other NRC guidance documents as 'routine agency policy pronouncements that do not carry the binding effect of regulations.'"); *Curators of the University of Missouri* (TRUMP-S Project), CLI-95-1, 41 N.R.C. 71, 98 (1995); *Entergy Nuclear Generation Company and Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), LBP-08-22, 68 N.R.C. 590, 614 (2008) (NRC guidance documents "may be challenged in an adjudicatory proceeding."); *Crow Butte Resources Inc.* (North Trend Expansion Project), LBP-08-06, 67 N.R.C. 241, 323 (2008); and *USEC, Inc.* (American Centrifuge Plant), 65 N.R.C. 429, 440 n.31 (2007) (NRC guidance documents "are not substitutes for regulations and are not binding authority.").

adjudicatory proceeding, the agency must defend its position and "cannot claim that the matter is foreclosed by a prior policy statement."[165] The Commission reiterated this principle in *Seabrook*, making it clear that guidance documents are not binding in individual proceedings. [166]

Moreover, in *Seabrook* the Commission did *not* endorse the Staff's 1997 Grimes Letter. While the Commission acknowledged the existence of the Grimes Letter, it specifically recognized the intervenors' right to challenge such guidance: "The Board is correct that the applicability of a guidance document may be challenged in an individual proceeding."[167] Although *Seabrook* dealt with a transformer contention, the Commission did not determine whether transformers are subject to AMR under 10 C.F.R. § 54.21. Instead, it rejected the *Seabrook* transformer contention at the contention admissibility stage because the intervenors did not provide sufficient support for the contention, not because the contention was contrary to the Staff's 1997 guidance. Therefore, the Board was correct when it found that "the Seabrook decision does not control our determination in this proceeding."[168]

Entergy and NRC Staff argue that the Staff's guidance on transformers is entitled to "special weight" because it is "at least implicitly endorsed by the Commission."[169] However,

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[165] *See Guardian Federal Savings & Loan Ass'n v. Federal Savings & Loan Insurance Corp.*, 589 F.2d 658, 666 (D.C. Cir. 1978) ("'A general statement of policy . . . does not establish a 'binding norm.' It is not finally determinative of the issues or rights to which it is addressed.' When the agency applies the policy in a particular situation, it must be prepared to defend it, and cannot claim that the matter is foreclosed by the prior policy statement." (internal citations omitted)).

[166] *Seabrook* at 320 and 338-39. The Commission cited *International Uranium (USA) Corp.* (Request for Material License Amendment), CLI-00-1, 51 N.R.C. 9, 19 (2000), which states: "The Commission, however, is not bound by the Guidance. Like NRC NUREGs and Regulatory Guides, NRC Guidance documents are routine agency policy pronouncements that do not carry the binding effect of regulations. . . . "[A]gency interpretations and policies are not 'carved in stone' but rather must be subject to re-evaluations of their wisdom on a continuing basis." (internal citations omitted).

[167] *Seabrook* at 320.

[168] LPB-13-13 at 205.

[169] Staff Petition for Review at 18-19; Entergy Petition for Review at 21-22. Entergy also argues that the transformer guidance contained in NEI 95-10 is entitled to "special weight." However, there is no requirement that "special weight" be given to industry guidance documents. *See Entergy Nuclear Vt. Yankee, L.L.C.* (Vermont

"[w]here such guidance documents conflict or are inconsistent with a regulation, the latter of course must prevail."[170] Accordingly, the Board gave appropriate weight to Staff's guidance by considering its position and weighing it against the contrary evidence presented by the State.[171] Once the Board found that the position "expressed in the Grimes Letter is incorrect in that electrical transformers are 'passive' components," it was appropriate for the Board to dismiss that guidance as conflicting with the NRC regulations.[172]

Entergy and NRC Staff also argue that the Board's decision on NYS-8 departs from established law because it is contrary to the "Commission's treatment of transformers in every license renewal to date as active components not subject to AMR." However, no other license proceeding has actually examined the validity of Staff's transformer guidance and therefore, no other proceeding has "established law" in this regard. The fact that NRC Staff's guidance was not challenged in an earlier proceeding does not mean Staff's position is correct or "established law"—it simply means that its nonbinding theory of transformer operation has not been scrutinized in an adjudicatory proceeding.

Yankee Nuclear Power Station) 68 N.R.C. 763, 868-869 (2008), *rev'd in part on other grounds*, CLI-10-17, 72 N.R.C. 1 (2010).

[170] *Long Island Lighting Company* (Shoreham Nuclear Power Station, Unit 1), ALAB-900, 28 N.R.C. 275, 290-91 (1988), *review denied*, CLI-88-11, 28 N.R.C. 603 (1988); *United States DOE* (High Level Waste Repository: Pre-Application Matters), LBP-04-20, 60 N.R.C. 300, 331 (2004) ("We note in this regard that while guidance found in regulatory guides and Statements of Considerations that conflict with or are inconsistent with a regulation cannot of course trump the plain meaning of the regulation . . .").

[171] Contrary to Staff's claim, the Board did not "summarily reject these NRC guidance documents." Instead, it gave full consideration to Staff's position and thoroughly considered the positions set forth in the guidance. LBP-13-13 at 203-205 and 208-217.

[172] *See Entergy Nuclear Vt. Yankee, L.L.C.*, 68 N.R.C. at 868-869 ("Further, we reject any suggestion that NRC guidance is on par with NRC regulations (which are legally binding)."); *Long Island Lighting Company*, 28 N.R.C. at 290-91 ("To the extent that [NRC guidance documents] suggest such an interpretation, those guidance documents conflict with the language and structure of the regulation and thus may not be relied upon.").

3. Entergy and NRC Staff Have Failed to Show That Public Interest Supports Review

Finally, Entergy and NRC Staff argue that the Board's decision on NYS-8 raises "substantial policy questions that are in the public interest to be reviewed" because the NRC has never concluded that a Part 54 AMP is necessary in approving license renewal applications for 73 reactor units to date. However, the Board's ruling that AMR is required for certain transformers at Indian Point is of no consequence to those facilities that have already received license renewals. Moreover, the Board's decision carries no precedential weight, so its positions regarding transformers are not controlling in other proceedings.[173] Under Entergy and NRC Staff's standard, the Commission would need to automatically review all Board decisions ruling in favor of an intervenor because they could trigger contentions in other proceedings. This would diminish the Commission's review standards[174] and Licensing Board's authority to make factual and legal determinations, as well as create a disproportionate burden on intervenors.

Entergy asserts that the Board's decision has "potentially wide-reaching consequences" because it "blur[s] the dichotomy between 10 C.F.R. Parts 50 and 54, and would require review of the effectiveness of longstanding Part 50 programs (e.g., maintenance rule program) to determine if AMPs are needed for certain SSCs."[175] But as explained above, the Board's decision has no effect on 10 C.F.R. Part 50 or the maintenance rule program. The Board reviewed Entergy's actions under the maintenance rule only in order to determine whether transformers are readily monitorable. Contrary to Entergy's assertions, the Board did not find that AMR is required because the maintenance rule or CLB is insufficient. In fact, the Board

[173] *David Geisen*, 72 N.R.C. at 222, n.49; *See, e.g., Entergy Nuclear Operations, Inc.* (Palisades Nuclear Plant), CLI-08-19, 68 N.R.C. 251, 263 n.40 (2008); *Aharon Ben-Haim*, CLI-99-14, 49 N.R.C. 361, 364 (1999).

[174] *Cf. Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3), CLI-11-14, 74 N.R.C. 801, 812, n. 66 (2011).

[175] Entergy Petition for Review at 23.

found that Entergy's current "plan, combined with the corporate fleet-wide programs and plant specific procedures, provides some degree of assurance that the transformers will operate satisfactorily until the planned replacement date of the transformers."[176]

Entergy's misapprehension is caused by the fact that it erroneously argued that AMR is not required for transformers because they are covered under the maintenance rule. But the State explained that the criteria for AMR in the license renewal rule are clear and do not exclude components covered by the maintenance rule. In fact, the SOC states that "[p]assive, long-lived structures and components that are the focus of the license renewal rule *are also within* the requirements of the maintenance rule."[177] Therefore, the fact that transformers are included in the maintenance rule is irrelevant to determining whether they are passive and require AMR. The Board's decision acknowledges this distinction[178] and therefore does not "blur the dichotomy between 10 C.F.R. Parts 50 and 54." Accordingly, Entergy and NRC Staff have failed to show that public interest supports review and their petitions should be denied.

III. CONTENTION NYS-35/36

Consolidated Contention NYS-35/36 challenged the December 2009 SAMA Reanalysis and its conclusions for the Indian Point reactors. More than two years have passed since the Board's last decision resolving NYS-35/36 on summary disposition. In that time, Entergy has prepared and submitted to NRC Staff and the Board another revised SAMA analysis. Entergy submitted this May 2013 SAMA Reanalysis to provide engineering cost estimates and inform NRC Staff and the Board that it has committed to implement four cost-beneficial SAMA

[176] LBP-13-13 at 234.

[177] SOC at 22,470.

[178] The Board states, "In summary, 10 C.F.R. § 54.30, does not per se exclude SSCs that currently fall under the maintenance rule from 10 C.F.R. Part 54 requirements. The only structures and components excluded from AMR are those with "active" functions that are readily monitorable." LPB-13-13 at 207.

candidates. NRC Staff is currently reviewing this new information, and may supplement the Final Supplemental Environmental Impact Statement ("FSEIS").[179] Despite these ongoing efforts, Staff and Entergy have submitted untimely petitions—Entergy's third and NRC Staff's second attempts—for Commission review of NYS-35/36. In denying the previous petitions, the Commission was clear that review would be appropriate after a final decision, not a PID. The Commission should also deny the latest petitions because they seek review of the Board's *prior* decisions concerning Contention NYS-35/36—not the PID. Thus, they are interlocutory and neither Entergy nor Staff have met the criteria for interlocutory review. Furthermore, the petitions are unripe because NRC Staff has not completed review of Entergy's new May 2013 SAMA Reanalysis.

In the event the Commission accepts Staff's and Entergy's petitions for review, it should deny them on the merits because, as explained in more detail below, the Board's decisions are well-reasoned and supported by law. The State has briefed these issues many times and, therefore, incorporates by reference its previous submissions on NYS-35/36.[180]

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[179] NUREG-1437, *Volumes 1-3: Supplement 38: Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3 – Final Report* (Dec. 2010) (NYS00133A-J).

[180] The State incorporates its previous presentations on NYS-35/36 by reference, including: State of New York's Motion for Leave to File New and Amended Contentions Concerning the December 2009 Reanalysis of Severe Accident Mitigation Alternatives ("NYS-35/36 Motion for Leave"), with Contentions NYS-35 and NYS-36 and Statement of David Chanin attached (Mar. 11, 2010) (ML100780366); 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 Alternatives Analysis (Apr. 12, 2010) (ML101160415); Tr. (ASLB conference) at 830-99 (Apr. 19, 2010) (ML101160416); The State of New York and the State of Connecticut's Combined Reply to Entergy and NRC Staff Petitions for Interlocutory Review of the Atomic Safety & Licensing Board's Decision Admitting Contentions 35 and 36 (LBP-10-13) (Jul 26, 2010) (ML102110086) ("Jul. 26, 2010 NYS/Conn. Combined Reply LBP-10-13"); State of New York's Motion for Summary Disposition of Consolidated Contention NYS-35/36 (Jan. 14, 2011) (ML110270252); The State of New York and the State of Connecticut's Joint Answer in Opposition to Entergy's Petition for Interlocutory Review of LBP-11-17 (Aug. 11, 2011) (ML11228A030) ("Aug. 11, 2011 NYS/Conn. Joint Answer LBP-11-17"); The State of New York and the State of Connecticut's Combined Motion for Leave to File a Brief Reply to NRC Staff's Answer to Applicant's Petition for Review of LBP-11-17 (Aug. 16, 2011) (ML11265A109); The State of New York and the State of Connecticut's Combined Reply to NRC Staff's Answer in Support of Entergy's Petition for Interlocutory Review of LBP-11-17 (Aug. 16, 2011)

A. The Petitions for Review of the Board's Decisions on NYS-35/36 Are Untimely Interlocutory Petitions for Review of Earlier Board Decisions

1. Entergy and NRC Staff Must Wait Until the End of the Proceeding for Review of NYS-35/36 as the Commission Explained in Denying Three Prior Petitions for Interlocutory Review

On March 11, 2010, the State of New York submitted Contentions 35 and 36 to the Board.[181] These contentions challenged Entergy's December 2009 SAMA Reanalysis[182] and its conclusions. NYS-35 asserted that Entergy had not sufficiently completed the cost-benefit calculations and analysis for SAMAs candidates it identified as "potentially cost-beneficial." Although Entergy stated it intended to perform an "engineering project" cost-benefit analysis at some future time, NRC Staff had not required that Entergy include that analysis in the Indian Point SAMA analysis. NYS-36 asserted that NRC Staff failed, under the National Environmental Policy Act ("NEPA"), Administrative Procedure Act ("APA"), and *Limerick Ecology Action, Inc. v. NRC*, 869 F.2d 719 (3d Cir. 1989) ("*Limerick*"),[183] to require implementation of cost-beneficial SAMA candidates or to provide a rational basis explaining why they need not be

(ML11265A109); The State of New York and the State of Connecticut's Combined Motion to Strike Entergy's Unauthorized Reply in Support of NRC's Answer to Entergy's Petition for Review (Aug. 17, 2011); The State of New York's Request for Oral Argument on the Merits of Entergy's Petition for Review Should the Commission Accept Interlocutory Review (Aug. 11, 2011) (ML11228A030); Tr. (ALSB conference) at 4486-4559 (Jun. 10, 2013) (ML13170A126); State of New York's Answer to Entergy's Motion for Clarification Regarding the Timing of Adjudicatory Submissions Related to Entergy Letter NL-13-075 (Jul. 5, 2013) (ML13186A215).

[181] NYS-35/36 Motion for Leave.

[182] ENT000009, Entergy NL-09-165, License Renewal Application – SAMA Reanalysis Using Alternate Meteorological Tower Data (Dec. 14, 2009), Attachment 1, ("December 2009 SAMA Reanalysis").

[183] *Limerick* directed NRC to develop a site-specific analysis of severe accident consequences and mitigation measures. In 1996, following the 1989 mandate in *Limerick*, NRC promulgated regulations outlining the procedure for evaluating the risk of severe accidents on a site-specific basis in a SAMA analysis, but deferred that analysis until a reactor sought to extend its initial operating license. *See* NYS00133B FSEIS at 5-4:12. The applicant must first complete a SAMA analysis as part of its Environmental Report. 10 C.F.R. § 51.53(c)(3)(ii)(L). Then, Staff reviews the applicant's SAMA analysis and presents the results of its review in its supplemental environmental impact statement. 10 C.F.R. § 51.95(c)(4); 10 C.F.R. §§ 51.53(c)(3)(ii)(L), 51.71(d).

implemented. On June 30, 2010, the Board admitted these contentions in part, over Staff and Entergy's opposition, and combined them as NYS-35/36.[184]

In July 2010, Staff and Entergy filed separate petitions for interlocutory review of the Board's contention admissibility decision in LBP-10-13.[185] The Commission denied the petitions for review "without prejudice to Entergy's and the Staff's ability to file petitions for review following a *final order by the Board*."[186] The Commission found that NYS-35/36 would not impose requirements so substantial as to warrant interlocutory review:

> To the extent that the contention may call for further "explanation" of the SAMA analysis conclusions, we see no unusual or pervasive impact on the proceeding. Similarly, to the extent that the Board has admitted the issue of whether the current SAMA cost-benefit estimates are sufficient for the NEPA analysis, we can discern no "extraordinary" impact on the proceeding.[187]

In January 2011, the State of New York filed a motion for summary disposition of NYS-35/36 over Staff's and Entergy's opposition and cross-motions.[188] On July 14, 2011, the Board granted summary disposition of NYS-35/36, finding that Staff did not provide a valid reason for not implementing improvements to mitigate severe accidents. The Board also found that "Entergy's licenses cannot be renewed unless and until the NRC Staff reviews Entergy's completed SAMA analyses and either incorporates the result of these reviews into the FSEIS or,

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[184] *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3), LBP-10-13, 71 N.R.C. 673, (June 30, 2010) ("LBP-10-13").

[185] Applicant's Petition for Interlocutory Review of LBP-10-13 (July 15, 2010) (ML102030050); NRC Staff's Petition for Interlocutory Review of the Atomic Safety and Licensing Board's Decision Admitting New York State Contentions 35 and 36 on Severe Accident Mitigation Alternatives (LBP-10-13) (July 15, 2010) (ML101970197).

[186] *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3), CLI-10-30, 72 N.R.C. 564, 569 (Nov. 30, 2010) ("CLI-10-30") (emphasis added).

[187] *Id.*

[188] State of New York's Motion for Summary Disposition of Consolidated Contention NYS-35/36 (Jan. 14, 2011) (ML110270252); NRC Staff's (1) Cross-Motion for Summary Disposition, and (2) Response to New York State's Motion for Summary Disposition, of Contention NYS-35/36 (Severe Accident Mitigation Alternatives) (Feb. 7, 2011) (ML110400012); Applicant's Consolidated Memorandum in Opposition to New York State's Motion for Summary Disposition of Contention NYS-35/36 and in Support of Its Cross-Motion for Summary Disposition (Feb. 3, 2011) (ML110460187); Response of Attorney General of Connecticut in Support of New York's Motion for Summary Disposition of Consolidated Contention NYS-35/36 (Feb. 3, 2011) (ML110400479).

in the alternative, modifies its FSEIS to provide a valid reason for recommending the renewal of the licenses before the analysis of potentially cost-effective SAMAs is complete and for not requiring the implementation of cost-beneficial SAMAs."[189]

In July 2011, Entergy filed a petition for interlocutory review of LBP-11-17, which Staff supported and the State opposed.[190] Again, the Commission declined to take interlocutory review, finding that Entergy "must await the Board's *final decision* in this proceeding."[191] The Commission was clear in finding that "Entergy will have the opportunity to raise these issues [regarding NYS-35/36] *at the end of the case*."[192] In denying interlocutory review, the Commission found that "the Board's decision, in our view, does not appear patently unreasonable" because the Board "provided the Staff with an option to explain further its reasoning for not requiring implementation of cost-beneficial SAMAs in the context of this license renewal review."[193]

Now Entergy has filed a third, and NRC Staff has filed a second, petition for review. The Commission should deny these petitions for the same reasons their prior petitions were denied. As the Commission has explained—twice—review of the earlier Board decisions on NYS-35/36 will not be appropriate until the end of the proceeding.

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[189] *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), LBP-11-17, 74 N.R.C. 11, 27 (July 14, 2011) ("LBP-11-17").

[190] Entergy's Petition for Review of LBP-11-17 Granting Summary Disposition of Consolidated Contention NYS-35/36 (July 29, 2011) (ML11217A066); NRC Staff's Answer to Applicant's Petition for Review of LBP-11-17 Granting Summary Disposition of Consolidated Contention NYS-35/36 (Aug. 11, 2011) (ML11223A480); Aug. 11, 2011 Joint Answer LBP-11-17; Applicant's Reply to the Joint Answer of New York State and Connecticut to Entergy's Petition for Review of LBP-11-17 (Aug. 16, 2011) (ML11235A901); Applicant's Reply to the NRC Staff's Answer to Entergy's Petition for Review of LBP-11-17 (Aug. 16, 2011) (ML11235A900).

[191] *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 & 3), CLI-11-14, 74 N.R.C. 801, 803 (Dec. 22, 2011) (emphasis added) ("CLI-11-14").

[192] *Id.* at 812.

[193] *Id.* at 813.

2. NYS-35/36 Is Not Part of the November 27, 2013 Partial Initial Decision

The PID did not discuss NYS-35/36 except to succinctly note that the Board admitted it and decided it on summary disposition, the Commission denied interlocutory review twice, and NRC Staff is reviewing new information from Entergy relevant to the contention.[194] On NYS-35/36, NRC Staff and Entergy are not appealing the PID, but instead are appealing the Board's 2010 and 2011 orders on contention admissibility and summary disposition. They cite no regulatory provision authorizing such review of the prior orders on NYS-35/36 at this juncture in the proceeding.

The regulations provide that only petitions for review of a "full or partial initial decision" are authorized.[195] All other petitions for review are interlocutory. The Commission explained that "[a] partial initial decision is one rendered following an evidentiary hearing on one or more contentions, but that does not dispose of the entire matter."[196] "The provision expressly permitting immediate review of a 'partial initial decision' [in 10 C.F.R. § 2.341(b)(1)] is an exception to the Commission's established policy of disfavoring interlocutory appeals."[197] Hence, "[a] grant of summary disposition does not fall within this codified exception."[198] With respect to contention admissibility, appeals are interlocutory except as to the question of whether a petition to intervene and/or request for hearing that was denied in its entirety should have been granted or on the question of whether it should have been wholly denied.[199]

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[194] PID at 7-8, 10, Appendix A at A3.

[195] 10 C.F.R. § 2.341(b)(1).

[196] *Entergy Nuclear Generation Co. & Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), CLI-08-02, 67 N.R.C. 31, 34 (Jan. 15, 2008).

[197] *Id.* at 34-35.

[198] *Id.* at 35.

[199] *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-13-03, 78 N.R.C. __, slip op. at 5 (Feb. 20, 2013) (ML13051A496) (intervener may challenge the Board's contention admissibility decision "at the end of the case.").

In the PID, the Board rendered a *partial* initial decision for nine "Track 1" contentions. The PID notes that "an additional six contentions (the 'Track 2' contentions) will not be heard until the NRC Staff completes its safety and environmental review.[200] Entergy and NRC Staff's arguments that the PID resolves a "major segment of the case" because it resolved nine admitted contentions, including two other SAMA contentions (Entergy Petition at 50; Staff Petition at 58), misapprehends CLI-11-14 and disregards the fact that the NYS-35/36 Board orders are not part of the partial initial decision.[201]

In CLI-11-14, the Commission stated:

> In *Pilgrim*, we explained that the basis for our allowing immediate appellate review of partial initial decisions rests on prior Appeal Board decisions permitting review of a licensing board ruling that "'disposes of . . . a major segment of the case or terminates a party's right to participate.'"[202]

Thus, the "major segment of the case" rationale supports the appeal of partial initial decisions—not orders that are outside the scope of partial initial decisions. The Commission already explicitly rejected the notion that NYS-35/36 constitutes a major segment of the case.[203] The Commission should reject Entergy and NRC Staff's latest attempt to incorrectly repurpose the Commission's "major segment of the case" language to argue that matters *beyond* the partial initial decision are also litigable at the initial decision's appellate phase.

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[200] PID at 1, n.1.

[201] Entergy states without citation that NYS-35/36 was originally part of Track One. Entergy Petition at 6. A review of relevant pre-hearing discussions shows that these two contentions were decided on summary disposition before the Track One/Track Two divide occurred. *Compare* LBP-11-17 (decided July 14, 2011) *with* Tr. (Teleconference) at 998:15-18 (Dec. 6, 2011) (ML11346A011) (The Board acknowledged the need for a separate track for NYS-38 by stating "I also understand that obviously New York 38/Riverkeeper 5 are going to be on a different schedule than the rest.") (J. McDade). Indeed, on June 7, 2011, the Board issued an Amended Scheduling Order affirming its decision not to bifurcate the hearing; this Order was in place when NYS-35/36 was decided on summary disposition. *See Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3), Amended Scheduling Order at 2 (Jun. 7, 2011) (ML111580396). NYS-35/36 was already decided—that is, it was not on Track One—before the separate tracks came into being.

[202] CLI-11-14 at 13 (citing *Pilgrim*, CLI-08-2, 67 N.R.C. at 34).

[203] CLI-11-14 at 13-14.

Staff makes a thin attempt to justify the timing of its appeal. It offers only one case in support of its position that matters not addressed within the four corners of the partial initial decision are appealable before a final agency decision, a 1987 *Seabrook* decision.[204] Staff fails to note that *Seabrook* predated § 2.341 and was issued by what the Commission has characterized as a "now-defunct Appeal Board, which treated appeals from partial initial decisions as including preliminary related rulings."[205] But *Private Fuel Storage*, upon which Entergy erroneously relies to support its position, explicitly excepted from this practice "review of matters already finally decided by the Commission in an interlocutory order" (*id.* at n.3) as NYS-35/36 has been, at least insofar as the Commission has made clear that it is not ripe for review until the Board issues a final (not partial) decision. The Commission also noted that "[e]fficiency does not require the Commission to review orders dismissing contentions or bases (or other preliminary order) unrelated to the subject matter of the hearing on which the Licensing Board issued its partial initial decision."[206] That is particularly true here, where the subject matter of which Entergy and Staff seek review is still the subject of active administrative review. Neither Staff nor Entergy cite a case in support of their position whereby the Commission reversed itself and took interlocutory review of an issue it previously declined to review because some other, unrelated contentions were subsequently resolved.

[204] Staff Petition at 59 (citing *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-975, 26 N.R.C. 251, 267-69 (1987)).

[205] *Private Fuel Storage L.L.C.*, CLI-0024, 52 N.R.C. 351 (Dec. 20, 2000).

[206] *Id*.

3. The Petitions for Review Are Unripe Because NRC Staff Is Currently Reviewing Entergy's May 2013 SAMA Reanalysis Containing New Information That Is Directly Relevant to NYS-35/36

As the Board's PID noted, "[o]n May 6, 2013, Entergy submitted to the NRC Staff the results of engineering cost estimates for SAMAs that it had previously identified as potentially cost beneficial."[207] Entergy's May 2013 SAMA Reanalysis reclassifies six previously cost-beneficial SAMA candidates as no longer cost-beneficial.[208] Entergy's conclusion is based on what is characterizes as revised engineering project cost estimates it completed since the last Commission decision denying interlocutory review.[209] Entergy's May 2013 SAMA Reanalysis also explains that Entergy "has implemented, or elected to implement, four of those SAMAs, even though it is not required to do so as part of license renewal."[210] Entergy attempts to explain "why implementation of the remaining cost-beneficial SAMAs does not warrant further consideration at this time."[211]

Entergy submitted a letter to the Board, attaching its May 2013 SAMA Reanalysis, one day after it submitted the information to NRC Staff.[212] Entergy informed the Board that it "submitted this information to the NRC to support resolution of certain issues identified by the Board in its July 14, 2011 decision granting New York State's motion for summary disposition of Consolidated Contention NYS-35/36" and that the letter "also addresses certain statements by

[207] PID at 10.

[208] NL-13-075, *License Renewal Application-Completed Engineering Project Cost Estimates for SAMAs Previously Identified as Potentially Cost-Beneficial*, attach. 1 at 4-5 (May 6, 2013) (ML13127A459) ("May 2013 SAMA Reanalysis").

[209] *Id.* at 4-5.

[210] *Id.* at 2.

[211] *Id.*

[212] *See* May 2013 SAMA Reanalysis; Letter from Kathryn M. Sutton, et al. to Board, *Notification of Entergy's Submission of the Results of Completed Engineering Project Cost Estimates for SAMAs Previously Identified as Potentially Cost-Beneficial* (ML13127A458) (May 7, 2013) ("May 7, 2013 letter").

the Commission in its December 22, 2011 ruling on Entergy's Petition for Review of that same decision."[213]

Entergy's May 2013 SAMA Reanalysis renders the current petitions for Commission review unripe. Entergy submitted this new information for the purpose of addressing the issues in NYS-35/36. It even sought clarification from the Board regarding additional adjudicatory submissions, such as new or amended contentions or motions to reopen the record on NYS-35/36 based on this new information, and the Board instructed "the NEPA issue addressed in Contention NYS-35/36 cannot be resolved until the NRC Staff reviews Entergy's completed SAMA analyses, and thus it is the Staff's issuance of its review of NL-13-075 [*i.e.*, Entergy's May 2013 SAMA Reanalysis] that triggers the adjudicatory submission deadlines."[214] The Board's PID notes that, "to date, the Staff stated that it has not decided whether to revise its FSEIS to elaborate on this analysis."[215] In its latest status report, NRC Staff indicated that its review is ongoing.[216] Given the fact that Staff's review of Entergy's May 2013 SAMA Reanalysis could impact or even resolve portions of NYS-35/36, Staff's and Entergy's current petitions for review are unripe.

NRC Staff's argument that "Commission review . . . will aid all the parties and the Board in making efficient use of their limited resources" (Staff Petition at 59) is disingenuous. Staff has already begun its review of Entergy May 2013 SAMA Reanalysis. That review could

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[213] May 7, 2013 letter at 1.

[214] *Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3), Order Granting Entergy's Motion Clarification at 2-3 (July 9, 2013) (ML13190A068).

[215] PID at 10 (citation omitted).

[216] NRC Staff's 25th Status Report in Response to the Atomic Safety & Licensing Board's Order of February 16, 2012 at 6 (Mar. 4, 2014) (ML14063A680) ("The Staff is reviewing the Applicant's new project cost information and expects to complete its evaluation in mid-2014; the Staff has not yet decided whether it will present its evaluation of that information in an FSEIS Supplement or in some other document. The Staff will provide further information to the Board regarding this issue when available.").

resolve portions of NYS-35/36, and potentially render Commission review unnecessary. It would be a waste of the resources already expended by Entergy and Staff by cutting off review of this new information based on an untimely petition for review.

4. Public Interest Does Not Support Commission Review While the Record Is Still Being Developed on NYS-35/36

This proceeding marks the first time that severe accident mitigation measures will be evaluated for the Indian Point facilities. The public interest does not favor review of this interlocutory petition now, but instead favors public (and Board and Commission) review of completed SAMA analyses, which are already underway for these plants—plants that are the subject of significant public concern and surrounded by the highest population and building density of any in the Nation. Similarly, the public interest favors the development of a full record on this important issue.

5. Neither Entergy Nor Staff Has Met the Requirements for Interlocutory Review

As discussed above, Entergy and NRC Staff's appeal on NYS-35/36 is interlocutory. Although neither Entergy nor Staff addresses the criteria for interlocutory review set forth in 10 C.F.R. § 2.341(f), for the reasons set forth in the State's previous filings, which are incorporated by reference into this answer, interlocutory review is not appropriate.[217]

B. In the Event the Commission Accepts Staff's and Entergy's Petitions for Review, It Should Deny Them on the Merits Because the Board's Decisions are Well-Reasoned and Supported by Law

Staff and Entergy's petitions seek to remove important aspects of the severe accident analysis from the proceeding and thereby prevent the State from pursuing administrative rights with respect to cost-effective improvements. The Board's rejection of Staff's and Entergy's

[217] *See, e.g.*, Jul. 26, 2010 NYS/Conn. Combined Reply LBP-10-13; Aug. 11, 2011 NYS/Conn. Joint Answer LBP-11-17.

claims are well-reasoned and supported by law. If the Commission grants the petitions' request for review, it should deny the petitions on the merits.

1. Contention NYS-35/36 Was Timely and Properly Admitted

Entergy and Staff avoid the fact that NYS-35 and NYS-36 concerned specific SAMA candidates that the 2009 SAMA Reanalysis rendered potentially cost effective or substantially cost effective.[218] Instead, Entergy and Staff argue that NYS-35/36 should not have been admitted because the 2009 SAMA Reanalysis allegedly contains no materially different information than that available in Entergy's original SAMA analysis, and because the contention sought to require SAMA implementation or further justification for not implementing SAMAs.[219] For the reasons stated below, the Board correctly found that NYS-35/36 met the requirements of 10 C.F.R. § 2.309(f)(1) and (2)(i)-(iii). The Board took particular care to analyze the "materially different" prong of the analysis, the same basis for Entergy's challenge here.

a. Entergy's 2009 SAMA "Do Over" Contains Markedly Different Results and Was Not Limited to Meteorological Data

Entergy would have the Commission believe that its 2009 SAMA Reanalysis simply "addressed a narrow Staff question concerning meteorological data" though it admits that "the new data inputs led to changes in the results of the cost-benefit analysis."[220] In fact, as the State and its expert David Chanin explained in the State's motion to admit Contention NYS-35/36, Entergy in its December 2009 SAMA Reanalysis:

- Chose to use one year, the year 2000, as the only year of meteorological inputs rather than its previous approach of averaging five years (years 2000-2004).[221]

[218] NYS-35 at ¶¶ 19, 39 ; NYS-36 at ¶¶ 26-28.

[219] Entergy Petition at 50; Staff Petition at 47, n.177.

[220] Entergy Petition at 53.

[221] NYS-35/36 Motion for Leave (citing December 2009 SAMA Reanalysis).

- Further incorporated in to the "base case" analysis additional factors related to lost tourism and business as the result of a severe accident.[222]
- Ran new sensitivity analyses incorporating a new severe accident scenario.[223]
- Recalculated the costs for several previously-identified SAMAs by engaging in more detailed engineering cost analyses of proposed mitigation measures.[224]
- May also have corrected a formatting error when it prepared the December 2009 SAMA Reanalysis,[225] and
- Reflects substantial increases in population dose risk and off site economic cost risk.[226]

Also, the December 2009 SAMA Reanalysis substantially changed the previous cost-benefit analysis by:

- Identifying six new mitigation measures, three for each reactor, which it believes may be cost effective but that it previously reported were not cost-effective.[227]
- Identifying three other mitigation measures, which were also previously not identified as cost-effective, as now cost-effective. [228]
- Finding nine other SAMAs that were found to be marginally cost-effective in the original SAMA analysis to be substantially more cost effective.[229]

As the State argued in its Motion for Leave, the magnitude of the changes made by the December 2009 SAMA Reanalysis include that first, the consequences of a severe accident increased almost four fold and second, that the economic benefit to be achieved by implementing certain mitigation measures has increased dramatically in comparison to the cost of the mitigation measure.[230] As such, the Board correctly found that "Entergy's December 2009 SAMA Reanalysis entailed a new analysis, with different inputs used to arrive at revised

[222] *Id.* at 5.

[223] *Id.* (citing December 2009 SAMA Reanalysis).

[224] *Id.* (citing December 2009 SAMA Reanalysis).

[225] *See* Statement of David Chanin, ¶ 11.

[226] *See id.* at ¶ 8-10.

[227] State Motion for Leave at 1-2; December 2009 SAMA Reanalysis.

[228] *Id*.

[229] NYS-35/36 Motion for Leave at 2, *comparing* ER, Appendix E, at 4-74 to 4-78 to December 2009 SAMA Reanalysis at 10-28.

[230] NYS-35/36 Motion for Leave at 5.

determinations of the costs and benefits associated with implementation."[231] The Board also found that "[t]he 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."[232] Thus, the Board concluded that "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)."[233]

Entergy argues that NYS-35/36 could and should have been raised at the time of the State's initial petition.[234] Contentions NYS-35/36, which address a materially different SAMA landscape than was present in Entergy's 2007 Environmental Report accompanying its LRA, would not have been ripe or material at that point. Thus, the extensive nature of the changes in Entergy's 2009 SAMA Reanalysis distinguish it from the *Oyster Creek* decision relied upon by Entergy.[235] Moreover, Entergy submitted the 2009 SAMA Reanalysis after public comment on the Draft Supplemental Environmental Impact Statement ("DSEIS")[236] had closed.

In the Board proceedings, the State discussed the timeliness of NYS-35/36 under § 2.309(f) and how the 2009 SAMA Reanalysis presented new information that supported the contentions, established the contentions' materiality, affected specific SAMA candidates

[231] LBP-10-13 at 26.

[232] *Id*. at 27.

[233] *Id*. at 28.

[234] Entergy Petition at 54.

[235] Entergy Petition at 53, n.270 (citing Oyster Creek, CLI-09-07, 69 N.R.C. at 272-75).

[236] NUREG-1437, *Draft Supplemental Environmental Impact Statement for License Renewal of Nuclear Plants: Regarding Indian Point Units 2 and 3, Supplement 38, Volumes 1 and 2* (Dec. 2008) (NYS00132A-D).

discussed in the contentions, and differed substantially from the 2007 SAMA analysis.[237] The State presented an alternative timeliness argument under § 2.309(c).[238]

As discussed above, the "Board is the agency's expert body on matters of contention admissibility."[239] The Commission gives "substantial deference" [240] to Board decisions on contention admissibility and will uphold those decisions in the absence of an error of law or an abuse of discretion.[241] Here, Entergy asserts nothing more than a disagreement with a finding of fact made by the Board, namely, whether the 2009 SAMA Reanalysis was a "new" analysis, but fails to assert an abuse of discretion sufficient to warrant Commission reversal of the Board's finding that the 2009 SAMA Reanalysis was "materially different" than that information submitted by Entergy in the proceeding to date.

b. Entergy Mischaracterizes NYS-35/36, Which Was Substantively Admissible

Entergy also argues here, as it did during the contention admissibility stage, that the State has argued that NEPA compels implementation of specific mitigation measures.[242] Entergy either intentionally or mistakenly avoids the more relevant question posed by NYS-35/36, which is whether Staff can, consistent with the Third Circuit's mandate in *Limerick*, the APA, and Council on Environmental Quality and NRC regulations, fail to implement cost-effective

[237] The following are incorporated by reference: NYS-35/36 Motion for Leave at 1-2 (overview), 3, 8-9 (timeliness), 10-12 (differences), 5-8 (comparison charts and materiality); 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 Alternatives Analysis at 22-29 (Apr. 12, 2010) (ML101160415) (extensive discussion of timeliness and materiality re NYS-35/36).

[238] NYS-35/36 Motion for Leave at 9-15.

[239] *Va. Elec. & Power Co.*, (Combined License Application for North Anna Unit 3), CLI-12-14, 75 N.R.C. 692, 702 (2012).

[240] *AmerGen Energy Co., LLC* (License Renewal for Oyster Creek Nuclear Generating Station), CLI-06-24, 64 N.R.C. 111, 121 (2006) (citing *Private Fuel Storage, L.L.C.* (Indep. Spent Fuel Storage Installation), CLI-99-10, 49 N.R.C 318, 324 (1999).

[241] *S.C. Elec. & Gas Co.*, (Virgil C. Summer Nuclear Station, Units 2 and 3), CLI-10-21, 72 N.R.C. 197, 200 (2010).

SAMAs and fail to explain why it is not doing so. As the Board correctly found, this question is substantively admissible as a contention in this proceeding. Because the question of whether the contention was substantively admissible on these grounds and the question of whether summary disposition was appropriately granted in the State's favor involve a similar analysis and response, the State addresses this point below.

2. The Board Properly Granted Summary Disposition in the State's Favor

a. The Board Correctly Found that Staff Should Have Required Entergy to Complete Engineering Analyses of Potentially Cost-Beneficial SAMA Candidates

Staff argues, though Entergy does not, that the Board erred in holding that Staff "prematurely concluded its review before receiving all the requisite information" regarding Entergy's SAMA calculations.[243] The Board found that "NRC Staff's decision to allow Entergy to complete its SAMA review outside of the license renewal process, by deferring the evaluation of SAMAs found to be potentially cost-beneficial until after relicensing, does not provide an adequate record for the agency to make its decision on the impacts of relicensing IP2 and IP3."[244] "The Licensing Boards exist for the very purpose of compiling a factual record in a particular proceeding, analyzing the record, and making a determination based on the record."[245] Accordingly, it is within the Board's discretion to seek information it deems necessary in the creation of that record. In any case, as discussed above in III.A.3., Entergy submitted the May 2013 SAMA Reanalysis to Staff and that new information is currently under review.

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[242] Entergy Petition at 54.

[243] Staff Petition at 45-46.

[244] LBP-11-17 at 15.

[245] *Wash. Pub. Power Supply Sys.* (WPPSS Nuclear Project, Nos. 3 & 5), CLI-77-11, 5 N.R.C. 719, 722 (1977).

b. Commission Precedent Has Already Rejected the Fundamental Argument that Underlies the Petitions for Interlocutory Review of Both ASLB Decisions (LBP-10-13 and LBP-11-17)

The crux of the petitions for review is that the SAMA analysis mandated as part of the NEPA review required in license renewal need not be completed for any SAMA not within Part 54's aging management provisions. The Commission has already rejected these arguments.

In 2001, the Commission denied the Nuclear Energy Institute's ("NEI") proposed rulemaking in which NEI, on behalf of the nuclear energy industry and joined by Petitioner Entergy, sought to have the Commission delete the requirement from 10 CFR Part 51 to consider SAMAs in operating license renewal reviews.[246] NEI—and Entergy[247]—argued unsuccessfully in that proposed rulemaking that severe accident mitigation is within the scope of each licensee's current licensing basis and not within the scope of the technical requirements for renewal of operating licenses specified in 10 CFR Part 54, and that the provisions of Part 54 define the scope of the proposed Federal action and, therefore, the scope of the environmental review.[248] In denying the rulemaking petition, the Commission explained:

> [U]nder NEPA the NRC is charged with considering all of the environmental impacts of its actions, not just the impacts of specific technical matters that may need to be reviewed to support the action. These impacts may involve matters outside of the NRC's jurisdiction or matters within its jurisdiction that, for sound reasons, are not otherwise addressed in the NRC's safety review during the licensing process. *In 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. The fact that the NRC has determined that it is not necessary to consider a specific matter in conducting its safety review under Part 54 does not excuse it from considering the impact in meeting its NEPA obligations.*[249]

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[246] *See* NRC, "Nuclear Energy Institute; Denial of Rulemaking," PRM 51-7, 66 Fed. Reg. 10,834 (Feb. 20, 2001).

[247] *See* Letter, Jimmy D. Vandergrift, Entergy Operations, Inc., to Secretary Annette Vietti-Cook, USNRC, Re: SAMA Petition for Rulemaking (Nov. 16, 1999) (ML993350457).

[248] Denial of Rulemaking, PRM 51-7, 66 Fed. Reg. at 10,835.

[249] *Id.* at 10,836 (emphasis added).

As the Commission held in rejecting the NEI rulemaking petition—and as Petitioners' arguments overlook—the license renewal process does not simply extend permission to operate a portion of underground pipe or a non-environmentally-qualified low-voltage cable, but results in a new operating license that authorizes the operation of the entire nuclear power plant for an additional 20 years.[250]

Notably, *NRC Staff opposed NEI and Entergy's* petition for rulemaking, arguing that "[t]he fact that NRC has excluded a specific aspect of the plant in conducting its safety review under Part 54 does not excuse it from considering the potential for an associated environmental impact in meeting its NEPA obligations."[251] Here, Staff has done an about-face, arguing to the Commission that Part 54 does limit the scope of a NEPA review in an operating license renewal proceeding. The instant interlocutory review petitions are simply the latest efforts by Staff and Entergy to avoid conducting a meaningful SAMA analysis for the Indian Point facilities. Entergy and Staff are still wrong on the merits. The Commission should not countenance these repeated, untimely attempts by Entergy and Staff to recycle arguments that the Commission has long since rejected.[252]

Prior Commissioners have recognized the usefulness of a thorough examination of SAMAs in license renewal. As Commissioner McGaffigan observed, "the Severe Accident Mitigation Alternative (SAMA) reviews for both the Calvert Cliffs and Arkansas Nuclear One

[250] *See* 10 C.F.R. § 54.31(c) (requiring that the renewed license supersede the operating license previously in effect).

[251] *See* SECY-00-0210 Denial of Petition (PRM-51-7) for Rulemaking to Delete the Requirement from 10 CFR Part 51 to Consider Severe Accident Mitigation Alternatives in Operating License Renewal Reviews at 4 (Oct. 20, 2000) (ML003750123).

[252] Although the State and the ASLB cited PRM 51-7 (LBP-10-13 at 3), Staff does not mention the PRM 51-7 proceeding in its petition for review to the Commissioners.

Unit 1 plants have identified several cost beneficial enhancements for the licensee to pursue."[253] If a thorough SAMA review and implementation was appropriate for such relatively remotely sited nuclear facilities, it is certainly warranted for Indian Point, the nuclear facility nearest the largest population center of any operating reactor in the United States. In the words of Commissioner McGaffigan, "Perhaps one day we will have nuclear reactor designs so safe that severe accidents will be remote and speculative and their consequences *nihil*, but that is not the case we have today in renewing the licenses of the current generation of reactors."[254] Since the Commission has already rejected the central argument upon which the petitions are based, it should also reject Entergy's and NRC Staff's latest attempts to ignore that precedent, particularly since the bases offered for revisiting and rejecting the Commission's established policy are without merit.

c. Part 54 and Part 51 Support the Conclusion that NRC Staff Must Evaluate Cost Effective SAMAs During License Renewal Even if They Are Unrelated to Aging Management of Passive Systems

Contention 36, as admitted, challenges the NRC Staff to establish a rational basis for the action it takes once Entergy has completed the SAMA information gathering process. To date, the only basis NRC Staff has offered for its refusal to consider cost-effective SAMAs in the license renewal process is that under Part 54, the only safety requirements considered during the license renewal process are those related to aging management. As the Board held, and the prior discussion of Staff's and the Commission's clear rejection of this argument in the NEI PRM 51-7 rulemaking demonstrates, this argument is without a legal basis. It is evident from the regulatory history of the SAMA process and the Commission's SAMA implementation regulations that

[253] VR-SECY-00-0210, Commission Voting Record, Notation Vote Response Sheet (Commissioner McGaffigan's Comments on SECY-00-0210 (Oct. 31, 2000) (ML010520240).

[254] *Id*.

SAMA is intended to provide information upon which a decision can be made at the license renewal proceeding, particularly whether to require implementation of clearly cost-effective SAMAs independent of aging management.

Neither Entergy nor NRC Staff claim that a clearly cost-effective SAMA can be rejected without a rational basis. Their only claim is that rejection of a cost-effective SAMA can occur outside the license renewal hearing process, without scrutiny by an independent ASLB, and without active participation by the public and "host" States. However, the Commission has always expected that if a proper SAMA-based contention is raised, it may be litigated in the license renewal process, regardless of whether the subject of the SAMA is not aging management. Identification without implementation defeats the purpose of SAMAs.

When it adopted the License Renewal GEIS and related Part 51 regulations, the Commission addressed SAMAs specifically and how they were to be treated. The Commission did not limit the SAMA analysis or implementation of SAMAs to those related to aging management. It stated, in part:

> the Commission does not believe that site specific Level 3 PRAs are required to determine whether an alternative under consideration will provide sufficient benefit to justify its cost. Licensees can use other quantitative approaches for assigning site-specific risk significance to IPE results and judging whether a mitigation alternative provides a sufficient reduction in core damage frequency (CDF) or release frequency to *warrant implementation*.
>
> ***
>
> In some instances, a consideration of the magnitude of reduction in the site specific CDF and release frequencies alone (i.e., no conversion to a dose estimate) may be sufficient to conclude that no significant reduction in off-site risk will be provided and, therefore, *implementation of a mitigation alternative is not warranted*.[255]

Thus, the Commission envisioned that implementation of a SAMA could well be warranted in a license renewal proceeding for a specific facility – depending on the site-specific cost benefit

[255] Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467, 28,481 (June 5, 1996) (emphasis added).

analysis. The Commission also held that a determination should be made during the license renewal process whether implementation of specific SAMAs as part of the renewed license would be warranted, based on a cost-effectiveness analysis.

The Commission's 1996 Part 51 rulemaking decision provides further support that a site-specific license renewal proceeding should include (1) a completed SAMA analysis for all mitigation measures (whether or not related to aging management), and the (2) implementation of a cost-effective SAMA candidate, absent a rational basis for not doing so. For example, the Commission determined:

> [B]ecause the ongoing regulatory program related to severe accident mitigation (i.e., IPE and IPEEE) has not been completed for all plants and consideration of severe accident mitigation alternatives has not been included in an [Environmental Impact Statement] ["]EIS["] or supplemental EIS related to plant operations for all plants, *a site-specific consideration of severe accident mitigation alternatives is required at license renewal for those plants for which this consideration has not been performed.* The Commission expects that if these reviews identify any changes as being cost beneficial, such changes generally would be procedural and programmatic fixes, with any hardware changes being only minor in nature and few in number.[256]

61 Fed. Reg. at 28,481 (emphasis added). Even the NEI guidance document, which Staff has adopted and Entergy embraces, does not draw a distinction between SAMAs related to aging management and other SAMAs.[257]

These GEIS[258] statements of consideration are manifested in the regulatory requirements adopted by the Commission, none of which limit SAMAs to aging management. First, the

[256] The Commission's expectation regarding the scope of cost-effective SAMAs may be correct for most plant sites, but Indian Point is unlike any other operating U.S. power reactor site. Entergy projects that the total population within 50 miles of the facilities will grow to 19 million by 2035 and the now-corrected wind direction demonstrates that the radiation released during a severe accident is more likely to head into the heart of that population than previously projected. NYS00133I, NUREG-1437, Volumes 1-3: Supplement 38: Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Regarding Indian Point Nuclear Generating Unit Nos. 2 and 3 – Final Report, Dec. 2010 at G-28; Tr. 2294:1-20 (J. Wardwell/Lemay/O'Kula). Thus, adverse effects from a severe accident will be greatest at Indian Point and the beneficial effects of any particular SAMA will also be greatest at Indian Point.

[257] *See* NEI 05-01 (Rev. A), Nuclear Energy Institute, Severe Accident Mitigation Alternatives (SAMA) Guidance Document (Nov. 2005), Fig. 1 at 69.

SAMA analysis is mandated by 10 C.F.R. § 51.53(c)(3)(ii)(L). Second, Part 54 requires compliance with Part 51.[259] Third, Part 54 contemplates that the analyses conducted pursuant to Part 51 can result in licensing conditions being added to the CLB:

> (c) Each renewed license will include those conditions to protect the environment that were imposed pursuant to 10 CFR 50.36b and that are part of the CLB for the facility at the time of issuance of the renewed license. *These conditions may be supplemented or amended as necessary to protect the environment during the term of the renewed license and will be derived from information contained in the supplement to the environmental report submitted pursuant to 10 CFR part 51, as analyzed and evaluated in the NRC record of decision.* The conditions will identify the obligations of the licensee in the environmental area, including, as appropriate, requirements for reporting and recordkeeping of environmental data and any conditions and monitoring requirements for the protection of the nonaquatic environment. [260]

Fourth, 10 C.F.R. §51.103(a)(4) requires that the FSEIS determine which alternatives are adopted and why others were rejected. Fifth, in PRM 51-7, the Commission has already squarely rejected the argument that Part 54 in any way limits the reach of the requirements of Part 51.[261] And, sixth, *Limerick*, rejected any suggestion that provisions of the Atomic Energy Act would restrict the application of NEPA to an NRC proceeding. "On the basis, therefore, of the language of NEPA and AEA, the legislative history of NEPA, and the existing case law, we find no intent by Congress that the AEA preclude application of NEPA."[262]

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[258] NUREG-1437, *Generic Environmental Impact Statement for License Renewal of Nuclear Plants Vol. 1-2* (May 1996) (NRC000002) (NYS00131A-I).

[259] 10 C.F.R. § 54.29(b).

[260] 10 C.F.R. § 54.33(c) (emphasis added). Entergy's attempt to draw a line between a condition that is "environmental" and one that is "safety" is futile. Entergy Petition at 19. The consequences of concern in a SAMA analysis are damage to the environment caused by a severe accident. Commission regulations contemplate that many safety issues are relevant to environmental concerns. *See, e.g.*, 10 C.F.R. § 51.52 (Table S-4) and Appendix B to Subpart A of Part 51, both of which deal with accidents as sources of potential adverse environmental impacts. Similarly, NRC Staff assertion that because a SAMA backfit addresses the CLB, it is necessarily outside the scope of the license renewal (Staff Petition at 23-24) ignores the clear language of 10 C.F.R. § 54.33(c).

[261] *See* Denial or Rulemaking, PRM 51-7, 66 Fed. Reg. 10,834 (Feb. 20, 2001).

[262] *Limerick*, 869 F.2d at 730.

Contrary to the arguments advanced by Entergy and NRC Staff , at no point does the Commission confine the SAMA analysis during license renewal to aging management. Indeed, the proposed federal action in this proceeding is NRC's issuance of a renewed license under the Atomic Energy Act to operate an *entire* nuclear power plant for an additional twenty years,[263] not simply a narrow set of discrete components. A renewed license "become[s] effective immediately upon its issuance" and "supersede[s]" the existing operating license.[264] A plant owner must have a renewed license (or applied for one) to operate a nuclear power plant beyond the term of an existing, initial operating license. NRC cannot undertake this action without first completing and complying with NEPA's requirements.

Given the statutory and regulatory framework, NRC prepares an environmental impact statement for the issuance of a renewed operating license for a nuclear power plant.[265] The environmental impact statement must contain analysis of the environmental impacts of the proposed action including "the impacts of operation during the renewal term"—and the alternatives to reduce or mitigate such impacts.[266] Thus, "[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."[267]

Even in *Catawba/McGuire*, when confronted with the same argument advanced here—that SAMAs unrelated to aging management do not need to be considered in the license renewal

[263] *See* 42 U.S.C. §§ 2132-2134. The initial term of an operating license cannot exceed forty years. *Id.* § 2133. In 1991, NRC promulgated regulations governing the renewal of operating licenses for terms of up to twenty years. 10 C.F.R. § 54.31(b); 56 Fed. Reg. 64,943 (Dec. 13, 1991).

[264] 10 C.F.R. § 54.31(c).

[265] 10 C.F.R. § 51.95(c); 61 Fed. Reg. 28467, 28471 (June 5, 1996).

[266] 10 C.F.R. §§ 51.53(c)(3)(ii) (environmental report), 51.71 (Draft EIS), 51.95(c) (Final EIS).

[267] 66 Fed. Reg. 10,834, 10,836 (Feb. 20, 2001).

process—the Commission did not adopt that line of argument. Rather, the Commission addressed the merits of a proposed SAMA unrelated to aging management and found that the ongoing generic review of the particular SAMA was a rational basis to not require its implementation in the license renewal process.[268] Here, the Board correctly found *Catawba/McGuire* inapposite.[269]

d. Requiring NRC Staff to Provide A Rational Basis for Its Decisions Regarding Implementation of Clearly Cost-Effective SAMAs Imposes No Obligation Greater Than What the Law Requires

Neither Entergy nor NRC Staff argue that the ASLB erred in its holding that NRC Staff must have a rational basis for refusing to order implementation of a clearly cost-effective SAMA.[270] Tellingly, not even Entergy nor NRC Staff deny that cost-effective SAMAs can be required to be implemented—even during license renewal— if they are related to aging management. Regardless of whether Staff relies on 10 C.F.R. §51.103(a)(4) or § 50.109, the SAMA review process provides the framework to develop the rational basis for whatever action NRC Staff chooses. Once Entergy has submitted a completed engineering cost analyses and the clearly cost-effective SAMAs, if any, have been identified, NRC Staff will either provide a rational basis for not ordering implementation of the SAMA or will order its implementation.[271] Pursuant to § 50.109 the Commission "shall require the backfitting of a facility" upon its

[268] *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-28, 56 N.R.C. 373, 388 n. 77 (2002).

[269] LBP-11-17 at 14-15.

[270] *See* 10 C.F.R. § 51.103(a)(4).

[271] The SAMA analysis, as indicated by the regulations (10 C.F.R. §51.101(a)), the GEIS Statement of Consideration, and PRM 51-7, must be *completed* as part of the license renewal process. That includes NRC Staff deciding whether implementation of clearly cost-effective SAMAs is warranted and if not, providing a rational basis for its decision. As noted, all the work required to complete the SAMA is essentially the same as the work required to complete a backfit analysis and thus, once the SAMA analysis is completed Staff is prepared to order implementation as a backfit if it concludes that implementation is warranted. Thus, the backfit analysis will not, as Staff suggests, result in any delay in the resolution of the license renewal process but, to the contrary, completion of the SAMA process will mean that the cost-benefit analysis is done and there will be no need to repeat it all over again in the backfit process.

determination 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."[272] A properly completed SAMA analysis provides a rigorous and reliable assessment of whether § 50.109(a)(3) has been satisfied.[273] Entergy and NRC Staff resist completing the SAMA analysis because they do not wish to have ASLB independent scrutiny of, and public and state government participation in, the decision- making process or its conclusions.

Entergy and NRC Staff incorrectly argue that the Board conflated the requirements of Part 51 and Part 54 with the requirements of Part 50 by invoking the authority of 10 C.F.R. § 50.109 as a basis for Staff to require implementation of a SAMA. While the Board identified the backfit procedure as one potential source of Staff authority, it did not limit Staff to that authority.[274] Once Entergy makes a final determination as to which SAMAs are actually cost-beneficial, and Staff has reviewed that submittal and determined whether it is sufficient, Staff must then determine whether any of the SAMAs warrant implementation. This determination is mandated by 10 C.F.R. § 51.103(a)(4), which requires that a record of decision:

> State whether the Commission has taken all practicable measures within its jurisdiction to avoid or minimize environmental harm from the alternative selected, and if not, to explain why those measures were not adopted. Summarize any license conditions and monitoring programs adopted in connection with mitigation measures.[275]

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[272] 10 C.F.R. § 50.109(a)(3).

[273] The Petitions refer to the GEIS finding that the impact of severe accidents is "small" to justify their effort to ignore all SAMAs. Entergy Petition at 37-39; Staff Petition at 51. Their argument ignores the fact that even if the impact is "small," NRC regulations require that SAMAs be evaluated. It also ignores the fact that even Petitioners agree that if a SAMA is cost-effective and relates to aging management it must either be implemented or a rational basis must be provided for no implementation. Finally, as the December 2009 SAMA Reanalysis demonstrates, the SAMAs at issue here involve substantial improvements to safety. *E.g.* IP2 SAMA 054, and IP3 SAMA 061 are projected to reduce the population dose risk by 39.24% and 19.73% respectively and to have an economic benefit of over $5.5 million and over $4 million respectively. *Id*. at 19, 28.

[274] LBP-10-13 at 29 ("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").

[275] *Id*; *see also* 40 C.F.R. § 1502.14.

Also, the NRC Staff's Standard Review Plan for license renewal applications directs NRC to determine whether "the mitigation alternatives committed to by the applicant are appropriate, and no further mitigation measures are warranted."[276] NRC Staff cannot complete this task if the SAMAs are only "potentially" cost-effective since, as Staff noted, further analysis could result in a "potentially" cost-effective SAMA no longer being cost-effective.[277]

e. NRC Staff and Entergy Incorrectly Minimize the Indian Point SAMA Process

NRC Staff and Entergy incorrectly argue that—even if finalized—the SAMA analysis prepared for each Indian Point reactor has no practical consequence in this AEA § 189 proceeding or in the Commissioners' review of, and deliberation over, the request for permission to operate the Indian Point facilities for 20 years.[278] Among other things, they argue that the SAMA calculations reflect only a generalized, conceptual exercise and do not provide a legitimate basis for decisions.[279] Staff argues that SAMA candidates that have been shown to be cost effective for a particular Indian Point reactor must be examined a second time in a backfit process.[280] Not only is this a crabbed view of NEPA, it directly conflicts with NEI guidance that the SAMA analysis be completed "to the point where economic viability of the proposed modification can be adequately gauged,"[281] as well as with the Commission's statements in

[276] Standard Review Plan for Environmental Reviews for Nuclear Power Plants – Supplement 1: Operating License Renewal (Oct. 1999) at 5.5.1-9.

[277] NRC Staff's Answer to State of New York's New and Amended Contentions Concerning the December 2009 Severe Accident Mitigation Alternatives Analysis at 23 (Apr. 5, 2010) (ML100960165).

[278] Entergy Petition at 56; *see* Staff Petition at 48.

[279] Entergy Petition at 56.

[280] *E.g.*, Staff Petition at 53-54; Tr. at 862:8-11.

[281] NEI 05-01(Rev. A) Nuclear Energy Institute, Severe Accident Mitigation Alternatives (SAMA) Guidance Document at 28 (Nov. 2005) (NYS000287).

Catawba/McGuire that the purpose of SAMA review is "to ensure that the agency does not act upon incomplete information, only to regret its decision after it is too late to correct."[282]

Moreover, they ignore NRC statements that the economic calculations that support a severe accident mitigation alternatives analysis should be comparable the calculations for a backfit analysis. To assist Staff and licensees, NRC prepared two documents to guide the backfit process that discuss the components of the regulatory inquiry and the evaluation of alternatives:

- NUREG/BR-0058, Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission, Revision 4 (September 2004), which discusses the calculation of values and impacts for alternatives and sets forth the guidelines to be used for determining when a measure - which has not previously been required to be implemented - should be implemented because it is deemed cost-effective.

- NUREG/BR-0184 , Regulatory Analysis Technical Evaluation Handbook, U.S. Nuclear Regulatory Commission (January 1997), which presents guidance for value and impact methodology.[283]

NRC has made these two documents applicable to the SAMA process.[284] In discussing the SAMA analysis for the license renewal stage, NUREG-1555, NRC Standard Review Plan for Environmental Reviews for Nuclear Power Plants - Operating License Renewal, references both NUREG/BR-0058 and NUREG-BR-0184.[285] Similarly, in its discussion of the SAMA analysis,

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[282] *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-17, 56 N.R.C. 1, 10 (2002) (quoting *Louisiana Energy Services* (Claiborne Enrichment Center), CLI-98-3, 47 N.R.C. 77, 88 (1998) (internal quotations and citations omitted).

[283] NUREG/BR-0058 and NUREG/BR-0184 are linked to each other. NUREG/BR-0184 was intended to assist NRC Staff and implement the policies of NUREG/BR-0058. "The purpose of this Handbook [NUREG/BR-0184] is to provide guidance to the regulatory analyst to promote preparation of quality regulatory analysis documents and to implement the policies of the Regulatory Analysis Guidelines of the U.S. Nuclear Regulatory Commission (NUREG/BR-0058 Rev. 2). This Handbook expands upon policy concepts included in the NRC Guidelines and translates the six steps in preparing regulatory analyses into implementable methodologies for the analyst." NUREG/BR-0184, Abstract page.

[284] *See, e.g.*, Contention NYS-35 at ¶ 34, p. 30 (Mar. 11, 2010) (ML100780366); *see also id*. at ¶¶ 20, 27, 33-34; Contention NYS-36 at ¶¶ 9, 10, 22-23 (Mar. 11, 2010) (ML100780366).

[285] NRC Standard Review Plan for Environmental Reviews for Nuclear Power Plants - Supplement 1: Operating License Renewal (Oct. 1999/Mar. 2000) ("Standard Review Plan") at 5.1.1-9, 5.1.1-3, 5.1.1-6.

Reg. Guide 4.2, NRC's Regulatory Guide for the preparation of licensee environmental reports for operating license renewal applications also references NUREG/BR-0184.[286]

In the 1980s, the federal government and NRC began to use cost benefit analysis to examine regulatory options. The SAMA and backfit inquiries share a common cost benefit approach to regulation, common documents, and common analytical tools. Current regulations require a SAMA analysis to be conducted on a reactor-specific or site-specific basis. Given the building density and concentration unique and irreplaceable improvements and natural resources within 50 miles of Indian Point, and with Entergy identifying a surrounding population of 19 million people, the site-specific cost benefit calculations of a particular improvement alternative at Indian Point likely differ considerably from the calculation for that alternative at a different facility such as Surry, South Texas, or Wolf Creek. The 2009 SAMA Reanalysis identified more than 20 cost effective improvement alternatives for the Indian Point reactors.[287] Given the symmetry between a SAMA analysis and a backfit analysis, SAMA improvements whose benefits exceed their costs should be considered as a condition for the 20-year operating license, and Staff must provide a rational explanation why it did not adopt alternatives to minimize environmental harm. 10 C.F.R. § 51.103(a),(2),(3),(4).

[286] NRC Reg. Guide 4.2, Preparation of Supplemental Environmental Reports for Applications to Renew Nuclear Power Plant Operating Licenses, Supplement 1 (Sept. 2000), at 4.2-S-50. Staff's guidance also confirms that the intent of the SAMA analysis is not to merely conduct a cursory review of SAMAs without considering their implementation. *Id.* (listing the obligations of an applicant for the Environmental Report: "List plant modifications and procedural changes (if any) that have or will be *implemented* to reduce the severe accident dose consequence risk" (emphasis added)).

[287] The identification of 22 cost effective improvements for Indian Point refute Staff's "augmented" rationale (Staff Petition at 55-56, n. 198) for refusing to adopt any of the severe accident mitigation alternatives. Moreover, IP Unit 2 already has entered its period of extended operation, and the 40-year operating license for IP Unit 3 will expire at the end of next year. Given the symmetry between SAMA and backfit analysis, there is no reason for Staff to insist that cost beneficial SAMA improvements must be subjected to the same cost benefit analysis all over again under the backfit rubric.

IV. CONCLUSION

The Commission should deny review of the Partial Initial Decision, as well the earlier decisions on contention admissibility and summary disposition, as to NYS-8 and NYS-35/36.

While the State of New York does not believe that the NRC Staff and Entergy Petitions raise issues that merit Commission review, should the Commission find that the procedural conditions of 10 C.F.R. § 2.341 have been met for review, or should the Commission review the petitions pursuant to its supervisory powers, the State of New York respectfully requests that the Commission allow oral argument before the Commissioners concerning the merits of the appeal pursuant to 10 C.F.R. § 2.343 before any decision on the merits.

Respectfully submitted,

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Dated: March 25, 2014

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

In re:	Docket Nos. 50-247-LR and 50-286-LR
License Renewal Application Submitted by	ASLBP No. 07-858-03-LR-BD01
Entergy Nuclear Indian Point 2, LLC, Entergy Nuclear Indian Point 3, LLC, and Entergy Nuclear Operations, Inc.	DPR-26, DPR-64 March 25, 2014

CERTIFICATE OF SERVICE

I hereby certify that on March 25, 2014, copies of the State of New York's Answer to Entergy and Staff Petitions for Review of Atomic Safety and Licensing Board Decisions LBP-08-13 and LBP-13-13 With Respect to Contention NYS-8 and Interlocutory Review of LBP-10-13 and LBP-11-17 With Respect to Contentions NYS-35/36 were served electronically via the Electronic Information Exchange on the following recipients:

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