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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:
Lawrence G. McDade, Chair
Dr. Richard E. Wardwell
Dr. Kaye D. Lathrop

In the Matter of	)	Docket Nos. 50-247-LR and 50-286-LR
ENTERGY NUCLEAR OPERATIONS, INC.	)	ASLBP No. 07-858-03-LR-BD01
(Indian Point Nuclear Generating Units 2 and 3)	)	

ANSWER OF ENTERGY NUCLEAR OPERATIONS, INC. OPPOSING NEW YORK STATE NOTICE OF INTENTION TO PARTICIPATE AND PETITION TO INTERVENE

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TABLE OF CONTENTS

TABLE OF CONTENTS
(continued)

Page

TABLE OF CONTENTS
(continued)

Page

TABLE OF CONTENTS
(continued)

Page

TABLE OF CONTENTS
(continued)

Page

TABLE OF CONTENTS
(continued)

Page

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I. INTRODUCTION

In accordance with 10 C.F.R. § 2.309(h), Entergy Nuclear Operations, Inc. ("Entergy" or "Applicant"), applicant in the above-captioned matter, hereby files its Answer opposing the "New York State Notice of Intention to Participate and Petition to Intervene" ("Petition") filed on November 30, 2007, by New York State ("NYS" or "Petitioner"). The Petition responds to the United States Nuclear Regulatory Commission ("NRC" or "Commission") "Notice of Acceptance for Docketing of the Application and Notice of Opportunity for Hearing," published in the *Federal Register* on August 1, 2007 (72 Fed. Reg. 42,134) ("Hearing Notice") concerning Entergy's application to renew the operating licenses for the Indian Point Nuclear Generating Units 2 and 3, also referred to as Indian Point Energy Center ("IPEC"). As discussed below, the Petitioner has not satisfied Commission requirements to intervene in this matter, having failed to

proffer at least one admissible contention. Therefore, pursuant to 10 C.F.R. § 2.309, the Petition should be denied in its entirety.

II. BACKGROUND

On April 23, 2007, as supplemented by letters dated May 3, 2007, and June 21, 2007, Entergy submitted an application to the NRC to renew the IPEC Unit 2 and Unit 3 (or "IP2" and "IP3") operating licenses (License Nos. DPR-26 and DPR-64) for an additional 20 years ("Application").[1] The Commission Hearing Notice stated that any person whose interest may be affected by this proceeding and who wishes to participate as a party in the proceeding must file a petition for leave to intervene within 60 days of the Notice (*i.e.*, October 1, 2007), in accordance with the provisions of 10 C.F.R. § 2.309.[2] On October 1, 2007, the Commission extended the period for filing requests for hearing until November 30, 2007.[3] By Order dated November 27, 2007, the Atomic Safety and Licensing Board ("ASLB" or "Board") directed Entergy and the NRC Staff to file their answers to all timely petitions to intervene on or before January 22, 2008.[4] As noted above, NYS filed its Petition on November 30, 2007, to which Entergy now responds in accordance with the Board's schedule.

To be admitted as a party to this proceeding, Petitioner must demonstrate standing and must submit at least one admissible contention within the scope of this proceeding. Section III, below, describes the criteria for establishing standing under 10 C.F.R. § 2.309(d) and explains the reasons why the Petitioner has satisfied the requisite criteria. Section IV below describes the

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1 Entergy subsequently submitted one amendment to the Application on December 18, 2007. *See* Letter from F. Dacimo, Entergy Vice President, License Renewal, to NRC Document Control Desk (Dec. 18, 2007), *available at* ADAMS Accession No. ML073650195.

2 72 Fed. Reg. 42,134 (Aug. 1, 2007).

3 Extension of Time for Filing of Requests for Hearing or Petitions for Leave To Intervene in the License Renewal Proceeding, 72 Fed. Reg. 55,834 (Oct. 1, 2007).

4 *See* Licensing Board Order (Granting an Extension of Time to Clearwater Within Which to File Requests for Hearing) at 3 n.8 (Nov. 27, 2007) (unpublished).

standards governing the admissibility of contentions and addresses, in turn, each of Petitioner's proposed contentions—explaining the reasons why they are inadmissible. Therefore, the Petition must be denied in its entirety. Additionally, as discussed in Section III, Petitioner, as an interested State, may have "a reasonable opportunity to participate in a hearing" under 10 C.F.R. § 2.315(c), but only if a contention is admitted by another petitioner in this proceeding.

III. STANDING

A. Applicable Legal Standards and Relevant NRC Precedent

Both the Commission Hearing Notice for this proceeding and NRC regulations require a petitioner to set forth: (1) the nature of its right under the Atomic Energy Act ("AEA") of 1954, as amended, to be made a party to the proceeding; (2) the nature and extent of its property, financial, or other interest in the proceeding; and (3) the possible effect of any decision or order that may be issued in the proceeding on its interest.[5] Thus, a petitioner must demonstrate either that it satisfies the traditional elements of standing, or that it has presumptive standing based on geographic proximity to the proposed facility.[6] These concepts, as well as organizational standing and discretionary intervention, are discussed below.

1. Traditional Standing

To determine whether a petitioner's interest provides a sufficient basis for intervention, "the Commission has long looked for guidance to current judicial concepts of standing."[7] Thus, to demonstrate standing, a petitioner must show: (1) an actual or threatened, concrete and particularized injury that is (2) fairly traceable to the challenged action and (3) likely to be

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5 *See* 72 Fed. Reg. at 42,135; 10 C.F.R. § 2.309(d)(l).

6 *See Exelon Generation Co., LLC* (Peach Bottom Atomic Power Station, Units 2 and 3), CLI-05-26, 62 NRC 577, 579-83 (2005).

7 *Quivira Mining Co.* (Ambrosia Lake Facility, Grants, N.M.), CLI-98-11, 48 NRC 1, 5-6 (1998), *aff'd sub nom., Envirocare of Utah, Inc. v. NRC*, 194 F.3d 72 (D.C. Cir. 1999) (citations omitted).

redressed by a favorable decision.[8] These three criteria are commonly referred to as injury in fact, causality, and redressability, respectively.

First, a petitioner's injury in fact showing "requires more than an injury to a cognizable interest. It requires that the party seeking review be himself among the injured."[9] The injury must be "concrete and particularized," not "conjectural" or "hypothetical."[10] As a result, standing will be denied when the threat of injury is too speculative.[11] Additionally, the alleged "injury in fact" must lie within "the zone of interests" protected by the statutes governing the proceeding—either the AEA or the National Environmental Policy Act of 1969, as amended ("NEPA").[12] The injury in fact, therefore, must involve potential radiological or environmental harm.[13]

Second, a petitioner must establish that the injuries alleged are "fairly traceable to the proposed action"[14]; in this case, the renewal of IPEC Unit 2 and 3 operating licenses for an additional 20 years.[15] Although petitioners are not required to show that "the injury flows directly from the challenged action," they must nonetheless show that the "chain of causation is

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8 *See Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 195 (1998) (citing *Steel Co. v. Citizens for a Better Env't*, 523 U.S. 83, 103-104 (1998); *Kelley v. Selin*, 42 F.3d 1501, 1508 (6th Cir. 1998)).

9 *Sierra Club v. Morton*, 405 U.S. 727, 734-35 (1972).

10 *Sequoyah Fuels Corp.* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 72 (1994) (citations omitted).

11 *Id.*

12 *Quivira Mining*, CLI-98-11, 48 NRC at 5.

13 *See Pac. Gas & Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 & 2), CLI-02-16, 55 NRC 317, 336 (2002).

14 *Sequoyah Fuels*, CLI-94-12, 40 NRC at 75.

15 *Id.*

plausible."[16] The relevant inquiry is whether a cognizable interest of the petitioner might be adversely affected by one of the possible outcomes of the proceeding.[17]

Finally, each petitioner is required to show that "its actual or threatened injuries can be cured by some action of the [NRC]."[18] In other words, each petitioner must demonstrate that the injury can be "redressed" by a favorable decision in this proceeding. Furthermore, "it must be likely, as opposed to merely speculative that the injury will be redressed by a favorable decision."[19]

2. Standing of State and Local Government Entities

The Commission, historically, has offered state and local government entities (county, municipality or other subdivision) a choice as to how they may participate in a licensing proceeding. First, a state or local government entity may choose to participate formally, as a party to the proceeding, under 10 C.F.R. § 2.309. To participate as a party under 10 C.F.R. § 2.309(d)(2), a state must satisfy the same standards as an individual petitioner insofar as proffering at least one admissible contention, but a state that wishes to be a party in a proceeding for a facility located within its boundaries need not satisfy the standing requirements under 10 C.F.R. § 2.309(d)(1).[20] This also has been extended to include Federally-recognized Indian Tribes. States, local governments, and Federally-recognized Indian Tribes other than those that

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16 *Id.*

17 *Nuclear Eng'g Co., Inc.* (Sheffield, Illinois, Low-Level Radioactive Waste Disposal Site), ALAB-473, 7 NRC 737, 743 (1978).

18 *Sequoyah Fuels Corp.* (Gore, Oklahoma Site Decommissioning), CLI-01-2, 53 NRC 9, 13 (2001).

19 *Sequoyah Fuels*, CLI-94-12, 40 NRC at 76 (quoting *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 561 (1992) (internal quotations omitted)).

20 *See AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), LBP-06-07, 63 NRC 188, 194-95 (2006).

contain the facility within their boundaries must address the standing requirements of 10 C.F.R. § 2.309(d)(1).[21]

Second, in accordance with Section 274(l) of the AEA, as implemented by 10 C.F.R. § 2.315(c), a state or local government entity or Federally-recognized Indian Tribe which does not wish to participate as a formal party, may nevertheless choose to participate in the proceedings as an "interested" state or local government. This provision applies not only to the state in which a facility is or will be located, but also to those other states that demonstrate an interest cognizable under Section 2.315(c).[22] Under this longstanding approach, the governmental entity is not required to proffer an admissible contention of its own, but, rather, *within the scope of admitted contentions*, is afforded an opportunity to participate in the proceeding.

The mere filing by a state of a petition to participate in an operating license application pursuant to 10 C.F.R. § 2.315(c) as an interested state, however, is not cause for ordering a hearing; the application can receive a thorough agency review, outside of the hearing process, absent indications of significant controverted matters or serious safety or environmental issues within the scope of the AEA and/or NEPA.[23] As such, a state or local government entity may not participate as an "interested" state or local government entity unless there is a hearing (*i.e.*, another party has demonstrated standing and has proffered an admissible contention).[24] Pursuant

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[21] *See* 10 C.F.R. § 2.309(d)(2).

[22] *Exxon Nuclear Co., Inc.* (Nuclear Fuel Recovery and Recycling Center), ALAB-447, 6 NRC 873, 876 (1977); *see also Philadelphia Elec. Co.* (Peach Bottom Atomic Power Station, Units 2 & 3), CLI-74-32, 8 AEC 217 (1974).

[23] *See Niagara Mohawk Power Corp.* (Nine Mile Point Nuclear Station, Unit 2), LBP-83-45, 18 NRC 213, 216 (1983); *see also Duquesne Light Co.* (Beaver Valley Power Station, Unit 2), LBP-84-6, 19 NRC 393, 426 (1984), citing *N. States Power Co.* (Tyrone Energy Park, Unit 1), CLI-80-36, 12 NRC 523, 527 (1980).

[24] *See Nine Mile Point,* LBP-83-45, 18 NRC at 216; *Duquesne Light Co.*, LBP-84-6, 19 NRC at 426.

to the Board's schedule, a petition to participate under Section 2.315(c) with regard to any admitted contention should be submitted within 30 days of the contention being admitted.[25]

B. Petitioner's Standing to Intervene and "Participation as a Matter of Right"

1. NYS's Standing to Intervene Under 10 C.F.R. § 2.309

NYS has filed its Petition pursuant to 10 C.F.R. § 2.309, which is the traditional provision under which a petitioner seeks an opportunity to participate in an NRC adjudicatory proceeding as a "full" party.[26] To be admitted, a petitioner must, as noted above, establish its standing and put forward at least one admissible contention. In the case of a state (or local government body—county, municipality or other subdivision—or affected, Federally-recognized Indian Tribe) in which the facility is located, standing will be assumed without the need for a formal demonstration by the entity. Beyond that, however, the state is required to proffer at least one admissible contention in order to be admitted as a party under 10 C.F.R. § 2.309.

In Section I of its Petition, NYS has not only asserted that the location of the Indian Point facility is within its boundaries—that is sufficient to establish its standing for purposes of 10 C.F.R. § 2.309—but also that it is entitled to a hearing pursuant to Section 274.l of the AEA, 42 U.S.C. § 2021.l, regardless of whether any contentions have been admitted.[27]

This is contrary to NRC case law which holds that the admission of one contention is a condition to the standing of a state petitioner. The NRC has stated that it "find[s] that limiting a State's participation to situations where at least one party submits an admissible contention does not violate the Section 274(l) requirement that a State be given a 'reasonable opportunity' to

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[25] *See* Licensing Board Order (Denying Westchester County's Request for a 30-Day Extension of Time Within Which to Submit an *Amicus Curiae* Brief) at 2 (Nov. 28, 2007) (unpublished).

[26] Petition at 18.

[27] *Id.* at 19-20.

participate in a hearing."[28] In sum, NYS's reading of Section 274.l is incorrect and has previously been rejected.

2. NYS Cannot Reserve the Right to Supplement Contentions

NYS also asserts that it is offering a "statement of the contentions it now believes should be examined at the hearing *and will supplement that list of contentions when and if new evidence becomes available that warrants such supplementation.*"[29] NYS, however, cannot simply "reserve" this right. A party's opportunity to raise, at some later date, new contentions is already afforded by the Commission's regulations, subject to its ability to satisfy the criteria set out in 10 C.F.R. § 2.309(c) (addressing nontimely filings), an obligation no different for a state or private party.

Section 2.309(f)(2) (formerly 2.714(b)(2)(iii)) requires that a petitioner file its initial contentions based on the license renewal application ("LRA") (*i.e.*, the environmental report and the safety analysis report). For issues arising under NEPA, a petitioner can "amend those contentions or file new contentions if there are data or conclusions in the NRC draft or final environmental impact statement . . . or any supplements relating thereto, that differ significantly from the data or conclusions in the applicant's documents."[30] Alternatively, contentions may be amended or new contentions filed upon a showing that: (1) the information upon which the amended or new contention is based was not previously available; (2) the information upon

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[28] *Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-06-20, 64 NRC 131, 205 (2006), *aff'd*, CLI-07-3, 65 NRC 13, *recons. denied*, CLI-07-13, 65 NRC 211 (2007); *see also Nine Mile Point*, LBP-83-45, 18 NRC at 216 (The mere filing by a State of a petition to participate in an operating license application pursuant to 10 C.F.R. § 2.315(c)—then § 2.715(c)—as an interested State is not cause for ordering a hearing. The application can receive a thorough agency review, outside of the hearing process, absent indications of significant controverted matters or serious safety or environmental issues).

[29] Petition at 20 (emphasis added).

[30] 10 C.F.R. § 2.309(f)(2); s*ee also Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-00-21, 52 NRC 261, 264 n.6 (2000); *Sacramento Mun. Util. Dist.* (Rancho Seco Nuclear Generating Station), LBP-93-23, 38 NRC 200, 251 (1993).

which the amended or new contention is based is materially different than information previously available; and (3) the amended or new contention has been submitted in a timely fashion based on the availability of the subsequent information.[31] For purposes of this proceeding, contentions filed after November 30, 2007 (or December 10, 2007, for those petitioners which explicitly sought and were granted extensions) are considered late.

At the contention-formulation stage of the proceeding, an intervenor may plead the absence or inadequacy of documents or responses that have not yet been made available to the parties, commonly referred to as a "contention of omission." The contention may be admitted subject to later dismissal or refinement/specification when the additional information has been furnished or the relevant documents have been filed.[32] Note, however, that the absence of licensing documents does not justify admission of contentions which do not meet the basis and specificity requirements of 10 C.F.R. § 2.309. That is, a non-specific contention may not be admitted, subject to later specification, even though licensing documents that would provide the basis for a specific contention are unavailable.[33] When information is not available, there must be good cause for filing a contention based on that information promptly after the information becomes available. However, the late-filing factors must be balanced in determining whether to admit such a contention filed after the initial period for submitting contentions.[34]

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31 10 C.F.R. § 2.309(f)(2)(i)-(iii).

32 *See AmerGen Energy Co. LLC*, (Oyster Creek Nuclear Generating Station), LBP-06-16, 63 NRC 737, 742-44 (2006), citing *Duke Energy Corp.*, (McGuire Nuclear Energy Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2, CLI-02-28, 56 NRC 373, 383 (2002); *see also Commonwealth Edison Co.* (Byron Nuclear Power Station, Units 1 and 2), LBP-80-30, 12 NRC 683, 693 (1980).

33 *Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), ALAB-687, 16 NRC 460, 469 (1982), *vacated in part on other grounds*, CLI-83-19, 17 NRC 1041 (1983).

34 *Philadelphia Elec. Co.* (Limerick Generating Station, Units 1 and 2), LBP-83-39, 18 NRC 67, 69 (1983); *Philadelphia Elec. Co.* (Limerick Generating Station, Units 1 and 2), ALAB-806, 21 NRC 1183, 1190 (1985).

3. Type of Proceeding and Procedures Under Which Hearing Will Be Conducted

NYS implies that sections 274.c and 274.l of the AEA, 42 U.S.C. §§ 2021.c and 2021.l, somehow entitle the state to a "formal" hearing conducted under the provisions of Subpart G of 10 C.F.R. Part 2, with the rights of discovery and cross-examination.[35] Notwithstanding the opportunity to participate provided to a state thereunder, the AEA is otherwise silent with respect to the nature of the hearing or procedures under which it must be conducted; such matters are left to the Commission. And the Commission has, in 10 C.F.R. § 2.310, established the format to be used in various adjudicatory proceedings. The customary format for a license renewal proceeding such as may be ordered here is the "informal" hearing process in Subpart L, which comports with the requirements of the Administrative Procedure Act, 5 U.S.C. §§ 554-558 ("APA").[36]

The more formal Subpart G procedures are reserved for enforcement proceedings, proceedings related to the licensing of uranium enrichment facilities, and the licensing of the high-level waste repository.[37] The only other proceedings for which a Subpart G proceeding is permissible are proceedings in which the presiding officer finds that resolution of a contention or contested matter necessitates resolution of material facts relating to the occurrence of a past activity, where the credibility of an eyewitness may reasonably be expected to be at issue, and/or issues of motive or intent of the party or eyewitness is material to the resolution of the contested

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[35] Petition at 18-22.

[36] *See Citizens Awareness Network, Inc. v. NRC*, 391 F.3d 338, 344 (1st Cir. 2004) (The APA lays out only a skeletal framework for adjudications, leaving to each agency the discretion to devise its own procedures: the minimum requirements are that agencies provide for a hearing before a neutral decisionmaker, allow each party the opportunity to present its case by oral or documentary evidence, subject to rebuttal, and conduct such cross-examination as may be necessary for a full and true disclosure of the facts. Discovery is not explicitly afforded by the APA. In any event, the court found that the NRC's revised Rules of Practice afforded reasonable access to information from adverse parties through mandatory disclosures, and comported with APA requirements with respect to cross-examination.).

[37] *See* 10 C.F.R. § 2.310.

matter.[38] NYS has failed to show why invocation of the formality of Subpart G is warranted in this proceeding.

The Board in the ongoing *Vermont Yankee* license renewal proceeding denied a request for a Subpart G hearing that was based on arguments very similar to those presented by NYS with respect to discovery and the right to cross-examine witnesses.[39] The *Vermont Yankee* Board noted that the state of Vermont had failed to demonstrate why resolution of its contentions required the use of Subpart G procedures, resting simply on the provision of sec. 274.l that it be afforded a "reasonable opportunity . . . to interrogate witnesses . . . ."[40] The *Vermont Yankee* Board relied heavily on an earlier decision in LBP-04-31, which found that Section 274(l) of the AEA "does not give a State absolute right of cross examination."[41] Since the opportunity for cross-examination under Subpart L—provided by Section 2.1204(b) in circumstances where the Board finds that it is necessary to ensure the development of an adequate record—is equivalent to the opportunity for cross-examination under the APA, it is likewise consistent with the state's "reasonable opportunity" to interrogate witnesses under 42 U.S.C. § 2021(l).[42] The *Vermont Yankee* Board also explicitly rejected the state's position that sec. 274.l gives the state the right to offer evidence and interrogate witnesses "even if no hearing is otherwise being held and no party has submitted an admissible contention."[43]

As a general matter, a petitioner in a Subpart L proceeding is not entitled to interrogatories, depositions, other production or cross-examination of witnesses. Under Subpart

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38 *Id.* § 2.310(d).

39 *See Vermont Yankee*, LBP-06-20, 64 NRC at 203 (citing *Entergy Nuclear Vermont Yankee* (Vermont Yankee Nuclear Power Station), LBP-04-31, 60 NRC 686, 710-711 (2004)).

40 *Id.*

41 *Id.* at 203-04.

42 *Id.*

43 *Id.* at 205.

L, discovery is limited to mandatory disclosures by each party (and the hearing file obligation imposed on the NRC Staff).[44] This process, the First Circuit held in *Citizens Awareness Network*, provides "meaningful access to information" and does not deprive intervenors of a means of adequately presenting their case—"full dress discovery is [not] essential to ensure a satisfactory record."[45] Likewise, the mandatory disclosure process was found acceptable by the Board in *Vermont Yankee*.[46]

NYS is also adamant about the need for a "live" hearing and the right to cross-examine witnesses.[47] In regard to the format of the hearing, it is "live." All parties attend the hearing and their respective witnesses are sworn in. Direct testimony is offered in written form, sworn to and affirmed by the witnesses and included in the record. Under the current rule, cross-examination is not conducted by counsel for each party but, rather, each party has an opportunity to provide to the Board, for its consideration, recommended questions which the Board can then ask an opposing party's witnesses.

Finally, NYS challenges the "completeness and accuracy" of the LRA[48] and requests that the Board suspend the proceeding "until such time as Entergy files an LRA that meets the minimum requirements of completeness, accuracy and sufficiency required by NRC regulations and the APA."[49] In its arguments supporting this request, NYS has confused and misapplied several unrelated concepts. For example, the only judgment made by the NRC to date with respect to the LRA, is the *Staff's* determination that the application was sufficient for purposes of

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[44] *See* 10 C.F.R. § 2.1203.

[45] *Citizens Awareness Network*, 391 F.3d at 350.

[46] *See Vermont Yankee*, LBP-06-20, 64 NRC at 202.

[47] Petition at 20.

[48] *See id.* at 305-11.

[49] *Id.* at 309 (citations omitted).

docketing.[50] Such an administrative determination that the Staff may begin its review is outside the scope of the hearing process, and not subject to review by the Board.[51]

IV. PETITIONER'S PROPOSED CONTENTIONS ARE INADMISSIBLE

A. Applicable Legal Standards and Relevant NRC Precedent

1. Petitioner Must Submit at Least One Admissible Contention Supported by an Adequate Basis

As explained above, to intervene in an NRC licensing proceeding, a petitioner must proffer at least one admissible contention.[52] The NRC will deny a petition to intervene and request for hearing from a petitioner who has standing but has not proffered at least one admissible contention.[53] As the Commission has observed, "[i]t is the responsibility of the Petitioner to provide the necessary information to satisfy the basis requirement for the admission of its contentions and demonstrate that a genuine dispute exists within the scope of this proceeding."[54]

Additionally, "[a] contention's proponent, not the licensing board, is responsible for formulating the contention and providing the necessary information to satisfy the basis requirement for the admission of contentions."[55] Finally, "Government entities seeking to litigate their own contentions are held to the same pleading rules as everyone else."[56]

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50 *See* 10 C.F.R. § 2.101.

51 *See id.*; *see also* Final Rule, Nuclear Power Plant License Renewal; Revisions, 56 Fed. Reg. 64,943, 64,963 (Dec. 13, 1991) ("Sufficiency is essentially a matter for the staff to determine based on the required contents of an application established in [10 C.F.R.] §§ 54.19, 54.21, 54.22 and 54.23").

52 *See* 10 C.F.R. § 2.309(a).

53 *Fla. Power & Light Co.* (Turkey Point Nuclear Power Plant, Units 3 and 4), CLI-01-17, 54 NRC 3, 5 (2001).

54 *Balt. Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-14, 48 NRC 39, 41 (1998).

55 *Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC 18, 22 (1998).

56 *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 568 (2005).

2. Proposed Contentions Must Satisfy the Requirements of 10 C.F.R. § 2.309(f) to be Admissible

Section 2.309(f)(1) requires a petitioner to "set forth with particularity the contentions sought to be raised," and with respect to each contention proffered, satisfy six criteria, as discussed in detail below. An admissible contention must: (1) provide a specific statement of the legal or factual issue sought to be raised; (2) provide a brief explanation of the basis for the contention; (3) demonstrate that the issue raised is within the scope of the proceeding; (4) demonstrate that the issue raised is material to the findings the NRC must make to support the action that is involved in the proceeding; (5) provide a concise statement of the alleged facts or expert opinions, including references to specific sources and documents that support the petitioner's position and upon which the petitioner intends to rely; and (6) provide sufficient information to show that a genuine dispute exists with regard to a material issue of law or fact.[57]

The purpose of the contention rule is to "focus litigation on concrete issues and result in a clearer and more focused record for decision."[58] The Commission has stated that it "should not have to expend resources to support the hearing process unless there is an issue that is appropriate for, and susceptible to, resolution in an NRC hearing."[59] Thus, the rules on contention admissibility are "strict by design."[60] Failure to comply with any one of the six admissibility criteria is grounds for the dismissal of a contention.[61]

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[57] *See* 10 C.F.R. § 2.309(f)(1)(i)-(vi).

[58] Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2202 (Jan. 14, 2004).

[59] *Id.*

[60] *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358 (2001), *recons. denied*, CLI-02-1, 55 NRC 1 (2002).

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

a. Petitioner Must Specifically State the Issue of Law or Fact to Be Raised

A petitioner must "provide a specific statement of the issue of law or fact to be raised or controverted."[62] The petitioner must "articulate at the outset the specific issues [it] wish[es] to litigate as a prerequisite to gaining formal admission as parties."[63] Namely, an "admissible contention must explain, with specificity, particular safety or legal reasons requiring rejection of the contested [application]."[64] The contention rules "bar contentions where petitioners have only 'what amounts to generalized suspicions, hoping to substantiate them later.'"[65]

b. Petitioner Must Briefly Explain the Basis for the Contention

A petitioner must provide "a brief explanation of the basis for the contention."[66] This includes "sufficient foundation" to "warrant further exploration."[67] Petitioner's explanation serves to define the scope of a contention, as "[t]he reach of a contention necessarily hinges upon its terms coupled with its stated bases."[68] The Board, however, must determine the admissibility of the contention itself, not the admissibility of individual "bases."[69]

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62 10 C.F.R. § 2.309(f)(1)(i).

63 *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 338 (1999).

64 *Millstone,* CLI-01-24, 54 NRC at 359-60.

65 *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC 419, 424 (2003) (quoting *Oconee*, CLI-99-11, 49 NRC at 337-39).

66 10 C.F.R. § 2.309(f)(ii); Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,170 (Aug. 11, 1989).

67 *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), ALAB-942, 32 NRC 395, 428 (1990) (footnote omitted).

68 *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), ALAB-899, 28 NRC 93, 97 (1988), *aff'd sub nom. Massachusetts v. NRC*, 924 F.2d 311 (D.C. Cir. 1991), *cert. denied*, 502 U.S. 899 (1991).

69 *See La. Energy Servs., L.P.* (National Enrichment Facility), LBP-04-14, 60 NRC 40, 57 (2004) ("licensing boards generally are to litigate 'contentions' rather than 'bases'").

c. *Contentions Must Be Within the Scope of the Proceeding*

A petitioner must demonstrate "that the issue raised in the contention is within the scope of the proceeding."[70] The scope of the proceeding is defined by the Commission's notice of opportunity for a hearing and order referring the proceeding to the Board.[71] (The scope of license renewal proceedings, in particular, is discussed in Section IV.B, *infra.*) Moreover, contentions are necessarily limited to issues that are germane to the specific application pending before the Board.[72] Any contention that falls outside the specified scope of the proceeding must be rejected.[73]

A contention that challenges any NRC rule (or seeks to litigate a matter that is, or clearly is about to become, the subject of a rulemaking) is outside the scope of the proceeding because, absent a waiver, "no rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding."[74] This includes contentions that advocate stricter requirements than agency rules impose or that otherwise seek to litigate a generic determination established by a Commission rulemaking.[75] Similarly, any contention that collaterally attacks applicable statutory requirements or the basic structure of the NRC regulatory process must be rejected by

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70 10 C.F.R. § 2.309(f)(1)(iii).

71 *See, e.g., Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-825, 22 NRC 785, 790-91 (1985).

72 *Yankee*, CLI-98-21, 48 NRC at 204 n.7.

73 *See, e.g., Portland Gen. Elec. Co.* (Trojan Nuclear Plant), ALAB-534, 9 NRC 287, 289 n.6 (1979).

74 *See* 10 C.F.R. § 2.335(a).

75 *See Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 159, *aff'd*, CLI-01-17, 54 NRC 3 (2001).

the Board as outside the scope of the proceeding.[76] Accordingly, a contention that simply states the petitioner's views about what regulatory policy should be does not present a litigable issue.[77]

d. Contentions Must Raise a Material Issue

A petitioner must demonstrate "that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding."[78] The standards defining the findings that the NRC must make to support issuance of renewed operating licenses in this proceeding are set forth in 10 C.F.R. § 54.29. As the Commission has observed, "[t]he dispute at issue is 'material' if its resolution would 'make a difference in the outcome of the licensing proceeding.'"[79] In this regard, "[e]ach contention must be one that, if proven, would entitle the petitioner to relief."[80] Additionally, contentions alleging an error or omission in an application must establish some significant link between the claimed deficiency and protection of the health and safety of the public or the environment.[81]

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[76] *Carolina Power & Light Co.*, (Shearon Harris Nuclear Power Plant, Unit 1), LBP-07-11, 66 NRC 41, 57-58 (2007) (citing *Phila. Elec. Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20 (1974)).

[77] *See Peach Bottom*, ALAB-216, 8 AEC at 20-21, 21 n.33. Within the adjudicatory context, however, a petitioner may submit a request for waiver of a rule under 10 C.F.R. § 2.335(b). Conversely, outside the adjudicatory context, a petitioner may file a petition for rulemaking under 10 C.F.R. § 2.802 or request that the NRC Staff take enforcement action under 10 C.F.R. § 2.206.

[78] 10 C.F.R. § 2.309(f)(1)(iv).

[79] *Oconee*, CLI-99-11, 49 NRC at 333-34; *see also* Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,172.

[80] USEC, Inc. (American Centrifuge Plant), Notice of Receipt of Application for License, 69 Fed. Reg. 61,411, 61,412 (Oct. 18, 2004).

[81] *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 and 3), LBP-04-15, 60 NRC 81, 89, *aff'd*, CLI-04-36, 60 NRC 631 (2004).

e. *Contentions Must Be Supported by Adequate Factual Information or Expert Opinion*

A petitioner bears the burden to present the factual information or expert opinions necessary to support its contention adequately, and failure to do so requires that the contention be rejected.[82] The petitioner's obligation in this regard has been described as follows:

> [A]n intervention petitioner has an *ironclad obligation* to examine the *publicly available documentary material pertaining to the facility in question* with sufficient care to enable [the petitioner] to uncover any information that could serve as the foundation for a specific contention. Stated otherwise, neither Section 189a. of the Act nor Section [2.309] of the Rules of Practice permits the filing of a vague, unparticularized contention, followed by an endeavor to flesh it out through discovery against the applicant or staff.[83]

Where a petitioner neglects to provide the requisite support for its contentions, the Board may not make assumptions of fact that favor the petitioner or supply information that is lacking.[84] The petitioner must explain the significance of any factual information upon which it relies.[85]

With respect to factual information or expert opinion proffered in support of a contention, "the Board is not to accept uncritically the assertion that a document or other factual information or an expert opinion supplies the basis for a contention."[86] Any supporting material provided by a petitioner, including those portions thereof not relied upon, is subject to Board scrutiny, "both

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82 *See* 10 C.F.R. § 2.309(f)(1)(v); *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 262 (1996).

83 *Catawba*, ALAB-687, 16 NRC at 468, *vacated in part on other grounds*, CLI-83-19, 17 NRC 1041 (1983) (emphasis added).

84 *See Ariz. Pub. Serv. Co.* (Palo Verde Nuclear Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155 (1991).

85 *See Fansteel, Inc.* (Muskogee, Oklahoma, Site), CLI-03-13, 58 NRC 195, 204-05 (2003).

86 *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 181, *aff'd on other grounds*, CLI-98-13, 48 NRC 26 (1998).

for what it does and does not show."[87] The Board will examine documents to confirm that they support the proposed contention(s).[88] A petitioner's imprecise reading of a document cannot be the basis for a litigable contention.[89] Moreover, vague references to documents do not suffice—the petitioner must identify specific portions of the documents on which it relies.[90] The mere incorporation of massive documents by reference is similarly unacceptable.[91]

In addition, "an expert opinion that merely states a conclusion (*e.g.*, the application is 'deficient,' 'inadequate,' or 'wrong') without providing *a reasoned basis or explanation* for that conclusion is inadequate because it deprives the Board of the ability to make the necessary, reflective assessment of the opinion as it is alleged to provide a basis for the contention."[92] Conclusory statements cannot provide "sufficient" support for a contention, simply because they are made by an expert.[93] In short, a contention "will be ruled inadmissible if the petitioner 'has offered no tangible information, no experts, no substantive affidavits, but instead only 'bare assertions and speculation.'"[94]

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87 *See Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 90, *rev'd in part on other grounds*, CLI-96-7, 43 NRC 235 (1996).

88 *See Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), ALAB-919, 30 NRC 29, 48 (1989), *vacated in part on other grounds and remanded*, CLI-90-4, 31 NRC 333 (1990).

89 *See Ga. Inst. of Tech.* (Georgia Tech Research Reactor, Atlanta, Ga.), LBP-95-6, 41 NRC 281, 300 (1995).

90 *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), CLI-89-3, 29 NRC 234, 240-41 (1989).

91 *See Tenn. Valley Auth.* (Browns Ferry Nuclear Plant, Units 1 & 2), LBP-76-10, 3 NRC 209, 216 (1976).

92 *Private Fuel Storage, L.L.C.*, LBP-98-7, 47 NRC at 181 (emphasis added); *see also USEC, Inc.* (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 472 (2006) (quoting *Private Fuel Storage*, LBP-98-7, 47 NRC at 181).

93 *See American Centrifuge Plant*, CLI-06-10, 63 NRC at 472.

94 *Fansteel*, CLI-03-13, 58 NRC at 203 (quoting *GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 207 (2000)).

f. *Contentions Must Raise a Genuine Dispute of Material Law or Fact*

With regard to the requirement that a petitioner "provide sufficient information to show . . . a genuine dispute . . . with the applicant . . . on a material issue of law or fact,"[95] the Commission has stated that the petitioner must "read the pertinent portions of the license application, including the Safety Analysis Report and the Environmental Report, state the applicant's position and the petitioner's opposing view," and explain why it disagrees with the applicant.[96] If a petitioner believes the Safety Analysis Report and the Environmental Report fail to adequately address a relevant issue, then the petitioner is to "explain why the application is deficient."[97] A contention that does not *directly controvert a position taken by the applicant in the application* is subject to dismissal.[98] An allegation that some aspect of a license application is "inadequate" or "unacceptable" does not give rise to a genuine dispute unless it is supported by facts and a reasoned statement of why the application is unacceptable in some material respect.[99]

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95 10 C.F.R. § 2.309(f)(1)(vi).

96 Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *Millstone*, CLI-01-24, 54 NRC at 358.

97 Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170; *Palo Verde*, CLI-91-12, 34 NRC at 156.

98 *See Tex. Utils. Elec. Co.* (Comanche Peak Steam Electric Station, Unit 2), LBP-92-37, 36 NRC 370, 384 (1992) (emphasis added). Further, regarding challenges to the NRC Staff's findings, the Commission has unequivocally held that:

> The adequacy of the applicant's license application, not the NRC staff's safety evaluation, is the safety issue in any licensing proceeding, and under longstanding decisions of the agency, contentions on the adequacy of the [content of the] SER are not cognizable in a proceeding.

U.S. Army (Jefferson Proving Ground Site), LBP-06-27, 64 NRC 438, 456 (2006) (quoting Final Rule, Changes to the Adjudicatory Process, 69 Fed. Reg. at 2202).

99 *See Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-90-16, 31 NRC 509, 521, 521 n.12 (1990).

B. Scope of Subjects Admissible in License Renewal Proceedings

"The scope of a proceeding, and, as a consequence, the scope of contentions that may be admitted, is limited by the nature of the application and pertinent Commission regulations."[100] Broadly speaking, license renewal proceedings concern requests to renew 40-year reactor operating licenses for additional 20-year terms. The NRC regulations governing license renewal are contained in 10 C.F.R. Parts 51 and 54.

Pursuant to Part 54, the NRC Staff conducts a technical review of the LRA to assure that public health and safety requirements are satisfied. Pursuant to Part 51, the NRC Staff completes an environmental review for license renewal, focusing upon the potential impacts of an additional 20 years of nuclear power plant operation. As the Commission has observed, "[b]oth sets of agency regulations derive from years of extensive technical study, review, inter-agency input, and public comment."[101] In its 2001 *Turkey Point* decision, the Commission explained in detail the established scope of its license renewal review process, its regulatory oversight process, and the meaning of "current licensing basis," or "CLB."[102] Key aspects of that decision and of other significant license renewal decisions are summarized below in Sections IV.B.1-2.

As further explained below, under the governing regulations in Part 54, the review of LRAs is confined to matters relevant to the extended period of operation requested by the

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100 *Statement of Policy on Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 NRC at 22.

101 *Turkey Point*, CLI-01-17, 54 NRC at 7.

102 *See id.* at 6-13. Because the CLB may change while the NRC Staff is conducting its review, each year following submittal of an LRA (and at least three months before scheduled completion of the NRC Staff review), an amendment to the LRA must be submitted to identify any change to the CLB that materially affects the content of the LRA, including the Updated Final Safety Analysis Report ("UFSAR") supplement. *See* 10 C.F.R. § 54.21(b). The license renewal UFSAR supplement provides a summary of the programs and activities for managing the effects of aging and evaluation of TLAAs for the period of extended operation. After issuance of a renewed operating license, the annual FSAR update required by 10 C.F.R. § 50.71(e) must include any structures, systems and components "newly identified that would have been subject to an aging management review or evaluation of time-limited aging analyses in accordance with § 54.21." 10 C.F.R. § 54.37(b).

applicant, which are not reviewed on a continuing basis under existing NRC inspection and oversight processes, including the Reactor Oversight Process ("ROP"). The safety review is limited to the plant systems, structures, and components (as delineated in 10 C.F.R. § 54.4) that will require an aging management review ("AMR") for the period of extended operation or are subject to an evaluation of time-limited aging analyses ("TLAA").[103] In addition, the review of environmental issues is limited by rule by the generic findings in NUREG-1437, "Generic Environmental Impact Statement ('GEIS') for License Renewal of Nuclear Plants."[104]

1. Scope of Safety Issues in License Renewal Proceedings

a. Overview of the Part 54 License Renewal Process and LRA Content

The Commission has stated that "[a]djudicatory hearings in individual license renewal proceedings will share the same scope of issues as our NRC Staff review, for our hearing process (like our Staff's review) necessarily examines only the questions our safety rules make pertinent."[105] The Commission has specifically limited its license renewal safety review to the matters specified in 10 C.F.R. §§ 54.21 and 54.29(a)(2), which focus on the management of aging of certain systems, structures and components, and the review of TLAAs.[106] Specifically, applicants must "demonstrate how their programs will be effective in managing the effects of aging during the proposed period of extended operation," at a "detailed . . . 'component and structure level,' rather than at a more generalized 'system level.'"[107] Thus, the "potential

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[103] *See* 10 C.F.R. §§ 54.21(a) and (c), 54.29, and 54.30.

[104] *See id.* §§ 51.71(d) and 51.95(c).

[105] *Turkey Point*, CLI-01-17, 54 NRC at 10; *see also* Final Rule, Nuclear Power Plant License Renewal; Revisions, 60 Fed. Reg. 22,461, 22,482 n.2.

[106] *See Turkey Point*, CLI-01-17, 54 NRC at 7-8; *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2), CLI-02-26, 56 NRC 358, 363 (2002).

[107] *Turkey Point*, CLI-01-17, 54 NRC at 8 (quoting Final Rule, Nuclear Power Plant License Renewal; Revisions, 60 Fed. Reg. at 22,462). If left unmitigated, detrimental aging effects can result from, for example, metal fatigue, erosion, corrosion, thermal and radiation embrittlement, microbiologically induced effects, creep, and shrinkage. *See Turkey Point*, CLI-01-17, 54 NRC at 7-8.

detrimental effects of aging that are not routinely addressed by ongoing regulatory oversight programs" is the issue that defines the scope of the safety review in license renewal proceedings.[108]

The NRC's license renewal regulations thus deliberately and sensibly reflect the distinction between *aging management issues*, on the one hand, and the *ongoing regulatory process* (*e.g.*, security and emergency planning issues) on the other.[109] The NRC's longstanding license renewal framework is premised upon the notion that, with the exception of aging management issues, the NRC's ongoing regulatory process is adequate to ensure that the CLB of operating plants provides and maintains an acceptable level of safety.[110] As the Commission explained in *Turkey Point*:

> [CLB is] a term of art comprehending the various Commission requirements applicable to a specific plant that are in effect at the time of the license renewal application. . . . The [CLB] represents an "evolving set of requirements and commitments for a specific plant that are modified as necessary over the life of a plant to ensure continuation of an adequate level of safety." 60 Fed. Reg. at 22,473. It is effectively addressed and maintained by ongoing agency oversight, review, and enforcement.[111]

For that reason, the Commission concluded that requiring a full reassessment of safety issues that were "thoroughly reviewed when the facility was first licensed" and continue to be "routinely monitored and assessed by ongoing agency oversight and agency-mandated licensee

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[108] *Id.* at 7. Detrimental aging effects can result from, for example, metal fatigue, erosion, corrosion, thermal and radiation embrittlement, microbiologically induced effects, creep, and shrinkage. *See id.* at 7-8.

[109] Specifically, in developing Part 54, the NRC sought "to develop a process that would be both efficient, avoiding duplicative assessments where possible, and effective, allowing the NRC Staff to focus its resources on the most significant safety concerns at issue during the renewal term." *Id.* at 7.

[110] *See* Final Rule, Nuclear Power Plant License Renewal; Revisions, 56 Fed. Reg. at 64,946. The term "current licensing basis" is defined in 10 C.F.R. § 54.3. *See also* 10 C.F.R. §§ 54.29, 54.30.

[111] *Turkey Point*, CLI-01-17, 54 NRC at 9.

programs" would be "both unnecessary and wasteful."[112] The Commission reasonably refused to "throw open the full gamut of provisions in a plant's current licensing basis to re-analysis during the license renewal review."[113]

In accordance with 10 C.F.R. §§ 54.19, 54.21, 54.22, 54.23, and 54.25, an LRA must contain general information, an Integrated Plant Assessment ("IPA"), an evaluation of TLAAs, a supplement to the plant's UFSAR (and periodic changes to the UFSAR and CLB) during NRC review of the application, changes to the plant's Technical Specifications to manage the effects of aging during the extended period of operation, and a supplement to the environmental report ("ER") that complies with the requirements of Subpart A of Part 51.[114]

An IPA is a licensee assessment reviewed by the NRC that demonstrates that a nuclear power plant's structures and components requiring AMR in accordance with 10 C.F.R. § 54.21(a) for license renewal have been identified and that "actions have been identified and have been or will be taken . . . , such that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the CLB . . . ."[115] Only passive, long-lived structures and components are subject to AMR.[116] Passive structures and components are those that perform their intended functions without moving parts or changes in configuration (*e.g.*, reactor vessel, piping, steam generators), and are not subject to replacement based on a qualified life or specified time period (*i.e.*, "long-lived"

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[112] *Id.* at 7.

[113] *Id.* at 9.

[114] NRC guidance for the license renewal process is set forth in the General Aging Lessons Learned Report (NUREG-1801) ("GALL Report"), the Standard Review Plan for License Renewal Applications for Nuclear Power Plants (NUREG-1800) ("SRP"), and Regulatory Guide ("RG") 1.188, Standard Format and Content for Applications to Renew Nuclear Power Plant Operating License. NUREG-1555, Standard Review Plans for Environmental Reviews for Nuclear Power Plants, and its supplement, provide guidance for implementing 10 C.F.R. Part 51 environmental requirements, which ensure compliance with NEPA.

[115] 10 C.F.R. § 54.29(a).

[116] *See id.* § 54.21(a)(1).

structures and components). The TLAAs involve in-scope systems, structures, and components; consider the effects of aging; and involve assumptions based on the original 40-year operating term.[117] An applicant must (i) show that the original TLAAs will remain valid for the extended operation period; (ii) modify and extend the TLAAs to apply to a longer term, such as 60 years; *or* (iii) otherwise demonstrate that the effects of aging will be adequately managed during the renewal term.[118]

To meet the requirements of Part 54, applicants generally rely upon existing programs, such as inspection, testing and qualification programs. Some new activities or program augmentations also may be necessary for purposes of license renewal (*e.g.*, one-time inspections of structures or components). The NRC's GALL Report, which provides the technical basis for the Standard Review Plan for License Renewal, contains the NRC Staff's generic evaluation of existing plant programs and documents the technical bases for determining the adequacy of existing programs, with or without modification, in order to effectively manage the effects of aging during the period of extended plant operation. The evaluation results documented in the GALL Report indicate that many existing programs are adequate to manage the aging effects for particular structures or components for license renewal without change.[119] The GALL Report also contains recommendations concerning specific areas for which existing programs should be augmented for license renewal.[120] Thus, programs that are consistent with the GALL Report are generally accepted by the Staff as adequate to meet the license renewal rule.[121]

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[117] *See id.* § 54.3.

[118] *See id.* § 54.21(c)(1).

[119] *See* GALL Report, Vol. 1, at 1.

[120] *See id.* at 4.

[121] *See id.* at 3.

b. Scope of Adjudicatory Hearings on Part 54 License Renewal Issues

Contentions seeking to challenge the adequacy of the CLB for the IPEC facility are not within the scope of this license renewal proceeding.[122] Likewise, the question of whether Entergy is currently in compliance with the IPEC CLB is beyond the scope of this proceeding, because "the Commission's on-going regulatory process—which includes inspection and enforcement activities—seeks to ensure a licensee's current compliance with the CLB."[123] In this regard, the ASLB recently stated that "monitoring is not proper subject matter for license extension contentions."[124] Thus, for example, under 10 C.F.R. § 50.47(a)(1), issues pertaining to emergency planning are excluded from consideration in license renewal proceedings, because "[e]mergency planning is, by its very nature, *neither germane to age-related degradation nor unique to the period covered by the . . . license renewal application.*"[125]

2. Scope of Environmental Issues in License Renewal Proceedings

The NRC has promulgated regulations, 10 C.F.R. Part 51, to implement NEPA. In 1996, the Commission amended Part 51 to address the scope of its environmental review for LRAs.[126] To make Part 51 more efficient and focused, the NRC divided the environmental requirements for license renewal into generic and plant-specific components. The NRC prepared a GEIS to

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[122] *See Turkey Point*, CLI-01-17, 54 NRC at 8-9, 23; *see also AmerGen Energy Co., LLC*, (License Renewal for Oyster Creek Nuclear Generating Station), LBP-07-17 (slip op. at 14 n.17) (Dec. 18, 2007) (finding any challenge to the CLB to be outside the scope of the proceeding because such issues are "(1) not germane to aging management concerns; (2) previously have been the subject of thorough review and analysis; and, accordingly (3) need not be revisited in a license renewal proceeding").

[123] *Oyster Creek*, LBP-07-17 (slip op. at 14 n.17). An example of an ongoing NRC inspection and enforcement activity is the ROP.

[124] Order Denying Pilgrim Watch's Motion for Reconsideration, ASLBP No. 06-848-02-LR, slip op. at 5 (Jan. 11, 2008) (unpublished) (citations omitted) (emphasis added).

[125] *Millstone*, CLI-05-24, 62 NRC at 561.

[126] *See* Final Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467 (June 5, 1996), *amended by*, Final Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 66,537 (Dec. 18, 1996).

evaluate and document those generic impacts that are well understood based on experience gained from the operation of the existing fleet of U.S. nuclear power plants.[127]

Generic issues are identified in the GEIS as "Category 1" impacts.[128] These are issues on which the Commission found that it could draw "generic conclusions applicable to all existing nuclear power plants, or to a specific subgroup of plants."[129] The Commission concluded that such issues involve "environmental effects that are essentially similar for all plants," and thus they "need not be assessed repeatedly on a site-specific basis."[130] The NRC has codified its generic findings in Table B-1, Appendix B to Subpart A of 10 C.F.R. Part 51.

Under 10 C.F.R. § 51.53(c)(3)(i), a license renewal applicant may, in its site-specific ER,[131] refer to and, in the absence of new and significant information, adopt the generic environmental impact findings found in Appendix B, Table B-1, for all Category 1 issues. An applicant, however, must address environmental issues for which the Commission was not able to make generic environmental findings.[132] Specifically, an ER must "contain analyses of the environmental impacts of the proposed action, including the impacts of refurbishment activities, if any, associated with license renewal and the impacts of operation during the renewal term," for

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[127] *See* NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Final Report, Vols. 1 & 2 (May 1996), *available at* ADAMS Accession Numbers ML040690705 and ML040690738.

[128] GEIS, Vol. 1, at 1-5 to 1-6.

[129] *Turkey Point*, CLI-01-17, 54 NRC at 11 (citing 10 C.F.R. Part 51, Subpart A, App. B).

[130] *Id.*

[131] NRC regulations require an LRA to include an ER describing the environmental impacts of the proposed action and alternatives. *See* 10 C.F.R. § 51.53(c), § 54.23. The ER is intended to assist the NRC Staff prepare the agency's independent environmental impact statement. *See Curators of the Univ. of Mo.*, CLI-95-8, 41 NRC 386, 396 (1995) (citing NRC regulations). The NRC Staff ultimately prepares a draft and final site-specific supplement to the GEIS for each plant, using the ER and other independent sources of information. *See* 10 C.F.R. §§ 51.71(d), 51.95(c).

[132] 10 C.F.R. § 51.53(c)(3)(ii).

those issues listed at 10 C.F.R. § 51.53(c)(3)(ii) and identified as "Category 2," or "plant specific," issues in Table B-1.[133]

Furthermore, in its ER, an applicant must include "any new and significant information regarding the environmental impacts of license renewal of which the applicant is aware," even if a matter would normally be considered a Category 1 issue.[134] The supplement to the GEIS similarly must include evaluations of site-specific Category 2 impacts and any "new and significant information" regarding generic Category 1 impacts.[135] NRC regulatory guidance defines "new and significant information" as follows:

> (1) information that identifies a significant environmental issue that was not considered in NUREG-1437 and, consequently, not codified in Appendix B to Subpart A of 10 CFR Part 51, or (2) information that was not considered in the analyses summarized in NUREG-1437 and that leads to an impact finding different from that codified in 10 CFR Part 51.[136]

In the ongoing *Vermont Yankee* and *Pilgrim* license renewal proceedings, the presiding Licensing Boards discussed the regulatory history of the "new and significant information" provision, and applied that provision in rejecting certain proposed contentions.[137] In short, when first proposed, the NRC's Part 51 license renewal environmental regulations did not include the

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[133] The Commission has described those issues as involving environmental impact severity levels that "might differ significantly from one plant to another," or impacts for which additional plant-specific mitigation measures should be considered. *Turkey Point*, CLI-01-17, 54 NRC at 11.

[134] 10 C.F.R. § 51.53(c)(3)(iv); *see also Turkey Point*, CLI-01-17, 54 NRC at 11; *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-14, 55 NRC 278, 290 (2002).

[135] 10 C.F.R. § 51.53(c)(3)(ii), (iv).

[136] RG 4.2, Supp. 1, Preparation of Supplemental Environmental Reports for Application to Renew Nuclear Power Plant Operating Licenses, 4.2-S-4 (Sept. 2000) *available at* ADAMS Accession Number ML003710495 ("RG 4.2S1"). *See also Nat'l Comm. for the New River, Inc. v. FERC*, 373 F.3d 1323, 1330 (D.C. Cir. 2004) (referring to "new information [regarding the action which] shows that the remaining action will affect the quality of the environment 'in a significant manner or to a significant extent not already considered'") (quoting *Marsh v. Or. Nat. Res. Council*, 490 U.S. 360, 374 (1989)).

[137] *See Vermont Yankee*, LBP-06-20, 64 NRC at 155-59, *aff'd*, CLI-07-3, 65 NRC 13, *recons. denied*, CLI-07-13, 65 NRC 211 (2007); *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-06-23, 64 NRC 257, 288, 294-300 (2006) *aff'd*, CLI-07-3, 65 NRC 13, *recons. denied*, CLI-07-13, 65 NRC 211 (2007).

current provision, 10 C.F.R. § 51.53(c)(3)(iv), regarding "new and significant information."[138] The NRC added the provision in response to suggestions by the Environmental Protection Agency ("EPA") and the Council on Environmental Quality ("CEQ") that the NRC expand "the framework for consideration of significant new information."[139] At that time, in SECY-93-032, the NRC Staff had explained that adding Section 51.53(c)(3)(iv) would not affect license renewal adjudications because "[l]itigation of environmental issues in a hearing will be limited to unbounded category 2 and category 3 issues unless the rule is suspended or waived."[140] In a public briefing concerning SECY-93-032, as well as the EPA and CEQ comments, NRC confirmed that a successful petition for rulemaking (if the new information was generic), or a petition for a rule waiver (if the new information was plant-specific), would be necessary to litigate previously-determined generic findings at NRC adjudicatory hearings on LRAs.[141] The Commission ultimately approved the changes to the proposed rule and specifically endorsed SECY-93-032.[142] The Statement of Considerations for the final rule refers to SECY-93-032.[143]

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[138] *See* Proposed Rule, Environmental Review for Renewal of Operating Licenses, 56 Fed. Reg. 47,016, 47,027-28 (Sept. 17, 1991).

[139] Final Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. at 28,470.

[140] SECY-93-032, Memorandum from James M. Taylor, Executive Director of Operations ("EDO"), to the Commissioners, "Subject: 10 CFR Part 51 Rulemaking on Environmental Review for Renewal of Nuclear Power Plant Operating Licenses" at 4 (Feb. 9, 1993), *available at* ADAMS Accession No. ML072260444. (Category 2 and 3 issues were eventually combined into Category 2).

[141] *See* Pub. Meeting Tr., Briefing on Status of Issues and Approach to GEIS Rulemaking for Part 51, at 20-22 (Feb. 19, 1993), *available at* ADAMS Accession No. ML072070193.

[142] *See* Memorandum from Samuel J. Chilk, Secretary, to James M. Taylor, EDO (Apr. 22, 1993), *available at* ADAMS Accession No. ML003760802.

[143] Final Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. at 28,474.

In *Turkey Point*, the Commission reaffirmed the forgoing conclusions in a formal adjudicatory decision[144] and summarized the appropriate procedural vehicles for "revisiting" generic environmental determinations relevant to license renewal as follows:

> Our rules thus provide a number of opportunities for individuals to alert the Commission to *new and significant information* that might render a generic finding invalid, either with respect to all nuclear power plants or for one plant in particular. In the hearing process, for example, petitioners with new information showing that a generic rule would not serve its purpose at a particular plant may seek a waiver of the rule. *See* 10 C.F.R. § [2.335] [internal citation omitted]. Petitioners with evidence that a generic finding is incorrect for all plants may petition the Commission to initiate a fresh rulemaking. *See* 10 C.F.R. § 2.802. Such petitioners may also use the SEIS notice-and-comment process to ask the NRC to forgo use of the suspect generic finding and to suspend license renewal proceedings, pending a rulemaking or updating of the GEIS. *See* 61 Fed. Reg. at 28,470; GEIS at 1-10 to 1-11.[145]

Accordingly, the Commission has held—most recently in the *Vermont Yankee* and *Pilgrim* license renewal proceedings—that because the generic environmental analyses of the GEIS have been incorporated into NRC regulations, "the conclusions of [those] analys[es] may not be challenged in litigation unless the rule [10 C.F.R. § 51.53(c)(3)(i)] is waived by the Commission for a particular proceeding or the rule itself is suspended or altered in a rulemaking proceeding."[146] The Commission emphasized that "[a]djudicating Category 1 issues site by site based merely on a claim of 'new and significant information,' would defeat the purpose of resolving generic issues in a GEIS."[147] In fact, the U.S. Supreme Court has specifically upheld

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[144] *Turkey Point*, CLI-01-17, 54 NRC at 12, 22-23 (2001).

[145] *Id.* at 12 (emphasis added).

[146] *Vermont Yankee*, CLI-07-03, 65 NRC at 17-18; *see also Turkey Point*, CLI-01-17, 54 NRC at 12; *Vermont Yankee*, LBP-06-20, 64 NRC at 155-59; *Pilgrim*, LBP-06-23, 64 NRC at 288, 294-300 *Shearon Harris*, LBP-07-11, 66 NRC at 64 (citing the foregoing cases). The *Pilgrim* and *Vermont Yankee* decisions have been appealed to the United States Court of Appeals for the First Circuit in *Massachusetts v. NRC*, Docket Nos. 07-1482 and 07-1493.

[147] *Vermont Yankee*, CLI-07-03, 65 NRC at 21.

the Commission's authority to discharge its responsibilities under NEPA through generic rulemaking.[148]

3. Waiver of Regulations Under Section 2.335

In order to seek waiver of a rule in a particular adjudicatory proceeding, a petitioner must submit a petition pursuant to 10 C.F.R. § 2.335 ("2.335 petition"). The requirements for a Section 2.335 petition are as follows:

> The sole ground for petition of waiver or exception is that special circumstances with respect to the subject matter of the particular proceeding are such that the application of the rule or regulation (or provision of it) would not serve the purposes for which the rule or regulation was adopted.[149]

Further, such a petition,

> *must be accompanied by an affidavit* that identifies the specific aspect or aspects of the subject matter of the proceeding as to which the application of the rule or regulation (or provision of it) would not serve the purposes for which the rule or regulation was adopted. *The affidavit must state with particularity* the special circumstances alleged to justify the waiver or exception requested.[150]

If the petitioner makes a prima facie showing, then the Board shall certify the matter to the Commission.[151] If there is no prima facie showing, then the matter may not be litigated, and "the presiding officer may not further consider the matter."[152] In this regard, the recent Commission decision in the *Millstone* case sets forth a four-part test for Section 2.335 petitions,

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[148] *See Balt. Gas & Elec. v. NRDC*, 462 U.S. 87, 100-01 (1983) ("Administrative efficiency and consistency of decision are both furthered by a generic determination of [environmental impacts] without needless repetition of the litigation in individual proceedings."); *see also Tribune Co. v. FCC*, 133 F.3d 61, 68 (D.C. Cir. 1998) (citations omitted) ("[I]t is hornbook administrative law that an agency need not – indeed should not – entertain a challenge to a regulation, adopted pursuant to notice and comment, in an adjudication or licensing proceeding.").

[149] 10 C.F.R. § 2.335(b).

[150] *Id.* (emphasis added).

[151] *See id.* § 2.335(c), (d).

[152] *Id.* § 2.335(c).

under which the petitioner must demonstrate that it meets each of the following factors for a waiver to be granted:

i. The rule's strict application "would not serve the purposes for which [it] was adopted";

ii. The movant has alleged "special circumstances" that were "not considered, either explicitly or by necessary implication, in the rulemaking proceeding leading to the rule sought to be waived";

iii. Those circumstances are "unique" to the facility rather than "common to a large class of facilities"; and

iv. A waiver of the regulation is necessary to reach a "significant safety problem."[153]

In summary, a Section 2.335 petition "can be granted only in unusual and compelling circumstances."[154]

C. Co-Sponsorship of Contentions and Incorporation by Reference

Pursuant to 10 C.F.R. § 2.309(f)(3), contentions may be sponsored by two or more requestors/petitioners. Specifically, 10 C.F.R. § 2.309(f)(3) states:

> If two or more requestors/petitioners seek to co-sponsor a contention, the requestors/petitioners shall jointly designate a representative who shall have the authority to act for the requestors/petitioners with respect to that contention. If a requestor/petitioner seeks to adopt the contention of another sponsoring requestor/petitioner, the requestor/petitioner who seeks to adopt the contention must either agree that the sponsoring requestor/petitioner shall act as the representative with respect to that contention, or jointly designate with the sponsoring requestor/petitioner a representative who shall have the authority to act for the requestors/petitioners with respect to that contention.

10 C.F.R. § 2.309(f)(3). While the regulation acknowledges that two or more petitioners may co-sponsor a contention, it does not address whether the petitioner who seeks co-sponsorship

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[153] *Millstone*, CLI-05-24, 62 NRC at 560 (citing *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), CLI-89-20, 30 NRC 231, 235 (1989); *Seabrook*, CLI-88-10, 28 NRC at 597).

[154] *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), ALAB-895, 28 NRC 7, 16 (1988), *aff'd*, CLI-88-10, 28 NRC at 597, *recons. denied*, CLI-89-3, 29 NRC 234 (1989).

may be granted party status merely by incorporating contentions only by reference to another party's pleading.

The Commission, however, has addressed this issue. In a license transfer proceeding involving Indian Point, Units 1 and 2, two intervenors (Town of Cortland and Citizens Awareness Network ("CAN")) sought to adopt each other's contentions.[155] The Commission held that where both petitioners have independently met the requirements for participation, the Presiding Officer may provisionally permit petitioners to adopt each other's issues early in the proceeding.[156] If the primary sponsor of a contention withdraws from the proceeding, then the remaining petitioner must demonstrate that it has the "independent ability to litigate [the] issue."[157] If the petitioner cannot make such a showing, then the issue must be dismissed prior to hearing.[158]

Incorporation by reference should be denied to parties who merely establish standing and then attempt to incorporate issues of other petitioners.[159] Incorporation by reference also would be improper in cases where a petitioner has not independently established compliance with requirements for admission in its own pleadings by submitting at least one admissible contention of its own.[160] As the Commission indicated, "[o]ur contention-pleading rules are designed, in part, 'to ensure that full adjudicatory hearings are triggered only by those able to proffer at least some minimal factual and legal foundation in support of their contentions.'"[161]

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[155] *See Consol. Edison Co.* (Indian Point, Units 1 and 2), CLI-01-19, 54 NRC 109, 131-33 (2001).

[156] *Id.* at 132.

[157] *Id.*

[158] *Id.*

[159] *Id.* at 133.

[160] *Id.*

[161] *Id.* (citing *Oconee*, CLI-99-11, 49 NRC at 334).

NYS states in its Petition that it "hereby adopts and incorporates by references [sic] the following contentions submitted by Riverkeeper, Inc.: Contention EC-2, pursuant to 10 C.F.R. §2.309(f)(3)."[162] This statement does not meet the requirements of 10 C.F.R. § 2.309(f)(3), discussed above, because NYS has neither jointly designated with Riverkeeper a representative with the "authority" to act for NYS and Riverkeeper on this proposed contention, nor has NYS agreed that Riverkeeper would act as the representative for the contention. Additionally, as discussed above, NYS's attempts to incorporate Riverkeeper's Proposed Contention EC-2 by reference would be improper if NYS has not independently established compliance with requirements for admission in its own pleadings by submitting at least one admissible contention of its own.[163] As established below, NYS has not submitted an admissible contention, and so it cannot adopt this Riverkeeper proposed contention, even if it satisfied 10 C.F.R. § 2.309(f)(3). In sum, NYS attempts to incorporate Riverkeeper Proposed Contention EC-2 must fail.

D. The NYS Proposed Contentions Are Not Admissible

The NYS Petition contains 32 proposed safety and environmental contentions, including an array of allegations related, but not necessarily limited to: the completeness of the CLB for IPEC Units 2 and 3 (Proposed Contentions 1-3); the alleged need to prepare a separate ER for each unit (Proposed Contention 4); the adequacy of certain Entergy aging management plans ("AMPs"), including those related to buried pipes, electric cables, wiring, transformers, the containment structures, the reactor pressure vessel, and metal fatigue of reactor components (Proposed Contentions 5-8, 24-26); the ER's analysis of energy alternatives (Proposed Contentions 9-11); the ER's analysis of severe accident mitigation alternatives ("SAMAs") (Proposed Contentions 12-16); the impacts of license renewal on offsite land use (Proposed

[162] Petition at 311.

[163] *See Indian Point*, CLI-01-19, 54 NRC at 133.

Contention 17); the completeness of the UFSAR (Proposed Contention 18); compliance of IPEC with NRC general design criteria ("GDC") (Proposed Contention 19); IPEC compliance with NRC fire protection regulations (Proposed Contention 20); adequacy of the IPEC seismic design (Proposed Contentions 21-22); the alleged need for "baseline" inspections (Proposed Contention 23); the safety of onsite storage of spent fuel, including vulnerability to terrorist attacks (Proposed Contention 27); the environmental impacts of leakage from spent fuel pools (Proposed Contention 28); emergency preparedness and evacuation (Proposed Contention 29); and the impacts of the IPEC once-through cooling system on aquatic life and endangered species (Proposed Contentions 30-32).

NYS has not explicitly designated its contentions as environmental or technical contentions (contrary to the directions set forth in the Commission's Hearing Notice). Accordingly, Entergy responds to the proposed contentions sequentially, in the order they are presented. As demonstrated below, NYS has failed to submit an admissible contention pursuant to 10 C.F.R. § 2.309(f).

1. Proposed Contention 1: The LRA Is Not Accurate and Complete in All Material Respects

In Proposed Contention 1 (and elsewhere throughout its Petition), NYS asserts that the LRA is not "complete and accurate in all material respects," as called for by 10 C.F.R. § 54.13.[164] Specifically, Proposed Contention 1 states:

> THE LICENSE RENEWAL APPLICATION (LRA) VIOLATES 10 C.F.R. § 54.13 BECAUSE IT IS NEITHER COMPLETE NOR ACCURATE AND THUS, IN ORDER TO PROTECT THE DUE PROCESS AND 42 U.S.C. § 2239 RIGHTS OF THE INTERVENORS, THE BOARD SHOULD SUSPEND THE

[164] Petition at 36-48.

HEARING UNTIL THE APPLICANT FILES AN AMENDED APPLICATION IN COMPLIANCE WITH 10 C.F.R. § 54.13.[165]

In support of Proposed Contention 1, NYS asserts, among other things, that: (1) the UFSAR for IP2 and IP3 are not up-to-date; (2) IP2 and IP3 do not comply with the GDC; (3) the LRA does not include various AMPs; (4) certain references included in the LRA are not publicly available; (5) the NRC Staff has issued requests for additional information ("RAIs") on the LRA; and (6) the ER does not address certain "new and significant" information.[166] NYS seems to believe that what it perceives as deficiencies in the LRA somehow deprive it of an opportunity to challenge the substance of the application.[167] In addition, NYS suggests that the foregoing undermines the basis necessary to warrant protection under the "timely renewal" doctrine of the Administrative Procedure Act, 5 U.S.C. § 558.[168] While these arguments are repeated in a number of places throughout the Petition, the short answer is that NYS misapprehends the nature of Entergy's obligations with regard to the LRA and the NRC Staff's sufficiency review in the overall regulatory framework of license renewal under 10 C.F.R. Part 54.

At the outset, NYS argues that the NRC should not have docketed the LRA due to purported omissions from that document. The Staff's sufficiency determination is not at issue.[169] Petitioner further suggests that a discrete, affirmative finding with respect to "completeness and accuracy" under 10 C.F.R. § 54.13, is a prerequisite to issuance of a renewed license.[170] That

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165 *Id.* at 36.

166 *Id.* at 36-48.

167 *Id.* at 306-308.

168 *Id.* at 42, 306; *see also* 10 C.F.R. § 2.109(b).

169 *Baltimore Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 & 2), LBP-98-26, 48 NRC 232, 242 (1998) (holding that in a license renewal proceeding, "how thoroughly the Staff conducts its preacceptance review process and whether its decision to accept an application for filing was correct are not matters of concern in this adjudicatory proceeding.").

170 Petition at 310.

argument is legally unfounded. The findings that must be made prior to issuance of a renewed license are set out in 10 C.F.R. § 54.29. Moreover, the Commission recognizes that it is routine that further clarification of information provided, as well as requests for additional information not provided, will be made throughout the Staff's review process. That such requests may be made does not imply that the application is inaccurate or incomplete in terms of the objectives of 10 C.F.R. § 54.13.

Tied to its arguments regarding the completeness and accuracy of the LRA (Proposed Contention 1), but also presented as independent issues in Proposed Contentions 2, 3, and elsewhere, the NYS Petition is replete with assertions that the LRA is not supported by an appropriately up-to-date FSAR.[171] This, contends NYS, prevents Entergy from satisfying those requirements of Part 54 which depend on Entergy's ability to articulate the CLB for IP2 and IP3.[172] Moreover, NYS alleges that Entergy unlawfully relies on compliance with incorrect GDC. From the foregoing, NYS asserts that it is not possible to ascertain what structures, systems and components must be subject to aging management.[173]

The matters before the Board in this proceeding are confined to whether these units can be safely operated *in the period of extended operation*, that is, beyond the current expiration of the licenses in 2013 and 2015, respectively.[174] Issues regarding the adequacy of the design and

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[171] *Id.* at 36, 48-72, 72-77, 299-305.

[172] *Id.*

[173] *Id.* at 48-77.

[174] *Turkey Point*, CLI-01-17, 54 NRC at 8 ("In establishing its license renewal process, the Commission did not believe it necessary or appropriate to throw open the full gamut of provisions in a plant's current licensing basis to re-analysis during the license renewal review."); *see also* 10 C.F.R. § 54.30 (regarding a licensee's ongoing obligations with respect to the CLB).

construction of the facilities, for example, compliance with the GDC,[175] are outside the scope of matters appropriately considered here.

While NYS goes on at some length on this issue,[176] Entergy is not required to compile its CLB into a discrete compendium to support Petitioner's review of the LRA. In fact, the Commission explicitly rejected a requirement that licensees be required to compile the CLB when the Commission first promulgated its license renewal regulations,[177] a decision which it reiterated when it revised Part 54 in 1995.[178] Entergy has identified in its LRA those systems, structures and components which it believes warrant aging management.[179] To the extent Petitioner claims that certain references upon which the LRA relies are not publicly available, it ignores the explicit guidance provided by the Commission in its Hearing Notice regarding access to non-public documents related to the LRA.[180] To the best of our knowledge, NYS made no attempt to obtain copies of the allegedly non-public references from Entergy or its counsel.

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[175] In any event, the GDC, set forth in Appendix A to 10 C.F.R. Part 50, which establish minimum requirements for the principal design criteria for water-cooled nuclear power plants, *are not applicable to plants with construction permits issued prior to May 21, 1971.* The construction permits for Indian Point Units 2 and 3 were issued before that date, on October 14, 1966, and August 13, 1969, respectively, and therefore, the GDC do not apply to IP 2 or IP 3. *See* NRR Office Instruction No. LIC-100, Rev. 100-a, Control of Licensing Bases for Operating Reactors, at 2.13 (Mar. 2, 2001) (available at ADAMS Accession No. ML010660227). *See also* Staff Requirements Memorandum, SECY-92-223, Resolution of Deviations Identified During the Systematic Evaluation Program at 1 (Sept. 18, 1992), *available at* ADAMS Accession No. ML003763736.

[176] Petition at 299-305.

[177] Final Rule, Nuclear Power Plant License Renewal, 56 Fed. Reg. 64,943, 64,952, (Dec. 13, 1991).

[178] Final Rule, Nuclear Power Plant License Renewal; Revisions, 60 Fed. Reg. at 22,473. *See also* Staff Requirements Memorandum, SECY-94-066, Evaluation of Issues Discussed in SECY-92-314, "Current Licensing Basis for Operating Plants" (May 19, 1994), *available at* ADAMS Accession No. 9406160012.

[179] To the extent that Entergy determined that a CLB change forms the basis for an IPA conclusion regarding the need for aging management review, such change is included in the FSAR supplement. *See* 10 C.F.R. §54.21(a); *also* Final Rule, Nuclear Power Plant License Renewal; Revisions, 60 Fed. Reg. at 22,482.

[180] The Hearing Notice states: "To the extent that the application contains attachments and supporting documents that are not publicly available because they are asserted to contain safeguards or proprietary information, petitioners desiring access to this information should contact the applicant or applicant's counsel to discuss the need for a protective order." 72 Fed. Reg. at 42,135 n.1.

Finally, NYS asks that in light of what it characterizes as an "inaccurate and incomplete" application, this Board suspend the hearing process because of LRA deficiencies.[181] This is, in practical effect an impermissible and unfounded motion to stay the proceeding, and it should be summarily rejected.[182]

In the Calvert Cliffs License Renewal proceeding, the Board reiterated:

> As the Commission has made clear, how thoroughly the Staff conducts its preacceptance review process and whether its decision to accept an application for filing was correct are not matters of concern in this adjudicatory proceeding. *See Curators of the University of Missouri*, CLI-95-8, 41 NRC 386, 395-96 (1995); *see also New England Power Co.* (NEP, Units 1 and 2), LBP-78-9, 7 NRC 271, 280-81(1978). Instead, the focus of this case is the adequacy of the application as it has been accepted and docketed for licensing review. *See* 10 C.F.R. § 2.714(b)(2)(ii). If there are deficiencies in that application, in its contentions a petitioner can specify what those are and, if the petitioner is correct such that the application is insufficient to support issuance of the requested license, then the application must be denied.[183]

In any event, NYS's insinuation that the application is deficient as a matter of law, and its protestations regarding the application,[184] is belied by the 32 contentions it has in fact proposed; whether one or more of those contentions is set forth with adequate basis and specificity is a separate matter addressed in this response. To the extent those contentions allege other deficiencies in the LRA, such as inadequate AMPs or failure to incorporate new and significant information, Entergy addresses those allegations below in its individual responses to the pertinent contentions.

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[181] Petition at 309-10.

[182] The Commission has held that "[t]ermination or postponement of license renewal adjudications contravenes the Commission's interest in 'regulatory finality' and 'sound case management.'" *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-01-27, 54 NRC 385, 391 (2001).

[183] *Calvert Cliffs*, LBP-98-26, 48 NRC at 242.

[184] Petition at 309-10.

2. Proposed Contention 2: The LRA Does Not Comply with the NRC Regulations Because the FSAR Is Incomplete

Proposed Contention 2 states:

> THE LICENSE RENEWAL APPLICATION FOR IP2 AND IP3 FAILS TO COMPLY WITH THE REQUIREMENTS OF 10 C.F.R. §§ 54.21 AND 54.29(a)(1) AND (2) SINCE INFORMATION FROM SAFETY ANALYSES AND EVALUATIONS PERFORMED AT THE NRC'S REQUEST ARE NOT IDENTIFIED OR INCLUDED IN THE UFSAR AND THUS IT IS NOT POSSIBLE TO DETERMINE WHICH SYSTEMS AND COMPONENTS IMPORTANT FOR SAFETY REQUIRE AGING MANAGEMENT OR WHAT TYPE OF AGING MANAGEMENT THEY REQUIRE.[185]

NYS claims that the LRA is in violation of 10 C.F.R. § 50.71(e), because the IP2 and IP3 UFSAR allegedly does not contain the detail necessary to describe and identify all of the systems for which aging management is required. Therefore, Petitioner argues, Entergy is unable to provide reasonable assurance that it has identified the systems and components for which aging management is required in accordance with 10 C.F.R. § 54.21(a), and that it has developed and/or will implement the aging management program ("AMR") required by 10 C.F.R. § 54.29(a)(1) and (2).[186] In support of Proposed Contention 2, Petitioner also submits the Declaration of David Lochbaum.[187]

Entergy opposes admission of Proposed Contention 2 because it raises issues that fall squarely outside the scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii). Like Proposed Contention 1, this contention alleges various deficiencies in the CLBs for IP2 and IP3, as documented in the UFSAR. Accordingly, the issues it raises, which have no relevance to

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185 *Id.* at 48.

186 *See id.* at 48-51.

187 Although Entergy has not explicitly challenged the qualifications of all of Petitioner's purported experts in this Answer, inasmuch as Entergy does not for purposes of 10 C.F.R. § 2.309(f) address the merits of the proposed contentions, Entergy reserves the right to challenge the qualifications of the purported experts in the event any proposed contention is admitted.

aging management during the period of extended operation, are beyond the scope of this proceeding, as defined by 10 C.F.R. Part 54 and the Commission's Hearing Notice.[188]

While, as described above, alleged deficiencies in the IP2 and IP3 UFSARs pertain to the CLB and are beyond the scope of this proceeding, rendering this contention inadmissible, Entergy has nevertheless reviewed the NRC Bulletins and Generic Letters listed by NYS and Mr. Lochbaum in connection with Proposed Contention 2. Entergy's responses to the listed generic communications have been docketed by the NRC and are available to the public. Indeed, as evidenced by his declaration, Mr. Lochbaum was able to obtain access to those responses. As defined in Section 54.3(a), the CLB includes "the licensee's commitments remaining in effect that were made in docketed licensing correspondence such as licensee responses to NRC bulletins [and] generic letters."[189] Thus, such information is part of the CLB and considered as part of the license renewal process.

As discussed in response to Proposed Contention 1, *supra*, Entergy is not required to compile the CLB—including its responses to NRC generic letters and bulletins—as part of license renewal process. For the reasons discussed above, Proposed Contention 2 must be rejected in its entirety.

3. Proposed Contention 3: The LRA Does Not Comply with the NRC Regulations for Aging Management

Proposed Contention 3 states:

> THE LRA DOES NOT COMPLY WITH THE REQUIREMENTS OF 10 C.F.R. §§ 54.29(a)(1) AND (2) FOR IP2 AND IP3 BECAUSE IT IS NOT POSSIBLE TO ASCERTAIN IF ALL RELEVANT EQUIPMENT, COMPONENTS AND SYSTEMS THAT ARE REQUIRED TO HAVE AGING MANAGEMENT HAVE BEEN IDENTIFIED OR TO DETERMINE WHETHER

[188] *See Turkey Point*, CLI-01-17, 54 NRC at 8-9.

[189] 10 C.F.R. § 54.3(a) (emphasis added).

THE AGING MANAGEMENT REQUIREMENTS FOR LICENSE RENEWAL HAVE BEEN MET.[190]

Petitioner claims that Entergy, in violation of 10 C.F.R. §§ 54.29(a)(1) and (2), does not demonstrate that it will manage the effects of aging during the renewal period on the functionality of structures and components covered by Section 54.21(a)(1) or that Entergy has completed TLAAs required under Section 54.21(c). Additionally, Petitioner claims that IP2 and IP3 are not in compliance with the GDC set forth in 10 C.F.R. Part 50.[191] Petitioner seeks to support Proposed Contention 3 with the Declaration of Paul Blanch and a lengthy chart (allegedly comparing GDCs with the UFSARs) that was prepared by Mr. Blanch and is attached to his declaration.

Entergy opposes admission of Proposed Contention 3, because it raises issues that are beyond the scope of the proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii), lacks adequate factual or expert support, contrary to 10 C.F.R. § 2.309(f)(1)(v), and fails to establish that a genuine dispute exists with the Applicant on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Accordingly, the proposed contention must be dismissed in its entirety.

To the extent that Proposed Contention 3 alleges that the LRA is deficient because it does not identify all "equipment, components, and systems" subject to the requirements of 10 C.F.R. § 54.21, it lacks adequate support and fails to directly controvert the LRA.[192] As a general matter, Entergy notes that all AMPs for IP2 and IP3 are described in Appendix B of the LRA; all commitments to make enhancements are shown on the IPEC commitment list; and evaluations of all TLAAs are described in Section 4 of the LRA. The Declaration of Paul Blanch, which is essentially a "laundry list" of alleged omissions from the LRA and the purported safety

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[190] Petition at 72.

[191] *Id.*

[192] Millstone, CLI-01-24, 54 NRC at 358; 10 C.F.R. § 2.309(f)(1)(vi).

implications of those alleged omissions, is factually flawed. Second, it ignores the content of the LRA itself. Thus, for example, when Mr. Blanch alleges that the LRA does not contain adequate information with respect to the AMPs for Non-Environmentally-qualified ("Non-EQ") Inaccessible Medium-Voltage Cables, his bald and conclusory assertions fail to directly controvert the content of the LRA, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

To the extent that Proposed Contention 3 challenges the compliance of IP2 and IP3 with the GDC, it is inadmissible for the reasons described in response to Proposed Contention 1, *supra*. In short, such a challenge is outside the scope of this proceeding and the GDC do not apply to IPEC.[193] As such, Proposed Contention 3 is inadmissible as beyond the scope of this proceeding.

4. Proposed Contention 4: Entergy Must Provide a Separate Environmental Report for IPEC Units 2 and 3

Proposed Contention 4 states:

> THE ENVIRONMENTAL REPORT FAILS TO COMPLY WITH THE PROVISIONS OF 10 C.F.R. § 51.53(C)(1) BECAUSE IT FAILS TO PROVIDE A SEPARATE "ENVIRONMENTAL REPORT" FOR EACH LICENSE FOR WHICH AN EXTENSION IS SOUGHT.[194]

NYS argues that 10 C.F.R. § 51.53(c)(1) requires Entergy to prepare separate ERs for IP2 and IP3. NYS reasons that, because IP2 and IP3 have been separately licensed (and at times separately owned), separate ERs are warranted. NYS claims that "[t]reating the two individual plants as one for purposes of the ER severely distorts the environmental analysis."[195] NYS

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[193] As discussed above, the GDC, set forth in Appendix A to 10 C.F.R. Part 50, which establish minimum requirements for the principal design criteria for water-cooled nuclear power plants, *are not applicable to plants with construction permits issued prior to May 21, 1971.* The construction permits for Indian Point Units 2 and 3 were issued before that date, on October 14, 1966, and August 13, 1969, respectively, and therefore, the GDC do not apply to IP 2 or IP 3.

[194] Petition at 78.

[195] *Id.*

states, for example, that Entergy's analysis of energy alternatives in its ER assumes that any alternative must be able to supply as much power as the two plants together produce, "when in fact several alternatives, including wind power and biomass, are sufficient to replace at least one unit if not both units."[196] Stated differently, NYS asserts that the ER wrongly "assumes both units are either extended or not extended rather than evaluate the individualized impacts if one unit is extended and the other is not."[197] The effect, NYS claims, is a "distorti[on]" of the results and a failure to "fully evaluate the real alternatives and their impacts."[198]

Entergy opposes the admission of this contention on the grounds that it lacks a factual or legal foundation, contrary to 10 C.F.R. § 2.309(f)(1)(ii), and fails to establish a genuine dispute with the Applicant on a material issue of law of or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Proposed Contention 4 is a legally and logically flawed corollary to NYS Proposed Contentions 9, 10, and 11, in which NYS asserts that the ER must analyze energy alternatives to the relicensing of only *one* IPEC unit. That is to say, NYS appears to believe that the preparation of separate ERs for IP2 and IP3 would be more consistent with and facilitate *its* proposal to analyze alternative energy sources on a single-unit basis. As discussed below, the contention constitutes an improper challenge to 10 C.F.R. Parts 51 and 54 that stems from a fundamental misunderstanding of NEPA.

First, Petitioner offers no credible legal basis for its assertion that Entergy must submit separate ERs for each unit in its LRA. Petitioner suggests that 10 C.F.R. § 51.53(c)(1) requires such an approach, but that provision simply states: "Each applicant for renewal of a license to operate a nuclear power plant under part 54 . . . shall submit with its application a separate

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196 *Id.*

197 *Id.* at 79.

198 *Id.*

document entitled "Applicant's Environmental *Report* – Operating License Renewal Stage."[199] This only requires that an ER be segregated from the rest of the application. Nowhere does it require that an applicant submit separate ERs for each unit included in the scope of a license renewal.

In fact, Parts 51 *and* 54 clearly contemplate the preparation of a single ER and a single SEIS for purposes of license renewal.[200] The NRC's SRP for review of LRAs supports this interpretation of the regulations; indicating that, to be docketed, an application must, *inter alia*, identify the "specific *unit(s)* applying for license renewal."[201] Petitioner's assertion thus lacks a legal basis and impermissibly challenges the pertinent regulations of Parts 51 and 54 by seeking to impose on Entergy a requirement—the need for separate ERs for IP2 and IP3—that does not exist in those regulations as they are currently written.

In addition, NYS fails to provide any NEPA case law to support its claim that a separate ER be prepared for each unit. In fact, NEPA precedent suggests the opposite conclusion. NEPA and 10 C.F.R. Part 51 require the Staff to consider the potential environmental effects of any proposed "major federal action significantly affecting the quality of the human environment."[202] Here, the proposed major federal action is the renewal of the operating licenses of IP2 and IP3 for an additional 20 years. A license renewal applicant is required to prepare an ER which, among other things, must discuss the environmental impacts of the proposed action.[203]

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[199] 10 C.F.R. § 51.53(c)(1) (emphasis added).

[200] *See generally* 10 C.F.R. §§ 51.53(c), 54.23 ("Each application must include a supplement to the environmental report that complies with the requirements of subpart A to 10 CFR part 51.").

[201] NUREG-1800, Rev. 1, Table 1.1-1, 1.1-5 (emphasis added).

[202] *See* 10 C.F.R. § 51.20(a); 42 U.S.C. §§ 4321 *et. seq.*

[203] 10 C.F.R. §§ 51.45, 51.53(c); *see also Nuclear Management Co., LLC* (Monticello Nuclear Generating Plant) LBP-05-31, 62 NRC 735, 752-53 (2005), *aff'd*, CLI-06-06, 63 NRC 161 (2006).

Regarding the impacts analysis, the NRC considers "the impact on the environment *which results from the incremental impact* of the action, when added to other past, present, and reasonably foreseeable future actions"—*i.e.*, the cumulative impacts of the proposed action.[204] With regard to cumulative impacts, the Board in the *PFS* case held, under the "cumulative impacts" rubric, that NEPA "imposes a rule against incrementalism, that is, against analyzing a succession of currently contemplated federal (licensing) actions in series, *as though they were separate, unrelated activities.*"[205]

In *Hydro Resources*, the Commission elaborated on this point: "Under NEPA, when several proposals for . . . actions that will have a cumulative or synergistic environmental impact upon a region are pending concurrently before an agency, their environmental consequences must be considered together."[206] According to the Commission, "[t]he term 'synergistic' relates to the *joint action of different parts—or sites*—which, acting together, enhance the effects of one or more individual sites."[207]

Entergy has fully evaluated the "synergistic" impacts of license renewal for both units, consistent with the principle explained above and the Commission holding in *Hydro Resources*. At this juncture, treatment of each unit separately would amount to the "incrementalism" that

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[204] *Hydro Resources Inc.* (P.O. Box 15910 Rio Rancho, NM 87174), CLI-01-4, 53 NRC 31, 60 (2001) (citing 40 C.F.R. § 1508.7).

[205] *Private Fuel Storage, LLC* (Independent Spent Fuel Storage Installation), LBP-05-5, 61 NRC 108, 119 (emphasis added) (citations omitted), *aff'd*, CLI-05-12, 61 NRC 345 (2005).

[206] *Hydro Resources*, CLI-01-4, 53 NRC 31 at 57 (internal quotations omitted) (citing *Kleppe v. Sierra Club*, 427 U.S. 390, 410 (1976)).

[207] *Id.* (emphasis added). *Hydro Resources* addressed the cumulative impacts of different sites as opposed to those of multiple facilities or projects located within a single site. However, by analogy, that case suggests that applicants should not consider the "compartmentalized" license renewal of different facilities or projects located on or within the same site because NEPA requires analysis of the joint action of different parts in order to capture the cumulative impacts of the action.

NEPA forbids.[208] Thus, Proposed Contention 4 fails to establish a genuine dispute with the Applicant, contrary 10 C.F.R. § 2.309(f)(1)(vi).

In addition, treatment of each unit separately would amount to "impermissible segmentation" under NEPA.[209] As it pertains to NEPA, segmentation "occurs when environmental review of the total effects of a project is thwarted because portions of the project are dealt with separately."[210] Treatment of each unit separately, thereby thwarting the environmental review of the total effects of the license renewal, would amount to impermissible segmentation under NEPA.[211] Thus, once again, the Petitioner fails to establish a genuine dispute with the Applicant, contrary 10 C.F.R. § 2.309(f)(1)(vi).

Importantly, Entergy's approach is consistent with NRC practice and precedent. The NRC has routinely reviewed and approved single LRAs that address multiple units. The NRC-approved LRAs for Browns Ferry (Units 1, 2, and 3), Brunswick (Units 1 and 2), and Nine Mile Point (Units 1 and 2) provide three recent examples.[212] In fact, the NRC has approved single LRAs encompassing not only multiple reactor units, *but different facilities on different sites.*

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208 *Private Fuel Storage*, LBP-05-5, 61 NRC at 119.

209 *See Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), LBP-98-33, 48 NRC 381, 390 (1998).

210 *Id.* (citing *City of Rochester v. U.S. Postal Service*, 541 F.2d. 967, 972 (2d Cir. 1976)).

211 *See id.* Finding that a portion of the water supply system utilized solely by a local government agency need not be considered by the NRC in its environmental review, the Licensing Board in *Limerick* held that "[c]aution is necessary in dividing a project into segments for NEPA purposes in order to avoid arbitrary divisions which may hide significant total impacts. Consideration of a number of segments with small impacts while not considering their cumulative consequences is proscribed. The test for whether a project may properly be divided for purposes of environmental impacts has three parts. First, does the segment have independent utility? Second, does approval of the segment under consideration foreclose alternatives to the part of the project not being considered? Finally, is the entire plan sufficiently definite such that it is highly probable it will be carried out in the near future?" *Philadelphia Elec. Co.* (Limerick Generating Station, Units 1 and 2), LBP-82-43A, 15 NRC 1423, 1473 (1982) (citing *Swain v. Brinegar*, 542 F.2d 364, 369 (7th Cir. 1976) (en banc); *Duke Power Co.* (Amendment to Materials License SMN-1773-Transportation of Spent Fuel from Oconee Nuclear Station for Storage at McGuire Nuclear Station), ALAB-651, 14 NRC 307 (1981)).

212 *See* http://www.nrc.gov/reactors/operating/licensing/renewal/applications.html (providing links to the cited LRAs and the Staff's related safety and environmental review documents).

Examples include the LRAs for the North Anna/Surry, McGuire/Catawba,[213] and Dresden/Quad Cities facilities. The licensees for the aforementioned facilities addressed units of varying ages, designs, and licensing bases, within a single LRA and ER. Insofar as Petitioner argues that a single ER is inappropriate here, it challenges the long-standing regulatory framework established by Parts 51 and 54 and ignores relevant legal principles and regulatory precedent.

For all of these reasons, the Board must deny the admission of Proposed Contention 4 in its entirety.

5. Proposed Contention 5: The LRA Does Not Provide for Adequate Inspection and Monitoring of Buried Systems that May Carry Radioactively-Contaminated Fluids

Proposed Contention 5 states:

> THE AGING MANAGEMENT PLAN CONTAINED IN THE LICENSE RENEWAL APPLICATION VIOLATES 10 C.F.R. §§ 54.21 AND 54.29(a) BECAUSE IT DOES NOT PROVIDE ADEQUATE INSPECTION AND MONITORING FOR CORROSION OR LEAKS IN ALL BURIED SYSTEMS, STRUCTURES, AND COMPONENTS THAT MAY CONVEY OR CONTAIN RADIOACTIVELY-CONTAMINATED WATER OR OTHER FLUIDS AND/OR MAY BE IMPORTANT FOR PLANT SAFETY.[214]

In general, Petitioner claims that the AMP proposed for IP2 and IP3 is inadequate because it does not provide for adequate inspection, replacement, or monitoring of leakage from certain buried systems, including piping, tanks, and transfer canals that may contain or convey radioactively-contaminated water and/or other fluids, and these deficiencies could endanger the safety and welfare of the public.[215] Also, Petitioner claims that these same issues apply to IP1 to

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[213] In the adjudicatory proceeding for McGuire/Catawba, the Commission stated, "[u]nder our NEPA rules, the NRC Staff will prepare a *site-specific Supplemental Environmental Impact Statement ("SEIS")* which augments the GEIS." *Catawba*, CLI-02-14, 55 NRC at 290 (emphasis added). Clearly, the Commission contemplated one SEIS for all units at both sites.

[214] Petition at 80.

[215] *See id.* at 80-92.

the extent that IP2 and IP3 use IP1's buried systems. Petitioner relies upon two declarations, one from Timothy Rice of the Bureau of Hazardous Waste and Radiation Management, Division of Solid and Hazardous Materials, of the New York State Department of Environmental Conservation, and one from Dr. Rudolf Hausler of Corro-Consulta, Inc.[216]

Entergy opposes admission of Proposed Contention 5 on the grounds that it is outside the scope of license renewal, contrary to 10 C.F.R. § 2.309(f)(1)(iii), not adequately supported, contrary to 10 C.F.R. § 2.309(f)(1)(v), and does not show a genuine dispute of a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

a. Monitoring and Leakage from Buried Systems Is Outside the Scope of License Renewal

The thrust of Petitioner's contention is that the AMPs for underground piping and tanks are insufficient and will result in leakage of radioactive liquids and/or other fluids.[217] Petitioner claims that the aging management of these underground systems does not include adequate inspection, replacement, and monitoring programs.[218]

As an initial matter, recent decisions in the ongoing license renewal proceeding for the Pilgrim Nuclear Power Station ("Pilgrim") confirmed that ongoing monitoring for leakage of radioactive liquids is outside of the scope of license renewal.[219] For example, in a very recent decision in which the Pilgrim Board denied Pilgrim Watch's Motion for Reconsideration, the Board stated the following:

> As we have said on numerous occasions, *monitoring is not proper subject matter for license extension contentions*. Thus, where Pilgrim Watch's original formulation of its contention focused upon the potential for surface and groundwater contamination from

[216] *Id.* at 13; Rice Declaration ¶ 1; Hausler Declaration ¶ 1.

[217] *See id.* at 80-92.

[218] *Id.* at 80.

[219] Order Denying Pilgrim Watch's Motion for Reconsideration, ASLBP No. 06-848-02-LR.

> radioactivity contained by certain of the Applicant's buried pipes and tanks, that *subject is a matter managed by the Applicant's ongoing monitoring programs*, and is therefore *outside the scope of matters properly considered in license extension hearings*.[220]

This holding by the *Pilgrim* Board refutes Petitioner's Proposed Contention 5 and clearly demonstrates that Petitioner has not proffered an admissible contention with respect to leakage from buried systems.

Significantly, Petitioner's contention is based largely on the allegation that the AMPs for underground piping and tanks do not include "adequate monitoring."[221] As clearly stated by the *Pilgrim* Board, "monitoring is not proper subject matter for license extension contentions."[222] Proposed Contention 5 also focuses extensively on potential contamination of surface and groundwater due to radioactive leakage from underground piping and tanks.[223] But, as discussed above, such issues are outside the scope of license renewal, because they are managed by ongoing monitoring programs.[224] Therefore, because Petitioner focuses on monitoring of leakage from underground piping and tanks, and on radioactive leakage into surface and groundwater, Proposed Contention 5 must fail as it does not meet the standard of an admissible contention set forth in 10 C.F.R. § 2.309(f)(1)(iii), which requires that a contention fall within the scope of the license renewal proceeding.

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220 *Id.*, slip op. at 5 (emphasis added).

221 Petition at 80, 89, 91.

222 Order Denying Pilgrim Watch's Motion for Reconsideration, ASLBP No. 06-848-02-LR, slip op. at 5; *see also Pilgrim*, LBP-06-23, 64 NRC at 274-77 (2006) (citing *Turkey Point*, CLI-01-17, 54 NRC at 7); Final Rule, Nuclear Power Plant License Renewal; Revisions, 60 Fed. Reg. at 22,481-82; *Monticello*, LBP-05-31, 62 NRC at 754.

223 *See* Petition at 80-92.

224 *See* Order Denying Pilgrim Watch's Motion for Reconsideration, ASLBP No. 06-848-02-LR, slip op. at 5.

Such a conclusion is further supported by the contention itself and by the Rice[225] and Hausler[226] Declarations. In this regard, they point to a number of examples of radioactive liquids leaking from IPEC and attempt, without any basis, to casually link them to an inadequate AMP for buried components.[227] Petitioner does not demonstrate how these examples pertain to buried systems within the scope of license renewal, much less explain with the requisite level of basis and specificity how the relevant AMPs would not ensure their intended functions during the period of extended operation. Instead, Petitioner merely provides these examples stating that they demonstrate cases of radioactive leakage. As discussed above, radioactive leakage and monitoring of radioactive leakage are, *per se*, outside the scope of license renewal, and do not support admission of this contention.

Similarly, Petitioner provides a list of recent events *at other plants* in which "radioactively contaminated water" has released to the environment, and claims that these events "have raised serious questions about whether nuclear facilities are in compliance with federal regulations governing the release of radioactive materials into the environment."[228] Clearly, the question of whether other facilities are operating in compliance with federal regulations is

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[225] For example, the Rice Declaration addresses wide-ranging topics such as long term storage of spent fuel in spent fuel pools, dry cask storage and the status of Yucca Mountain, the chemical structure of tritium and strontium, the history of radioactive leaks from Indian Point's spent fuel pools, and potential future environmental impacts. In fact, the Rice Declaration does not even refer specifically to leakage from underground piping and tanks. *See* Rice Declaration. For these reasons, the Rice Declaration does not support admission of Proposed Contention 5.

[226] The Hausler Declaration focuses entirely on monitoring and leakage of radioactive materials. Although Dr. Hausler discusses corrosion and radioactive leakage in some detail, his statements are inconsequential, because they do not demonstrate how alleged deficiencies in the AMPs could prevent fulfillment of intended functions. Hausler Declaration ¶¶ 15-49.

[227] Petition at 86-88.

[228] *Id.* at 84.

beyond the scope of this proceeding.[229] NYS cannot rely upon such extraneous examples because they are not relevant to license renewal at IPEC.

b. The IPEC AMPs for Buried Components Fully Comply with NRC Regulations and Guidance

Petitioner also claims that the Buried Piping and Tanks Inspection Program is inadequate because it does not provide for adequate inspection, leak prevention, and monitoring with respect to underground pipes, tanks, and transfer canals, including those for IP1 to the extent its systems are used by Units 2 and 3.[230] In addition to being outside of the scope of license renewal, as discussed above, this allegation is deficient for the additional reasons described below.

First, the Buried Piping and Tanks Inspection Program, located in LRA Appendix B.1.6, is consistent with the program recommended by the GALL Report.[231] Petitioner does not refute this AMP's consistency with the GALL Report. Moreover, Petitioner seems to not realize that leak prevention is addressed in Program Element 2 of the GALL Report contradicting the contention as a matter of fact.[232]

Second, although Petitioner discusses the Buried Piping and Tanks Inspection Program, it fails to acknowledge and apparently fails to realize the existence of the many other programs for

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[229] *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), LBP-07-12, slip op. at 19 ("leakage events at other plants are not directly relevant to the issue at hand [license renewal]").

[230] Petition at 80. Petitioner also provides an inaccurate list of systems for which it claims perform a "critical role" and "may contain radioactive water," including the following systems: (1) safety injection; (2) service water; (3) fire protection; (4) fuel oil; (5) security generator; (6) city water; (7) plant drains; (8) auxiliary feedwater; and (9) heating. *Id.* at 81-82. This list of systems is overbroad, and contains many systems for which radioactive liquid could not enter. Petitioner appears to have obtained this list (except "heating") from LRA Appendix B.1.6, "Buried Piping and Tanks Inspection," but ignores the very next sentence in Appendix B.1.6 which states that "[o]f these systems, only the safety injection system contains radioactive fluids during normal operations." Thus, it is erroneous for Petitioner to claim that all of these systems "may contain radioactive water."

[231] GALL Report, Vol. 2, Rev. 1, § XI.M34.

[232] *Id.*

aging management of these buried components as set forth in the LRA.[233] Programs for internal corrosion directly refute the validity of Petitioner's claim that "Appendix B does not appear to address internal inspections at all."[234] Petitioner does not challenge, and fails to even discuss, these other programs, thereby failing to satisfy the requirement that it challenge the content of the LRA with requisite basis and specificity.[235]

Petitioner further incorrectly claims that the LRA and AMP "are deficient because they do not provide any evaluation of the baseline conditions of buried systems or their many weld junctures, nor do they provide any support for postulated or 'typical' corrosion rates with the facility."[236] Petitioner cites no regulatory authority as the basis for its claim, as there is none. Further, baseline conditions for systems in the scope of license renewal are continuously established during the current operating term through ongoing maintenance and inspection activities, in conjunction with the corrective action program, but such CLB activities are outside the scope of this license renewal proceeding.[237]

Finally, Petitioner's claims that "[t]he LRA does not specifically commit to conducting any inspections of buried systems, structures, or components IP1 [sic] that continue to be used by the Indian Point Nuclear Power Station"[238] is entirely incorrect. Section 1.2 of the LRA states the following:

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[233] For example, management of loss of material for internal surfaces of buried piping and tanks is managed by the Water Chemistry Control-Primary and Secondary Program (LRA Appendix B.1.41).

[234] Petition at 92. Ironically, Dr. Hausler states that "I further believe that the 'preventive measures consisting of maintaining external coatings and wrapping' as stated in the 'Aging Management Programs and Activities' is inadequate because it does not address deterioration of pipes from the inside," entirely ignoring these other AMPs for internal surfaces. Hausler Declaration ¶ 12.

[235] *See* 10 C.F.R. § 2.309(f)(1)(i), (ii), and (vi); *see also Turkey Point*, CLI-01-17, 54 NRC at 19 (providing that a contention should refer to those portions of the LRA that the petitioner disputes).

[236] Petition at 84.

[237] *See Turkey Point*, CLI-01-17, 54 NRC at 8-9.

[238] Petition at 92.

> Although the extension of the IP1 license is not a part of this license renewal application, IP1 systems and components interface with and in some cases support the operation of IP2 and IP3. Therefore, IP1 systems and components were considered in the scoping process (see Section 2.1.1). The aging effects of Unit 1 SSCs within the scope of license renewal for IP2 and IP3 will be adequately managed so that the intended functions will be maintained consistent with the current licensing basis throughout the period of extended operation.

Accordingly, applicable IP1 components are included in the aging management reviews of IP2 components, which, as discussed above, satisfy NRC requirements.

c. Petitioner's Arguments Are Riddled with Inaccuracies and with Information that Is Immaterial to the Proposed Contention

Petitioner provides numerous statements that do not support its proposed contention and are immaterial to this proceeding. For example, Petitioner claims that "[o]ne common aspect of many of these leaks -- around the nation and at Indian Point -- is that they have been discovered by happenstance and that they usually have gone undetected for an extended period of time thereby permitting increasingly larger amounts of contaminated water to enter the ground (or air) around the facilities."[239] Similarly, Petitioner's claim that "[t]he older the structure in question, the more likely it is for leakages to occur."[240] Petitioner also claims that the relationship between age and leakage "is especially true at Indian Point where the buried systems, structures, and components have been under the ground for 35 years or longer at Units 2 and 3 – and more than 45 years at Unit 1."[241] Once again, Petitioner makes sweeping statements and generalizations that do not support its proposed contention.

The Hausler Declaration also cannot serve as valid support for the Petitioner's claims. For example, the Petition, based on the Hausler Declaration, states that "Entergy makes no

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[239] *Id.* at 88.

[240] *Id.*

[241] *Id.* at 89.

commitment to comply with the National Association of Corrosion Engineers (NACE) corrosion control standards."[242] Such a commitment to NACE is not an NRC requirement, nor is it mandated by the Buried Piping and Tanks Inspection Program that is outlined in Section XI.M34 of the GALL Report.[243] Dr. Hausler's attempts to characterize these incorrect or unnecessary actions as "deficiencies" in the AMP are unavailing and cannot serve as the basis for an admissible contention pursuant to 10 C.F.R. § 2.309(f)(1)(v).

Finally, Petitioner makes broad, overreaching, non-specific arguments that the AMP for "transfer canals"[244] is inadequate, but fails to understand that the transfer canals are in the scope of different AMPs than underground piping.[245] Specifically, the aging effects of different parts of the transfer canals are managed by the Structures Monitoring Program, described in LRA Appendix B.1.36, and the Water Chemistry Control – Primary and Secondary Program, described in LRA Appendix B.1.41. Petitioner entirely ignores these AMPs for the transfer canals, and attempts to treat the transfer canal as an underground pipe. This is incorrect. Therefore, Petitioner's Proposed Contention 5 must fail in this regard, because the contention is not supported by adequate factual information or expert opinion as required by 10 C.F.R. § 2.309(f)(1)(v).[246]

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[242] *Id.* at 84.

[243] GALL Report, Vol. 2, § XI.M34. Petitioner also claims that the "LRA contains no plan for using cathodic protection or other methods to prevent leaks from occurring." Petition at 84. This is simply incorrect. IPEC uses a cathodic protection system; however, the system is conservatively not credited for managing aging effects of buried piping and tanks. IP2 UFSAR § 5.1.3.12; IP3 UFSAR § 16.4.4.

[244] Petitioner imprecisely defines the transfer canal by stating that the transfer canals "connect each unit's reactor core with the unit's associated spent fuel pool." Petition at 82. More specifically, the transfer canals connect the spent fuel pool to the "refueling cavity."

[245] *Id.*

[246] A contention, such as this one, "will be ruled inadmissible if the petitioner 'has offered no tangible information, no experts, no substantive affidavits, but instead only 'bare assertions and speculation.'" *Fansteel*, CLI-03-13, 58 NRC at 203.

In sum, the Petition does not support admission of Proposed Contention 5. As demonstrated above, Petitioner merely provides vague, unsupported, and often inaccurate, statements to support this proposed contention. Such allegations are outside the scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii), do not provide supporting facts or expert opinion, contrary to 10 C.F.R. § 2.309(f)(1)(vi), and do not demonstrate a genuine dispute of material law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

6. Proposed Contention 6: The LRA Does Not Propose an Aging Management Plan for Non-Environmentally Qualified Inaccessible Medium-Voltage Cables and Wiring

Proposed Contention 6 states:

> THE LICENSE RENEWAL APPLICATION FOR IP2 AND IP3 FAILS TO COMPLY WITH THE REQUIREMENTS OF 10 C.F.R. §§ 54.21(a) AND 54.29 BECAUSE APPLICANT HAS NOT PROPOSED A SPECIFIC PLAN FOR AGING MANAGEMENT OF NON-ENVIRONMENTALLY QUALIFIED INACCESSIBLE MEDIUM-VOLTAGE CABLES AND WIRING FOR WHICH SUCH AGING MANAGEMENT IS REQUIRED.[247]

Petitioner alleges that Applicant has not demonstrated that the effects of aging will be adequately managed, because Applicant has failed to (1) identify the location and extent of Non-EQ Inaccessible Medium-Voltage Cables; (2) provide access to referenced documents; (3) address specific recommendations from the referenced Sandia report; (4) provide a technical basis to support life extension without an aging management plan; and (5) provide a technical basis justifying differences between programs for aging management of accessible and inaccessible cables.[248]

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[247] Petition at 92.

[248] *Id.* at 92-100.

Entergy opposes admission of Proposed Contention 6 on the grounds that the allegations made by Petitioner do not satisfy the requirements for an admissible contention. Petitioner does not provide adequate basis, contrary to 10 C.F.R. § 2.309(f)(1)(ii), does not provide arguments within the scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii), does not provide adequate support, contrary to 10 C.F.R. § 2.309(f)(1)(v), and does not provide sufficient information to show that a genuine dispute exists with regard to a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). As demonstrated below, Petitioner has largely ignored the aging management of Non-EQ Inaccessible Medium-Voltage Cables set forth in the LRA, and has proffered baseless, and frequently inaccurate, claims about the LRA's treatment of this issue.

a. The LRA Complies Fully with NRC Regulations and Guidance for Non-EQ Inaccessible Medium-Voltage Cables

Petitioner has erred in claiming that the LRA does not identify the location and extent of Non-EQ Inaccessible Medium-Voltage Cables.[249] These cables, utilized at IP2 and IP3, are *fully* addressed by the LRA. In accordance with 10 C.F.R. § 54.4, the scoping and screening of electrical systems is provided in LRA Section 2.5 (Scoping and Screening Results: Electrical and Instrumentation and Control Systems), which discusses components subject to aging management review. LRA Table 2.5-1 (Electrical and Instrumentation and Control Systems Components Subject to Aging Management Review) identifies these cables as "Inaccessible medium-voltage (2KV to 35KV) cables not subject to 10 CFR 50.49 EQ requirements."

The LRA includes an AMP for these cables, which is located in LRA Appendix B.1.23 (Non-EQ Inaccessible Medium-Voltage Cable). The AMP is described as follows:

[249] *Id.* at 93.

> The Non-EQ Inaccessible Medium-Voltage Cable Program is a new program that entails periodic inspections for water collection in cable manholes and periodic testing of cables. In scope medium-voltage cables (cables with operating voltage from 2kV to 35 kV) exposed to significant moisture and voltage will be tested at least once every ten years to provide an indication of the condition of the conductor insulation. The program includes inspections for water accumulation in manholes at least once every two years.[250]

The AMP further states that the program "will be consistent with the program attributes described in NUREG-1801, Section XI.E3," and thus is fully consistent with NRC guidance in the GALL Report on this topic.

b. Petitioner Has Failed to Demonstrate that the AMP for Non-EQ Inaccessible Medium-Voltage Cables Does Not Comply with NRC Regulations or Guidance

Next, Petitioner has failed to demonstrate that the AMP for Non-EQ Inaccessible Medium-Voltage Cables does not comply with NRC regulations or guidance. Notwithstanding their questionable relevance to license renewal, Petitioner's arguments are incorrect, unrelated to these cables, and do not provide an adequate basis for admission of Proposed Contention 6, as established below.

First, Petitioner claims that "[t]he failure to properly manage aging of the Non-EQ Inaccessible Medium-Voltage Cables could result in the loss of the 6.9 kV and 13.8 kV safety related buses that supply emergency power to the 480 volt safety equipment."[251] Petitioner provides no basis for such a claim. As demonstrated above, the LRA fully addresses aging management of Non-EQ Inaccessible Medium-Voltage Cables in a manner consistent with the GALL Report. Additionally, Petitioner's claim is factually incorrect because the "6.9 kV and 13.8 kV" buses are not safety-related buses, and do not provide emergency power to the 480

[250] LRA, Appendix B.1.23.

[251] Petition at 93.

VAC safety buses. For example, as shown on LRA Figure 2.5-2 (IP2 Offsite Power Scoping Diagram), the 6.9 kV buses are "Non Safety." The safety-related loads for Indian Point are powered from 480 VAC, 120 VAC, and 125 VDC safety buses, and emergency power is supplied directly to the 480 VAC safety buses from the Emergency Diesel Generators.

Similarly, Petitioner also incorrectly claims that failure of Non-EQ Inaccessible Medium-Voltage Cables may result in "accidents beyond the Design Basis Accidents resulting in exposures to the public exceeding 10 C.F.R. § 100 limits."[252] Failures of IP2 and IP3 Non-EQ Inaccessible Medium-Voltage Cables are appropriately considered in the IP2 and IP3 safety analyses,[253] which are part of the CLB, and those analyses demonstrate that a failure of these cables will not result in a beyond Design Basis Accident. Moreover, challenge to the CLB is also outside the scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii).[254]

The Petitioner then erroneously alleges that Entergy has not demonstrated that the aging effects will be adequately managed for the SSCs identified for pressurized water reactors ("PWRs") in Table 1 of the GALL Report.[255] Petitioner is again mistaken. Vol. 1, Table 1 of the GALL Report addresses the "Summary of Aging Management Programs for the Reactor Coolant System Evaluated in Chapter IV of the GALL Report."[256] This table is not applicable to Medium-Voltage Cables. Instead, Vol. 1, Table 6 of the GALL Report, "Summary of Aging Management Programs for the Electrical Components Evaluated in Chapter VI of the GALL

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[252] *Id.*

[253] IP2 and IP3 UFSAR, Chapter 14, Sections 14.1.6 (Loss of Reactor Coolant Flow), 14.1.8 (Loss of External Electrical Load), 14.1.9 (Loss of Normal Feedwater), and 14.1.12 (Loss of all AC Power to the Station Auxiliaries).

[254] *See Turkey Point*, CLI-01-17, 54 NRC at 8-9.

[255] Petition at 93.

[256] NUREG-1801, Vol. 1, at 7.

Report,"[257] is applicable to Medium-Voltage Cables. Item 4 of Table 6 is addressed in LRA Section 3.6 and Appendix B.1.23, an issue undisputed by Petitioner.

Petitioner also claims that the Applicant "has failed to identify the location and extent of Non-EQ Inaccessible Medium-Voltage Cables in use at IP2 or IP3."[258] Petitioner, however, provides no basis in support of its claim that information is lacking. The information required by the Standard Review Plan for license renewals (NUREG-1800) is provided in Appendix B.1.23 of the LRA. Additionally, as discussed above, the LRA's treatment of Non-EQ Inaccessible Medium-Voltage Cables is consistent with the GALL Report. An admissible contention must include "some sort of minimal basis indicating the potential validity of the contention,"[259] which has not been provided by the Petitioner, contrary to 10 C.F.R. § 2.309(f)(1)(ii).

Next, the Petitioner erroneously claims that the Applicant has not provided access to certain "referenced documents that are not publicly available."[260] In this regard, Petitioner specifically identifies EPRI TR-103834-P1-2 and EPRI TR-109619 as "missing" documents.[261] Nonetheless, the first document, EPRI TR-103834-P1-2, is not referenced in the Indian Point LRA. The second document, EPRI TR-109619, is referenced in Appendix B.1.25 of the LRA; however, contrary to Petitioner's assertions, this document *is* publicly available. In 2000, EPRI sent a letter to the NRC transmitting five technical reports, including TR-109619, which EPRI requested be made publicly available.[262] Surprisingly, given Petitioner's strong statement that

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[257] Petition at 93.

[258] *Id.*

[259] Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170.

[260] Petition at 93-94.

[261] *Id.* at 93.

[262] Letter from J. Carey, EPRI Program Manager, to C. Grimes, NRC, Transmittal of EPRI Reports (June 21, 2000), *available at* ADAMS Accession No. ML003727009.

Applicant failed to provide this document, TR-109619 is itself available in the NRC's document management system, which Petitioner's purported expert claimed to have searched.[263] Petitioner's attempt to place blame on the Applicant for not providing access to a document that is not referenced in the LRA or that is publicly available is both unnecessary and attempts to create controversy where none exists.

Finally, Petitioner quotes from the GALL Report and claims that the measures in the report are not included in the IP2 AMP for Non-EQ Inaccessible Medium-Voltage Cables.[264] This argument is entirely without merit, and demonstrates a failure to review the LRA. The quoted language is from the GALL Report, Vol. 2, page XI E-7, which is the beginning of Section XI.E3. Appendix B.1.23 of the LRA clearly states that the Indian Point "Non-EQ Inaccessible Medium-Voltage Cable Program will be consistent with the program attributes described in GALL Report, Section XI.E3," and under the section on exceptions to the GALL Report for this AMP, the LRA states "none."

c. *Petitioner Incorrectly Alleges AMP Failures for Non-EQ Inaccessible Medium-Voltage Cables*

Petitioner alleges a number of purported failures of Entergy to address certain technical requirements in the AMP.[265] As demonstrated below, there are no such failures, and these claims underscore Petitioner's misunderstanding of aging management.

Specifically, Petitioner claims that the Applicant "has failed to address specific recommendations from the referenced Sandia report (SAND96-0344)."[266] Petitioner is incorrect.

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[263] Guideline for the Management of Adverse Localized Equipment Environments, Final Report, EPRI TR-109619 (June 1999), *available at* ADAMS Accession No. ML003727052. Petitioner states that "[a] computer search has been conducted by one of our experts of all publicly available documents using *ADAMS*, CITRIX, BRS, GOOGLE and the EPRI web site and the search has not located these referenced documents." Petition at 93-94 (emphasis added).

[264] Petition at 95.

[265] *Id.* at 94-100.

The Sandia Cable AMG[267] (SAND96-0344) provides the technical basis, through empirical data, for the GALL Report, Section XI.E3 program, and as discussed above and stated directly in the relevant AMP, the IPEC Non-EQ Inaccessible Medium-Voltage Cable program is entirely consistent with GALL Report, Section XI.E3. Therefore, this claim is entirely baseless.

Petitioner also alleges that there is "no technical basis to support life extension using the existing medium voltage power cables *without* an aging management plan."[268] The technical basis for managing these cables is provided in SAND96-0344, and this basis is consistent with GALL Report, Section XI.E3. In any event, LRA Appendix B.1.23 addresses the aging management plan, a fact not acknowledged by Petitioner. Petitioner also claims there is no basis to "justify differences between programs for aging management of accessible cables and inaccessible cables."[269] These two programs have different criteria, and requirements, so there is no reason to justify the differences. The technical basis for the Non-EQ Insulated Cables and Connections Program is provided in SAND96-0344, and this basis is consistent with the GALL Report, Section XI.E1.

Petitioner further claims that the LRA does not commit to recommendations in SAND96-0344.[270] The medium voltage cable programs in LRA Appendices A and B are consistent with the GALL Report, Section XI.E3, which references SAND96-0344, but the GALL Report does not require absolute adherence without regard to other guidance. SAND96-0344 was published in September 1996, and there have been numerous studies and

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266 *Id.* at 94.

267 Aging Management Guideline for Commercial Nuclear Power Plants – Electrical Cable and Terminations (Sept. 30, 1996), *available at* ADAMS Accession No. ML031140264.

268 Petition at 94 (emphasis added).

269 *Id.*

270 *Id.* at 95-97.

inspection methods developed since SAND96-0344 was published, which is the reason that the NRC does not require a commitment to a specific method.

Petitioner claims that the AMP description is vague and does not address NUREG/CR-5643.[271] NUREG/CR-5643, Insights Gained From Aging Research (Feb. 1992), does not address Medium-Voltage Cables, nor does it address the aging effects associated with the Non-EQ Inaccessible Medium-Voltage Cables program. As discussed above, the AMP for Non-EQ Inaccessible Medium-Voltage Cables is consistent with the GALL Report.

Finally, Petitioner alleges that Entergy does not incorporate certain measures from Generic Letter 2007-01, Inaccessible or Underground Power Cable Failures That Disable Accident Mitigation Systems or Cause Plant Transients ("GL 2007-01").[272] Petitioner misunderstands the purpose of GL 2007-01, which does not address aging management programs and has nothing to do with license renewal.[273] The purpose of GL 2007-01 was to determine the number and types of cable failures experienced by nuclear power plants. In addition, GL 2007-01 requested licensees provide the types of cable testing currently being performed. This letter did not request licensees establish any additional cable programs, did not provide recommendations for improvements to existing cable programs, and is unrelated to license renewal.[274]

In sum, the LRA fully addresses aging management for Non-EQ Inaccessible Medium-Voltage Cables in accordance with the NRC regulations and guidance. As demonstrated above,

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[271] *Id.* at 94-95.

[272] *Id.* at 97-98.

[273] *See* NRC Generic Letter 2007-01, Inaccessible or Underground Power Cable Failures that Disable Accident Mitigation Systems or Cause Plant Transient (Feb. 7, 2007), *available at* ADAMS Accession No. ML070360665.

[274] In fact, Entergy's response to GL 2007-01 was submitted in May 2007, and therefore, is part of the CLB. Letter from F. Dacimo, Indian Point Site Vice President, to NRC Document Control Desk, Submittal of Indian Point Response to Generic Letter 2007-01 (May 7, 2007), *available at* ADAMS Accession No. ML071350410.

Petitioner's allegations are full of inaccuracies and misconceptions of NRC regulations and guidance. The Petitioner has not provided support for its proffered contention, contrary to 10 C.F.R. § 2.309(f)(1)(v), and has not provided sufficient information to show that a genuine dispute exists with regard to a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Therefore, Proposed Contention 6 must be dismissed in its entirety.

7. Proposed Contention 7: The LRA Does Not Propose an Aging Management Plan for Non-Environmentally Qualified Inaccessible Low-Voltage Cables and Wiring

Proposed Contention 7 states:

> THE LICENSE RENEWAL APPLICATION FOR IP2 AND IP3 FAILS TO COMPLY WITH THE REQUIREMENTS OF 10 C.F.R. §§ 54.21(a) AND 54.29 BECAUSE APPLICANT HAS NOT PROPOSED A SPECIFIC PLAN FOR AGING MANAGEMENT OF NON-ENVIRONMENTALLY QUALIFIED INACCESSIBLE LOW-VOLTAGE CABLES AND WIRING FOR WHICH SUCH AGING MANAGEMENT IS REQUIRED.[275]

In general, Petitioner claims that the NRC regulations require the Applicant to discuss aging management of low-voltage cables (defined by Petitioner as less than 2 kV), and that such information has not been provided in the LRA.[276] Specifically, Petitioner states that "[t]he LRA reflects that Applicant paid no attention to low-voltage cables and made no effort to explain or justify its failure to provide an AMP for low-voltage cables."[277]

Entergy opposes admission of Proposed Contention 7 on the grounds that the allegations made by Petitioner do not satisfy the requirements for an admissible contention, because they do not provide for adequate bases, they are not adequately supported, and they do not provide sufficient information to show that a genuine dispute exists with regard to a material issue of law

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[275] Petition at 100.

[276] *Id.* at 100-101.

[277] *Id.* at 103.

or fact, all contrary to 10 C.F.R. § 2.309(f)(1)(ii), (v), and (vi). Instead, Petitioner presents a number of baseless claims that ignore the information presented by the Applicant in the LRA.

a. The LRA Fully Complies with NRC Regulations and Guidance for Low-Voltage Cables, but Petitioner Ignores the LRA

Proposed Contention 7 is based on the erroneous presumption that the LRA does not provide an AMP for low-voltage cables. For example, the Petition states that "[a]t no place in the LRA is there any discussion of an aging management program for low-voltage cables (less than 2 kV) nor is there a discussion of how the methodology used to select those systems for which aging management would be provided excluded low-voltage cables."[278] Contrary to Petitioner's assertions, low-voltage cables are fully addressed by the LRA.

In accordance with 10 C.F.R. § 54.4, the scoping and screening of electrical systems is provided in LRA Section 2.5 (Scoping and Screening Results: Electrical and Instrumentation and Control Systems), which discusses components subject to aging management review. Although this section specifically identifies "medium-voltage" and "high-voltage" components,[279] and not low-voltage components, most of the electrical components described in Section 2.5 are identified generically without reference to the level of voltage. These generic components apply to all levels of voltage, including low-voltage. For example, LRA Section 2.5 identifies "electrical cables and connections not subject to 10 CFR 50.49." This category includes low-voltage cables, as well as medium and high voltages. Additionally, LRA Section 3.6 (Electrical and Instrumentation and Controls), including Tables 3.6.1 and 3.6.2-1, discusses the aging management review of electrical components in accordance with 10 C.F.R. § 54.21. Again, unless noted otherwise, these electrical components apply to low-voltage components as well.

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[278] *Id.* at 101.

[279] *See, e.g.*, LRA § 2.5.

Additionally, LRA Appendix B.1.25 (Non-EQ Insulated Cables and Connections) describes the AMP for insulated cables, which includes low-voltage cables. The Program Description states:

> The Non-EQ Insulated Cables and Connections Program is a new program that assures the intended functions of insulated cables and connections exposed to adverse localized environments caused by heat, radiation and moisture can be maintained consistent with the current licensing basis through the period of extended operation.[280]

Nothing in this program description states that it does not apply to low-voltage cables. Additionally, this AMP specifically states that "[t]he Non-EQ Insulated Cables and Connection Program will be consistent with the program described in NUREG-1801, Section XI.E1, Electrical Cables and Connections Not Subject to 10 CFR 50.49 Environmental Qualification Requirements."[281] This AMP, which includes low-voltage cables, fully complies with NRC guidance. For these reasons, this proposed contention is based entirely on a false premise, and thus, the contention must fail because it does not satisfy the requirements of 10 C.F.R. § 2.309(f)(1)(ii) to provide a basis for the contention.

b. Petitioner's Further Allegations Do Not Support an Admissible Contention

Notwithstanding Petitioner's fundamental misunderstanding of the LRA and aging management of low-voltage cables discussed above, Petitioner provides further arguments that are without merit in support of Proposed Contention 7. First, Petitioner lists a number of components for which it claims that there are numerous inaccessible low-voltage cables that meet the requirements of 10 C.F.R. § 54.4.[282] Apart from the accuracy or inaccuracy of Petitioner's list, these cables are managed by the program described in Appendix B.1.25 of the

[280] LRA, Appendix B.1.25.

[281] *Id.*

[282] Petition at 101.

LRA. Furthermore, Tables 2.2-1b-IP2 and 2.2-1b-IP3 (Electrical and I&C Systems Within the Scope of License Renewal) provide lists of electrical systems many of which include low-voltage cables (less than 2 kV).

Petitioner further claims that the LRA has not specifically identified the location of the low-voltage cables (including power to the Service Water Pumps).[283] Identification of specific cable locations is not required or needed for purposes of license renewal, because the bounding approach for insulated electrical cables includes all systems regardless of the function of that system. This bounding approach is discussed in LRA Sections 2.1 (Scoping and Screening Methodology) and 2.2 (Plant Level Scoping Results).[284]

Additionally, Petitioner quotes from a Nuclear Energy Plant Optimization ("NEPO") Final Report on Aging and Condition Monitoring of Low-Voltage Cable Materials, but fails to provide an exact citation.[285] Further, the purpose of Petitioner's reference to this report is not at all clear. The quotation appears to come from the "Summary and Conclusions" of SAND2005-7331, which was developed to summarize the results from a five-year NEPO project focused on the aging of low-voltage cable materials. The last sentence of the quotation provided by the Petitioner, which states that "wear-out modeling of such extracted materials should be able to confirm very long lifetimes for many important insulation materials,"[286] supports one of the bases for the GALL Report programs. As discussed above, the AMP for low-voltage cables is

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[283] *Id.* at 101-102.

[284] Such an approach is consistent with guidance in NEI 95-10. *See, e.g.*, NEI 95-10, Industry Guideline for Implementing the Requirements of 10 CFR Part 54 – The License Renewal Rule, Rev. 6, at 22 (June 2005) (stating that applicants may use a bounding approach), *available at* ADAMS Accession No. ML010930480. This guidance has been endorsed by the NRC. Regulatory Guide 1.188, Standard Format and Content for Applications to renew Nuclear Power Plant Operating Licenses, Rev. 1 (Sept. 2005) ("Having reviewed this latest revision of NEI 95-10, the NRC staff finds Revision 6 acceptable for use in implementing the license renewal rule, without exceptions, as discussed in this revised regulatory guide.").

[285] Petition at 102-03.

[286] *Id.* at 103.

consistent with the GALL Report. Therefore, the LRA is consistent with the quoted NEPO report, and the Petitioner has not demonstrated otherwise.

Finally, without any explanation, Petitioner states that "[t]he extensive testing conducted by Sandia confirmed that some low-voltage cables are capable of substantial aging as a result of heat, radiation and other environmental factors present in the reactor."[287] While the source of this statement is not referenced by Petitioner, the Sandia cable AMG (SAND96-0344) describes the aging effects of cable insulation when subjected to adverse localized environments. More importantly, this report forms the technical basis of the Non-EQ Insulated Cables and Connections Program in Appendix B.1.25 of the LRA, which is applicable to low-voltage cables. SAND96-0344 also is referenced in the GALL Report, Section XI.E1, and Appendix B.1.25 of the LRA is consistent with the program described in the GALL Report, Section XI.E1. Therefore, the LRA is entirely consistent with the testing performed by Sandia, and Petitioner has not stated otherwise.

In sum, the LRA fully addresses low-voltage cables in accordance with the NRC regulations and guidance, and Petitioner's arguments are based on a faulty premise. Petitioner's misunderstanding or misreading of Applicant's LRA and its aging management of low-voltage cables undercut any purported basis for admission of Proposed Contention 7. Petitioner's arguments simply do not provide a basis for the proposed contention, contrary to 10 C.F.R. § 2.309(f)(1)(ii), do not satisfy the requirement to provide support for a contention, as required by 10 C.F.R. § 2.309(f)(1)(v), and do not show that a genuine dispute exists with regard to a material issue of law or fact, as required by 10 C.F.R. § 2.309(f)(1)(vi). For these reasons, Proposed Contention 7 must be rejected in its entirety.

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[287] *Id.* This statement is also confusing because there are no electrical cables with organic insulation located in the reactor vessel.

8. Proposed Contention 8: The LRA Fails to Include a Required Aging Management Plan for Electrical Transformers

Proposed Contention 8 states:

> 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.[288]

Petitioner's primary argument is that the LRA does not include an AMP for certain transformers.[289] Entergy opposes admission of Proposed Contention 8 on the grounds that Petitioner's arguments are outside the scope of license renewal, contrary to 10 C.F.R. § 2.309(f)(1)(iii), they are unsupported by sufficient basis, contrary to 10 C.F.R. § 2.309(f)(1)(ii) and (v), and they do not demonstrate a genuine dispute with regard to a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Instead, similar to Petitioner's arguments in Proposed Contention 7, Petitioner presents a number of baseless claims that entirely ignore the information presented by Applicant in the LRA and the proper interpretation of the NRC regulations and guidance for license renewal.

a. The LRA Properly Addresses Electrical Transformers

Fundamentally, only certain transformers are within the scope of license renewal. The NRC regulations at 10 C.F.R. § 54.4 explain which systems, structures, and components are within scope. Of these, only those IP2 and IP3 transformers that are safety-related or are necessary for compliance with 10 C.F.R. §§ 50.48 and 50.63 are within the scope of license renewal.

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[288] *Id.* at 103.

[289] *Id.* Petitioner makes other arguments regarding consequences of improperly managed transformers, but these arguments are inconsequential if an AMP is not required.

Even though certain transformers are in scope, this does not mean that an AMP is required under 10 C.F.R. Part 54. Importantly, Petitioner argues that "[t]ransformers function without moving parts or without a change in configuration or properties," and therefore the transformers require an AMP.[290] This statement is incorrect. The NRC regulations at 10 C.F.R. § 54.21(a) state that the effects of aging must be effectively managed *only* for components that perform an intended function per § 54.4 without moving parts or without a change in configuration (*i.e.*, not active).

Appendix B of NEI 95-10 (Industry Guideline for Implementing the Requirements of 10 C.F.R. Part 54 – The License Renewal Rule),[291] which is endorsed by NRC Regulatory Guide 1.188,[292] provides guidance for the determination of whether components are active or passive. As shown in Item 104 of Appendix B of NEI 95-10, transformers are listed as *active* components that are not subject to aging management review per 10 C.F.R. § 54.21(a)(1)(i).[293] Thus, transformers do not require an AMP since they perform their function with a change in configuration or properties. Instead, transformers are managed by the ongoing Maintenance Rule program in accordance with 10 C.F.R. § 50.65, which is outside the scope of license renewal. As such, the proposed contention is not supported by sufficient legal basis, contrary to 10 C.F.R. § 2.309(f)(1)(ii) and (v), and does not provide sufficient information to show that a genuine dispute exists on a material issue of law or fact as required by 10 C.F.R. § 2.309(f)(1)(vi), and must be rejected in its entirety.

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290 *Id.*

291 NEI 95-10, Rev. 6.

292 RG 1.188, Rev. 1, at 4 ("Having reviewed this latest revision of NEI 95-10, the NRC staff finds Revision 6 acceptable for use in implementing the license renewal rule, without exceptions, as discussed in this revised regulatory guide.").

293 NEI-95-10, Appendix B, Item 104 (emphasis added).

b. Petitioner's Further Allegations Do Not Support Admission of Proposed Contention 8

Petitioner makes a number of other claims in a failed attempt to gain admission of Proposed Contention 8. For example, Petitioner provides purported "supporting evidence" that the UFSAR for each unit indicates the role of the transformers.[294] As explained above, such a statement does not support a claim that an AMP is needed for transformers pursuant to 10 C.F.R. Part 54.

Petitioner further claims that "Attachment 2 of the LRA (p.2.4-22) also discusses the need for an AMP for 'transformer support structures' based on the criterion of 10 CFR § 54.4(a)(3)."[295] While Petitioner does not explain the relevance of this statement, Petitioner is factually correct that "transformer/switchyard support structures" have an intended function for 10 C.F.R. § 54.4(a)(3), and are therefore within the scope of license renewal, as set forth in the LRA.[296] What Petitioner fails to understand is that passive structures associated with transformers, such as concrete foundations, are managed in accordance with the Structures Monitoring Program, discussed in LRA Appendix B.1.36.[297] Petitioner has not disputed, and has not even acknowledged, the existence of this program.

Additionally, Petitioner makes a number of claims that are simply incorrect. For example, it claims that the Applicant has not provided a diagram of the electrical plan for Unit 3 in the LRA.[298] Nonetheless, LRA Section 2.5 (Scoping and Screening Results: Electrical and Instrumentation and Control Systems), Figure 2.5-2 for IP2 and Figure 2.5-3 for IP3, shows the

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294 Petition at 105.

295 *Id.* at 104.

296 LRA § 2.4.3.

297 *Id.*, Table 3.5.2-3.

298 Petition at 105.

Offsite Power Scoping Diagrams for both units. Similar to other contentions, Petitioner makes the erroneous argument that failure of transformers may result in beyond Design Basis Accidents that exceed 10 C.F.R. Part 100 public exposure limits.[299] Transformer failures are appropriately considered in the IP2 and IP3 safety analyses, which are part of the CLB, and those analyses demonstrate that a transformer failure will not result in a beyond Design Basis Accident. These arguments regarding the CLB are outside the scope of this license renewal proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii).

Finally, Petitioner claims that the NRC Staff, in draft D-RAI 2.5-1, identifies transformers for which an AMP should be provided.[300] Petitioner entirely misunderstands draft D-RAI 2.5-1. NRC draft RAI D-RAI 2.5-1 does not discuss AMPs. This draft RAI requests additional information for the scoping determination regarding offsite power sources associated with recovery from a station blackout event (10 C.F.R. § 50.63) for IPEC. The transformers in the offsite power paths are in-scope, but they are active components, which are not subject to aging management review per 10 C.F.R. § 54.21, as discussed above. Moreover, RAIs cannot serve as bases for contentions.[301]

In sum, Proposed Contention 8 does not satisfy the requirements of 10 C.F.R. § 2.309(f)(1)(ii) and (v), because Petitioner's only support for this proposed contention is based on allegations that misinterpret the NRC's regulations and guidance. Similarly, Proposed Contention 8 does not satisfy the requirements of 10 C.F.R. § 2.309(f)(1)(vi) to demonstrate a genuine dispute on a material issue of law or fact, because no such dispute exists. Finally,

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[299] *Id.* at 104.

[300] *Id.* at 105.

[301] *See Oconee*, CLI-99-11, 49 NRC at 341 (noting that RAIs "represent nothing more than what RAIs by definition are – requests for further information").

Petitioner raises issues outside the scope of license renewal, contrary to 10 C.F.R. § 2.309(f)(1)(iii). Therefore, Proposed Contention 8 must be dismissed in its entirety.

9. Proposed Contention 9: The ER Fails to Evaluate Energy Conservation as an Alternative

Proposed Contention 9 states:

> THE ENVIRONMENTAL REPORT (§§ 7.3 AND 7.5) FAILS TO EVALUATE ENERGY CONSERVATION AS AN ALTERNATIVE THAT COULD DISPLACE THE ENERGY PRODUCTION OF ONE OR BOTH OF THE INDIAN POINT REACTORS AND THUS FAILS TO CARRY OUT ITS OBLIGATIONS UNDER 10 C.F.R. § 51.53(c)(2).[302]

Petitioner alleges that Applicant fails to provide an evaluation of energy conservation as an alternative to license renewal, claiming that this "ignores the clear mandate of the GEIS."[303] Petitioner further claims that energy conservation is a viable energy alternative, which is supported by studies and is consistent with the GEIS.[304] Additionally, Petitioner argues that leaving IP2 and IP3 as options inhibits the implementation of environmentally-preferable energy conservation, which is the equivalent of generating energy and meeting energy needs.[305] Petitioner also argues that energy conservation will yield less adverse environmental impacts than license renewal because energy conservation neither requires the enrichment of uranium nor generates high and low-level radioactive waste, which requires disposal.[306] Petitioner claims that if the NRC issues a renewed operating license in this matter, then decommissioning and remediation will be delayed.[307] Finally, Petitioner alleges that "it is probalte [sic] that the

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[302] Petition at 106.

[303] *Id.* at 106-107.

[304] *Id.* at 108.

[305] *Id.*

[306] *Id.* at 109.

[307] *Id.*

extended operation . . . will result in the future release of radionuclides into the bedrock, groundwater, surface waters, and/or air."[308]

Entergy opposes the admission of Proposed Contention 9 on the grounds that it: (1) fails to provide a concise statement of alleged facts or expert opinions required by 10 C.F.R. § 2.309(f)(1)(v); and (2) fails to establish a genuine dispute with the Applicant on a material issue of law or fact as required by 10 C.F.R. § 2.309(f)(1)(vi).

NEPA and NRC regulations at 10 C.F.R. Part 51 require the Staff to consider the potential environmental effects of any proposed "major federal action significantly affecting the quality of the human environment."[309] In this instance, the purpose and need of the "major federal action" which falls under the umbrella of NEPA is the determination by the NRC to "provide an option that allows for power generation capability beyond the term of a current nuclear power plant operating license . . . ."[310]

An applicant for a renewed license is required to prepare an ER which, among other things, must discuss the environmental impacts of the proposed action and compare those impacts to alternatives to the proposed action.[311] The discussion of alternatives

> must be sufficiently complete to aid the Commission in developing and exploring, pursuant to [NEPA §] 102(2)(E) 'appropriate alternatives to recommended courses of action in any proposal

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[308] *Id.* at 110. Petitioner's stray claims regarding the impacts of uranium enrichment, decommissioning, and the release of radionuclides are unrelated to energy alternatives and energy conservation and do not provide support for their claim; therefore, they are not specifically addressed in the answer to this contention.

[309] 42 U.S.C. §§ 4321 *et. seq.*; 10 C.F.R. Part 51. NEPA requires that "all agencies of the Federal Government shall . . . include in every recommendation or report on . . . .major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on (i) the environmental impact of the proposed action, (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented, (iii) alternatives to the proposed action, (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented." 42 U.S.C. § 4332(2)(C).

[310] GEIS, Vol. 1, at xxxiv.

[311] 10 C.F.R. §§ 51.45, 51.53(c); *see also Monticello*, LBP-05-31, 62 NRC at 752-53.

> which involves unresolved conflicts concerning alternative uses of available resources.[312]

As the Licensing Board in the *Monticello* license renewal proceeding held, however, "there is no requirement for an applicant to look at every conceivable alternative to its proposed action."[313] Rather, "NEPA only requires consideration of reasonable alternatives, (i.e., those that are feasible and nonspeculative)."[314] This notion is reflected in the GEIS:

> While many methods are available for generating electricity, a huge number of combinations or mixes can be assimilated to meet a defined generating requirement, such expansive consideration would be too unwieldy to perform given the purposes of the analysis. Therefore, NRC has determined that a reasonable set of alternatives should be limited to analysis of single, discrete electric generation sources and *only electric generation sources that are technically feasible and commercially viable.*[315]

The inquiry regarding alternatives is a focused one, although an applicant may not define the project so narrowly as to eliminate the NRC's consideration of the full range of "reasonable alternatives" in the EIS.[316] Rather, as the Commission has held, the NRC "need only discuss those alternatives that are reasonable and 'will bring about the ends' of the proposed action."[317] To that end, where, as is the case here, a federal agency is not the sponsor of the project, the

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312 *Monticello,* LBP-05-31, 62 NRC at 753 (citing 10 C.F.R. § 51.45(b)(3)) (internal quotes omitted).

313 *Id.* (citing *Vermont Yankee Nuclear Power Corp. v. Nat'l Res. Def. Council*, 435 U.S. 519, 551 (1978)).

314 *Id.* (citing *Natural Res. Def. Council v. Morton*, 458 F.2d 827, 834 837 (D.C. Cir 1972); *City of Carmel-by-the-Sea v. Dept. of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997); *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), CLI-91-2, 33 NRC 61, 65 (1991)).

315 GEIS, Vol. 1, § 8.1 (emphasis added).

316 *Monticello*, 62 NRC at 753 (citing *Simmons v. U.S. Army Corps of Eng'rs,* 120 F. 3d 664, 666 (7th Cir. 1997)).

317 *Hydro Resources*, CLI-01-4, 53 NRC at 55 (quoting *Citizens Against Burlington v. Busey,* 938 F.2d 190, 195 (D.C. Cir) *cert. denied*, 502 U.S. 994 (1991)); *see also Exelon Generation Co., LLC* (Early Site Permit for Clinton ESP Site), LBP-05-19, 62 NRC 134, 156-58, *aff'd* CLI-05-29, 62 NRC 801 (2005), *aff'd sub nom., Envtl. Law & Policy Ctr. v. NRC*, 470 F.3d 676 (7th Cir. 2006).

Federal Government's consideration of alternatives should "accord substantial weight to the preferences of the applicant and or/sponsor."[318]

As Entergy has indicated in its ER, the scope or goal of the proposed action is the renewal of the operating licenses that allow production of approximately 2,158 MWe of base-load power.[319] The ER further states that "[a]lternatives that do not meet this goal are not considered in detail,"[320] which is entirely consistent with the Licensing Board's ruling in the *Monticello* case and with controlling Commission precedent.[321] In the *Monticello* license renewal proceeding, the applicant's stated goal was the same as is stated here—the production of baseload power.[322] In that case, the Board determined that the applicant need not address every conceivable alternative energy option, nor must the applicant consider those options which are infeasible, speculative and incapable of fulfilling the goal of the proposed project. Thus, because the goal of the proposed project in *Monticello* was to provide baseload power, the ER did not need to address generating options that could not produce baseload power, such as wind and biomass, and did not need to address demand side management.[323]

The Commission, and the U.S. Court of Appeals for the Seventh Circuit, upheld a similar Licensing Board ruling on a similar contention in the *Clinton* Early Site Permit ("ESP") proceeding.[324] Specifically, the Commission's ruling in *Clinton* upheld the Board's exclusion of consideration of non-baseload generating options, such as solar and wind power, in part because,

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[318] *Monticello*, LBP-05-31, 62 NRC at 753 n.83 (quoting *Citizens Against Burlington v. Busey*, 938 F.2d at 195).

[319] ER at 8-1.

[320] *Id.*

[321] *Monticello*, LBP-05-31, 62 NRC at 753; *Clinton*, CLI-05-29, 62 NRC at 810-811.

[322] *Monticello*, LBP-05-31, 62 NRC at 753.

[323] *Id.* at 752-53.

[324] *Envtl. Law & Policy Ctr.*, 470 F.3d at 684 (upholding "the Board's adoption of baseload energy generation as the purpose behind the ESP").

> Intervenors' various claims fail to come to grips with fundamental points that can't be disputed: solar and wind power, by definition, are not always available . . . .[325]

Clinton also involved a claim that the applicant should undertake an analysis of energy efficiency and conservation options. The *Clinton* applicant, like Entergy, was a merchant generator, whose "sole business is that of generation of electricity and the sale of energy and capacity at wholesale."[326] The Commission upheld the Board's denial of this contention, in part because "neither the NRC nor Exelon has the mission (or power) to implement a general societal interest in energy efficiency."[327] Thus, the scope of the "hard look" required by NEPA is limited by a "rule of reason," which does not demand that a merchant generator, like Entergy, undertake an analysis of energy efficiency and conservation, as an alternative to its goal of generating baseload power.[328]

In this proposed contention, Petitioner first takes issue with the Applicant's goal of the proposed action—"the production of approximately 2,158 MWe of base-load generation."[329] The Petitioner claims that "this . . . unreasonably limits the alternatives that can and should be considered to the continued operation of either IP2 or IP3."[330] As discussed above, the applicant may not define the project so narrowly as to eliminate the NRC's consideration of the full range of "reasonable alternatives" in the EIS.[331] Where, however, as is the case here, a federal agency is not the sponsor of the project, the Federal Government's consideration of alternatives should

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[325] CLI-05-29, 62 NRC at 810-11.

[326] *Id.* at 807 (internal quotes omitted).

[327] *Id.* at 806 (internal quotes omitted).

[328] *See id.* at 807.

[329] ER at 8-1.

[330] Petition at 106.

[331] *Monticello*, 62 NRC at 753 (citing *Simmons v. U.S. Army Corps of Eng'rs*, 120 F. 3d 664, 666 (7th Cir. 1997)).

"accord substantial weight to the preferences of the applicant and or/sponsor."[332] In addition, as the Commission has held, the NRC "need only discuss those alternatives that are reasonable and 'will bring about the ends' of the proposed action."[333] Similarly, the Seventh Circuit, in the appeal of the Commission's decision in the *Clinton* ESP proceeding, held: "Because Exelon was a private company engaged in generating energy for the wholesale market, the Board's adoption of baseload energy generation as the purpose behind the ESP was not arbitrary, capricious, an abuse of discretion or otherwise not in accordance with law."[334]

In its ER, the Applicant notes that the concept of energy conservation as a resource does not meet the primary NRC criterion "that a reasonable set of alternatives should be limited to analysis of a single, discrete electric generation sources and only electric generation sources that are technically feasible and commercially viable."[335] In addition, the ER states that, "[c]onservation is neither single, nor discrete, nor is it a source of generation."[336] Nevertheless, the ER does provide a brief analysis of utility-sponsored conservation, finding that "the potential to displace the entire generation at the site solely with conservation is not realistic."[337]

The Applicant's approach is reasonable, appropriate, and consistent with the GEIS, as discussed above, and is consistent with the *Monticello* ruling.[338] Again, the Applicant need only consider reasonable alternatives which are capable of fulfilling the proposed action—to provide

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[332] *Monticello*, LBP-05-31, 62 NRC at n.83 (quoting *Citizens Against Burlington*, 938 F.2d at 195).

[333] *Hydro Resources*, CLI-01-4, 53 NRC at 55 (quoting *Citizens Against Burlington*, 938 F.2d at 195; *Clinton*, LBP-05-19, 62 NRC at 156-58).

[334] *Envtl. Law & Policy Ctr.*, 470 F.3d at 684.

[335] ER at 8-20, 56 (citing GEIS, Vol. 1, § 8.1).

[336] *Id.* at 8-55 (citing GEIS, Supp., Generic Environmental Impact Statement for License Renewal of Nuclear Plants—Arkansas Nuclear One, Unit 1, at Section 8.2.4.12 (Apr. 2001)).

[337] *Id.* at 8-56.

[338] *See* GEIS, Vol. 1 at 8-1; *see also Monticello*, LBP-05-31, 62 NRC at 753.

an option that allows for 2,158 MWE of baseload power generation capability. Thus, Petitioner fails to raise a genuine issue of law or fact in dispute, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

The remaining bulk of the contention consists of a meandering discussion of energy conservation initiatives [339] that contain bare assertions and speculation. Failure to provide facts or expert opinions, however, does not satisfy 10 C.F.R. § 2.309(f)(1)(v). In addition, as discussed above, the Applicant need not consider every conceivable alternative energy option, such as energy conservation.[340] Accordingly, Petitioner's argument is insufficient to support the admissibility of the contention.[341]

Finally, Petitioner fails to raise any NEPA, Commission, or Board case law in support of Proposed Contention 9. Moreover, other than the bare assertions regarding the purported inadequacy of the ER, Petitioner fails to identify any *specific* deficiencies in Entergy's discussion of alternatives. While Petitioner discusses various energy conservation measures it alleges no inadequacies with regard to Entergy's analysis in its ER. Therefore, Petitioner fails to demonstrate a genuine dispute with the Applicant on a material issue of law or fact as required by 10 C.F.R. § 2.309(f)(1)(vi).

Accordingly, Proposed Contention 9 should be denied in its entirety.

10. Proposed Contention 10: The ER Fails to Evaluate All Alternatives

Proposed Contention 10 states:

> IN VIOLATION OF THE REQUIREMENTS OF 10 C.F.R. § 51.53(c)(3)(iii) AND OF THE GEIS § 8.1, THE ER (§ 8.3) TREATS ALL ALTERNATIVES TO LICENSE RENEWAL EXCEPT NATURAL GAS OR COAL PLANTS AS UNREASONABLE AND PROVIDES NO SUBSTANTIAL

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339 *See* Petition at 110-20.

340 *See Monticello*, LBP-05-31, 62 NRC at 753. The Applicant notes, however, that the ER *does* contain a discussion of utility-sponsored conservation. *See* ER at 8-55, 56.

341 *See* 10 C.F.R. § 2.309(f)(1)(v); *see also Monticello*, LBP-05-31, 62 NRC at 752.

ANALYSIS OF THE POTENTIAL FOR OTHER ALTERNATIVES IN THE NEW YORK ENERGY MARKET.[342]

Petitioner claims that the ER fails to properly address energy alternatives and uses allegations about the need for power to justify rejection of alternatives, which allegedly violates the NRC regulations and the GEIS.[343] Specifically, Petitioner argues that the ER does not consider at least two alternatives which could displace IP2 and IP3, repowering existing power plants and enhancing existing transmission lines.[344] In support of its contention, the Petitioner also discusses the use of renewable sources such as wind power.[345]

Entergy opposes the admission of Proposed Contention 10 on the grounds that it: (1) raises issues that are outside the scope of license renewal, contrary to 10 C.F.R. § 2.309(f)(1)(iii); (2) fails to provide a concise statement of alleged facts or expert opinions required by 10 C.F.R. § 2.309(f)(1)(v), (3) fails to establish a genuine dispute with the Applicant on a material issue of law or fact as required by 10 C.F.R. § 2.309(f)(1)(vi).

As more fully explained in the answer to Proposed Contention 9, an applicant for a renewed license is required to prepare an ER which, among other things, must discuss the environmental impacts of the proposed action and compare those impacts to alternatives to the proposed action.[346] As the Licensing Board in the *Monticello* license renewal proceeding held, however, "there is no requirement for an applicant to look at every conceivable alternative to its

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342 Petition at 120.

343 *Id.* at 120-21.

344 *Id.* at 122.

345 *Id.* at 126.

346 10 C.F.R. §§ 51.45, 51.53(c); *see also Monticello*, LBP-05-31, 62 NRC at 752-53.

proposed action."[347] Rather, "NEPA requires only consideration of reasonable alternatives, (i.e., those that are feasible and nonspeculative)."[348]

The Petitioner claims that Entergy "dismisses such alternatives as wind power, bio-mass, delayed retirement, hydropower and energy conservation with only the most cursory analysis of their feasibility and costs and benefits."[349] The ER addresses each of the these alternative energy sources, but Entergy appropriately concludes that "these sources have been eliminated as a reasonable alternative to the proposed action because the generation of approximately 2,158 MWe of electricity as a *base-load supply* using these technologies is not technologically feasible."[350] As noted above, this approach is consistent with the GEIS, as discussed above, and is consistent with the *Monticello* case.[351]

With regard to wind power, the Petitioner alleges that "wind power can reduce the need for at least some of the capacity from IP2 and IP3."[352] The Petitioner also takes issue with Entergy's arguments regarding wind power, calling them "outdated."[353] Nevertheless, as explained above, the Applicant need only consider reasonable alternatives which are capable of fulfilling the proposed action—2,158 MWE of baseload power generation capability.[354] Solar and wind power, as explained above in response to Proposed Contention 9, are not always available, and the other alternatives simply cannot, with current technology, provide the

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[347] *Monticello*, LBP-05-31, 62 NRC at 752-53 (citing *Vermont Yankee*, 435 U.S. at 551).

[348] *Id.* (citing *Natural Res. Def. Council*, 458 F.2d at 834, 837; *Carmel-by-the-Sea*, 123 F.3d at 1155; *Shoreham*, CLI-91-2, 33 NRC at 65).

[349] Petition at 121.

[350] ER at 8-50.

[351] *See* GEIS, Vol. 1, § 8-1; *see also Monticello*, LBP-05-31, 62 NRC at 753.

[352] Petition at 127.

[353] *Id.* at 126.

[354] *See* ER at 1-1; 7-4.

necessary amount of baseload power.[355] The Petitioner's bare assertion that "[w]hen combined with other energy resources, wind can produce energy in patterns comparable to a base-load generation facility" is simply not enough to carry the day.[356]

As stated in the GEIS, an applicant's alternatives analysis "should be limited to analysis of *single, discrete electric generation sources* and only electric generation sources that are technically feasible and commercially viable.[357] Therefore, the Applicant need not, and did not, consider various alternatives in combination with wind power.[358]

In addition to Petitioner's assertions noted above, Petitioner claims that "the ER also uses allegations about the need for power to justify rejection of alternatives," in violation of "10 C.F.R. § 5.53(c)(2) [sic]."[359] In actuality, the Applicant does no such thing. In the discussion of the delayed retirement alternative, the Applicant states, "[d]elayed retirement of other Energy or non-Entergy generation units is unlikely to displace the need for 2,158 MWe of capacity over the twenty years of extended operation."[360] In light of the Applicant's scope of the project and alternatives analysis, this statement is consistent with the GEIS, as discussed above, and is consistent with the *Monticello* case.[361] Nevertheless, as the Petitioner itself suggests, a discussion of the need for power is outside the scope of license renewal[362] and, therefore, is contrary to 10 C.F.R. § 2.309(f)(1)(iii).

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355 *See id.* at 7-5.

356 Petition at 126.

357 GEIS, Vol. 1, § 8.1 (emphasis added).

358 ER at § 8.3.12.

359 Petition at 121 (citing ER § 8.3.10).

360 ER at 8-55.

361 *See* GEIS, Vol. 1, § 8-1; *see also Monticello*, LBP-05-31, 62 NRC at 753.

362 *See* 10 C.F.R. § 51.53(c)(2).

The balance of Proposed Contention 10 consists of studies and declarations regarding the "the potential for renewable resources and energy efficiency."[363] In addition, the Petitioner includes a discussion of repowering of a generating facility[364] and transmission line enhancement and upgrades.[365] However, the Petitioner, makes no credible showing that *any* of its proffered renewable energy (and energy conservation) options would achieve the goal of the producing approximately 2,158 MWe of base-load power. Moreover, other than the bare assertions regarding the purported inadequacy of the ER, the Petitioner fails to identify any *specific* deficiencies in Entergy's discussion of alternatives either in the basis for its contention or in the Declaration of Peter Bradford and David Schissel. Therefore, the Petitioner fails to demonstrate a genuine dispute with the Applicant on a material issue of law or fact as required by 10 C.F.R. § 2.309(f)(1)(vi).

11. Proposed Contention 11: The ER Fails to Fully Consider the Environmental Impact of Leaving IPEC Units 2 and 3 as Energy Options

Proposed Contention 11 states:

> CONTRARY TO THE REQUIREMENTS OF NEPA AND 10 C.F.R. PART 51, THE ER FAILS TO FULLY CONSIDER THE ADVERSE ENVIRONMENTAL IMPACT THAT WILL BE CREATED BY LEAVING IP2 AND/OR IP3 AS AN ENERGY OPTION BEYOND 2013 AND 2015.[366]

Petitioner alleges that by maintaining IP2 and IP3 as options for energy generation in the future, the likelihood of implementing other energy conservation and renewable energy options

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[363] Petition at 123-133.

[364] *Id.* at 133-135.

[365] *Id.* at 136-137.

[366] *Id.* at 138.

in New York is reduced. On these grounds, Petitioner avers that energy conservation and renewable energy sources are not properly considered in the ER.[367]

Entergy opposes the admission of Proposed Contention 11 on the grounds that it: (1) raises issues that are outside the scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii); (2) fails to provide a concise statement of alleged facts or expert opinions, as required by 10 C.F.R. § 2.309(f)(1)(v); and (3) fails to establish a genuine dispute with the Applicant on a material issue of law or fact, as required by 10 C.F.R. § 2.309(f)(1)(vi).

In a nutshell, Proposed Contention 11 is essentially Proposed Contentions 9 and 10 recast as an additional contention. It is based on the same arguments set forth therein regarding the alleged inadequacies in the Applicant's energy alternatives analysis in the ER, particularly with respect to conservation and renewable energy sources.[368] In its response to Proposed Contentions 9 and 10 above, the Applicant provides a detailed discussion regarding the scope of the proposed action and the energy alternatives analysis that is required under NEPA, as fleshed out in Federal and Commission case law. It is not repeated here. As the Applicant demonstrates in its responses to Proposed Contentions 9 and 10, above, the energy alternatives analysis in the ER is consistent with the GEIS governing NRC precedent.[369]

In Proposed Contention 11, Petitioner makes one new argument, asserting that if "IP2 and IP3 remain as options the incentive to fully utilize [energy conservation and renewable energy] is diminished, reducing the likelihood of their implementation."[370] In other words, by providing valuable and much-needed energy to the New York metropolitan area, citizens and

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[367] *Id.* at 138-39.

[368] *See generally id.* at 138-39.

[369] *See* GEIS, Vol. 1, § 8-1; *see also Monticello*, LBP-05-31, 62 NRC at 753.

[370] Petition at 138.

businesses in the area are not forced to conserve. This argument is, at best, strained, speculative, and without foundation. To state the obvious, Entergy has no legal or other obligation to shut down IP2 and/or IP3 to help NYS meet its energy conservation goals.[371] Moreover, as stated in the GEIS—

> The purpose and need for the proposed action (renewal of an operating license) is to provide *an option* that allows for power generation capability beyond the term of a current nuclear power plant operating license to meet future system generating needs, *as such needs may be determined by State, utility, and where authorized, Federal (other than NRC) decision makers.*[372]

As the NRC has clearly stated, issuance of a renewed license *does not mandate or guarantee* that the plant will operate beyond the term of the current plant operating term—it merely provides the option of license extension.[373] Thus, the NRC license renewal process has no bearing on the "motivation to create" or the implementation of energy conservation and renewable energy, and the Petition provides no support to the contrary.[374] Proposed Contention 11, therefore, like Proposed Contentions 9 and 10, raises issues that are outside the scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii), fails to provide a concise statement of alleged facts or expert opinions, as required by 10 C.F.R. § 2.309(f)(1)(v), and fails to establish a genuine dispute with the Applicant on a material issue of law or fact, as required by 10 C.F.R. § 2.309(f)(1)(vi).

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371 *Clinton*, CLI-05-29, 62 NRC at 806 (". . . neither the NRC nor Exelon has the mission (or power) to implement a general societal interest in "energy efficiency.").

372 GEIS at § 1.3 (emphasis added).

373 *Id.*

374 *See* Petition at 138.

12. Proposed Contention 12: The SAMA Does Not Accurately Reflect Decontamination and Clean Up Costs of a Severe Accident

Proposed Contention 12 states:

> ENTERGY'S SEVERE ACCIDENT MITIGATION ALTERNATIVES (SAMA) FOR INDIAN POINT 2 AND INDIAN POINT 3 DOES NOT ACCURATELY REFLECT DECONTAMINATION AND CLEAN UP COSTS ASSOCIATED WITH A SEVERE ACCIDENT IN THE NEW YORK METROPOLITAN AREA AND, THEREFORE, ENTERGY'S SAMA ANALYSIS UNDERESTIMATES THE COST OF A SEVERE ACCIDENT IN VIOLATION OF 10 C.F.R. § 51.53(c)(3)(ii)(L).[375]

Petitioner claims that, because it relies on the MELCOR Accident Consequence Code System ("MACCS2") computer program, Entergy's SAMA analysis for IPEC Units 2 and 3 "uses an outdated and inaccurate proxy to represent the decontamination and clean up costs resulting from a severe accident."[376] Petitioner further argues that this calculation contains incorrect assumptions about the size of radionuclide particles, thereby resulting in a low estimation of severe accident costs.[377] Finally, Petitioner alleges that Applicant's SAMA analysis "is faulty and should be rejected" in favor of the analytical framework contained in a 1996 Sandia National Laboratories report.[378]

Entergy opposes admission of Proposed Contention 12 on the grounds that it lacks adequate factual or expert support and fails to establish a genuine dispute with Applicant on a material issue of law or fact, all contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi). Fundamentally, Petitioner inappropriately seeks to litigate the acceptability of using the MACCS2 code to calculate off-site consequences for purposes of an applicant's SAMA analysis.

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375 *Id.* at 140.

376 *Id.*

377 *Id.* at 140-41.

378 *Id.* at 140-42.

As a threshold matter, Bases 2 through 10 of Proposed Contention 12 amount to a series of unsupported criticisms of the MACCS2 code, as they include no references to documents or expert opinion.[379] Petitioner's general and unspecified objections to Entergy's use of MACCS2 code do not provide the basis for an admissible contention. Entergy's reliance on the code is consistent with NRC-endorsed guidance, a fact ignored by Petitioner. Indeed, in LR-ISG-2006-03, the NRC specifically recommends that "applicants for license renewal follow the guidance provided in NEI 05-01, Rev. A, when preparing SAMA analyses."[380] NEI 05-01, in turn, indicates that use of MACCS2 in an applicant's SAMA analysis is acceptable.[381] As NEI 05-01 suggests, numerous other license renewal applicants already have used MACCS2 in their SAMA analyses to the approval of the NRC.[382]

Significantly, in the *Pilgrim* license renewal proceeding, the Board, while admitting a SAMA-related contention, properly refused to permit litigation of any challenges "on a generic basis [to] the use of probabilistic techniques that evaluate risk."[383] Much like Petitioner here, the petitioner in *Pilgrim* had mounted generalized attacks on the MACCS2 code.[384] In rejecting

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379 *See* Petition at 140-42.

380 Letter to J. Riley (NEI) from P. Kuo (NRC NRR), encl. at 1 (Aug. 2, 2007) (Final License Renewal Interim Staff Guidance LR-ISG-2006-03: Staff Guidance for Preparing Severe Accident Mitigation Alternatives (SAMA) Analyses), *available at* ADAMS Accession No. ML071640133.

381 NEI 05-01, Severe Accident Mitigation Alternatives (SAMA) Analysis Guidance Document, Rev. A (Nov. 2005), *available at* ADAMS Accession No. ML060530203. This document, at 13, states:

> In many SAMA analyses, the MELCOR Accident Consequence Code System (MACCS2) (Reference 2) is used to calculate the off-site consequences of a severe accident. Some SAMA analyses have used previous Level 3 analyses such as those included in NUREG/CR-4551. Description of the method may be no more than a reference to the document describing the method. However, the various input parameters and associated assumptions must still be described.

382 *See, e.g.*, NUREG-1437, Supplement 3, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Regarding Arkansas Nuclear One, Unit 1 (Final Report)" (Apr. 2001) at § 5.2; NUREG-1437, Supplement 5, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants: Regarding Turkey Point, Units 3 and 4 (Final Report)" (Jan. 2002) at § 5.2.

383 *Pilgrim*, LBP-06-23, 64 NRC at 340.

384 *See id.* at 324.

such challenges as inadmissible, the Board observed that "[t]he use of probabilistic risk assessment and modeling is obviously accepted and standard practice in SAMA analyses."[385] In later dismissing the contention on summary disposition, the Board elaborated on this point, making specific reference to the MACCS2 code:

> In our view, it is necessary for the Staff to take a uniform approach to its review of such analyses by license applicants and for performance of its own analyses, and it would be imprudent for the Staff to do otherwise without sound technical justification. Where, as here, these analyses are customarily prepared using the MACCS2 code, and *where this code has been widely used and accepted as an appropriate tool in a large number of similar instances*, the Staff is fully justified in finding, after due consideration of the manner in which the code has been used, that *analysis using this code is an acceptable method for performance of SAMA analysis*. Furthermore, a general challenge to the adequacy of this code to make these computations was mounted by [Petitioner] *ab initio*, and rejected by this Board.[386]

Thus, as Proposed Contention 12 challenges, on a generic basis, use of the MACCS2 code in SAMA analyses—and hence a well-established industry and regulatory practice—it is inadmissible.[387]

Proposed Contention 12 is inadmissible for yet another reason. Petitioner has failed to meet its obligation to review the Application and point to specific portions thereof that are either deficient or do not comply with NRC regulations.[388] In this regard, Petitioner does not challenge any specific portion of the LRA, including the ER, in proffering Proposed Contention 12. *Nowhere* in its contention does Petitioner challenge any of the specific inputs or assumptions

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[385] *Id.* at 340.

[386] *Entergy Nuclear Generation Co. & Entergy Nuclear Operations, Inc.* (Pilgrim Nuclear Power Station), LBP-07-13, slip op. at 9 (Oct. 30, 2007) (emphasis added).

[387] *See Private Fuel Storage*, LBP-98-7, 47 NRC at 179 (citing *Peach Bottom*, 8 AEC at 20-21 & n.33) (stating that "[a]n adjudication is not the proper forum for challenging applicable statutory requirements or the basic structure of the agency's regulatory process," and that "a contention that simply states the petitioner's views about what regulatory policy should be does not present a litigable issue").

[388] 10 C.F.R. § 2.309(f)(1)(vi).

used by Entergy in its SAMA analysis. Proposed Contention 12, in fact, contains no explicit references to the LRA. That deficiency, in and of itself, warrants dismissal of the contention, as Petitioner cannot be said to have directly controverted the Application.[389]

Instead, Petitioner simply refers the Board to three documents—a 1996 Sandia study, the 2004 Beyea report, and the 2004 Lyman report—and asserts that Entergy should use those reports to determine the present and future value of decontamination costs, sans any supporting rationale or discussion.[390] As discussed above, mere blanket references to documents do not support the admission of a contention.[391] Petitioner must explain the relevance of specific factual information upon which it relies, an obligation it has not met in Proposed Contention 12.

Moreover, the supposed relevance of the three documents referenced by Petitioner to Entergy's plant-specific SAMA analysis is not clear on the face of the documents. In the case of the Sandia study—which addresses *plutonium dispersal* accidents as opposed to reactor severe accidents—Petitioner states that "the study's methodology and conclusions to estimate decontamination costs are directly useful to the LRA, and that "*all* of these costs must be taken into account."[392] Petitioner further asserts that, in its ER, Entergy "should revise the Sandia results for the densely populated and developed New York City area, incorporate the region's property values, and ensure that the resulting financial costs are expressed in present value."[393] Petitioner, however, fails to explain how the information contained in the three referenced reports is relevant, if at all, to the nature and purpose of Entergy's SAMA analysis. Petitioner adduces no method for doing so, and does not explain how the referenced information relates to

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389 *Millstone*, CLI-01-24, 54 NRC at 358 (holding that a petitioner must explain why it disagrees with applicant).

390 Petition at 142-45.

391 *Seabrook*, CLI-89-3, 29 NRC at 240-41.

392 Petition at 143, 144 (emphasis added).

393 *Id.* at 145.

the specific inputs or assumptions that are entered into the MACCS2 code to evaluate the off-site consequences of a severe accident at Indian Point. As discussed above, Entergy's use of the MACCS2 code *per se* to perform its SAMA analysis cannot provide the subject of an admissible contention.

Petitioner's apparent confusion relative to the purpose and operation of MACCS2 highlights another major deficiency in its proposed contention—lack of adequate factual or expert support. The use of probabilistic methodologies such as the MACCS2 code requires substantial technical and specialized expertise. Petitioner's criticisms of the MACCS2 code are not supported by expert opinion (or by references to the technical literature that may contain relevant expert opinion). Furthermore, as discussed above, although Petitioner references certain studies, those studies are not explained in a manner that supports admission of the contention. For example, with regard to the Beyea and Lyman reports, Petitioner states only that "the two recent studies provide additional information concerning the appropriate cost inputs for evacuation, temporary housing, decontamination, replacement, and disposal activities."[394] The Board is left to guess which "inputs" are relevant, why they are allegedly preferable or superior to those used by Entergy, and how (if at all) they might be used in the IPEC SAMA analysis.

Finally, Petitioner makes no showing as to the materiality of the deficiencies asserted in Proposed Contention 12. As noted above, the Commission has defined a "material" dispute as one whose "resolution . . . would make a difference in the outcome of the licensing proceeding."[395] Here, Petitioner fails to establish that resolution of its contention would alter the result of Entergy's SAMA analysis by identifying new or additional cost-beneficial SAMAs. As

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[394] *Id.*

[395] Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,172.

the Commission has explained, "[w]hether a SAMA may be worthwhile to implement is based upon a cost-benefit analysis—a weighing of the *cost* to implement the SAMA with the reduction in *risks* to public health, occupational health, offsite and onsite property." [396] Even if Petitioner had proposed additional SAMAs, the Commission has found it "unreasonable to trigger full adjudicatory proceedings . . . in which the petitioners have done nothing to indicate the approximate relative cost and benefit of the SAMA."[397]

In summary, Proposed Contention 12 must be dismissed because it lacks adequate factual or expert support and fails to establish a genuine dispute with Applicant on a material issue of law or fact, all contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi). In short, Petitioner has not framed and supported its contention "to ensure that [any] proceedings [on that contention] are effective and focused on real, concrete issues."[398]

13. Proposed Contention 13: The SAMA for IP3 Does Not Include Risk of Fire Barrier Failure and Loss of Both Cable Trains

Proposed Contention 13 states:

> THE ER SAMA ANALYSIS FOR IP3 IS DEFICIENT BECAUSE IT DOES NOT INCLUDE THE INCREASED RISK OF A FIRE BARRIER FAILURE AND THE LOSS OF BOTH CABLE TRAINS OF IMPORTANT SAFETY EQUIPMENT IN EVALUATING A SEVERE ACCIDENT.[399]

Petitioner claims that the LRA for IP3 fails to comply with NRC 10 C.F.R. Part 50 regulations (specifically Appendix A, Criterion 3, and Appendix R, Section G.2) because it does not provide "enclosure of cable and equipment and associated non-safety circuits of one redundant train in a fire barrier having a 1-hour rating," and this increases the risk of fire-induced

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396 *Duke Energy Corporation* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-17, 56 NRC 1, 7-8 (2002).

397 *Id.* at 7.

398 Final Rule, Changes to Adjudicatory Process, 69 Fed. Reg. at 2189-90.

399 Petition at 146.

failure of redundant safety-related electrically operated equipment.[400] Petitioner states that there is a risk that a fire will disable both trains, making it impossible to safely achieve or maintain "hot shutdown."[401] Petitioner further argues that the IPEC SAMA analysis, therefore, incorrectly states that the fire hazard has been conservatively modeled because it neglects consideration of the loss of redundant cable trains important to safety as a result of the use of only 24 minute or 30 minute barriers in lieu of the 1 hour barrier that is specified in Appendix R.[402]

At its core, Proposed Contention 13 challenges the adequacy of the IPEC CLB—specifically, its compliance with Part 50 fire protection regulations—under the guise of a "SAMA" contention. As such, it raises issues beyond the scope of this proceeding and should be dismissed on that ground alone.[403] Additionally, Proposed Contention 13 is inadmissible because it lacks adequate factual or expert support and fails to establish a genuine dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi). In this regard, Petitioner does not offer sufficient information to suggest that the IPEC SAMA analysis is deficient, or that the alleged deficiencies (assuming they did exist) would be material to the outcome of the proceeding. As explained below, Petitioner does not allege, much less support a claim, that the asserted deficiencies, if corrected, would alter the *results* of the Applicant's SAMA evaluation. The latter deficiency is fatal to the proposed contention per 10 C.F.R. § 2.309(f)(1)(vi).

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400 *Id.*

401 *Id.* at 147.

402 *Id.*

403 *See Turkey Point*, CLI-01-17, 54 NRC at 8-9 (holding that contentions that challenge the CLB are outside of the scope of a license renewal proceeding).

a. Proposed Contention 13 Should Be Rejected Because It Impermissibly Challenges the Adequacy of the CLB for IPEC Unit 3

Although it is styled as an environmental contention, Proposed Contention 13 openly challenges IPEC Unit 3 compliance with 10 C.F.R. Part 50 fire protection regulations—blatantly reaching back from this license renewal proceeding into the CLB. In particular, Petitioner criticizes the NRC for its recent grant of an exemption to IPEC Unit 3.[404] Petitioner accuses the NRC of "allowing" alleged deficiencies in fire protection at IPEC Unit 3, and assails the NRC for its "indefensible" and "constrained view of the real world risks of inadvertent or deliberate presence of additional combustibles in . . . plant areas."[405]

Very simply, neither the adequacy of the NRC's safety evaluation nor its decision to grant the exemption is an issue within the scope of this proceeding.[406] As the Commission has admonished repeatedly, "review of a license renewal application does not reopen issues relating to a plant's current licensing basis, or any other issues that are subject to routine and ongoing

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[404] On October 4, 2007, the Commission granted Entergy "an exemption from the requirement of Section III.G.2 of 10 CFR Part 50, Appendix R, for Fire Area ETN–4 (Fire Zones 7A, 60A, and 73A) and Fire Area PAB–2 (Fire Zone 1) at IP3," subject to Entergy meeting certain commitments. *See* Entergy Nuclear Operations, Inc.; Entergy Nuclear Indian Point 3, LLC, Indian Point Nuclear Generating Unit No. 3; Revisions to Existing Exemptions, 72 Fed. Reg. 56,798, 56,801 (Oct. 4, 2007). Specifically, Entergy submitted a request for revision of existing exemptions for the Upper and Lower Electrical Tunnels (Fire Area ETN-4, Fire Zones 7A and 60A, respectively), and the Upper Penetration Area (Fire Area ETN-4, Fire Zone 73A), to the extent that 24-minute rated fire barriers are used to protect redundant safe-shutdown trains located in the above fire areas in lieu of the previously approved 1-hour rated fire barriers per the January 7, 1987 SE. For the 41" Elevation CCW Pump Area (Fire Area PAB-2, Fire Zone 1), Entergy requested a revision of the existing exemptions to the extent that a 30-minute rated fire barrier is provided to protect redundant safe shutdown trains located in the same fire area. 72 Fed. Reg. at 56,798-99.

[405] Petition at 148-49. With respect to "deliberate" acts, Petitioner focuses on the possibility of "sabotage or other illegal introduction of flammable materials," asserting that it is a "reasonable assumption that one tactic of terrorist attacks at a nuclear plant would be to introduce combustible materials and thus initiate a fire emergency." *Id.* at 148. Those statements reflect Petitioner's apparent view that the NRC should consider terrorist acts under NEPA (in this case, as part of its SAMA analysis). This is directly contrary to the Commission's recent holding in *Oyster Creek. AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-07-08, 65 NRC 124, 129 (2007). NEPA considerations aside, combustibles are tightly controlled in these areas by administrative procedures. Entry into these areas by unauthorized personnel is precluded by security vital area boundaries. The deliberate and undetected introduction of any significant quantity of unauthorized combustible materials, sufficient to challenge the Hemyc fire barrier in the area, is a low-credibility event.

[406] *See Turkey Point*, CLI-01-17, 54 NRC at 8-9.

regulatory oversight and enforcement."[407] Petitioner's claim is a textbook example of a contention that must be ruled inadmissible on these grounds.

b. Proposed Contention 13 Is Inadmissible Because It Lacks Adequate Support and Fails to Raise a Material Issue of Fact or Law

Even when contorted so as to be proffered as a SAMA contention, Proposed Contention 13 still fails to meet the Commission's admissibility requirements. First, it alleges that the risk "that a fire will disable both [redundant] trains and make it impossible to safely achieve a hot shutdown or maintain a hot shutdown . . . is not evaluated in the SAMA analysis for IP3."[408] It then further asserts that Entergy's SAMA analysis does not consider the risk of electrical circuits important for safety failing to perform their function due to loss of redundant trains, and does not compare the costs of those larger consequences against the cost of mitigating the accident by upgrading the relevant cable and equipment enclosures to meet the requirements of Section G.2 of Appendix R.[409]

In so doing, however, Proposed Contention 13 does not establish a genuine dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). As discussed above, the Commission has held that SAMA analysis requires a weighing of the *cost* to implement the SAMA with the reduction in *risks* to public health, occupational health, and offsite and onsite property.[410] The Commission accordingly concluded that petitioners who "do[] nothing to indicate the approximate relative cost and benefit of the SAMA" are not entitled to a full adjudicatory hearing.[411] Thus, even if Petitioner's proposal to "upgrade" IPEC cable and

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[407] *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-06-24, 64 NRC 111, 117-18 (2006) (citing *Turkey Point*, CLI-01-17, 54 NRC at 8-9).

[408] Petition at 147.

[409] *Id.* at 146.

[410] *McGuire*, CLI-02-17, 56 NRC at 7-8, 8 n.14.

[411] *Id.* at 11-12.

equipment enclosures could be construed as a SAMA (rather than a clear challenge to an NRC-approved exemption), Petitioner fails to show it would be cost-beneficial.

Moreover, the findings made by the NRC in approving the Unit 3 exemption suggest the opposite. The Staff found that "[n]o new accident precursors are created by allowing use of a fire barrier expected to provide less than 1 hour of fire protection and *the probability of postulated accidents is not increased.*"[412] Additionally, the Staff determined that "*the consequences of postulated accidents are not increased*," and "[t]herefore, there is *no undue risk* (since risk is probability multiplied by consequences) to public health and safety."[413]

Petitioner's contention also is fatally flawed because it does nothing to controvert the methodology or assumptions set forth in the ER. Entergy's SAMA analysis for Unit 3 used an NRC-accepted approach for addressing the impact of external events.[414] The approach, which assigns a multiplication factor to the impact derived from use of the internal events model based on the results of the Unit 3 IPEEE (with some adjustment for obvious conservatisms), is consistent with NRC guidance, and has been accepted by the NRC in previous LRA submittals.

The SAMA analysis (by virtue of its incorporation of the IPEEE) considers the impact of postulated fires in plant fire zones, based on the configuration of the plant as it existed at the time of the IPEEE.[415] It also considers random failures of mechanical and electrical equipment in trains that are redundant to any equipment failed by the postulated fires. The Appendix R issue raised by Petitioner relates to the credit taken in Appendix R compliance for fire wraps in specific areas. The IPEEE did not credit those wraps in preventing fire damage in those areas.

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[412] 72 Fed. Reg. at 56,801.

[413] *Id.*

[414] *See* ER at 4-51 to 4-52.

[415] *See id.*, att. E at E.3-69.

Therefore, simply "upgrading" to meet Appendix R licensing basis requirements would not alter the fire risk analysis approach or results, and hence, would not change the results of the Unit 3 SAMA analysis.

In view of the above, it is clear that Proposed Contention 13 lacks adequate factual or expert opinion support, as required by 10 C.F.R. § 2.309(f)(1)(v). In a perfunctory and unsuccessful attempt to meet this pleading requirement, Petitioner cites—as "supporting evidence"—two documents that actually controvert its position. Those documents are the NRC's October 4, 2007, *Federal Register* notice[416] and its related July 11, 2007, Safety Evaluation,[417] both of which conclude that the exemption granted for IPEC Unit 3 will *not* increase the risk of an accident. Furthermore, Petitioner does not provide any expert opinion in support of the contention.[418]

14. Proposed Contention 14: The LRA and SAMA Are Incomplete and Insufficiently Analyze Recent Information on Earthquakes

Proposed Contention 14 states:

> THE LICENSE RENEWAL APPLICATION AND SAMA ANALYSIS ARE INCOMPLETE AND INSUFFICIENTLY ANALYZE ALTERNATIVES FOR MITIGATION OF SEVERE ACCIDENTS, IN THAT THEY (A) FAIL TO INCLUDE MORE RECENT INFORMATION REGARDING THE TYPE, FREQUENCY, AND SEVERITY OF POTENTIAL EARTHQUAKES AND (B) FAIL TO INCLUDE AN ANALYSIS OF SEVERE ACCIDENT MITIGATION ALTERNATIVES THAT COULD REDUCE THE EFFECTS OF AN EARTHQUAKE DAMAGING IP1 AND ITS SYSTEMS, STRUCTURES, AND COMPONENTS THAT SUPPORT IP2

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[416] Entergy Nuclear Operations, Inc., Entergy Nuclear Indian Point 3, LLC, Indian Point Nuclear Generating Unit No. 3.; Revision to Existing Exemptions, 72 Fed. Reg. 56,798 (Oct. 4, 2007).

[417] Letter to M. Balduzzi (Entergy) from J. Boska (NRC NRR) att. (July 11, 2007) (Safety Evaluation by the Office of Nuclear Reactor Regulation Related to Order No. EA-02-026), *available at* ADAMS Accession No. ML071920023.

[418] *Millstone*, LBP-04-15, 60 NRC at 89 ("A petitioner has the obligation to provide the analysis and expert opinion showing why its bases support its contention.").

AND IP3 ALL IN VIOLATION OF 10 C.F.R. § 51.53(c)(3)(ii)(L).[419]

At issue are Petitioner's claims that the Application does not consider more recent information and present day knowledge regarding earthquakes and their risk for IP1, which was licensed prior to detailed siting regulations addressing seismic or population issues. Because IP2 and IP3 rely on some limited IP1 equipment for purposes of license renewal, Petitioner claims that the LRA and SAMA analysis consideration of this recent information on earthquakes is inadequate.

Entergy opposes the admission of Proposed Contention 14. The contention raises issues that are beyond the scope of this proceeding and immaterial to the NRC's license renewal review, contrary to 10 C.F.R. § 2.309(f)(1)(iii), lacks adequate factual or expert support, contrary to 10 C.F.R. § 2.309(f)(1)(v), and fails to show that a genuine dispute exists with the Applicant on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). In brief, though presented as a challenge to the IPEC SAMA analysis, the contention really is a challenge to the adequacy of the CLB for Unit 1, *viz.*, the adequacy of the Unit 1 seismic design. As such, it raises issues related to the "safe ongoing operation" of IPEC, rather than to "matters peculiar to plant aging or to the license extension period."[420] In this regard, Petitioner is collaterally estopped from seeking to re-open issues that were considered and resolved 30 years ago by the NRC's Atomic Safety and Licensing Appeal Board. To the extent the proposed contention does, in fact, seek to challenge Entergy's SAMA analysis, it is grossly unsupported and does not come close to establishing a genuine dispute.

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[419] Petition at 149.

[420] *Oyster Creek*, CLI-07-8, 65 NRC at 133.

a. *Proposed Contention 14 Constitutes a Challenge to the CLB, and for that Reason Alone, Must Be Rejected*

Although it is masked by Petitioner's tortuous logic, the real thrust of Proposed Contention 14 is apparent in paragraph 13 of the contention. That paragraph states, "[I]n order *to reduce the earthquake risk for IP1* (and to critical conjoined and adjacent Units 2 and 3), it is necessary to improve the ability of IP1's critical components to withstand the effects of an earthquake."[421] This single statement—and *a fortiori* the entire contention—is rife with issues that challenge the CLB, including the design basis of the facility, and lack any nexus to license renewal, thereby exceeding the scope of this proceeding.

First and foremost, Entergy is seeking to renew the operating licenses for IPEC Units 2 and 3, not the provisional operating license for Unit 1. As Section 1.2 of the LRA clearly states:

> Indian Point Energy Center Unit 1 (Provisional Operating License No. DPR-5) shares the site and surrounding area with Units 2 and 3. Unit 1 was permanently shut down on October 31, 1974, and has been placed in a safe storage condition (SAFSTOR) until Unit 2 is ready for decommissioning.
>
> Although the extension of the IP1 license is not a part of this license renewal application, IP1 systems and components interface with and in some cases support the operation of IP2 and IP3. Therefore, IP1 systems and components were considered in the scoping process (see Section 2.1.1). The *aging effects* of Unit 1 SSCs within the scope of license renewal for IP2 and IP3 will be adequately managed so that the intended functions will be maintained consistent with the current licensing basis throughout the period of extended operation.[422]

While Petitioner states that IPEC "uses several IP1 systems," the relevance of its statements to this proceeding ends there.[423] Unit 1 is relevant *only* to the extent that its systems and components interface with, and in some cases would support, the continued operation of Units 2

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[421] Petition at 154.

[422] LRA at 1-7 (emphasis added).

[423] Petition at 150.

and 3, such that the effects of aging on those Unit 1 systems or components must be considered under 10 C.F.R. Part 54. As the Application states, "[t]he systems and components needed to support the intended functions for IP2 and IP3 are included in the scope of this license renewal application, regardless of the unit designation of the system or component."[424] Petitioner does not contest this statement or the adequacy of Entergy's consideration of Unit 1 systems and components.

Instead, Petitioner seeks to contest the adequacy of the Unit 1 seismic design. Toward that end, Petitioner and its experts—Dr. Sykes and Mr. Seeber—first revisit the initial licensing of Unit 1, and then claim that the unit's licensing basis fails to account for "[n]ew data developed in the last 20 years disclos[ing] a substantially higher likelihood of significant earthquake activity in the vicinity of IP1 that could exceed the earthquake design for the facility."[425] In so doing, Proposed Contention 14 plainly raises issues beyond the scope of this proceeding. The seismic design of Unit 1 is a CLB issue and is not material to the Applicant's and NRC Staff's aging management reviews of Units 2 and 3.[426]

Notably, the seismic issues raised by Petitioner were thoroughly considered by the Appeal Board and the Advisory Committee on Reactor Safeguards approximately 30 years ago.[427] Dr. Sykes participated in those very proceedings. Among the Appeal Board's findings were the following:

> 1. No historic event requires the assumption, in accordance with 10 CFR Part 100, Appendix A, of a safe shutdown earthquake

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[424] LRA § 2.1.1.

[425] Petition at 151.

[426] *See Turkey Point*, CLI-01-17, 54 NRC at 8-9 (holding that contentions that challenge the CLB are outside of the scope of a license renewal proceeding).

[427] *See Consolidated Edison Co. of N.Y., Inc. & Power Auth. of the State of N.Y.* (Indian Point Units 1, 2 and 3), ALAB-436, 6 NRC 547 (1977); *see also* Transcript of Meeting of Advisory Committee on Reactor Safeguards, Joint Subcommittee on Indian Point/Seismic Activity (June 16, 1978).

greater than Modified Mercalli intensity VII for the Indian Point facilities.

2. The horizontal ground acceleration design value should remain at 0.15g for the Indian Point site based on a maximum probable earthquake of intensity MM VII.

3. The Ramapo fault is not a capable fault.[428]

Decades later, Dr. Sykes, through Petitioner, now seeks to revisit and contest those very findings in *this* proceeding. In his report, he states: "The chance that the reactors could be shaken by intensities greater than VII and/or subjected to accelerations larger than 0.15 g can be calculated and is not negligible."[429] He adds: "Which faults within the Ramapo seismic zone are active is not clear and remains controversial."[430] Even if principles of collateral estoppel did not preclude Petitioner from re-litigating the Appeal Board's findings,[431] the tenuous seismic issues raised by Petitioner are beyond the scope of this proceeding. Petitioner's attempt to "stir up old ghosts" must fail.

The NRC's response to Dr. Sykes' most recent attempt to challenge the adequacy of the IPEC seismic design confirms that Petitioner, with the aid of Dr. Sykes, is improperly raising CLB issues. On August 14, 2004, Riverkeeper (another petitioner in this proceeding), submitted

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428 *Indian Point*, ALAB-436, 6 NRC at 624.

429 Petition att. at 9 (Lynn Sykes, Statement in Support of New York State Contentions and in Response to the April 30, 2007 License Renewal Application Submitted by Entergy for Indian Point Units 2 and 3 (Nov. 29, 2007)).

430 *Id.* at 5.

431 Collateral estoppel precludes re-litigation of issues of law or fact that have been finally adjudicated by a tribunal of competent jurisdiction. As in judicial proceedings, the purpose of the administrative repose doctrine "is to prevent continuing controversy over matters finally determined and to save the parties and boards the burden of relitigating old issues." *Safety Light Corp.* (Bloomsburg Site Decommissioning and License Renewal Denials), LBP-95-9, 41 NRC 412, 442 (citing *Carolina Power and Light Co.* (Shearon Harris Nuclear Power Plant), ALAB-837, 23 NRC 525, 536 (1986)).

a letter to the NRC expressing concerns about the existing seismic hazard analysis for IPEC.[432] Riverkeeper attached to that letter a statement by Dr. Sykes that raised many of the same issues that Dr. Sykes now raises in the statement attached to his declaration in this proceeding.[433] In its December 15, 2004, response to the Riverkeeper letter, the NRC concluded that "the seismic conditions at the Indian Point have undergone thorough geologic and seismic investigations," and that "the seismic design provides sufficient safety margin to potential damaging earthquakes."[434] The NRC included a separate detailed response to each of the seismic issues raised by Riverkeeper and Dr. Sykes.[435] Notably, the NRC stated that "[t]he issues raised in [the Riverkeeper] letter *are not pertinent to any consideration of a facility license renewal.*"[436] The NRC emphasized that it "relies on the regulatory process to provide reasonable assurance that current operating nuclear power plants continue to maintain an adequate level of safety."[437]

b. Proposed Contention 14 Also Is Inadmissible Because It Lacks Adequate Basis and Fails to Raise a Genuine Dispute of Fact or Law

It is clear that Proposed Contention 14 is a "front" for Petitioner's attempt to re-litigate seismic issues decided several decades ago. Nevertheless, even when viewed as a "colorable" SAMA contention, it still falls far short of satisfying the Commission's admissibility requirements set forth in 10 C.F.R. § 2.309(f)(1)(vi) because Petitioner does not allege, with the

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[432] Letter from A. Matthiessen, Riverkeeper to S. Collins and B. Holian, NRC, Re: Seismic Hazard Analysis for the Indian Point Nuclear Power Plant (Aug. 12, 2004) ("Riverkeeper 2004 Seismic Letter"), *available at* ADAMS Accession No. ML042370358.

[433] Attachment to Riverkeeper 2004 Seismic Letter, "Earthquake Risks to Spent Fuel at Indian Point, A Statement by Lynn R. Sykes (July 15, 2004), *available at* ADAMS Accession No. ML042370358.

[434] Letter from C. Holden, NRC to A. Matthiessen, Riverkeeper (Dec. 15, 2004) ("NRC 2004 Response to Riverkeeper") at 1, *available at* ADAMS Accession No. ML042990090.

[435] Attachment to NRC 2004 Response to Riverkeeper, "Response to Questions Raised by Riverkeeper, Inc. Regarding Seismic Hazard Analysis at Indian Point Nuclear Generating Unit Nos. 2 and 3," *available at* ADAMS Accession No. ML042990090.

[436] NRC 2004 Response to Riverkeeper, att. at 5.

[437] NRC 2004 Response to Riverkeeper at 2.

requisite particularity and support, any specific deficiencies in the IPEC SAMA analysis. Furthermore, Petitioner has not supported its SAMA-specific claims with adequate factual information or expert opinion.

Petitioner only generally alleges that Entergy's "analyses fail to adequately evaluate either the likelihood or the consequences of a severe accident at IP1."[438] Putting aside Petitioner's misdirected focus on Unit 1, and assuming *arguendo* that "new" seismic information is available, Petitioner fails to explain how Entergy's purported failure to consider that information would materially affect the results of its SAMA analysis as set forth in the ER. Petitioner does not even suggest, let alone substantiate through documentary materials or expert opinion, that new or additional cost-beneficial SAMAs might be identified by Entergy for purposes of license renewal.[439] As discussed below in Entergy's response to Proposed Contention 15 (which we incorporate by reference here), the SAMA analysis appropriately and conservatively considered seismic events using the results from the IPEEEs for Units 2 and 3.

Petitioner offers absolutely no documentary or expert support in furtherance of its claim that Entergy's SAMA analysis is deficient with respect to its consideration of seismic hazards. The principal supporting materials furnished by Petitioner are the reports prepared by Dr. Sykes and Mr. Seeber. Those reports, however, deal exclusively with the seismotectonic setting in which the IPEC site is located. They do *not* address the modeling techniques and assumptions used in the IPEC SAMA analysis as reflected in the ER.

In addition, while Dr. Sykes and Mr. Seeber have training and experience in seismology and geophysics, neither one is an expert in SAMA analysis or probabilistic risk assessment

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438 Petition at 154.

439 *See McGuire*, CLI-02-28, 56 NRC at 388 n.77 (stating that if a SAMA "does not relate to adequately managing the effects of aging during the period of extended operation, then "it need not be implemented as part of license renewal pursuant to 10 C.F.R. Part 54").

(particularly as it applies analysis of severe accident scenarios). Their respective declarations and *curricula vitae* provide no indication that they possess the expertise necessary to critically assess the seismic component of Entergy's SAMA analysis, as described in the IPEC Environmental Report or underlying probabilistic risk studies (*i.e.*, IPEEE), so as to assist the Board in this proceeding.[440]

Finally, Petitioner wrongly assumes that Entergy must implement specific SAMAs, stating that "it is necessary to improve the ability of IP's critical components to withstand the effects of an earthquake." This is the wrong standard for purposes of license renewal. Neither NEPA nor Part 51 mandate that a licensee adopt any particular SAMA, even one identified as "cost beneficial." The Commission has noted that "the ultimate agency decision on whether *to require* facilities . . . to implement any particular SAMA will fall under a Part 50 current licensing basis review."[441] Moreover, as noted above, if a SAMA does not relate to adequately managing the effects of aging during the period of extended operation, then it need not be implemented as part of license renewal pursuant to 10 C.F.R. Part 54.[442]

In summary, Proposed Contention 14 raises issues that are neither within the scope of nor material to this proceeding, lack adequate factual or expert support, and fail to establish a genuine dispute of material fact or law. Accordingly, the contention is inadmissible and must be dismissed in its entirety pursuant to 10 C.F.R. § 2.309(f)(1)(iii), (v), and (vi).

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[440] The standard by which a potential witness is judged is determined by whether he or she may qualify as an expert is not in dispute and has been used consistently by NRC adjudicatory panels. As the Commission reiterated recently in the *Catawba* proceeding: "A witness may qualify as an expert by "knowledge, skill, experience, training or education "to testify "[i]f scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue." The Commission added that this standard "gives room to our boards to decide whether the expert witness will be of assistance." *Duke Energy Corp.* (Catawba Nuclear Station, Units I and 2), CLI-04-21, 60 NRC 21, 27-28 (2004) (citations omitted).

[441] *See McGuire*, CLI-02-28, 56 NRC at 388 n.77 (citations omitted).

[442] *Id.*

15. Proposed Contention 15: The SAMA Is Incomplete and Insufficiently Analyzes Mitigation Alternatives

Proposed Contention 15 states:

> THE SEVERE ACCIDENT MITIGATION ALTERNATIVES (SAMA) ANALYSIS FOR INDIAN POINT 2 (ER pages 4-64 to 4-67) AND INDIAN POINT 3 (ER pages 4-68 to 4-71) ARE INCOMPLETE, AND INSUFFICIENTLY ANALYZE ALTERNATIVES FOR MITIGATION OF SEVERE ACCIDENTS IN VIOLATION OF 10 CFR § 51.53(c)(3)(ii)(L).[443]

Returning to the seismic arena, Petitioner claims that Applicant's SAMA analysis "fails to include more recent information regarding the type, frequency and severity of potential earthquakes and fails to include an analysis of [SAMAs] that could reduce the effect of such earthquakes."[444] In this regard, Petitioner argues that Applicant's seismic data are outdated and do not address new engineering seismological findings or techniques. Therefore, Petitioner concludes that the SAMA analysis is "fatally flawed in that it does not support a conclusion either that it was conservatively done or that the risks and consequences of reasonably possible severe earthquake induced accidents have been properly evaluated."[445] Moreover, Petitioner alleges that the ER does not consider all reasonable mitigation measures for the more hazardous earthquakes as suggested by more recent data.

Proposed Contention 15 suffers from essentially the same defects as Proposed Contention 14, and, accordingly, is inadmissible for the same reasons. In summary, the contention raises design basis issues that are well beyond the scope of this proceeding and immaterial to the NRC's license renewal review, lacks adequate factual or expert support, and fails to show that a genuine dispute exists with the Applicant on a material issue of law or fact.

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[443] Petition at 155.

[444] *Id.*

[445] *Id.* at 159.

NRC regulations at 10 C.F.R. § 2.309(f)(1)(iii), (v), and (vi) therefore demand its rejection. Proposed Contention 15 also suffers from numerous factual errors.

a. Proposed Contention 15 Must Be Rejected as Residing Well Beyond the Scope of License Renewal

As a threshold matter, Proposed Contention 15 is premised on the false notion that the NRC's SAMA analysis requirement mandates the implementation of specific mitigation measures. In paragraph 12 of the contention, Petitioner states as follows:

> In order to ensure that the earthquake risk for IP2 and IP3 is at acceptable levels, it may be necessary to improve the ability of critical components of the facility to withstand the effects of an earthquake, or for the LRA *to show that such improvements have actually been carried out*. Because of the deficiencies in the UFSAR as noted *supra* and *infra*, it is not possible to verify either what improvements have been made to IP2 or IP3 or even to determine what improvements Applicant alleges have been implemented.[446]

As discussed above, neither NEPA nor Parts 54 or 51 require such a result, or mandate a revisitation of CLB adequacy for purposes of license renewal. Rather, "the ultimate agency decision on whether *to require* facilities . . . to implement any particular SAMA will fall under a Part 50 current licensing basis review."[447] Thus, as a legal matter, the contention is inadmissible as it claims Entergy is required to verify design and licensing bases and/or implement particular SAMAs. As discussed above, issues relating to the adequacy of the seismic design for any of the IPEC units—1, 2, or 3—are beyond the scope of this proceeding. The adequacy of the plant's

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[446] *Id.* at 158.

[447] *See McGuire*, CLI-02-28, 56 NRC at 388 n.77 (citations omitted). Furthermore, contentions challenging the CLB are inadmissible. *See Turkey Point*, CLI-01-17, 54 NRC at 8-9, 23; *see also AmerGen Energy Co., LLC*, (License Renewal for Oyster Creek Nuclear Generating Station), LBP-07-17 (slip op. at 14 n.17) (Dec. 18, 2007) (finding any challenge to the CLB to be outside the scope of the proceeding because such issues are "(1) not germane to aging management concerns; (2) previously have been the subject of thorough review and analysis; and, accordingly (3) need not be revisited in a license renewal proceeding").

design to withstand earthquakes is a CLB matter that falls outside the narrow scope of this proceeding, which relates to aging management in the period of extended operation.

b. Proposed Contention 15 Is Inadmissible Because It Lacks Adequate Supporting Basis and Fails to Raise a Genuine Dispute

Lying at the heart of Proposed Contention 15 is the dual-edged claim that the SAMA analysis is "fatally flawed" because it does not support a conclusion either that (i) it is conservative, or (ii) it properly evaluates the risks and consequences of reasonably-possible severe earthquake-induced accidents.[448] As discussed below, Petitioner has not presented sufficient factual information or expert opinion to show that a genuine dispute with the Applicant exists on either side of the argument. As detailed in the LRA, the seismic portion of the IPEC SAMA analysis is consistent with applicable NRC and industry guidance, and contains numerous conservatisms that Petitioner simply ignores or fails to comprehend.

Specifically, Entergy followed the guidance contained in NEI 05-01, Revision A, in performing its SAMA analysis. The NRC has endorsed NEI 05-01 and expressly recommended that licensees follow that guidance because it "describes existing NRC regulations and facilitates *complete* preparation of SAMA analysis submittals."[449] Therefore, by virtue of its adherence to NEI 05-01, as endorsed by LR-ISG-2006-03, Entergy's SAMA analyses comply with the requirement imposed by 10 C.F.R. § 51.53(c)(3)(ii)(L).

In accordance with NEI 05-01, the IPEC SAMA analysis utilizes results from the IPEEEs for Units 2 and 3.[450] Consistent with NEI 05-01, Section 3.1.2.2, the IPEC SAMA analysis provides a brief discussion of the risk analysis method used for the seismic IPEEE, and the results of the seismic IPEEE, including suggested enhancements. That information is presented

[448] Petition at 159.

[449] LR-ISG-2006-03 at 1.

[450] ER at 4-51.

in the ER.[451] Contrary to Petitioner's claim, the SAMA analyses need not contain a discussion of the assumptions underlying the results from the seismic IPEEEs,[452] because the NRC has previously reviewed and accepted the IPEC IPEEEs.

As discussed above (in response to Proposed Contention 15), in its December 15, 2004, response to Riverkeeper's concerns about the IPEC seismic hazard analysis, the NRC addressed most, if not all, of the issues raised by Petitioner and Dr, Sykes in this proceeding. The NRC's detailed response addresses (i) seismic source characterization, and (ii) ground motion attenuation relationships, safety consequences, and regional earthquake monitoring. It includes a detailed discussion of the "comprehensive" IPEEE for seismic hazards completed for IPEC.[453] As the NRC noted, the IPEEE analyses for IP2 and IP3 included a seismic hazard analysis and a plant system and structural response analysis in accordance with NUREG-1407, utilizing the Lawrence Livermore National Laboratory ("LLNL") revised hazard estimates and uniform hazard response spectra that are documented in NUREG-1488.[454] This included seismic impacts greater than the 0.19g PGA earthquake cited by Petitioner. The NRC concluded that "it is unlikely for potential earthquakes in the area to cause any damages [sic] to the Indian Point nuclear facilities."[455] In any event, the NRC indicated that the IPEC seismic design is a current operating term issue and is not germane to the agency's license renewal findings.[456]

Petitioner's broad claims that the SAMA analysis is not conservative ignore the conservatisms discussed in the LRA, and similarly fail to establish a genuine dispute with the

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[451] *See* ER at 4-51 to 4-52, 4-64 to 4-70; Att. E, at E.1-72 to E.1-73.

[452] In this regard, there is no requirement that Entergy include the "seismic response spectra for IP3" in the LRA, as Petitioner suggests.

[453] NRC 2004 Response to Riverkeeper, att. at 3 (response to question 4).

[454] *Id.*

[455] *Id.* at 4.

[456] *Id.* at 5.

Applicant on a material issue of law or fact. The conservative assumptions used in the seismic PSA are specifically listed in the ER,[457] but Petitioner fails to directly controvert them or any relevant portions of the Application. Petitioner fails to identify, much less controvert, the various seismic-related plant improvements made by Entergy, as specified in the ER. Petitioner claims that "it is not possible to verify either what improvements have been made at IP2 or IP3 or even to determine what improvements Applicant alleges have been implemented."[458] The ER clearly states that "[a] number of plant improvements were identified and, as described in NUREG-1742, . . . these improvements were implemented."[459] For example, the CCW surge tank hold-down bolts for Unit 2 were upgraded, reducing the seismic CDF to 1.06 x 10^{-5} per year.[460] With regard to Unit 3, the ER states that a QA category I, seismic class I, actuation permission auxiliary control panel for CO_2 discharge in to the EDG building was installed.[461] Petitioner reflects none of this information in its contention, or its formulation.

Finally, Petitioner has failed to show that any of its claims are material to the outcome of Entergy's SAMA analysis, contrary to 10 C.F.R. § 2.309(f)(1)(vi). As in its previous SAMA contentions, Petitioner has done nothing to indicate "the approximate relative cost and benefit" of any SAMA.[462] And, "[w]ithout any notion of cost, it is difficult to assess whether a SAMA may be cost-beneficial and thus warrants serious consideration."[463] Indeed, Petitioner has made

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457 *See* ER at 4-65 to 4-66 (Unit 2) and 4-68 (Unit 3).

458 Petition at 158.

459 ER at 4-51; NUREG-1742, Perspectives Gained from the Individual Plant Examination of External Events (IPEEE) Program, Vol. 2, Tbl. 2.4 (April 2002) (Seismic outliers and improvements for PRA plants), *available at* ADAMS Accession No. ML021270674.

460 Table 5.1 of the IPEEE SER for IP2 (Tac No. M83631) identifies the mean seismic CDF as 1.46E-05 before the CCW fix and 1.1E-05 after the CCW fix.

461 ER at E.4-29.

462 *McGuire*, CLI-02-17, 56 NRC at 12.

463 *Id.*

no attempt to identify any additional SAMA for potential further evaluation by the Applicant, including any related to managing the effects of aging during the extended period of operation.

16. Proposed Contention 16: The SAMA's Population Dose Is Inaccurate

Proposed Contention 16 states:

> ENTERGY'S ASSERTION, IN ITS SAMA ANALYSIS FOR IP2 AND IP3, THAT IT "CONSERVATIVELY" ESTIMATED THE POPULATION DOSE OF RADIATION IN A SEVERE ACCIDENT, IS UNSUPPORTED BECAUSE ENTERGY'S AIR DISPERSION MODEL WILL NOT ACCURATELY PREDICT THE GEOGRAPHIC DISPERSION OF RADIONUCLIDES RELEASED IN A SEVERE ACCIDENT AND ENTERGY'S SAMA WILL NOT PRESENT AN ACCURATE ESTIMATE OF THE COSTS OF HUMAN EXPOSURE.[464]

Petitioner challenges Applicant's claim, in its SAMA analysis, that a no-evacuation scenario provides a conservative estimate of the population radiation dose.[465] Petitioner argues that this claim depends on the geographic dispersion and concentration of released radionuclides, and that the Applicant's use of the ATMOS dispersion model does not yield an "accurate portrayal" of those factors.[466] In particular, Petitioner claims that the ATMOS model is unacceptable because it does not predict the dispersion and concentration of radionuclides as accurately as certain newer, EPA-approved models.[467] Therefore, Petitioner concludes that the Applicant's rejection of 61 of the 68 SAMAs considered for IPEC Unit 2 based on this modeling

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[464] Petition at 163.

[465] The no-evacuation scenario considered in Entergy's SAMA analysis assumes that an individual would continue normal activity for the entire emergency-phase period of one week following a postulated accident without taking emergency response actions such as evacuation and sheltering. This scenario is more conservative in terms of radiation exposure than the sheltering in place scenario, evacuation scenario, or a combination of evacuation and sheltering scenario. The radiation exposure is estimated as the total dose commitment that could be received by an individual who remains in place for the entire emergency-phase while engaging in normal activity. *See* ER, att. E at E.1-86, E.1-90, E.1-92. E.3-82, E.3-84, E.3-86.

[466] Petition at 166.

[467] *Id.* at 165-66.

warrants "further analysis."[468] Petitioner claims that this contention is supported by the Egan Declaration.

Entergy opposes admission of Proposed Contention 16 because it improperly challenges the NRC regulatory process (and thus falls outside the scope of this proceeding), fails to raise an issue that is material to the outcome of the proceeding, and fails to establish a genuine dispute with Applicant, all contrary to 10 C.F.R. § 2.309(f)(1)(iii), (iv) and (vi). In short, Petitioner seeks to litigate the adequacy of the MACCS2 model used by Entergy to perform its SAMA analyses—*not* the adequacy of Entergy's LRA *per se*. In doing so, Petitioner fails to show that its contention raises an issue that is material to Entergy's analysis of the cost-effectiveness of any SAMA.

Proposed Contention 16 is, at its core, an objection to Entergy's use of the ATMOS atmospheric dispersion model, which is a module of the MACCS2 code used by Entergy in its SAMA analysis. As discussed above (*see* response to Proposed Contention 12, *supra*), Petitioner's general challenge to the adequacy of the MACCS2 code does not provide grounds for an admissible contention. The use of the MACCS2 code is consistent with NEI 05-01, as endorsed by LR-ISG-2006-03.[469] Therefore, Petitioner's contention is an impermissible collateral attack on the basic structure of the NRC regulatory process.[470]

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[468] *Id.* at 166.

[469] In fact, the methodology at issue has been employed in numerous applications, including its use in WASH-1400 (NUREG-75/014, Reactor Safety Study (1975)) and NUREG-1150 (Severe Accident Risks: An Assessment for Five U.S. Nuclear Power Plants, *available at* http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1150/ (provides links to the three volumes of the document) for assessing impacts of postulated severe accidents for nuclear power plants.

[470] *See Private Fuel Storage*, LBP-98-7, 47 NRC at 179 (citing *Peach Bottom*, 8 AEC at 20-21 & n.33) (stating that "[a]n adjudication is not the proper forum for challenging applicable statutory requirements or the basic structure of the agency's regulatory process," and that "a contention that simply states the petitioner's views about what regulatory policy should be does not present a litigable issue").

As noted above, in the *Pilgrim* license renewal proceeding, the Board recently rejected a similar, if not identical, challenge to the adequacy of the MACCS2 code.[471] Significantly, the intervenor in that proceeding submitted an affidavit by Mr. Egan raising the same issues he raises here on behalf of Petitioners. The *Pilgrim* Board appropriately rejected Mr. Egan's assertions (the affiant in *Pilgrim* as well as here) as inadmissible challenges to "the general approach of MACCS2," yet he and Petitioner have brought them forth again to this Board.[472] The same reasoning applies here.

The *Pilgrim* Board similarly rejected Mr. Egan's criticisms of the Gaussian plume model used in the MACCS2 SAMA analysis—criticisms that he reiterates herein on behalf of Petitioner.[473] The *Pilgrim* Board noted that the use of a Gaussian plume model in computations performed to develop probabilities, and the resulting risks, is a fundamental part of the approach used in such analyses.[474] Consequently, the *Pilgrim* Board found Mr. Egan's assertions to inappropriately challenge the use of probabilistic methodologies and/or the modeling used by the applicant, an outcome warranted herein for the same reason.[475]

The *Pilgrim* Board's logic and ruling are directly apposite here. Based on that same reasoning, this Board should reject Proposed Contention 16 as inadmissible. Petitioner offers no arguments or insights to demonstrate, or even suggest, that a different outcome is warranted here. While Petitioner claims that newer, EPA-approved models such as AERMOD and CAL PUFF, would provide more "accurate" results, it does not adequately explain their applicability or relevance to the IPEC SAMA analysis. As Petitioner acknowledges, those models were

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[471] *Pilgrim*, LBP-07-13, slip op. at 9 (Oct. 30, 2007).

[472] *Id.*, slip op. at 19.

[473] *Id.*, slip op. at 20-22.

[474] *Id.*, slip op. at 20.

[475] *Id.*, slip op. at 19-20.

developed specifically to model dispersion of chemical pollutants in the atmosphere and demonstrate compliance with the Clean Air Act.[476]

Finally, in challenging the general acceptability of the ATMOS model (and the MACCS2 code), Petitioner fails to directly controvert the Application in a manner that establishes a genuine dispute with the Applicant, contrary to 10 C.F.R. § 2.309(f)(1)(vi). First, Petitioner directly links Entergy's allegedly improper "rejection of 61 of 68 SAMAs as not being cost-effective" to the purported deficiencies in the MACCS2 code.[477] As discussed above, such generalized challenges to the adequacy of the MACCS2 code are outside the scope of this proceeding.

Even *assuming* the other codes might yield more accurate predictions, Petitioner does not provide adequate information to show that the use of a different code (other than MACCS2) by Entergy would materially alter the results of its SAMA analyses. Indeed, Petitioner makes no reference to the Application, or to any of the specific SAMAs described therein. Petitioner, therefore, has not met its burden to identify a specific deficiency in the SAMA analysis, including the need to "indicate the approximate relative cost and benefit" of any SAMAs that Petitioner contends may be cost-beneficial.[478]

The Commission has emphasized that "any number of SAMAs may be theoretically conceivable, but many will prove far too costly compared to the reduction in risk that they might provide."[479] Petitioner provides no means by which to make such an assessment. Instead, it avers that "further analysis" based on "remodeling" of the atmospheric dispersion of a release of

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476 Petition at 165 (stating that AEROMOD and CAL PUFF are "EPA-approved models" used to "demonstrate compliance with regulatory standards under the Clean Air Act").

477 *Id.*

478 *McGuire*, CLI-02-17, 56 NRC at 12.

479 *Id.*

radionuclides using an undefined, yet "more accurate," EPA-approved model is required. Such vague and unsupported complaints are insufficient to trigger an adjudicatory hearing.[480]

Accordingly, Proposed Contention 16 is deficient and inadmissible. Its challenge to the accuracy or adequacy of the MACCS2 code is beyond scope as impermissible challenge to the regulatory process. At the very least, a contention that seeks to litigate the relative merits of "dueling" computer codes is not the type of particularized challenge to an LRA that the NRC's pleading rules should admit to this proceeding.

17. Proposed Contention 17: The ER Fails to Analyze Adverse Impacts on Off-site Land Use

Proposed Contention 17 states:

> THE ENVIRONMENTAL REPORT FAILS TO INCLUDE AN ANALYSIS OF ADVERSE IMPACTS ON OFF-SITE LAND USE OF LICENSE RENEWAL AND THUS ERRONEOUSLY CONCLUDES THAT RELICENSING OF IP2 AND IP3 "WILL HAVE A SIGNIFICANT POSITIVE ECONOMIC IMPACT ON THE COMMUNITIES SURROUNDING THE STATION" (ER SECTION 8.5) AND UNDERSTATES THE ADVERSE IMPACT ON OFF-SITE LAND USE (ER SECTIONS 4.18.4 AND 4.18.5) IN VIOLATION OF 10 C.F.R. PART 51, SUBPART A, APPENDIX B.[481]

Petitioner argues that the ER is deficient because its evaluation of the impacts of license renewal on off-site land use ignores the positive impacts on land use and land values if IP2 and IP3 are denied renewed operating licenses. Additionally, Petitioner claims that the ER overstates

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[480] As the Board stated in the Pilgrim proceeding:

> We note that for a fact to be material with regard to the SAMA analysis, it must be a fact which can reasonably be expected to impact the Staff's conclusion that any particular mitigation alternative may (or may not) be cost effective. Mr. Egan's vague conclusory statement that the approach used in MACCS2 to modeling changing and uncertain meteorological patterns has caused the Applicant to draw incorrect cost-benefit conclusions fails entirely to address whether the errors he suggests are present would (or even could) cause the results to be less conservative or, in fact, to be non-conservative.

Pilgrim, LBP-07-13, slip op. at 22 n.22.

[481] Petition at 167.

the benefits of license renewal on off-site land use.[482] Petitioner further states that the ER fails to consider the environmental impact on adjacent land values due to construction and long-term operation of a dry cask storage facility that will be necessary, due to license renewal. Petitioner concludes that Applicant mistakenly relies on the GEIS and fails to consider reasonable mitigation alternatives for the impacts of off-site land use.[483] In support of its contention, Petitioner references the declaration of Stephen C. Sheppard, Ph.D, and his report regarding the impacts of license renewal on property values.[484]

Entergy opposes the admission of Proposed Contention 17 on the grounds that it lacks factual or legal foundation and basis, contrary to 10 C.F.R. § 2.309(f)(1)(ii), as well as a concise statement of facts or expert opinion, contrary to 10 C.F.R. § 2.309(f)(1)(v), raises issues that are outside the scope of and immaterial to the NRC's licensing decision, contrary to 10 C.F.R. § 2.309(f)(1)(iii), and fails to establish a genuine dispute with the Applicant on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

The Petitioner challenges the Applicant's off-site land analysis on the purported grounds that it "ignores the positive impact on land use and land value from denial of the license extension for IP2 and IP3 and simultaneously overstates the off-site benefits of license renewal."[485] Applicant's analysis, however, is entirely consistent with the GEIS and with applicable regulatory guidance.[486] Both the GEIS and Regulatory Guide 4.2 indicate that the analysis regarding off-site land use during the license renewal term need only consider impacts

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[482] *Id.* at 168.

[483] *Id.* at 170.

[484] *Id.* at 172.

[485] *Id.* at 168.

[486] *See* GEIS, Vol. 1, § 4.7.4; *see also* RG 4.2, Preparation of Supplemental Environmental Reports for Applications To Renew Nuclear Power Plant Operating Licenses, Supplement 1, at § 4.17.2, *available at* ADAMS Accession No. ML003710495.

from "plant-related population growth or from the use by local governments of the plants' tax payments to provide public services that encourage development."[487] The Applicant assessed that information in its ER.[488] The Petitioner alleges no *specific* inadequacies with this portion of the ER, either in the Petition or in the declaration of Dr. Sheppard, contrary 10 C.F.R. § 2.309(f)(1)(vi).[489]

Further, to the extent that the Petitioner asserts that the Applicant must consider "property values associated with the unanticipated continuation of an operating nuclear power generation facility,"[490] there is no regulatory requirement or guidance document which calls for an analysis of *property values* for purposes of license renewal. Indeed, the Petitioner does not point to one in support of it claim.[491] Therefore, the Petitioner fails to establish a genuine dispute with the Applicant on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).[492]

The Petitioner also asserts that the evaluation of off-site impacts in the ER is deficient because "it ignores the positive impact on land use and land value from denial of the life

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487 GEIS, Vol. 1, § 4.7.4; *see also* 10 C.F.R. Part 50, Subpart A, App. B, Table B-1.

488 *See* ER § 4.18.5 (Analysis of Environmental Impact).

489 *See Comanche Peak*, LBP-92-37, 36 NRC at 384 (finding that a contention that does not *directly controvert a position taken by the applicant in the application* is subject to dismissal).

490 *See, e.g.*, Petition at 172; Sheppard Declaration.

491 *See* Petition at 172-74.

492 As the Commission explained in *Turkey Point*, petitioners with "new and significant" information showing that a generic rule would not serve its purpose at a particular plant may seek a waiver of the rule pursuant to 10 C.F.R. § 2.335. *See Turkey Point*, CLI-01-17, 54 NRC at 12, 22-23. The requirements for seeking such a waiver are set forth in 10 C.F.R. § 2.335(b), which provides that "[t]he sole ground for petition of waiver or exception is that *special circumstances* with respect to the subject matter of the *particular proceeding* are such that the application of the rule or regulation (or a provision of it) would not serve the purposes for which the rule or regulation was adopted." Petitioner has ignored this procedure in Proposed Contention 17. Regardless, even if Petitioner had sought such a waiver, it has failed to meet is burden to demonstrate the existence of "special circumstances" and/or "new and significant information." Instead, Petitioner raises only generic considerations that could apply to virtually any reactor at any site. The Commission has stated unambiguously that "[w]aiver of a Commission rule is simply not appropriate for a generic issue." *Haddam Neck*, CLI-03-7, 58 NRC 1, 8 (2003) (citing *Metro. Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-80-16, 11 NRC 674, 675 (1980)).

extension for IP2 and IP3."[493] To the extent that the Petitioner asserts that off-site land use impacts should be analyzed for purpose of the no-action alternative, as noted above, there is no explicit requirement in Part 51 or the GEIS to do so.[494] Regarding socioeconomic impacts of the no-action alterative, the GEIS, and the ER, in turn, focus on the loss of revenue due to unemployment and the loss of tax revenue.[495] The GEIS states, "population decline [resulting from cessation of operations and decommissioning] could result in increased housing vacancies, *decreased property values*, diminished ability of the community to maintain existing levels of public services, and possibly some gradual changes in area land-use patterns."[496] The Petitioner, therefore, fails to raise a genuine issue of law or fact in dispute, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

Further, the Petitioner asserts that "the ER . . . ignores the regulatory finding that off-site land use impacts from license extension at Indian Point would be 'moderate.'"[497] In addition, the Petitioner asserts that the "ER compounds that error by concluding, based on faulty analysis, that the off-site land use impacts would be 'small.'"[498] Contrary to the Petitioner's assertions, the "moderate" finding to which Petitioner refers is not of "regulatory" origin, but the result of a *case-study* in the GEIS.[499] While the case study found that the land-use changes, which resulted from the *impacts of operation*, were "moderate" for Indian Point, [500] it also concluded that "Indian Point's refurbishment and license renewal term are expected to have small direct and

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[493] Petition at 168.

[494] *See* GEIS, Vol. 1, § 8.4.

[495] *See id.* § 8.4.7; ER at 8.4.3.3.

[496] *See* GEIS, Vol. 1, § 8.4.7 (emphasis added).

[497] Petition at 169 (citing ER § 4.18.4).

[498] *Id.* at 170.

[499] GEIS, Vol. 1, § 4.7.4.2.

[500] *Id.* § 4.7.4.1, Table 4.14.

indirect land-use impacts."[501] Therefore, the Applicant's assessment of land-impacts in Section 4.18.5 of the ER is entirely consistent with the case study. Contrary to the Petitioner's assertion, the Applicant did not *ignore* a "regulatory finding."[502] Therefore, the Petitioner has failed to establish a genuine issue contrary to 10 C.F.R. § 2.309(f)(1)(vi).

Proposed Contention 17 also makes several unsupported claims regarding plant decommissioning, including baseless speculation regarding when the site would be available for unrestricted use, triggering the "economic recovery" that the Petitioner envisions.[503] These allegations challenge Category 1 issues identified in the GEIS regarding decommissioning.[504] As discussed in Section IV.B.2, above, contentions challenging Category 1 issues—such as decommissioning—in the GEIS are simply inadmissible in license renewal proceedings, absent a Section 2.335 waiver, because "environmental effects that are essentially similar for all plants . . . need not be assessed repeatedly on a site-specific basis."[505] Petitioner has not petitioned, per Section 2.335, for a waiver of 10 C.F.R. § 51.53(c)(3)(ii), has not submitted a specific supporting affidavit that *must* accompany the waiver request, nor has it addressed the required four-part *Millstone* test for Section 2.335 petitions.[506] This allegation, therefore, cannot provide a viable basis for the admission of Proposed Contention 17 in this proceeding.

Finally, Petitioner scatters bare assertions regarding spent fuel storage throughout Proposed Contention 17.[507] Under the regulations, however, the Applicant "need not discuss any aspect of the storage of spent fuel for the facility within the scope of the generic determination in

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501 *Id.*, Vol. 2, § C.4.4.5.2.

502 *See id.*

503 Petition at 168.

504 10 C.F.R. Part 51, Subpart A, App. B; GEIS at 9-13 to 9-15.

505 *Turkey Point*, CLI-01-17, 54 NRC at 11.

506 10 C.F.R. § 2.335(b); *Millstone*, CLI-05-24, 62 NRC at 560-61.

507 Petition at 168-170.

§ 51.23(a) . . . ."[508] The Commission has chosen to deal with the issue of waste storage in its "Waste Confidence Rule," codified at 10 C.F.R. § 51.23, which states:

> [I]f necessary, spent fuel generated in any reactor can be stored safely and without significant environmental impacts for at least 30 years beyond the licensed life for operation (which may include the term of a revised or renewed license) of that reactor at its spent fuel storage basin or at either onsite or offsite independent spent fuel storage installations.[509]

To the extent that the Petitioner claims that the Applicant must consider spent fuel storage, this issue is outside the scope of license renewal, contrary to 10 C.F.R. § 2.309(f)(1)(iii), and Petitioner's claims constitute an impermissible challenge to the Commission's regulations, contrary to 10 C.F.R. § 2.335.

In summary, Proposed Contention 17 lacks adequate factual or legal foundation, is unsupported by concise statements of facts or expert opinion, raises issues that are outside the scope of and immaterial to the NRC's licensing decision at issue, and fails to establish a genuine dispute with the Applicant on a material issue of law of or fact, contrary to 10 C.F.R. § 2.309(f)(1)(ii), (iii), (v), and (vi).

18. Proposed Contention 18: The LRA Fails to Include Information from Safety Analyses and Evaluations Requested by NRC

Proposed Contention 18 states:

> THE LICENSE RENEWAL APPLICATION FOR IP2 AND IP3 FAILS TO COMPLY WITH THE REQUIREMENTS OF 10 C.F.R. § 50.71(e) BECAUSE INFORMATION FROM SAFETY ANALYSES AND EVALUATIONS PERFORMED AT THE NRC'S REQUEST ARE NOT IDENTIFIED OR INCLUDED IN THE UFSAR.[510]

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508 10 C.F.R. § 51.53(c)(2).

509 *See id.*; *see also Oconee*, CLI-99-11, 49 NRC at 343-44 ("An applicant's environmental report [for license renewal] therefore 'need not discuss any aspect of the storage of spent fuel for the facility within the scope of [these] generic determinations.'") (internal citations omitted).

510 Petition at 174.

Petitioner presents arguments in support of this proposed contention that are virtually identical to those discussed above in reply to Proposed Contention 2. Entergy opposes admission of Proposed Contention 18 on the same grounds discussed in response to Proposed Contention 2, and incorporates that response by reference here.

19. Proposed Contention 19: IPEC Units 2 and 3 Do Not Meet General Design Criteria

Proposed Contention 19 states:

> IP2 AND IP3 DO NOT PROVIDE REASONABLE ASSURANCE OF ADEQUATE PROTECTION FOR THE PUBLIC HEALTH AND SAFETY AS REQUIRED BY 10 C.F.R. § 50.57(a)(3) BECAUSE THEY ARE NOT DESIGNED TO MEET THE LEGALLY RELEVANT GENERAL DESIGN CRITERIA AND THUS ALSO VIOLATE 10 C.F.R. §§ 54.33(a), 54.35 and 50.54(h).[511]

Petitioner presents arguments in support of this proposed contention that are virtually identical to those proffered above in support of Proposed Contention 3. Entergy opposes admission of Proposed Contention 19 on the same grounds discussed in response to Proposed Contention 3, and incorporates that response by reference here.

20. Proposed Contention 20: IPEC Unit 3 Does Not Maintain a Fire Barrier with a One Hour Rating

Proposed Contention 20 states:

> IP3 DOES NOT PROVIDE REASONABLE ASSURANCE OF ADEQUATE PROTECTION FOR THE PUBLIC HEALTH AND SAFETY AS REQUIRED BY 10 C.F.R. § 50.57(a)(3) AND IS NOT IN COMPLIANCE WITH 10 C.F.R. PART 50, APPENDIX R BECAUSE IT FAILS TO MAINTAIN A FIRE BARRIER WITH A ONE HOUR RATING AND THUS ALSO IS IN VIOLATION OF 10 C.F.R. §§ 54.33(a), 54.35 AND 50.54(h).[512]

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[511] *Id.* at 198.

[512] *Id.* at 203.

The arguments proffered by NYS in support of this contention are virtually identical to those presented in support of Proposed Contention 13, above. The only differences are that this contention is not framed as a "SAMA" contention, and that Petitioner includes even less detail here. Petitioner's principal argument is as follows:

> The license renewal application for IP3 fails to comply with the requirements of Appendix A, Criterion 3 of 10 C.F.R. Part 50 and Appendix R (Section G.2) of 10 C.F.R. Part 50 because it does not provide "enclosure of cable and equipment and associated non-safety circuits of one redundant train in a fire barrier having a 1 hour rating" nor does it meet either of the other two alternate requirements of Section G.2 of Appendix R.[513]

Petitioner also challenges the NRC Staff's "justification" for an exemption to certain fire protection requirements it granted to Entergy for IP3 in October 2007.[514] Finally, Petitioner alleges that IP3 does not comply with GDC 15.[515]

Entergy opposes the admission of Proposed Contention 20 because it raises matters that are neither within the scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii), nor material to the findings that the NRC must make to support renewal of the IP2 and IP3 operating licenses, contrary to 10 C.F.R. § 2.309(f)(1)(iv). Moreover, because the fire protection-related issues raised by Petitioner are unrelated to aging management and 10 C.F.R. Part 54, Petitioner fails to identify any deficiency in the LRA, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Finally, the so-called "supporting evidence" identified by Petitioner is insufficient to meet the requirement in 10 C.F.R. § 2.309(f)(1)(v). Therefore, there is no genuine dispute with the Applicant on a material issue of law or fact. *See also* Entergy's response to Proposed Contention 13, above, which Entergy incorporates by reference here.

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513 *Id.*

514 *Id.* at 205.

515 *Id.* at 204.

Proposed Contention 20 is a direct and impermissible challenge to the adequacy of the CLB for IP3 as it relates to fire protection. Petitioner's discussion of IP3 compliance with the 10 C.F.R. Part 50 fire protection regulations (as well as GDC 15) and its challenge to the October 2007 exemption granted by the NRC Staff are unrelated to the effects of plant aging and the LRA. Petitioner establishes no nexus to aging management, as evidenced by its focus on Entergy's compliance with Part 50 requirements that apply in the *current operating term*. The two Part 54 regulations cited by NYS—Sections 54.33(a) and 54.35—establish only that licensees receiving renewed operating licenses are required to comply with any CLB requirements that are carried forward into the period of extended operation. Petitioner, in other words, does not contest any of the AMPs or TLAAs described in the LRA.

Accordingly, the contention is beyond the scope of this proceeding. Petitioner cannot seek to "reopen issues relating to a plant's current licensing basis, or any other issues that are subject to routine and ongoing regulatory oversight and enforcement."[516] By raising *no* issues related to aging management during the period of extended operation, Petitioner fails to identify any concerns material to the NRC Staff's licensing review and to directly controvert the LRA in its entirety. Finally, Petitioner's references to 10 C.F.R. Part 50, Appendix R, and the October 2007 exemption (including the Staff's related Safety Evaluation Report) do not provide adequate factual support for the proposed contention. Proposed Contention 20 is therefore inadmissible in its entirety.

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[516] *Oyster Creek*, CLI-06-24, 64 NRC at 117-18.

21. Proposed Contention 21: The IPEC Unit 1 UFSAR Does Not Analyze Recent Earthquake Information

Proposed Contention 21 states:

> INDIAN POINT 1 DOES NOT PROVIDE REASONABLE ASSURANCE OF ADEQUATE PROTECTION FOR THE PUBLIC HEALTH AND SAFETY AS REQUIRED BY 10 C.F.R. § 50.57(a)(3) AND THE UFSAR INSUFFICIENTLY ANALYZES THE PLANT'S CAPABILITY TO WITHSTAND A DESIGN BASIS AND SAFE SHUTDOWN EARTHQUAKE BECAUSE IT FAILS TO INCLUDE MORE RECENT INFORMATION REGARDING THE TYPE, FREQUENCY, AND SEVERITY OF POTENTIAL EARTHQUAKES IN VIOLATION OF 10 C.F.R. §§ 50.54(h), 54.33(a), 54.35 and 10 C.F.R. PART 100, APPENDIX A.[517]

Here, Petitioner again repackages a previously-presented SAMA contention as a "new" contention. This time, Petitioner repeats arguments proffered in support of Proposed Contention 14, albeit without reference to Entergy's SAMA analyses. Petitioner alleges that the seismic design for IP1 has not been evaluated in accordance with recent information on earthquakes, and damage to IP1 could adversely affect IP2 and IP3 components.[518] Therefore, Petitioner claims that the earthquake risk to IP1 must be reevaluated to determine if improvements are needed.[519] In support, Petitioner references the Declarations of Lynn R. Sykes and Leonardo Seeber.

Entergy opposes admission of Proposed Contention 21 for the same reasons set forth in its response to Proposed Contention 14, *supra*, which Entergy incorporates by reference here. In summary, Proposed Contention 21 raises issues that are beyond the scope of this proceeding and immaterial to the NRC's license renewal review, contrary to 10 C.F.R. § 2.309(f)(1)(ii)-(iv); it lacks adequate factual or expert support, contrary to 10 C.F.R. § 2.309(f)(1)(v); and it fails to

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[517] Petition at 207.

[518] *Id.* at 207-09.

[519] *Id.*

show that a genuine dispute exists with the Applicant on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

As discussed above, this proposed contention impermissibly challenges the adequacy of the IP1 seismic design, which is not a matter "peculiar to plant aging or to the license extension period."[520] In this regard, it also seeks to re-open issues that were considered and resolved decades ago by the NRC as part of prior NRC licensing reviews and adjudicatory proceedings involving the Indian Point facility. The adequacy of the seismic design of any IPEC unit (IP1, IP2, or IP3) is not an aging management issue within the scope of license renewal. Accordingly, contrary to Petitioner's suggestion, it need not be addressed in the LRA or associated UFSAR. Neither the contention, nor the supporting declarations, allege with particularity any deficiencies in the LRA. (Indeed, they do not even refer to any specific portion of the LRA.) Thus, Proposed Contention 21 also lacks adequate factual or expert opinion support and fails to establish a genuine dispute with the Applicant. Proposed Contention 21 is, therefore, inadmissible in its entirety.

22. Proposed Contention 22: The IPEC Units 2 and 3 UFSARs Do Not Analyze Recent Earthquake Information

Proposed Contention 22 states:

> IP2 AND IP3 DO NOT PROVIDE REASONABLE ASSURANCE OF ADEQUATE PROTECTION FOR THE PUBLIC HEALTH AND SAFETY AS REQUIRED BY 10 C.F.R. § 50.57 (a)(3) AND THE UFSARS FOR IP2 AND IP3 INSUFFICIENTLY ANALYZE EACH UNIT'S CAPABILITY TO WITHSTAND A DESIGN BASIS AND SAFE SHUTDOWN EARTHQUAKE BECAUSE THEY FAIL TO INCLUDE MORE RECENT INFORMATION REGARDING THE TYPE, FREQUENCY AND SEVERITY OF POTENTIAL

[520] *Oyster Creek*, CLI-07-8, 65 NRC at 133.

EARTHQUAKES IN VIOLATION OF 10 C.F.R. §§ 54.33(a), 54.35 and 10 C.F.R. PART 100, APPENDIX A.[521]

Proposed Contention 22 simply repeats the arguments Petitioner presented in support of Proposed Contention 15. Petitioner again challenges the adequacy of the seismic design of IP2 and IP3, claiming that the UFSARs for IP2 and IP3 fail to include "more recent information regarding the type, frequency and severity of potential earthquakes," as well as an analysis of how those data impact the application of 10 C.F.R. Part 100, Appendix A to each plant.[522] Petitioner alleges that because Entergy's LRA, IPEEE, and SAMA analyses for IP2 and IP3 do not account for such information and data, they fail to "adequately evaluate either the likelihood or the consequences of a severe seismic accident at IP2 or IP3."[523] In this regard, Petitioner again relies on the Declarations of Lynn R. Sykes and Leonardo Seeber as "supporting evidence."[524]

Entergy opposes the admission of Proposed Contention 22 for the same reasons discussed in its response to Proposed Contention 15, *supra*, and incorporates that response by reference here. In summary, the proposed contention raises issues that are beyond the scope of this proceeding and immaterial to the NRC's license renewal review, contrary to 10 C.F.R. § 2.309(f)(1)(ii)-(iv); lacks adequate factual or expert support, contrary to 10 C.F.R. § 2.309(f)(1)(v); and fails to show that a genuine dispute exists with the Applicant on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

As discussed above, Proposed Contention 22 seeks impermissibly to litigate the adequacy of the IP2 and IP3 seismic designs, a CLB issue that bears no relationship to the aging

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[521] Petition at 209.

[522] *Id.*

[523] *Id.* at 211.

[524] *Id.* at 213-17.

management issues addressed in the LRA, or to the NRC's review thereof pursuant to 10 C.F.R. Part 54. Neither Petitioner nor its designated experts, who appear to have no expertise in the areas of aging management, identifies a specific material deficiency in the LRA. Proposed Contention 22 is, therefore, inadmissible in its entirety.

23. Proposed Contention 23: The LRA Does Not Propose Comprehensive Baseline Inspections

Proposed Contention 23 states:

> THE LICENSE RENEWAL APPLICATION FOR IP2 AND IP3 FAILS TO COMPLY WITH THE REQUIREMENTS OF 10 C.F.R. § 54.21(a) BECAUSE THE APPLICANT HAS NOT PROPOSED COMPREHENSIVE BASELINE INSPECTIONS TO SUPPORT ITS RELICENSING APPLICATION AND PROPOSED 20-YEAR LIFE EXTENSIONS[525]

In general, Petitioner alleges that the LRA "fails to provide meaningful inspection data and lacks a comprehensive inspection program for the proposed life extensions."[526] Therefore, Petitioner argues that the NRC must conduct a hearing for this license renewal proceeding and must require Applicant to conduct a thorough baseline inspection of IP2 and IP3 prior to extended operation.[527] Petitioner claims that this contention is supported by the Lahey Declaration.

Entergy opposes admission of Proposed Contention 23 on the grounds that it is vague, outside the scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii), and does not show that a genuine dispute exists on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

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[525] *Id.* at 217.

[526] *Id.* at 218.

[527] *Id.*

a. *Petitioner Performed an Integrated Plant Assessment that Complies with the NRC Regulations and Guidance for License Renewal*

Petitioner erroneously alleges that Entergy has not satisfied NRC regulations at 10 C.F.R. § 54.21 to perform an Integrated Plant Assessment ("IPA").[528] Importantly, Entergy completed an IPA for purposes of the IP2 and IP3 LRA that complies with the NRC regulations, and the scoping and screening portion of the IPA is described in LRA Section 2.0. As stated in the LRA, the results of the assessment to identify the systems and structures within the scope of license renewal (plant level scoping) are in LRA Section 2.2. The results of the identification of the components and structural components subject to aging management review (screening) are in LRA Section 2.3 for mechanical systems, Section 2.4 for structures, and Section 2.5 for electrical and instrumentation and controls systems.[529] Petitioner not only fails to dispute, with any particularity, the IPA results as set forth in the LRA, it also seems to be unaware that an IPA has been performed at all.

Petitioner also claims that the LRA "fails to provide meaningful inspection data and lacks a comprehensive inspection program for the proposed life extensions."[530] This statement is entirely without support and further demonstrates that Dr. Lahey does not understand the license renewal process or requirements of 10 C.F.R. Part 54. Details such as individual component "inspection data" are not required to be included in the LRA itself. NRC regulations and guidance documents do not require that this type of information be submitted in the LRA. Many AMPs credited in the LRA are existing mature programs with years of inspection data.

Additionally, Entergy describes in the LRA numerous "comprehensive inspection program(s)" that are relied upon for license renewal that comprehensively address aging

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[528] *Id.* at 217-18.

[529] LRA § 2.0.

[530] Petition at 218; Lahey Declaration ¶ 23.

management, contrary to Petitioner's claims. Petitioner need only look to Appendix B of the LRA for an extensive discussion of the inspection programs related to license renewal. Thus, this proposed contention should be rejected because it does not controvert any particular information in the LRA and has failed to establish a genuine dispute on a material issue of fact or law, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

b. Petitioner Requests that the NRC Require Inspections Beyond Those Required by Existing NRC Regulations

Petitioner repeatedly claims that a "comprehensive inspection program" is missing.[531] In this regard, the Petitioner alleges that the LRA "fails to provide meaningful inspection data and lacks a comprehensive inspection program"; "the NRC should require Entergy to conduct a thorough baseline inspection of both IP2 and IP3"; and "[c]onducting baseline inspections of IP2 and IP3 is critical to the aging analysis required by the NRC."[532] To the extent that these statements refer to information Petitioner believes are required by the IPA or Part 54, then, as discussed above, this information is already provided in the LRA. Otherwise, these arguments imply that Entergy is required to perform additional "baseline" inspections for purposes of license renewal—beyond what already has been performed and what is currently required by NRC regulations. As such, these claims fall outside the scope of this license renewal proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii).

Petitioner's arguments must also fail because they are unclear and unsupported. For example, the Petitioner states that "[b]asic engineering principles dictate that any nuclear facility seeking to extend its operations for 20 years beyond its 40-year design life period should be

[531] *See, e.g.*, Petition at 218.

[532] *Id.* at 218-19.

subject to rigorous inspection and testing by the NRC."[533] Clearly, such statements are vague and not pled with the requisite level of specificity and basis to support the admission of Proposed Contention 23.

c. Petitioner's Further Arguments Do Not Support an Admissible Contention

Notwithstanding the arguments refuted above, which are sufficient on their own to dismiss this proposed contention, Petitioner makes a variety of other vague, unsupported arguments. For example, Petitioner makes the confusing statement that "Entergy's license renewal applications [sic] state that for most of the facility components, Entergy will 'participate in the industry programs for investigating and managing aging effects on reactor internals and evaluate and implement the results of the industry programs as applicable to the reactor internals.'"[534] Petitioner provides no citation to where this specific quotation can be found in the LRA. Absent supporting detail, it seems that such a statement, regarding "industry programs," is only made in the LRA with respect to reactor internals, and therefore cannot be considered to apply to "most of the facility components," as Petitioner claims.[535]

Petitioner also questions reliance on industry programs for determining adequate reactor vessel internals inspections, but such questioning is misplaced.[536] In accordance with the GALL Report, guidance for the aging management of individual PWR vessel internal subcomponents is provided in AMR line items in LRA Section 3.1, and further information is provided in Appendix A of the LRA.[537] This approach is entirely consistent with NRC regulations.

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533 *Id.*

534 *Id.* at 219-20.

535 *Id.* at 219.

536 *Id.* at 220.

537 *See* LRA Sections A.2.1.41 and A.3.1.41.

Likewise, Petitioner's complaint that "Entergy proposes to delay any inspection process well into the relicensing process, no later than twenty-four months before it starts its extended operations at IP2 and IP3"[538] is unfounded. As can be seen in LRA Table B-1, the majority of programs identified in Appendix B are ongoing, existing programs. The only programs that will begin implementation prior to the period of extended operation are those identified as "new" programs in Table B-1. As identified in Appendix B of the LRA, each of the new programs will be implemented with sufficient time to allow an appropriate level of evaluation prior to the period of extended operation and to properly establish programs during the period of extended operation.[539]

Finally, Petitioner makes a baseless claim that "[t]he nuclear plants were designed to operate for 40 years, not 60 years."[540] As identified in NUREG-1850[541] (Section 1.1.2), the original licenses for commercial nuclear power facilities were granted for a 40-year period, which was set by the AEA. It was imposed for *economic and antitrust reasons rather than technical limitations* of the nuclear facility.[542] Petitioner simply mistakes the reason for the 40-year operating term.

For all of the reasons discussed above, Petitioner has not demonstrated a genuine dispute of material law or fact, as required by 10 C.F.R. § 2.309(f)(1)(vi), because it has not directly controverted the LRA, and has instead proffered vague (and often incorrect) allegations. As a result, Proposed Contention 23 should be rejected in its entirety.

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538 Petition at 220.

539 *See* 10 C.F.R. § 54.21 (requiring that an applicant demonstrate that the effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB for the period of extended operation, but imposing no implementation timing requirement).

540 Petition at 220.

541 Frequently Asked Questions on License Renewal of Nuclear Power Reactors (Mar. 2006), *available at* ADAMS Accession No. ML061110022.

542 *See* NUREG-1850, Frequently Asked Questions for License Renewal, § 1.1.2 (Mar. 2006).

24. Proposed Contention 24: The LRA Has Not Certified the Present Integrity of the Containment and Does Not Commit to an Adequate Aging Management Program for Containment

Proposed Contention 24 states:

> THE LICENSE RENEWAL APPLICATION FOR IP2 AND IP3 FAILS TO COMPLY WITH 10 C.F.R. § 54.21(a)(1)(i) BECAUSE THE APPLICANT HAS NOT CERTIFIED THE PRESENT INTEGRITY OF THE CONTAINMENT STRUCTURES AND HAS NOT COMMITTED TO AN ADEQUATE AGING MANAGEMENT PROGRAM TO ENSURE THE CONTINUED INTEGRITY OF THE CONTAINMENT STRUCTURES DURING THE PROPOSED LIFE EXTENSIONS[543]

Petitioner alleges that significant concerns exist regarding the continued integrity of the IP2 and IP3 containments and the proposed aging management and monitoring of those structures during extended operation.[544] Petitioner argues that the "NRC should exercise its regulatory discretion and common sense to require Entergy to conduct enhanced inspections because Entergy's application discloses significant concerns regarding the continuing integrity of the containment structures."[545] Petitioner claims that this contention is supported by the Lahey Declaration.

Entergy opposes admission of Proposed Contention 24 on the grounds that it is vague, includes arguments outside the scope of license renewal, contrary to 10 C.F.R. § 2.309(f)(1)(iii), and does not provide sufficient information to show a genuine dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Importantly, Petitioner requests that the NRC impose requirements on Entergy beyond those required by regulation.[546]

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[543] Petition at 221.

[544] *Id.* at 221-23.

[545] *Id.* at 221.

[546] The summary of Proposed Contention 24, which is quoted above, states that the LRA "FAILS TO COMPLY WITH 10 C.F.R. § 54.21(a)(1)(i) BECAUSE THE APPLICANT HAS NOT CERTIFIED THE PRESENT

a. Petitioner's Arguments Regarding Containment Integrity Are Outside the Scope of License Renewal

Petitioner proffers various arguments regarding the "present integrity of containment structures," "the continuing integrity of the containment structures," and immediate "enhanced inspections of the two separate containment structures."[547] To the extent such arguments address ongoing inspections and the current integrity of these structures, they do not support admission of this proposed contention, because such activities are outside the scope of this license renewal proceeding. In *Turkey Point*, for example, the Commission concluded that requiring a full reassessment of safety issues, which includes containment integrity, that were "thoroughly reviewed when the facility was first licensed" and continue to be "routinely monitored and assessed by ongoing agency oversight and agency-mandated licensee programs" would be "both unnecessary and wasteful."[548]

Furthermore, the Petition itself acknowledges that these activities are outside the scope of license renewal proceedings. Petitioner's major argument is that the "NRC should exercise its *regulatory discretion and common sense* to require Entergy to conduct enhanced inspections because Entergy's application discloses significant concerns regarding the continuing integrity of the containment structures."[549] This argument is similar to those made by Petitioner regarding Proposed Contention 23, in which it requests that the NRC impose additional baseline inspection requirements on Entergy, even though such requirements go beyond what is required by regulation.

INTEGRITY OF THE CONTAINMENT STRUCTURES." This cited regulation does not discuss, much less require, certification of containment integrity or anything related to this topic; rather, 10 C.F.R. § 54.21(a)(1)(i) addresses components that must be included in the IPA. Petitioner provides no further discussion of this topic. Therefore, "certification" of the containment structures does not support an admissible contention.

547 Petition at 221-23.

548 *Turkey Point*, CLI-01-17, 54 NRC at 7.

549 Petition at 221 (emphasis added).

Similarly, Petitioner's plea for the NRC to exercise "regulatory discretion and common sense" demonstrates that Petitioner, in actuality, is requesting action beyond the current regulations. A contention that challenges any NRC rule, including contentions that advocate stricter requirements than agency rules impose, are outside the scope of this proceeding.[550] For these reasons, arguments in the proposed contention relating to the current integrity of the containment structures and ongoing inspections and monitoring are outside the scope of license renewal, contrary to 10 C.F.R. § 2.309(f)(1)(iii).

b. The LRA's Treatment of Containment Integrity Fully Complies with NRC Regulations and Guidance

Certain containment structures, versus ongoing containment integrity assurance activities, are within the scope of license renewal. These structures are discussed in LRA Section 2.4.1 (Containment Buildings) and the specific components subject to aging management review are listed in Table 2.4-1. Nonetheless, Petitioner does not directly dispute the aging management program for these structures; rather, Petitioner claims that the current containment water/cement ratio is unacceptable, citing LRA § 3.5.2.2.1.1.[551] Although Petitioner cites to this section of the LRA, Petitioner does not explain, with the requisite level of basis and specificity, why Entergy's approach on water/cement ratios is inappropriate.[552]

c. Petitioner's Arguments Do Not Demonstrate an Unacceptable Water/Cement Ratio

Petitioner makes general statements about acceptable water/cement ratios. For example, Petitioner, and the Lahey Declaration, reach the conclusion that the "NRC established an

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[550] *See Turkey Point*, LBP-01-6, 53 NRC at 159.

[551] Petition at 222.

[552] Additionally, the Petitioner ignores Applicant's numerous ongoing programs for monitoring concrete structures, such as containment.

acceptable water/cement ratio range of 0.35 to 0.45."[553] Except for its reference to GALL Report, the Petitioner does not reference an NRC regulation or other requirement supporting this claim.[554] Tables in Section III.A for "Structure and Component Supports" in Vol. 2 of the GALL Report do suggest consideration of a water/cement ratio of 0.35 to 0.45 for purposes of aging management of inaccessible areas for certain structures. Contrary to Petitioner's claims, however, NRC regulations do not provide a minimum water/cement ratio. Instead, an acceptable water/cement ratio is provided by the American Concrete Institute ("ACI") specification ACI-318, Building Code Requirements for Reinforced Concrete, as stated in the LRA.[555]

Petitioner has not disputed the ACI requirements, which are met by IP2 and IP3, or their discussion in the LRA. Instead, Petitioner attempts to mislead the Board by stating that "[t]he NRC current regulations regarding the minimally acceptable water/cement ratio did not exist when the former Atomic Energy Commission issued the initial construction licenses to IP2 and IP3 in the late 1960's."[556] Petitioner fails to reference the current NRC regulation that provides a "minimally acceptable water/cement ratio," which is understandable, because no such regulation exists. Entergy has used an acceptable evaluation, that of ACI-318 that was used in IPEC construction, which allows a ratio of up to 0.576 for concrete with the compressive strength specified for IPEC concrete.[557] Although this ratio falls outside the ratio set forth in the GALL

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[553] *Id.* at 222 (emphasis added); Lahey Declaration ¶ 29.

[554] Lahey Declaration ¶ 30.

[555] LRA § 3.5.2.2.1.1. Petitioner provides no discussion of the ACI standards, much less a discussion of why it is insufficient under these circumstances.

[556] Petition at 221.

[557] LRA § 3.5.2.2.1.1.

Report, the IPEC concrete "meets the specifications of ACI to ensure acceptable quality concrete is obtained."[558]

For these reasons, Proposed Contention 24 must fail because it does not "[p]rovide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact," contrary to 10 C.F.R. § 2.309(f)(1)(vi). A genuine dispute only rises when allegations are supported by facts and a reasoned statement of why the LRA is unacceptable in some material respect.[559]

Petitioner concludes Proposed Contention 24 by stating that "NRC should exercise its regulatory authority and discretion to require Entergy to conduct a more thorough and frequent monitoring protocol at IP2 and IP3."[560] In addition to the discussion above that such statements are outside of the scope of license renewal, Petitioner provides no indication of what additional monitoring it is seeking or why this would improve safety. Petitioner cites to Applicant's Containment Leak Rate Program and Containment Inservice Inspection, but similarly provides no discussion of why these programs are insufficient. These vague, unsupported assertions do not support an admissible contention, because they do not raise a genuine dispute of material law or fact as required by 10 C.F.R. § 2.309(f)(1)(vi). As discussed above, a contention that does not *directly controvert a position taken by the applicant in the application* is subject to dismissal.[561] Additionally, an allegation that some aspect of an LRA is "inadequate" or "unacceptable" does not give rise to a genuine dispute unless it is supported by facts and a reasoned statement of why

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[558] *Id.*

[559] *See Turkey Point*, LBP-90-16, 31 NRC at 521 n.12.

[560] Petition at 223.

[561] *See Comanche Peak*, 36 NRC at 384.

the application is unacceptable in some material respect.[562] For all of these reasons, Proposed Contention 24 must be dismissed in its entirety.

25. Proposed Contention 25: The LRA Does Not Include an Adequate Plan for Monitoring and Managing Embrittlement of the Reactor Pressure Vessels and Internals

Proposed Contention 25 states:

> ENTERGY'S LICENSE RENEWAL APPLICATION DOES NOT INCLUDE AN ADEQUATE PLAN TO MONITOR AND MANAGE THE EFFECTS OF AGING DUE TO EMBRITTLEMENT OF THE REACTOR PRESSURE VESSELS ("RPVs") AND THE ASSOCIATED INTERNALS.[563]

Petitioner alleges that the LRA "does not include any mention that Entergy performed any age-related accident analyses, or that it took embrittlement into account when it assessed the effect of transient loads."[564] In support of this statement, Petitioner asserts that "Charpy tests" of in-core samples demonstrate that an "intermediate shell in IP2 will not meet the upper shelf energy acceptance criterion of 50ft-lb."[565] Petitioner claims that this contention is supported by the Lahey Declaration.

Entergy opposes admission of Proposed Contention 25 on the grounds that it is vague, fails to provide supporting facts or expert opinion, contrary to 10 C.F.R. § 2.309(f)(1)(v), and fails to demonstrate that a genuine dispute of material law or fact exists, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

a. The LRA Adequately Addresses Embrittlement

Contrary to the unsupported claims of the Petitioner, the LRA adequately addresses embrittlement of the Reactor Pressure Vessels ("RPVs") and the associated internals. For

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[562] *See Turkey Point*, 31 NRC at 521 & n.12.

[563] Petition at 223.

[564] *See id.* at 224.

[565] *Id.* at 226.

example, LRA Section 3.1 (Reactor Vessel, Internals and Reactor Coolant System) discusses the aging management review results for these components. Not surprisingly, and consistent with its failure to do so with respect to numerous other proposed contentions, Petitioner fails to discuss or even reference the LRA's full assessment of these topics. Petitioner's claim that the monitoring and TLAAs are deficient without providing any references to specific sections of the LRA is clearly insufficient, and does not support an admissible contention. As discussed above, a contention that does not *directly controvert a position taken by the applicant in the application* is subject to dismissal.[566]

Similarly, the Petition relies almost entirely on the Lahey Declaration for any claim of support; however, this declaration provides no support for this proposed contention. The declaration simply makes bare assertions regarding what purportedly must be considered as part of license renewal regarding embrittlement. For example, the Lahey Declaration states that certain omissions were made in the LRA, including evaluation of "highly transient severe decompression shock loads."[567] Nonetheless, the declaration fails to explain why this is a license renewal issue.

Furthermore, similar to the Petition itself, the Lahey Declaration does not even reference the relevant sections of the LRA on embrittlement. As discussed above, "an expert opinion that merely states a conclusion (*e.g.*, the application is 'deficient,' 'inadequate,' or 'wrong') without providing *a reasoned basis or explanation* for that conclusion is inadequate because it deprives the Board of the ability to make the necessary, reflective assessment of the opinion as it is

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[566] *Comanche Peak*, LBP-92-37, 36 NRC at 384.

[567] Lahey Declaration ¶ 15.

alleged to provide a basis for the contention."[568] These conclusory statements in the Lahey Declaration cannot support an admissible contention.[569]

b. Petitioner's Arguments Regarding Additional Analyses Are Outside the Scope of License Renewal

Petitioner proffers additional vague, unsupported claims that the LRA is missing information, such as the statement that the LRA "does not include any mention that Entergy performed any age-related accident analyses, or that it took embrittlement into account when it assessed the effect of transient loads."[570] Similarly, the Petitioner quotes the Lahey Declaration, which states: "Entergy's failure to discuss how embrittled RPVs and RPV internal structures and components would respond to the highly transient severe decompression shock loads associated with a DBA LOCA is a very serious omission from its relicensing application."[571]

For purposes of clarification, it is important to highlight that the Petitioner repeatedly confuses embrittlement of the RPV with embrittlement of the reactor vessel internals. Specifically, the Petition quotes the Lahey Declaration's statement for the proposition that embrittlement applies to "the core barrel, particularly in the 'belt-line' region of the reactor core; the thermal shield; the baffle plates and formers (and the loads on the associated bolts); and the intermediate shells in the core."[572] The core barrel, thermal shield, baffle plates and baffle former plates (including bolts) are, however, made of stainless steel and are not susceptible to a decrease in fracture toughness as a result of neutron embrittlement. To the extent the reference to "intermediate shells in the core" relates to the reactor vessel (this nomenclature is normally

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568 *Private Fuel Storage*, LBP-98-7, 47 NRC at 181 (emphasis added).

569 *See American Centrifuge Plant*, CLI-06-10, 63 NRC at 472.

570 Petition at 224; *See* Lahey Declaration ¶ 14.

571 Petition at 224; Lahey Declaration ¶ 15.

572 Petition at 225.

used to describe the plates which make up the reactor vessel), brittle fracture of the reactor vessel is addressed by 10 C.F.R. § 50.61. Entergy must comply with the requirements of 10 C.F.R. § 50.61 through the extended period of operation, therefore ensuring that the reactor vessel maintains appropriate levels of fracture toughness.

c. *Petitioner's Complaints Regarding Charpy Tests Described in the LRA Do Not Support an Admissible Contention*

Petitioner complains that "Entergy's tests (known as 'Charpy tests') of in core samples, demonstrate that an intermediate shell in IP2 will not meet the upper shelf energy acceptance criterion of 50ft-lb."[573] Additionally, the Lahey Declaration states that "[t]he tests of some of the RPV structures and components in IP2 and IP3 raise serious embrittlement concerns" because "according to Entergy, based on Charpy tests of in-core samples, several in-core shells will not meet the upper shelf energy acceptance criterion of 50 ft-lb during the proposed relicensing period."[574]

The only support for these allegations is a quote from LRA § A.2.2.1.3, provided in the Lahey Declaration.[575] As provided in Table 4.2-1 of the LRA, IP2 plates B2002-3 and B2003-1 are predicted to fall below the 50 ft-lbs Upper Shelf Energy ("USE") screening criteria provided in 10 C.F.R. Part 50, Appendix G. Nonetheless, a more detailed analysis, as allowed by paragraph IV.1.a of 10 C.F.R. Part 50, Appendix G, has demonstrated that these upper shelf energy levels are sufficient to ensure compliance with the 10 C.F.R. Part 50 required margins of safety against non-ductile failure of the reactor vessel.[576]

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[573] *Id.* at 226.

[574] Lahey Declaration ¶ 18.

[575] *Id.*

[576] *See* LRA § 4.2.2.

Petitioner, however, ignores the justification provided by Entergy in LRA § A.2.2.1.3 that the minimum acceptable USE for reactor vessel plate material in four-loop Westinghouse plants is 43 ft-lbs rather than 50 ft-lbs. The LRA clearly demonstrates that the USE values below 50 ft-lbs are acceptable because the lowest projected USE level for the beltline plate material is 47.4 ft-lb through the period of extended operation, which is above the 43 ft-lb minimum acceptable USE as determined by the NRC in the safety evaluation for WCAP-13587, Rev. 1, for four-loop Westinghouse plants.[577]

Because Petitioner has chosen to entirely ignore this key section of the LRA, it has clearly not provided any substantive challenges to the LRA's conclusion on this issue. The failure to provide any rebuttal to the explanation in the LRA for the very issue that Petitioner is disputing is contrary to 10 C.F.R. § 2.309(f)(1)(v) and 10 C.F.R. § 2.309(f)(1)(vi).

Petitioner makes the further vague and unsupported statement that "RPV internals in IP3 imply operational limits for extended life operations due to the high [nil ductility temperature] NDT associated with the predicted irradiation-induced embrittlement."[578] To the extent that this statement challenges Entergy's control of embrittlement, it is unsupportable, because Entergy complies with the NRC's regulations, including 10 C.F.R. § 50.61. Notwithstanding that it is unclear what Petitioner is actually disputing in the LRA, presumably Petitioner made this conclusion in response to the LRA statement that "[a]ll projected RT_{PTS} values are within the established screening criteria for 48 EFPY with the exception of plate B2803-3, which exceeds the screening criterion by 9.9°F."[579]

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[577] *Id.* § A.2.2.1.3.

[578] Petition at 226.

[579] LRA § A.3.2.1.4.

As stated in the LRA, and as allowed by 10 C.F.R. § 50.61(b)(4), Entergy will prepare a plant-specific safety analysis for plate B2803-3, which will be submitted to the NRC three years prior to reaching the RT_{PTS} screening criteria.[580] Petitioner has not disputed—or even referenced—this commitment.

Petitioner further confuses the issue by stating that "[t]he State of New York has provided sufficient information to demonstrate that a genuine dispute exists with the applicant on the material issue of the facts of *material fatigue*."[581] This is the first mention in this proposed contention of "fatigue," which is entirely unsupported by any of the statements made by the Petitioner. Fatigue and embrittlement are entirely different phenomena. Such confusion of these issues demonstrates the Petitioner's fundamental lack of understanding on these topics. Nevertheless, fatigue is addressed by Entergy's response to Proposed Contention 26, discussed below, and incorporated herein.

The Petition concludes with the following statement: "Although Entergy's own data demonstrates [sic] that the intermediate shell in IP2 and other internals in IP3 will experience embrittlement concerns, Entergy has not presented any experiments or analysis to justify that the embrittled RPV internal structures will not fail and that a coolable core geometry will be maintained subsequent to a DBA LOCA."[582] As discussed above, this aspect of the contention must fail because it completely neglects the evaluations and commitments made by Entergy. For example, with respect to the IP2 intermediate shell, the equivalent margins analysis set forth in WCAP-13587 demonstrates an acceptable USE.[583] Additionally, with respect to IP3, Entergy

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580 *Id.*

581 Petition at 226 (emphasis added).

582 *Id.*

583 LRA § A.2.2.1.3.

has committed to perform (at least three years prior to reaching the RT_{PTS} screening criteria) a plant-specific safety analysis for the reactor vessel plate that did not meet the RT_{PTS} screening criteria.[584] This is in accordance with the requirements of 10 C.F.R. § 50.61(b)(4). In sum, Petitioner's arguments repeatedly fail to address information in the LRA, and therefore do not provide the required supporting facts or expert opinion, contrary to 10 C.F.R. § 2.309(f)(1)(v), and do not provide sufficient information to show that a genuine dispute exists on a material issue of law, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

26. Proposed Contention 26: The LRA Does Not Include an Adequate Plan for Monitoring and Managing Metal Fatigue on Key Reactor Components

Proposed Contention 26 states:

> ENTERGY'S LICENSE RENEWAL APPLICATION DOES NOT INCLUDE AN ADEQUATE PLAN TO MONITOR AND MANAGE THE EFFECTS OF AGING DUE TO METAL FATIGUE ON KEY REACTOR COMPONENTS.[585]

Petitioner claims that the LRA does not include an adequate plan to monitor and manage the effects of aging due to metal fatigue on key reactor components that are subject to an AMR, pursuant to 10 C.F.R. § 54.21(a), and an evaluation of TLAA, pursuant to 10 C.F.R. § 54.21(c).[586] Specifically, Petitioner notes that, because the data provided in LRA Tables 4.3-13 (IP2) and 4.3-14 (IP3) indicate that key components have cumulative usage factors ("CUFs") that exceed unity (1.0), those components will have a greater potential to crack and/or fail due to metal fatigue during the proposed license renewal term.[587]

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[584] *Id.* § A.3.2.1.4.

[585] Petition at 227.

[586] *Id.*

[587] *Id.* at 230.

Petitioner alleges that Entergy's proposed methods for addressing components with CUFs greater than 1.0 is "vague, incomplete, and lacking in transparency."[588] Petitioner seeks to portray Entergy's proposal to "refine the fatigue analyses to determine CUFs less than 1" as an underhanded attempt to "obtain a predetermined outcome."[589] Petitioner assails the other options identified by Entergy for addressing this issue (*i.e.*, managing the effects of aging due to fatigue at the affected locations by following an NRC-approved inspection program and repairing or replacing the affected locations before the CUF exceeds 1.0) as "impermissibly vague."[590]

Entergy opposes the admission of Proposed Contention 26 for numerous, well-founded reasons. First, the contention lacks sufficient specificity and basis, contrary to 10 C.F.R. § 2.309(f)(1)(i) and (ii), to support its admission. Additionally, the contention lacks adequate support in the form of alleged facts or expert opinion and fails to establish a genuine dispute with Entergy on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi). Accordingly, Proposed Contention 26 must be denied.

To meet the admissibility criteria contained in 10 C.F.R. § 2.309(f)(1)(i) and (ii), a contention "must explain, with specificity, *particular safety or legal reasons* requiring rejection of the contested [LRA],"[591] as well as contain "some sort of *minimal basis* indicating the potential validity of the contention."[592] Petitioner fails to meet either one of these criteria. This proposed contention is nothing more than a string of hyperbolic and *ad hominem* assertions that fail to identify any valid safety concern or specific deficiency in the LRA.

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588 *Id.* at 231.

589 *Id.*

590 *Id.* at 232.

591 *Millstone*, CLI-01-24, 54 NRC at 359-60 (emphasis added).

592 Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. at 33,170 (emphasis added).

For example, Petitioner—without any technical analysis or factual support—claims that the CUF values in LRA Tables 4.3-13 and 4.3-14 are "alarming" and indicate the potential for "catastrophic failure during steady state, or more likely during anticipated or unanticipated transients."[593] Petitioner also accuses Entergy of "prejudg[ing] the outcome" and "gaming the license renewal review process."[594] Such vague and vitriolic assertions are insufficient for purposes of satisfying the specificity and basis requirements of 10 C.F.R. § 2.309(f)(1)(i)-(ii).

For the same reasons, Proposed Contention 26 fails to establish a genuine dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). An allegation that some aspect of an application is inadequate or unacceptable does not give rise to a genuine dispute unless it is *supported by facts and a reasoned statement* of why the application is unacceptable in some material respect.[595] Petitioner fails utterly in this regard, particularly when its baseless allegations are viewed against the detailed information presented in Section 4.3.3 of the LRA.

Proposed Contention 26 does not establish a genuine dispute on a material issue of law or fact because it fails to controvert the acceptability of the approach set forth in LRA Section 4.3.3, "Effects of Reactor Water Environment on Fatigue Life."[596] Section 4.3.3 includes a screening analysis based on conservatively determined F_{en} values and CUF values from existing fatigue analyses that shows that an aging management program is required to address the effects of environmentally assisted fatigue ("EAF") prior to entering the period of extended operation. The aging management program is required to address analyses that could not be satisfactorily projected through the period of extended operation in accordance with 10 C.F.R.

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[593] Petition at 228, 231.

[594] *Id.* at 233.

[595] *Turkey Point*, LBP-90-16, 31 NRC at 521 n.12.

[596] LRA at 4.3-20 to 4.3-23.

§ 54.21(c)(1)(ii). This includes analyses for components in Table 4.3-13 and Table 4.3-14 with calculated environmentally-adjusted CUFs greater than 1.0 and analyses for components in Table 4.3-13 and Table 4.3-14.

Section 4.3.3 recognizes that EAF must be evaluated prior to entering the period of extended operation.[597] As discussed further below, the commitment in Section 4.3.3 to address EAF will be implemented as part of the Fatigue Monitoring Program, which complies with 10 C.F.R. § 54.21(c)(1)(iii), insofar as it follows the guidance set forth in Section X.M1 of the GALL Report.[598] Specifically, under 10 C.F.R. § 54.21(c)(1)(iii), an applicant may demonstrate that the effects of aging will be adequately managed during the renewal term.[599]

Section X.M1 sets forth an acceptable aging management program by which a license renewal applicant can comply with 10 C.F.R. § 54.21(c)(1)(iii). It states, in pertinent part:

> The AMP addresses the effects of the coolant environment on component fatigue life by assessing the impact of the reactor coolant environment on a sample of critical components for the plant. Examples of critical components are identified in NUREG/CR-6260. *The sample of critical components can be evaluated by applying environmental life correction factors to the existing ASME Code fatigue analyses.* Formulae for calculating the environmental life correction factors are contained in NUREG/CR-6583 for carbon and low-alloy steels and in NUREG/CR-5704 for austenitic stainless steels.[600]

The GALL Report states that "this is an acceptable option for managing metal fatigue for the reactor coolant pressure boundary, considering environmental effects," and that "no further

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[597] As the LRA explains, the NRC has indicated that "no immediate staff or licensee action is necessary to deal with the [EAF] issue," but that "because metal fatigue effects increase with service life, [EAF] should be evaluated for any proposed extended period of operation for license renewal." LRA at 4.3-21.

[598] *See* LRA at 4.3-21; GALL Report, Vol. 2, Rev. 1 at X M-1 to X M-2.

[599] 10 C.F.R. § 54.21(c)(1).

[600] GALL Report, Vol. 2, Rev. 1 at X M-1 (emphasis added); *see also* NUREG/CR-6260, "Application of NUREG/CR-5999 Interim Fatigue Curves to Selected Nuclear Power Plant Components" (Mar. 1995); NUREG/CR-6583, "Effects of LWR Coolant Environments on Fatigue Design Curves of Carbon and Low-Alloy Steels" (Mar. 1998); NUREG/CR-5704, "Effects of LWR Coolant Environments on Fatigue Design Curves of Austenitic Stainless Steels" (Apr. 1999).

evaluation is recommended for license renewal if the applicant selects this option under 10 CFR 54.21(c)(1)(iii) to evaluate metal fatigue for the reactor coolant pressure boundary."[601]

As shown in LRA Section 4.3.3, Entergy followed the approach called for by the GALL Report and, therefore, has demonstrated compliance with 10 C.F.R. § 54.21(c)(1). The LRA explains that NUREG/CR-6260 applied the fatigue design curves that incorporated environmental effects to several plants and identified locations of interest for consideration of environmental effects.[602] Section 5.5 of NUREG/CR-6260 identified the following component locations to be most sensitive to environmental effects for IPEC-vintage Westinghouse plants: (1) Reactor vessel shell and lower head, (2) Reactor vessel inlet and outlet nozzles, (3) Pressurizer surge line (including hot leg and pressurizer nozzles), (4) RCS piping charging system nozzle, (5) RCS piping safety injection nozzle, and (6) RHR Class 1 piping.[603]

IPEC evaluated the limiting locations using the guidance provided in the GALL Report, Volume 2, Section X.M1.[604] The GALL Report directs applicants to use the guidance (*i.e.*, formulas) provided in NUREG/CR-5704 and NUREG/CR-6583 to calculate environmentally assisted fatigue correction factors (F_{en}).[605] The environmentally-adjusted CUFs for IPEC are shown in Table 4.3-13 (Unit 2) and Table 4.3-14 (Unit 3).

Based on the analysis described in LRA Section 4.3.3, Entergy determined that nine component locations do not have environmentally-adjusted CUFs that were shown to be less

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601 GALL Report at X M-1.

602 LRA at 4.3-21.

603 NUREG/CR-6260 at 5-62.

604 LRA at 4.3-21.

605 GALL Report, Vol. 2, Rev. 1 at X M-1

than 1.0.[606] The GALL Report states that, in this situation, an applicant should identify corrective actions to prevent the usage factor from exceeding the design code limit during the period of extended operation.[607] In this regard, it states that "[a]cceptable corrective actions include repair of the component, replacement of the component, and a *more rigorous analysis of the component* [*e.g.*, using state-of-the-art finite element methods] to demonstrate that the design code limit will not be exceeded during the extended period of operation."[608]

To address the locations for which the CUF estimates are not less than 1.0 in LRA Section 4.3.3, Entergy originally committed to, at least 2 years *prior* to entering the period of extended operation: (1) refine the fatigue analyses to determine valid CUFs less than 1.0 when accounting for the effects of reactor water environment; (2) manage the effects of aging due to fatigue at the affected locations by an inspection program that has been reviewed and approved by the NRC; or (3) repair or replace the affected locations before exceeding a CUF of 1.0. The original commitment (Commitment 33 on Entergy's Regulatory Commitment List) is described on pages 4.3-22 to 4.3-23 of the LRA.

This original commitment, which identifies specific corrective actions to be taken by Entergy *prior* to the period of extended operation, is consistent with the GALL Report (Section X.M1) and sufficient to demonstrate compliance with 10 C.F.R. § 54.21(c)(1)(iii). Indeed, this approach is consistent with industry practice and has been approved by the NRC in previous license renewal reviews. For example, the NRC Staff *approved* similar commitments by Entergy

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[606] LRA § 4.3.3, Table 4.3-13, Table 4.3-14. As the LRA explains: "Due to the factor of safety included in the ASME code, a CUF of greater than 1.0 does not indicate that fatigue cracking is expected; rather, it indicates that there is a higher potential for fatigue cracking at locations having CUFs exceeding 1.0." LRA at 4.3-22. Thus, Tables 4.3-13 and 4.3-14 do not indicate that 40 year CUFs will exceed 1.0 because the EAF adjustment is not applied during the initial 40 years of operation. *Id.* Rather, some of the CUFs will exceed 1.0 at the beginning of the period of extended operation when the EAF adjustment is added to the CUF calculation.

[607] GALL Report, Vol. 2, Rev. 1 at X M-1.

[608] *Id.* at X M-2.

with respect to the ANO-1 and ANO-2 plants, as documented in the Safety Evaluation Reports for those plants.[609] Thus, Entergy's approach to addressing EAF, as set forth in Section 4.3.3 of the LRA, is adequate and acceptable.

Notwithstanding this fact, on January 22, 2008, Entergy submitted to the NRC a letter clarifying that the actions required by Commitment 33 will be implemented under the Fatigue Monitoring Program, which is described in Section B.1.12 of Appendix B to the LRA.[610] Specifically, Entergy has amended the LRA to include the following revised version of Commitment 33:

> At least 2 years prior to entering the period of extended operation, for the locations identified in LRA Table 4.3-13 (IP2) and LRA Table 4.3-14 (IP3), under the Fatigue Monitoring Program IP2 and IP3 will implement one or more of the following.
>
> (1) Consistent with the Fatigue Monitoring Program, Detection of Aging Effects, update the fatigue usage calculations using refined fatigue analyses to determine valid CUFs less than 1.0 when accounting for the effects of reactor water environment. This includes applying the appropriate F_{en} factors to valid CUFs determined in accordance with one of the following:
>
> 1. For locations in LRA Table 4.3-13 (IP2) and LRA Table 4.3-14 (IP3), with existing fatigue analysis valid for the period of extended operation, use the existing CUF.
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> 2. Additional plant-specific locations with a valid CUF may be evaluated. In particular, the pressurizer lower shell will be reviewed to ensure the surge nozzle remains the limiting component.

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609 *See* NUREG-1743, "Safety Evaluation Report Related to the License Renewal of Arkansas Nuclear One, Unit 1," Docket No. 50-313, Entergy Operations, Inc., (Apr. 2001) at 4-11 to 4-16; NUREG-1828, "Safety Evaluation Report Related to the License Renewal of Arkansas Nuclear One, Unit 2," Docket No. 50-368, Entergy Operations, Inc., (June 2005) at 4-15 to 4-17. Both NUREG-1743 and NUREG-1828 are available at http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/.

610 *See* Letter from Fred R. Dacimo, Entergy, to U.S. Nuclear Regulatory Commission, "Subject: License Application Amendment 2" (Entergy Letter NL-08-021) (Jan. 22, 2008).

3. Representative CUF values from other plants, adjusted to or enveloping the IPEC plant-specific external loads may be used if demonstrated applicable to IPEC.

4. An analysis using an NRC-approved version of the ASME code or NRC-approved alternative (e.g., NRC-approved code case) may be performed to determine a valid CUF.

(2) Consistent with the Fatigue Monitoring Program, Corrective Actions, repair or replace the affected locations before exceeding a CUF of 1.0.[611]

Accordingly, Commitment 33, which Entergy will implement under its Fatigue Monitoring Program, demonstrates that the effects of EAF will be adequately managed for the period of extended operation, in accordance with 10 C.F.R.§ 54.21(c)(1)(iii). As the Board held in the *Oyster Creek* license renewal proceeding, such a "docketed commitment satisfies [a licensee's] regulatory obligation . . . ."[612] In view of the above, Proposed Contention 26 fails to establish that a genuine dispute exists with the Applicant on a material issue of law or fact. Petitioner has failed to controvert the acceptability of the approach described in LRA Section 4.3.3, including Commitment 33, which is fully consistent with 10 C.F.R. § 54.21(c)(1), Section X.M1 of the GALL Report, and NRC regulatory precedent.[613]

Finally, Proposed Contention 26 is inadmissible because it lacks adequate factual or expert support, contrary 10 C.F.R. § 2.309(f)(1)(v). Petitioner offers no technical or scientific references to support its highly exaggerated claims of "catastrophic" component failures and "dangerous" pipe ruptures. The Declaration of Dr. Lahey offers no support either. The relevant

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611 *See id.*, att. 2 at 15 (Commitment 33). Significantly, in its Safety Evaluation Report for the renewal of the Pilgrim plant operating license, the NRC approved Entergy's crediting of the Fatigue Monitoring Program in a similar manner. *See* NUREG-1891, "Safety Evaluation Report Related to the License Renewal of Pilgrim Nuclear Power Station," Docket No. 50-293, Entergy Operations, Inc., (Nov. 2007), § 4.3.3 at 4-44 to 4-50, *available at* NRC ADAMS Accession No. ML073241016.

612 *Oyster Creek*, LBP-06-07, 63 NRC 188 (2006).

613 *See Millstone*, LBP-04-15, 60 NRC at 89-90 ("Any contention that fails to directly controvert the application, or mistakenly asserts the application does not address a relevant issue, can be dismissed.").

portions of that declaration (¶¶ 19-22) contain no technical analysis or factual information beyond that presented in the Petition. Dr. Lahey merely states that "Entergy has failed to adequately explain or commit to how it will address [the CUF] exceedances" identified in LRA Tables 4.3-13 and 4.3-14. Not only is his statement untrue (as demonstrated above), it is conclusory. Contrary to the Commission's admonition, Dr. Lahey does not provide a "reasoned basis or explanation" for his conclusion that the LRA is inadequate. Conclusory statements, even if made by alleged experts, do not provide "sufficient" support for a contention.[614]

Accordingly, for the reasons set forth above, Proposed Contention 26 fails to meet the admissibility criteria of 10 C.F.R. § 2.309(f)(1)(i), (ii), (v), and (vi), and must be denied in its entirety.

27. Proposed Contention 27: NRC Should Review Consequences of a Terrorist Attack on On-Site Storage of Spent Fuel

Proposed Contention 27 states:

> THE NRC SHOULD REVIEW IN THIS RELICENSING PROCEEDING THE SAFETY OF THE ON-SITE STORAGE OF SPENT FUEL AND THE CONSEQUENCES OF A TERRORIST ATTACK ON ANY OF THE THREE SPENT FUEL POOLS AT INDIAN POINT.[615]

Petitioner argues that the NRC should conduct a hearing to evaluate the safety of spent fuel storage and the consequences of a terrorist attack on the spent fuel pools. Petitioner claims that a terrorist attack on spent fuel pools is a "very real possibility," because the pools are attractive targets because they are outside of containment structures. Petitioner concludes that such an attack could result in radiation releases that could cause significant adverse environmental and health effects and property damage in the region. Petitioner alleges that its

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[614] *See American Centrifuge Plant*, CLI-06-10, 63 NRC at 472.

[615] Petition at 234.

contention arises under NRC's SAMA analysis and its review of environmental impacts under NEPA. Petitioner relies on the Lahey Declaration in support of Proposed Contention 27.

Entergy opposes the admission of Proposed Contention 27 on the grounds that it: (1) raises issues that are not within the scope of this proceeding, in direct contravention of controlling legal precedent, contrary to 10 C.F.R. § 2.309(f)(1)(iii); and (2) fails to establish a genuine dispute with the Applicant on a material issue of law or fact in that it raises issues that are not material to the Staff's license renewal findings, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

The Commission and its Licensing Boards have consistently held that the NRC Staff does not need to consider, as part of its safety or environmental review, terrorist attacks on nuclear power plants seeking renewed licenses, including the spent fuel pool. [616] In *Oyster Creek*, the Commission recently reiterated the principal bases for its refusal to admit contentions asserting that the license renewal process requires consideration of postulated terrorist attacks on the plants seeking renewed licenses:

> Terrorism contentions are, by their very nature, directly related to security and are therefore, under our license renewal rules, unrelated to the detrimental effects of aging. Consequently, they are beyond the scope of, not material to, and inadmissible in, a license renewal proceeding. Moreover, as a general matter, NEPA imposes no legal duty on the NRC to consider intentional malevolent acts . . . in conjunction with commercial power reactor license renewal applications. The 'environmental' effect caused by third-party miscreants is simply too far removed from the natural or expected consequences of agency action to require a study under NEPA. The claimed impact is too attenuated to find the proposed federal action to be the proximate cause of that impact.[617]

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[616] *See, e.g.*, *McGuire/Catawba*, CLI-02-28, 56 NRC at 448; *Millstone*, CLI-04-36, 60 NRC at 638; *Monticello*, LBP-05-31, 62 NRC at 756; *Oyster Creek*, CLI-07-8, 65 NRC at 129.

[617] *See* CLI-07-08, 65 NRC at 129 (internal quotations and citations omitted).

The Commission also expressly rejected the assertion that the Ninth Circuit's decision in *San Luis Obispo Mothers for Peace* requires the NRC and its licensees to address the environmental costs of a successful terrorist attack on a nuclear plant seeking to renew its operating license.[618] In *Oyster Creek*, the Commission stated that:

> The terrorism risk at Oyster Creek remains the same during the renewal period as it was the day before when the plant still operated under its original license. . . . A license renewal proceeding is distinguishable from the situation considered in *San Luis Obispo Mothers for Peace*, where the NRC had before it a proposal to construct a dry cask storage facility at a nuclear reactor site. Unlike the situation in that case, a license renewal application does not involve new construction. So there is no change to the physical plant and thus no creation of a new "terrorist target."[619]

The Commission further explained that, while it was required to comply with the Ninth Circuit's remand in the *Diablo Canyon* proceeding, it "is not obliged to adhere, in all of its proceedings, to the first court of appeals decision to address a controversial question." Such an obligation, the Commission observed, "would defeat any possibility of a conflict between the Circuits on important issues." As such, in *Oyster Creek* the Commission held that the Board had properly applied our settled precedents on the NEPA-terrorism issue.[620]

The Commission's *Oyster Creek* decision thus requires that this Board reject Proposed Contention 27. Where a matter has been considered by the Commission, it may not be reconsidered by a Board. Commission precedent must be followed.[621]

With regard to the claim that this issue arises from NRC's SAMA analysis,[622] Proposed Contention 27 also must be rejected because it impermissibly challenges NRC safety and

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618 *Id.*

619 *Id.* at 130 n.25.

620 *Id.* at 131-34.

621 *Virginia Elec. & Power Co.* (North Anna Nuclear Power Station, Units 1 & 2), ALAB-584, 11 NRC 451, 463-65 (1980); *Pac. Gas & Elec. Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), LBP-86-21, 23 NRC 849, 859, 871-72 (1986).

environmental regulations found in 10 C.F.R. Part 51. With respect to the NRC's Part 51 regulations, Proposed Contention 27 improperly challenges the findings in the GEIS that the associated environmental impacts are adequately addressed by a generic consideration of internally initiated severe accidents. The GEIS provides that:

> The regulatory requirements under 10 CFR part 73 provide reasonable assurance that the risk from sabotage is small. Although the threat of sabotage events cannot be accurately quantified, the commission believes that acts of sabotage are not reasonably expected. Nonetheless, if such events were to occur, the commission would expect that resultant core damage and radiological releases would be no worse than those expected from internally initiated events. Based on the above, the commission concludes that the risk from sabotage . . . at existing nuclear power plants is small.[623]

In the GEIS, the Commission thus discussed sabotage as the potential initiator of a severe accident, and determined generically that the risk is of small significance for all nuclear power plants. The Commission determined generically that severe accident risk is of small significance for all nuclear power plants. Thus, no separate NEPA analysis is required to evaluate the potential environmental impacts of a terrorist attack; because the GEIS analysis of severe accident consequences bounds the potential consequences that might result from a large scale radiological release, irrespective of the initiating cause.[624] By contending that Entergy and the NRC must address the environmental impacts of a successful terrorist attack on the Indian Point facility, the Petitioner improperly challenges the GEIS and Part 51 regulations. As noted above,

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[622] Petition at 236.

[623] GEIS, Vol. 1, § 5.3.3.1.

[624] *Oyster Creek*, CLI-07-08, 65 NRC at 131.

the rulemaking process, not this adjudicatory proceeding, is the proper forum for seeking to modify generic determinations made by the Commission.[625]

For the foregoing reasons, the Board must deny Proposed Contention 27.

28. Proposed Contention 28: NRC Must Examine the Environmental Impacts of Leaks from Spent Fuel Pools

Proposed Contention 28 states:

> RADIONUCLIDES LEAKING FROM THE IP1 AND IP2 SPENT FUEL POOLS ARE CONTAMINATING GROUNDWATER AND THE HUDSON RIVER, AND NEPA REQUIRES THAT THE NRC EXAMINE THE ENVIRONMENTAL IMPACTS OF THESE LEAKS IN THE CONTEXT OF THIS LICENSE RENEWAL PROCEEDING.[626]

In this proposed contention, Petitioner claims that NEPA requires that the NRC assess the on-site and off-site environmental impacts of leaks in the IP1 and IP2 spent fuel pools in the context of this license renewal proceeding.[627] More specifically, Petitioner alleges that radionuclides will continue to leak from the IP2 spent fuel pool and the inability to inspect a large portion of the liner will prevent Entergy from definitively concluding that no other leaks in the IP2 spent fuel pool exist. Further, once the spent fuel is completely removed from the IP1 spent fuel pool, residual contamination will continue to occur.[628] Petitioner also claims that

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[625] As the Commission explained in *Turkey* Point, petitioners with "new and significant" information showing that a generic rule would not serve its purpose at a particular plant may seek a waiver of the rule pursuant to 10 C.F.R. § 2.335. The requirements for seeking such a waiver are set forth in 10 C.F.R. § 2.335(b), which provides that "[t]he sole ground for petition of waiver or exception is that *special circumstances* with respect to the subject matter of the *particular proceeding* are such that the application of the rule or regulation (or a provision of it) would not serve the purposes for which the rule or regulation was adopted." *Id.* (emphasis added). Petitioner has not availed itself of this procedure in Proposed Contention 27. Regardless, even if Petitioner had sought such a waiver, it has failed to meet its burden to demonstrate the existence of "special circumstances" and/or "new and significant information." Instead, Petitioner raises only generic considerations that would apply to virtually any reactor at any site, including any spent fuel pool. The Commission has stated unambiguously that "[w]aiver of a Commission rule is simply not appropriate for a generic issue." *Haddam Neck,* CLI-03-7, 58 NRC at 8 (citing *Three Mile Island*, CLI-80-16, 11 NRC at 675).

[626] Petition at 245.

[627] *Id.*

[628] *Id.* at 250-51.

Entergy did not evaluate the environmental impacts of the spent fuel pool leaks because the NRC examined tritium contamination in groundwater in the 1996 GEIS and that Entergy thus determined that the leaks from the spent fuel pools "cannot be deemed withing [sic] the scope of this proceeding."[629] Finally, Petitioner asserts that the NRC would be wrongfully engaging "in a form of segmentation" if it failed to consider the radioactive storage and leak problem" in the NEPA process for this proceeding.[630]

In sum, Petitioner claims that because the leaks into groundwater and surface water have gone way beyond what NRC reviewed in the GEIS in 1996, they are therefore "significant" and reviewable under NEPA in this proceeding.[631]

a. Entergy Response to Proposed Contentions

Entergy opposes the admission of Proposed Contention 28 on the grounds that it: (1) raises issues that are outside the scope of license renewal by positing stricter requirements than NRC's license renewal regulations impose, contrary to 10 C.F.R. § 2.309(f)(1)(iii), (2) lacks adequate factual and/or expert support, contrary to 10 C.F.R. § 2.309(f)(1)(v), and (3) fails to establish a genuine dispute with the Applicant on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

(i) Section 5.0 of the Environmental Report appropriately characterized the releases to the environment due to spent fuel pool leaks as a potentially new but not significant issue pursuant to 10 C.F.R. § 51.53(c)(3)(iv)

Section 5.0 of the ER contains Entergy's response to the NRC requirement that an applicant for license renewal assess any potentially "new and significant" information regarding

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629 *Id.* at 252.

630 *Id.* at 249.

631 *Id.* at 252.

environmental impacts of a plant's operation during the extended license term.[632] To do so, Entergy identified any (1) information that identifies a significant environmental issue not covered in the NRC's GEIS and codified in Part 51, or (2) information not covered in the GEIS analyses that lead to an impact finding different from that codified in Part 51.[633] Because NRC does not specifically define the term "significant," Entergy used guidance available in Council on Environmental Quality ("CEQ") regulations.[634] For the purposes of this evaluation, Entergy assumed that MODERATE and LARGE impacts, as defined by the NRC in the GEIS, would be significant.[635] Petitioner has not challenged Entergy's assumption in this regard.

Section 5.1 of the ER, "New and Significant Information: Groundwater Contamination" provides Entergy's assessment of whether the identified groundwater radionuclide contamination at the Indian Point site ("site") is potentially "new and significant" as it relates to license renewal. Entergy confirmed the presence of tritium in site groundwater in October 2005. Since then, Entergy has been conducting an extensive site assessment utilizing a network of monitoring wells to assess and characterize groundwater movement and behavior relative to groundwater contamination. Prior to submission of the LRA in April 2007, Entergy had installed numerous groundwater monitoring and test wells to delineate the extent of groundwater impacts and to define the source(s). Importantly, in this regard, Entergy explicitly noted in the ER that, at the time, "[f]ull characterization of the impact to groundwater is continuing."[636]

As a result of then-ongoing hydrogeologic characterization of the site, Entergy identified in the ER that tritium, Strontium-90, Cesium-137, and Nickel-63 "have been detected in low

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632 ER at 5-1; 10 C.F.R. § 51.53(c)(3)(iv).

633 ER at 5-1.

634 *Id.* (citing 40 C.F.R. § 1508.27).

635 *Id.*

636 ER at 5-4.

concentrations in some onsite groundwater monitoring well samples" and that the IP1 spent fuel pool was "a confirmed source of at least some of the tritium, as well as strontium, cesium and nickel in groundwater."[637] With regard to IP2, based on preliminary site monitoring data available at that time, Entergy concluded in the ER that contamination related to the IP2 fuel pool was "the result of historical pool leakage in the 1990s which has since been repaired."[638] Significantly, however, Entergy stated in the ER that the ongoing long-term groundwater monitoring program "will continue to be used to monitor levels of contamination around the site" and that the results of this program, along with the final results of the site hydrogeologic characterization, will be used to determine the need for any further ongoing remediation.[639] Therefore, contrary to Petitioner's assertions, Entergy explicitly noted that the results of the ongoing, long-term site monitoring program could impact the results of its conclusions and remedial actions.

Entergy also identified in the ER that "some contaminated groundwater has likely migrated to the Hudson River" and that release pathway is now being monitored and is included in the site effluents offsite dose calculations and documented in the Annual Radiological Effluents Release report prepared in accordance with NRC Regulatory Guide 1.21.[640] As explained in Sections 5.1 and 2.3 of the ER, however, the site does not utilize groundwater for any of its cooling water, service water, potable water needs, or for any other beneficial uses. There is also no known drinking water pathway associated with groundwater or the Hudson River in the region surrounding Indian Point and, accordingly, the ER specifically states that

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637 *Id.* at 5-4, 5-5.

638 *Id.* at 5-6.

639 *Id.*

640 *Id.* at 5-5.

"*EPA drinking water limits are not applicable*" to site area groundwater.[641] Significantly, Petitioner has not disputed this fact and has provided no data to the contrary. Samples taken in support of the NRC-required Radiological Environmental Monitoring Program ("REMP") further indicate no detectable plant-related radioactivity in groundwater above safe drinking water standards beyond the site boundary.[642]

In sum, based on samples from the site monitoring wells, survey analyses, annual rainfall recharge to groundwater, and information determined from ongoing hydrogeological assessments, Entergy estimated in the ER a total body dose of 1.65E-3 mrem/year to the maximally exposed individual as a result of the identified groundwater contamination, which represents *0.055%* of the NRC limit of 3 mrem/yr for liquid effluent release.[643] Entergy, therefore, concluded that "no NRC dose limits have been exceeded and EPA drinking water limits are not applicable since no drinking water pathway exists."[644]

Again, Petitioner has not disputed any of Entergy's radiological findings as set forth in the ER or provided any basis, expert or otherwise, for their assertion that EPA's drinking water standards are even applicable here. Thus, there is simply no basis for Petitioner's claim that Entergy failed to adequately assess the significance of groundwater contamination at the site—that impact being SMALL.

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641 *Id.* at 5-6 (emphasis added).

642 *Id.* at 5-5. Samples taken include the offsite REMP sampling locations as defined in the IP2 and IP3 Offsite Dose Calculation Manual, the local municipal drinking water reservoirs, and other groundwater monitoring wells located in the immediate vicinity of the plant.

643 ER at 5-5.

644 *Id.* at 5-6.

As Entergy describes in Section 5.1 of the ER, the NRC evaluated the impairment of groundwater quality in Section 4.8.2 of the GEIS, including impacts due to tritium.[645] The NRC concluded that groundwater quality impacts are considered to be of SMALL significance when the plant does not contribute to changes in groundwater quality that would preclude current and future uses of the groundwater.[646] Based on the above-cited radiological data indicating that estimated doses due to the groundwater contamination were well below NRC dose limits and that EPA drinking water limits are not applicable, Entergy concluded that site conditions do not impact the onsite workforce.[647] Entergy further concluded that the radionuclide release is not anticipated to change environmental considerations, such as water usage, land usage, terrestrial or aquatic ecological conditions, or air quality, and is not expected to affect socioeconomic conditions, as a result of renewal activities.[648] Accordingly, Entergy concluded that while the identification of site groundwater contamination is potentially "new," the impacts of those radionuclides would be SMALL and therefore not "significant."[649]

(ii) *The Hydrogeological Investigation of the Indian Point Site is complete and confirms the conclusions in the ER that the releases to the environment due to spent fuel pool leaks are a small percentage of regulatory limits and pose no threat to public health and safety*

As noted in Section 5.1 of the ER, full characterization of the impact to groundwater was ongoing when the LRA was submitted to the NRC. Since submission of the LRA, Entergy has completed the two-year hydrogeologic investigation of the Indian Point site, including all three

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645 Section 4.8.2 of the GEIS references "slightly elevated" concentrations of tritium in groundwater adjacent to the Prairie Island plant on the Mississippi River in southern Minnesota.

646 ER at 5-3 (citing Section 4.8.2 of the GEIS).

647 *Id.* at 5-6.

648 *Id.*

649 *Id.*

units (IP1, IP2, and IP3) and a comprehensive report summarizing the findings and conclusions of that study was submitted to the NRC, NYSDEC, and NY Public Service Commission on January 11, 2008.[650] The Investigation Report presents the results of two years of comprehensive hydrogeological investigations performed at the site between September 2005 and September 2007.[651] The overall purpose of the report was to identify the nature and extent of radiological groundwater contamination and assess the hydrogeological implications of that contamination.

As noted in Section 1.0 of the Investigation Report, at no time did the results of that analysis yield any indication of potential adverse environmental or health risk as assessed by Entergy as well as the principal regulatory authorities.[652] In fact, radiological assessments have consistently shown that the releases to the environment are a small percentage of regulatory limits, and no threat to public health and safety.[653]

As described in the Investigation Report, the groundwater monitoring network is extensive and comprised of shallow and deep, overburden and bedrock, single and multi-level monitoring instrumentation installations, site storm drains and building footing drains.[654] Groundwater testing, while initially focused on tritium and plant-related gamma emitters, was

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650 "Hydrogeological Site Investigation Report, Indian Point Energy Center, Buchanan, New York" (Jan. 11, 2008) ("Investigation Report"), provided as Entergy Exhibit M to "Answer of Entergy Nuclear Operations, Inc. Opposing Riverkeeper, Inc.'s Request for Hearing and Petition to Intervene" (hereinafter "Riverkeeper Answer").

651 The study was performed by GZA GeoEnvironmental, Inc. ("GZA") for Entergy.

652 The investigations were conducted in a cooperative and open manner. During the two-year investigation period, Entergy provided full and open access and there were regular and frequent meetings with representatives of the NRC, the United States Geological Survey, and the NYSDEC. Entergy also presented its preliminary findings at a number of external stakeholder and public meetings. *See id.* at 1.

653 *See id.* at 6.

654 Investigation Report at 4-5.

expanded in 2006 to encompass all radionuclides typically associated with nuclear power generation, although tritium and strontium remained the principal constituents of interest.

The investigation of possible contaminant sources and release mechanisms included an extensive investigation of the IP2 spent fuel pool ("IP2-SFP") liner and also areas surrounding IP1, IP2 and IP3. Section 8.0 of the Investigation Report fully documents the results of the investigation of contaminant sources and release mechanisms. Its conclusions are summarized below:

- The source of the strontium contamination detected in groundwater beneath the site has been established as the Unit 1 Fuel Pool Complex (IP1-SFPs). All the IP1 SFPs have been drained except for the West Pool. While the West Pool is estimated to currently be leaking at a rate of up to 70 gallons per day, the source term to groundwater has been reduced through reduction in the contaminant concentrations in the pool water. Further, Entergy plans to permanently eliminate the West Pool, as well as the entire IP1-SFP complex, as a source of contamination to groundwater by relocating the spent fuel stored in the West Pool to dry storage casks at an Independent Spent Fuel Storage Installation ("ISFSI") and permanently draining the West Pool in 2008.[655]

- The majority of the tritium detected in the groundwater at the site was traced to the IP2 spent fuel pool ("IP2-SFP"). Two confirmed leaks through the IP2 spent fuel pool stainless steel liner have been documented. Identified leaks have been repaired. The first liner leak was identified and repaired in 1992. The second leak, a single small weld imperfection in the IP2-SFP transfer canal, was identified in September 2007 after the canal was drained for further liner investigations specific to the transfer canal. While additional active leaks cannot be completely ruled out, if they exist, the data indicate that they must be very small and of little impact to the groundwater.

- No release was identified in the Unit 3 area. The absence of releases from Unit 3 SFP sources is attributed to the design upgrades in that Unit, including a stainless steel liner (consistent with IP2 but not included in the IP1 design) and an additional, secondary leak detection drain system not included in the IP2 design.[656]

Consistent with Section 5.1 of the ER, the Investigation Report confirms that there is no current or reasonably anticipated use of groundwater at IPEC and, according to the NYSDEC, there are no active potable water wells or other production wells on the east side (plant side) of

[655] *Id.* at 102-03, 135.

[656] *Id.* at 11, 89.

the Hudson River in proximity to IPEC.[657] Drinking water in the area (Town of Buchanan and City of Peekskill) is sourced from surface water reservoirs in Westchester County and the Catskills region of New York.[658] The nearest of these reservoirs is 3.3 miles north-northeast of the site and its elevation is hundreds of feet above the IPEC ground elevation.[659] Because the site groundwater flows to the west towards the Hudson River, it is not possible for the contaminated groundwater to impact these drinking water sources. In summary, the only pathway of significance for groundwater is through consumption of fish and invertebrates in the Hudson River, and the calculated doses from this pathway are less than 1/100 of the federal limits.[660]

(iii) *Based on information provided in Section 5.0 of the ER and in the Investigation Report, all of the issues raised in Proposed Contention 28 are either invalid, beyond the scope of this proceeding, or moot*

As described above, Petitioner provides three principal supporting bases for this contention: (1) Radionuclides will continue to leak from the IP2 spent fuel pool and the inability to inspect a large portion of the liner will prevent Entergy from definitively concluding that no other leaks in the IP2 spent fuel pool exist; (2) Entergy did not evaluate the environmental impacts of the spent fuel pool leaks because the NRC examined tritium contamination in groundwater in the 1996 GEIS; and (3) NRC would be wrongfully engaging "in a form of segmentation" if it failed to consider the radioactive storage and leak problem" in this proceeding. Each of these issues is discussed more fully below.

With regard to the first basis, Entergy acknowledges that it identified a leak from the IP2-SFP transfer canal following submission of the LRA. Entergy, however, explicitly indicated in

[657] *Id.* at 14.

[658] *Id.* at 15.

[659] *Id.*

[660] *Id.*

the ER that further site investigations were ongoing.[661] Consistent with its commitment to conduct these further investigations, Entergy searched for and identified the leak in the IP2 transfer canal. That leak has since been repaired and identified IP2-SFP leaks have been stopped. As documented in the Investigation Report, while additional active leaks cannot be completely ruled out, if they exist, data indicate that they are very small and of little impact to the groundwater.

Further, the Investigation Report documents that there are no known leaks from the IP3 spent fuel pool and the source of leaks from the IP1 spent fuel pool will be permanently terminated in 2008 by removing the spent fuel from and draining of the IP1 West Pool. Therefore, since submission of the LRA, Entergy has thoroughly investigated and documented the status and duration of the IP2-SFP leak (and also the status of the IP1-SFP leak and IP3) and, importantly, confirmed the conclusions in Section 5.0 of the ER that no NRC dose limits have been or are expected to be exceeded as a result of continued operation during the renewed operating period.[662] Importantly, it is this conclusion—that no NRC dose limits have been or are expected to be exceeded—that forms the basis for Entergy's conclusion that the leaks from the SFP are potentially new but not significant, not that no other leaks exist. Further, given that the IP1-SFP is not included in the scope of IP2 and IP3 license renewal, and because the IP1-SFP will be drained in 2008, the IP1-SFP leak is clearly beyond the scope of this license renewal proceeding.

With regard to the second basis, Petitioner inexplicably ignores the evaluation of the groundwater contamination included in Section 5.2 of the ER. As noted above, Entergy

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[661] ER at 5-4.

[662] Entergy recognizes that the Investigation Report was not issued until after Petitioner submitted its Petition to Intervene. To the extent Petitioner wishes to challenge data or findings of the Investigation Report, it must do so pursuant to 10 C.F.R. § 2.309(f)(2).

conducted that evaluation because NRC requires that an applicant for license renewal assess whether there is any "new and significant" information regarding environmental impacts of a plant's operation during the extended license. It did so and concluded that while the information was potentially new, it was not significant. Therefore, Entergy did not, as Petitioner asserts, ignore the environmental impacts of the spent fuel pool leaks because the NRC examined tritium contamination in groundwater in the 1996 GEIS.

Petitioner, instead, appears to be challenging Entergy's conclusions regarding the significance of the spent fuel pool leaks but does not provide any valid support for this challenge. Petitioner simply refers to the fact that the level of onsite groundwater contamination exceeds drinking water standards, but those standards do not apply here.[663] Entergy clearly established in the ER and confirmed in the Investigation Report that the contaminated groundwater on the Indian Point site has not impacted regional drinking water sources. Petitioner has not, and presumably cannot, refute this fact. In fact, other than citing to inapplicable EPA drinking water standards, Petitioner has not stated with any particularity what information should have been but was not considered by Entergy nor has it disputed any of Entergy's data or conclusions with regard to environmental impacts.

With regard to the third and final basis, this is simply a "red herring." As noted above, Entergy considered the impact of the groundwater contamination in the ER in accordance with NRC requirements for the evaluation of potentially new and significant information, and NRC will, presumably, consider this information in the preparation of the EIS. The fact that there may be ongoing evaluation of the groundwater contamination, by Entergy, NRC or even the NYSDEC, as part of the site's ongoing environmental monitoring program is beyond the scope

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[663] Petition at 252.

of this proceeding.[664] "[I]ssues concerned with monitoring of radiological releases, or determinations of how leakage could harm health or the environment . . . do not relate to aging and/or . . . are addressed as part of ongoing regulatory processes."[665]

In summary, none of the issues identified by Petitioner in Proposed Contention 28 contain adequate factual support or establish a genuine dispute with the Applicant on a material issue of law or fact. The groundwater contamination at the Indian Point Site has been thoroughly studied, analyzed, and characterized over a two-year period using state-of-the-art science. Identified leaks from the IP2-SFP have been terminated and, while additional active leaks cannot be completely ruled out, all data indicate that, if they exist, they must be very small and of little impact to the groundwater. Any changes to this condition would be detected by the ongoing site environmental monitoring program. Further, the source of leaks from IP1-SFP will be permanently eliminated in 2008 and there are no known leaks from the IP3 spent fuel pool. And while the ER did not address the recently identified leak in the IP2 transfer canal, the conclusions remain the same—estimated doses due to the groundwater contamination are and will remain well below NRC dose limits for the period of the renewed operating license and EPA drinking water limits are not applicable. Accordingly, Entergy adequately and appropriately characterized the environmental impacts of the radioactive water leaks from IP1 and IP2 spent fuel pools on the groundwater and the Hudson River ecosystem as new but not significant in accordance with 10 C.F.R. § 51.53(c)(3)(iv).

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[664] *Turkey Point*, CLI-01-17, 54 NRC at 7; *Pilgrim*, LBP-07-12, slip op. at 18 n.81.

[665] *Pilgrim*, LBP-07-12, slip op. at 18 n.81.

29. Proposed Contention 29: The ER Fails to Address Emergency Preparedness and Evacuation Planning

Proposed Contention 29 states:

> THE ENVIRONMENTAL REPORT FAILS TO ADDRESS EMERGENCY PREPAREDNESS AND EVACUATION PLANNING FOR INDIAN POINT, AND THUS VIOLATES THE REQUIREMENTS OF THE NATIONAL ENVIRONMENTAL POLICY ACT.[666]

The Petitioner argues that "[t]he law, prudence, and common sense dictate that the applicant account for its evacuation plans under the environmental review of the license renewals and to address precisely how it plans to react to and protect these communities and their families and children should the unthinkable event happen at Indian Point."[667] Similarly, the Petitioner claims that "[t]he complete failure of the applicant to address the real world questions and consequences regarding the effectiveness (or failures) of their own evacuation plan at Indian Point, plainly violates the expansive review required by NEPA."[668]

Entergy opposes the admission of Proposed Contention 29 on the grounds that it: (1) raises issues that are neither within the scope of this proceeding or material to the Staff's license renewal findings, contrary to 10 C.F.R. § 2.309(f)(1)(iii), (2) constitutes an impermissible challenge to the Commission's regulations, contrary to 10 C.F.R. § 2.335(a), (3) directly contravenes controlling Commission legal precedent, and (4) fails to establish a genuine dispute with the Applicant on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

The plain language of the Commission's regulations regarding emergency planning is as follows: "No finding under [Section 50.74] is necessary for issuance of a renewed nuclear power

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666 Petition at 253.

667 *Id.*

668 *Id.* at 255-56.

reactor operating license."[669] In the *Turkey Point* proceeding, the Commission specifically addressed emergency planning in the scope of license renewal:

> Issues like emergency planning – which already are the focus of ongoing regulatory processes – do not come within NRC safety review at the license renewal stage . . . .[670]

The Commission elaborated on its rationale regarding emergency planning in the scope of license renewal in the *Millstone* proceeding.[671] As the Commission explained,

> Emergency planning is, by its very nature, neither germane to age-related degradation nor unique to the period covered by the Millstone license renewal application. Consequently, it makes no sense to spend the parties' and our own valuable resources litigating *allegations of current deficiencies* in a proceeding that is *directed to future-oriented* issues of aging.[672]

Based on the Commission's clear position that emergency planning is not within the scope of license renewal, Proposed Contention 29 regarding the sufficiency of evacuation protocols and emergency planning also constitutes an impermissible challenge to Commission regulations and binding Commission precedent and is, therefore, outside the scope of this proceeding.[673]

In support of its Proposed Contention 29, Petitioner cites to a report by James Lee Witt regarding the "deficiencies" in the emergency evacuation plan for IPEC.[674] Petitioner also cites to the declaration of Raymond C. Williams, an independent consultant for James Lee Witt

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669 10 C.F.R. § 50.47(a)(1)(ii).

670 *Turkey Point*, CLI-01-17, 54 NRC at 10.

671 *Millstone*, CLI-05-25, 62 NRC at 560-61.

672 *Id.* (emphasis added); *see also Shearon Harris,* LBP-07-11, 66 NRC at 92.

673 However, within the adjudicatory context, a petitioner may submit a request for waiver of a rule under 10 C.F.R. § 2.335(b). Conversely, outside the adjudicatory context, a petitioner may file a petition for rulemaking under 10 C.F.R. § 2.802.

674 Petition at 265.

Associates.[675] However, the subject of this report and declaration—the adequacy of the IPEC emergency plan—do not constitute a material issue within the scope of this proceeding for the reasons discussed above, and, thus, do not provide an adequate basis for a contention.

Further, the Petitioner asserts that "[t]he complete failure of the applicant to address the real world questions and consequences regarding the effectiveness (or failures) of their own evacuation plan at Indian Point, plainly violates the expansive review required by NEPA."[676] Despite its reliance on NEPA, however, the Petitioner does not assert any actual deficiencies in the Applicant's ER. In addition, Petitioner fails to understand that emergency plans are periodically reviewed in order to ensure that they are adequate as part of the ongoing regulatory process.[677] Therefore, Proposed Contention 29 fails to establish a genuine dispute on a material issue of law or fact.

For the foregoing reasons, the Board must deny Proposed Contention 29. It does not meet the requirements of 10 C.F.R. § 2.309(f)(1)(iii), (iv), (v), and (vi).

30. Proposed Contention 30: Failure to Adequately Analyze Heat Shock and Thermal Discharge Impacts

Proposed Contention 30 states:

> NEPA REQUIRES THAT THE NRC REVIEW THE ENVIRONMENTAL IMPACTS OF THE OUTMODED ONCE-THROUGH COOLING WATER INTAKE SYSTEM USED AT INDIAN POINT, WHICH CAUSES SIGNIFICANT HEAT SHOCK/THERMAL IMPACTS.[678]

In this proposed contention, NYS claims that Entergy's ER violates the National Environmental Policy Act, 42 U.S.C. § 4321 *et seq.* ("NEPA"), as well as NRC's implementing

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675 *Id.* at 260 *et seq.*

676 *Id.* at 255-56.

677 *See Turkey Point*, CLI-01-17, 54 NRC at 9.

678 Petition at 271.

regulations at 10 C.F.R. § 51.45 and § 51.53(c)(3)(ii)(B), because the ER purportedly fails to analyze adequately the adverse impacts on aquatic resources from thermal discharges from IPEC.[679] Specifically, Petitioner claims that Entergy's use of once-through cooling causes significant "heat shock" and thermal discharge impacts.[680]

Entergy opposes admission of Proposed Contention 30 on the grounds that it (1) falls outside the "scope" of license-renewal, contrary to 10 C.F.R. § 2.309(f)(1)(iii) and settled NRC precedent;[681] (2) lacks adequate factual or expert opinion support, contrary to 10 C.F.R. § 2.309(f)(1)(v); and (3) fails to establish a genuine dispute with Entergy on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

a. Background

Since NYS Proposed Contentions 30—32 all claim Hudson River (the "Hudson" or the "River") aquatic impacts, a common set of background facts apply to Entergy's response to these arguments.

(i) Pursuant to a Delegation of Authority from the United States Environmental Protection Agency, New York Has State-Equivalent § 316(a) and (b) Authority

As William Little, Esq., the New York State Department of Environmental Conservation ("NYSDEC") attorney for the pending IPEC SPDES Permit renewal administrative proceeding,

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679 *Id.* at 17-18 ("thermal impacts must be fully analyzed and addressed in this license renewal proceeding . . . NRC must fully consider the alternative of closed cycle cooling").

680 *Id.* at 271.

681 To be "within scope" pursuant to 10 C.F.R. § 2.309(f)(1)(iii), a contention must fall squarely within NRC's jurisdiction and be justiciable in a license-renewal proceeding. The concepts of jurisdiction and justiciability represent two sides of the same coin, with jurisdiction focusing on the scope of NRC authority, and justiciability focusing on the scope of the license-renewal proceeding. *See, e.g.*, with respect to jurisdiction, *PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), 50-387-LR, 65 NRC 281, 304 (2007) ("[A] contention . . . is not cognizable unless it is material to matters that fall within the scope of the proceeding for which the licensing board has been delegated jurisdiction."), and with respect to justiciability, *Oconee*, LBP-98-33, 48 NRC at 383 ("A contention that fails to meet these standards must be dismissed, as must a contention that, even if proven, would be of no consequence because it would not entitle a petitioner to any relief.").

asserts in his Declaration in support of the Petition, the United States Environmental Protection Agency ("USEPA") delegated authority to administer the Clean Water Act ("CWA") surface-water permitting program to NYSDEC in 1975.[682] In granting this authorization, USEPA was required to, and did, confirm that New York law is equivalent to the relevant CWA provisions,[683] including the CWIS and thermal-discharge provisions equivalent to § 316(a) and (b), respectively, in the NYSDEC regulations entitled "Criteria Governing Thermal Discharges," and codified at 6 N.Y.C.R.R. Part 704.[684]

Any NYSDEC-issued SPDES permit must comply with Part 704.[685] Consequently, every NYSDEC-issued SPDES permit necessarily reflects NYSDEC's "determinations" under those regulations, if applicable.[686] Thus, the proposition is simple. The NYSDEC-issued IPEC SPDES Permit reflects New York State-equivalent § 316(a) and (b) determinations.

Under the CWA and New York law, SPDES permits are initially issued when a facility is constructed and begins operation, then periodically renewed during a facility's continued

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682 Declaration of William Little ¶ 10 (hereinafter "Little Declaration"). While NYSDEC is authorized by USEPA to implement the CWA discharge-permitting program and, with that authorization, to approve thermal discharges, a petition for certiorari now pending before the United States Supreme Court challenges USEPA's authority to implement § 316(b) in National Pollution Discharge Elimination System ("NPDES") permits and to otherwise apply § 316(b) to existing facilities. *See Riverkeeper, Inc. v. EPA*, 475 F.3d 83 (2d Cir. 2007), *petition for cert. filed* (U.S. Nov. 2, 2007) (Nos. 07-588, 07-589). Thus, Entergy must fully retain its rights to dispute any and all application of § 316(b), or comparable or more stringent state law, to IPEC.

683 33 U.S.C. § 1342(b) (regarding USEPA requirements for authorizing state-administered permitting programs for discharges); *see also* 40 C.F.R. §§ 123.1-123.25 (outlining state requirements to allow authorization of state in lieu of USEPA for discharges).

684 *See* 6 N.Y.C.R.R. §§ 704.4 (analog to § 316(a)) and 704.5 (analog to § 316(b)). Indeed, NYSDEC counsel has routinely asserted that CWA § 316(b) and § 704.5 are equivalent. Aff. of William Little, NYSDEC attorney ¶ 15 (June 2, 2004) (DEC No. 3-5522-0011/00004) (submitted in SPDES permitting proceeding) ("Section 316(b) of the Clean Water Act ('CWA'), enacted in 1972, contains the federal BTA requirement for cooling water intake structures which served as the model for § 704.5.") (Entergy Exhibit B to Riverkeeper Answer); Aff. of William Little, NYSDEC attorney ¶ 21 (January 20, 2004) (DEC No. 3-5522-0011/00004) (submitted in SPDES permitting proceeding) (discussing "the applicable state regulation, 6 N.Y.C.R.R. § 704.5, which mimics CWA § 316(b) . . . .") (Entergy Exhibit A to Riverkeeper Answer).

685 6 N.Y.C.R.R. § 750-1.11(a)(1) (listing SPDES permit requirements).

686 6 N.Y.C.R.R. § 750-2.1 ("Upon issuance of a SPDES permit, a determination has been made . . . that compliance with the specified permit provisions will reasonably protect classified water use and assure compliance with applicable water quality standards.").

operations.[687] New York law protects SPDES permittees against the real risks that NYSDEC will not promptly renew permits at the end of each of the terms stated on the face of the permit:

> [W]hen a permittee has submitted a timely and sufficient application for renewal of a permit for an activity of a continuing nature per subdivision (a) of this section, *the existing permit does not expire until the department has made a final decision on the renewal application* and if such application has been denied, then not until the last day for seeking review of the agency order or any later date fixed by a court. Projects or activities of a continuing nature are those involving an ongoing operational activity.[688]

In other words, a SPDES permit for which there has been a timely application "*does not expire*" as a matter of New York law.[689] As NYSDEC counsel Mr. Little acknowledges, IPEC in fact submitted a timely and sufficient application, and "the thermal discharge provisions and mitigative conditions contained in the [SPDES Permit] have continued during the entire pendency of the Department's review of the applications."[690] Thus, IPEC's SPDES Permit remains current and effective; *i.e.*, does not expire.[691] Necessarily, therefore, IPEC's thermal discharges to the Hudson and its water withdrawals from that River (via IPEC's respective CWIS) are current and authorized by NYSDEC.

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687 N.Y. ENVTL. CONSERV. LAW § 17-0803 (addressing SPDES permit issuance); *id.* § 17-0817 (2006) (addressing SPDES permit renewal).

688 N.Y. ADMIN. PROCEDURE ACT § 401(2) (emphasis added); *see also* 6 N.Y.C.R.R. § 621.11(l) ("when a permittee has submitted a timely and sufficient application for renewal of a [SPDES] permit . . . the existing permit does not expire until the department has made a final decision on the renewal application"); *Riverkeeper, Inc. v. Crotty*, 28 A.D.3d 957, 960 (N.Y. App. Div. 2006) (SPDES permit remains valid while DEC considers renewal application); *Entergy Nuclear Indian Point 2, LLC v. New York State Dept. of Envtl. Conserv.*, 23 A.D.3d 811, 812 (N.Y. App. Div. 2005) (permit in effect while DEC considered application for renewal).

689 N.Y. ADMIN. PROCEDURE ACT § 401(2).

690 *See* Petition at 289; Little Declaration ¶ 20; *see also id.* ("Before the October 1, 1992, expiration date, both Con Ed and NYPA [the former owners of IP2 and IP3, respectively] submitted timely applications to renew their respective SPDES permits. By virtue of those timely renewal applications, pursuant to § 401.2 of the New York State Administrative Procedures Act (SAPA) and 6 N.Y.C.R.R. § 621.11(1), the operation of IP2 and IP3 was lawfully extended pending resolution of the pending SPDES renewal applications.").

691 *See* Petition at 28 (acknowledging that IPEC's SPDES Permit is "*technically 'current'*") (emphasis added)); *id.* at 289 (admitting that IPEC's SPDES permit has been legally extended); *see also* ER, Attachment C (SPDES Permit).

This is not to say that NYSDEC must accept a SPDES permit it believes is fundamentally flawed or relative to which there has been alleged material non-compliance. Rather, the CWA and New York law provide parallel mechanisms for NYSDEC to initiate reconsideration of the terms of (*i.e.*, reopen) a SPDES permit under appropriate circumstances (not present here), and to take enforcement action with respect to any alleged non-compliance.[692,693] NYSDEC has taken no such action at IPEC.[694]

(ii) Indian Point Operates Pursuant to Its Current SPDES Permit, Which Incorporates Agreements Between Entergy, NYSDEC, Riverkeeper, and Other Parties

IPEC consists of two units, each with its own CWIS, but employing a joint discharge canal that NYSDEC regulates under a single (*i.e.*, combined) SPDES permit. These CWIS, and the joint discharge, were approved at construction by USEPA and NYSDEC after an extensive administrative proceeding. More particularly, from that initial authorization in 1981 to date, that SPDES Permit has included serially issued, highly detailed consensus agreements among

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692 *See, e.g.*, 6 N.Y.C.R.R. § 621.13 (permit modification and revocation); *id.* § 750-2.1(e) (non-compliance with SPDES permit is grounds for enforcement).

693 Requiring a certification under CWA § 401 for a discharge already authorized by a SPDES permit is unnecessary because every SPDES permit already comports with the same provisions set forth in § 401. *See* 33 U.S.C. § 1342(b)(1)(A) (requiring SPDES permits to ensure compliance with, among others, §§ 301, 302, 306, and 307 of the CWA); *see id.* § 1311(b)(1)(C) (requiring compliance with state Water Quality Standards ("WQS")); *see also* 40 C.F.R. §§ 122.44(d)(1) (NPDES permits must achieve WQS established under § 303 of the CWA, including state narrative criteria for water quality) and 123.25(a)(15) (requiring same for SPDES permits); 6 N.Y.C.R.R. § 750-1.11 (imposing same requirements for SPDES permits). Moreover, within the limits of its authority under CWA § 401, NYSDEC may certify (as part of its LRA review) that any discharge not already authorized by NYSDEC via its SPDES permit complies with applicable provisions of the CWA (*i.e.*, those set forth in § 401), including applicable WQS. *See* 33 U.S.C. § 1341(a)(1) (requiring certification of compliance with applicable provisions of §§ 301, 302, 303, 306 and 307 of the CWA). Thus, § 401 provides another mechanism for NYSDEC to address compliance with WQS for discharges not already authorized by the SPDES Permit.

694 The point cannot be overstated: If NYSDEC believes a SPDES permittee is not in material compliance with the CWA or New York law, it must take enforcement action. *See* 40 C.F.R. § 123.27 (mandatory enforcement mechanisms required for USEPA authorization of a SPDES program). Of course, no enforcement action is pending against IPEC, including with respect to its current § 316(a) or (b) status or compliance. Rather, as Riverkeeper notes in its Petition, the sole recent action implicating IPEC's SPDES status was *against NYSDEC* for its failure to timely issue a draft SPDES permit on IPEC's long-complete application. *See* Amended Order to Show Cause, *Brodsky v. NYSDEC* (No. 7136-02) (N.Y. Sup. Ct. October 22, 2002); Petition at 27-28. Even that action was not initiated by Riverkeeper, though, as it concedes in its Petition. *Id.*

Riverkeeper, NYSDEC, NYS, and USEPA, among other parties, specifying the substantive conditions under which IPEC's once-through cooling system, including the respective CWIS and thermal discharges, are authorized.[695] In the original agreement, known as the Hudson River Settlement Agreement ("HRSA"), NYSDEC agreed to issue IPEC's (and several other Hudson River facilities') SPDES permits authorizing once-through cooling at all such facilities.[696] In April 1982, NYSDEC issued the SPDES Permit for IPEC with the incorporated HRSA.[697] In August 1987, NYSDEC renewed that SPDES Permit, again incorporating the HRSA as a permit condition.[698,699] Thus, that SPDES Permit continued the consensus authorization of open-cycle cooling at IPEC, subject to the retrofitting of IPEC's CWIS with then- and current- state-of-the-art impingement screening and fish-return systems (at substantial cost).[700] That SPDES Permit also included a comprehensive biological monitoring program to further assess impingement and entrainment, focusing on entrainment, because the retrofitting largely resolved impingement concerns.[701]

Although the HRSA expired in 1991, its substantive conditions (except with respect to IPEC outage requirements) were continued in *seriatim* judicially approved consent orders, the last of which continues to govern today, pending the issuance of a renewed SPDES permit by the

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695 Petition at 288; Little Declaration ¶¶ 14-16, 22-23.

696 Little Declaration, Ex. C at 17-18 (HRSA).

697 *Id.* ¶ 18.

698 *Id.*, Ex. C at 19 (HRSA).

699 *See* ER, Attachment C (SPDES Permit), Additional Requirement 7.

700 *See* ER, Attachment C (SPDES Permit), Additional Requirement 7 (referencing the HRSA and the Agreement for Installation of Modified Ristroph Screens at IPEC Units 2 & 3) and at 4-90 (referencing FEIS, Appendices F-II (HRSA)).

701 *See id.*

NYSDEC.[702] NYSDEC and Riverkeeper, among others, are parties to the consent orders.[703] The last of the consent orders was judicially approved in 1998.[704]

In short, over the last three decades, NYSDEC repeatedly has approved open-cycle cooling at IPEC, and Riverkeeper repeatedly has consented to NYSDEC's approval.[705] With respect to IPEC's CWIS, the SPDES Permit (via the terms of these serially issued agreements) required various measures, including chiefly installation, and then operation of (1) multi-speed cooling water circulation pumps which allow operation consistent with efficient cooling water flows, (2) modified Ristroph screens, and (3) custom engineered (under Riverkeeper's express direction) fish-return systems to safely return juvenile fish to the River.[706] With respect to thermal discharges, the SPDES Permit, as it includes these agreements, expressly records NYSDEC's determination that IPEC "satisf[ies] New York State Criteria Governing Thermal Discharges."[707] In addition, the consent orders expressly provide that the parties, including Riverkeeper and NYSDEC (and, therefore, presumptively NYS), will resolve issues related to the subject matter of the consent orders in the SPDES Permit proceeding.[708]

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[702] *See, e.g.*, Little Declaration ¶ 22 ("The Consent Order provided that the generators would continue the HRSA mitigative measures . . . ."); Petition at 27 ("The HRSA was extended pursuant to Consent Orders effective 1992-1998.").

[703] ER at 4-90 (referencing FEIS, Appendix F-III (Fourth Amended Consent Order) at 27, 29); Little Declaration ¶ 23 ("[G]enerators publicly made a verbal commitment to continue the mitigative measures included in the SPDES permit and the Consent Order until new SPDES permits were issued to them.").

[704] *See* ER at 4-90 (referencing FEIS, Appendix F-III (Fourth Amended Consent Order) at 5).

[705] *See* ER, Attachment C (SPDES Permit), Additional Requirement 7 (referencing the HRSA and the Agreement for Installation of Modified Ristroph Screens at IPEC Units 2 & 3) and at 4-90 (referencing FEIS, Appendices F-II (HRSA)).

[706] *See id.*

[707] *See id.*, Attachment C (SPDES Permit), Additional Requirement 7.

[708] *See id.* at 4-90 (referencing FEIS, Appendix F-III (Fourth Amended Consent Order) at 5).

The SPDES Permit, including as it encompasses the HRSA and the consent orders, was provided and discussed in IPEC's LRA.[709]

(iii) There Is a Pending NYSDEC SPDES Permit Proceeding

NYSDEC-issued SPDES permits are routinely and often serially renewed to allow discharges associated with continuing previously permitted operations; the administrative process begins when NYSDEC staff issue a proposed SPDES permit subject to administrative trial before NYSDEC-appointed ALJs and ends only (upon completion of that administrative trial) with issuance by the NYSDEC Commissioner of a final SPDES permit. Until then, a draft SPDES permit has no legal force; rather, the permit applicant complies with the terms of its then-existing permit or, if it has no SPDES permit, may not commence discharges.[710]

Following IPEC's most recent timely and sufficient application for a renewed permit, NYSDEC staff undertook a lengthy review process that culminated in its issuance, in November 2003, of a "tentative" draft SPDES permit.[711] That event marked the beginning of an extensive administrative process that encompasses the very same issues discussed in the Proposed Contention. Certain elements of the IPEC SPDES Permit renewal process are already complete, including the public comment period on the contents of the draft SPDES permit, the filing of petitions for party status (with proposed issues for adjudication), and an issues conference held on March 3, 2006, before a panel of two NYSDEC ALJs designed to identify and, as appropriate,

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[709] *See id.*, Attachment C and at 4-90 (referencing FEIS, Appendices F-II (HRSA) and F-III (Fourth Amended Consent Order)).

[710] To suggest a draft SPDES permit has legal force would be to blithely authorize those unpermitted discharges, something New York law does not allow. It also elevates NYSDEC staff proposals above the final decisions of their Commissioner, a likewise dubious outcome.

[711] *See* Little Declaration ¶ 32.

narrow the issues for adjudication.[712] Riverkeeper and, of course, NYSDEC, are parties to that proceeding.

Following the issues conference, the ALJs issued a lengthy and comprehensive ruling (the "Issues Ruling") that identifies the issues to be adjudicated—that is, those issues that would be subject to a full trial before the ALJs.[713] Those issues include, among other things, (1) whether impingement and entrainment at IPEC has caused an adverse environmental impact; (2) whether closed-cycle cooling is an available technology at IPEC; (3) if so, whether the retrofit of IPEC with closed-cycle cooling can be accomplished at a cost that is not wholly disproportionate to the environmental benefits of doing so; and (4) whether NYSDEC has complied with the New York State Environmental Quality Review Act, the State's equivalent to NEPA.[714,715] With respect to thermal-discharge issues, Entergy and NYSDEC reached consensus (without objection from Riverkeeper) on a proposed permit condition requiring a tri-axial thermal study to be performed after the draft SPDES permit becomes effective (*i.e.*, after the conclusion of the pending SPDES administrative proceeding).[716]

The next step in the pending SPDES Permit proceeding is the administrative trial itself, at which expert and other testimony will be received by the ALJs on each of the issues identified for adjudication (including the issue of whether impingement and entrainment at IPEC have resulted in an adverse environmental impact), and each party will have an opportunity to cross-

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[712] *See id.* ¶ 41. Entergy, Riverkeeper, and NYSDEC participated at the issues conference, along with the other environmental organization admitted as a party to the SPDES Permit proceeding, the African American Environmentalist Association ("AAEA").

[713] *See id.*, Ex. N.

[714] *See generally*, N.Y. ENVTL. CONSERV. LAW § 8-0101, *et seq.* (2006).

[715] *See* Little Declaration, Ex. N (Issues Ruling) at 26-49.

[716] *See id.* at 41-42.

examine witnesses.[717] Following this trial, the ALJs will issue a recommended decision on each of the issues adjudicated, and forward that proposed decision to the NYSDEC Commissioner for issuance of a final decision.[718]

In short, there is a fulsome administrative proceeding already underway before a panel of NYSDEC-appointed ALJs that will reach a determination, after an administrative trial, on the very issues raised in NYS's Proposed Contention.[719] Until that SPDES Permit proceeding is complete, *i.e.*, NYSDEC has issued a renewed SPDES Permit, IPEC's SPDES Permit remains the current and effective permit.

b. *Entergy Response to Proposed Contention 30*

As detailed below, Contention 30 is outside the scope of this proceeding because a license renewal applicant, such as Entergy, need only provide a current § 316(a) determination, or equivalent SPDES permits and supporting documentation, as Entergy did in its LRA, to satisfy § 51.53(c)(3)(ii)(B). Proposed Contention 30 is also outside the scope of this Proceeding because it amounts to a collateral attack on the NRC's promulgation of § 51.53(c)(3)(ii)(B), and on that basis alone is inadmissible.[720]

As discussed further below, Petitioner also fails to provide adequate factual or expert opinion support for its contentions. Indeed, viewed under the NEPA rule of reason, NYS's

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[717] *See* 6 N.Y.C.R.R. § 624.8 (conduct of adjudicatory hearings).

[718] *See id.* § 624.13 (process for issuing recommended and final decisions).

[719] *See Entrainment, Impingement, and Thermal Impacts at Indian Point Nuclear Power Station*, Pisces Conservation Ltd. (Nov. 2007) (hereinafter "Pisces EI Report") (addressing closed-cycle cooling and thermal discharges). Tellingly, Drs. Seaby and Henderson's other report in supposed support of Proposed Contention EC-1, *The Status of Fish Populations and the Ecology of the Hudson*, Pisces Conservation Ltd. (Nov. 2007) (hereinafter "Pisces Hudson Report"), does not even address any impacts on fish populations.

[720] *See, e.g., Pub. Serv. Co. of New Hampshire* (Seabrook Station, Units 1 and 2), LBP-82-106, 16 NRC 1649, 1656 (1982) (contention which "advocate[s] stricter requirements than those imposed by the regulations" is "an impermissible collateral attack on the Commission's rules" and must be rejected).

criticism amounts to "fly-specking" that does not, and cannot, diminish the information that underpins the ER.[721]

Finally, Proposed Contention 30 should not be admitted because it is immaterial. Petitioner's claims, even if accepted as true, which they are not, do not affect the outcome of this Proceeding, which is driven by Entergy's complete compliance with NRC and NEPA regulations. In the final analysis, NYS's Proposed Contention 30 amounts to a collateral attack on the NRC's promulgation of § 51.53(c)(3)(ii)(B), not to mention the pending SPDES Permit administrative proceeding before the NYSDEC-appointed ALJs, and is therefore inadmissible.[722]

(i) Proposed Contention 30 Is Outside the Scope of this Proceeding Because Entergy's LRA Includes State-Equivalent § 316(a) and (b) Determinations that Satisfy 10 C.F.R. § 51.53(c)(3)(ii)(B)

NRC law clearly defines the scope of Entergy's obligations with respect to thermal shock (as well as entrainment and impingement). Entergy satisfies § 51.53(c)(3)(ii)(B) by providing a current state determination equivalent to § 316(a), and has no further obligation to assess the potential impact of its continued thermal discharges on the Hudson River.[723] NRC regulation conveys the "required analyses" that must be present in an ER:

> *If the applicant's plant utilizes once-through cooling or cooling pond heat dissipation systems, the applicant shall provide a copy of current Clean Water Act 316(b) determinations and, if necessary, a 316(a) variance in accordance with 40 CFR part 125, or equivalent State permits and supporting documentation.* If the applicant can not provide these documents, it shall assess the

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721 *Clinton*, CLI-05-29, 62 NRC at 811 ("Our boards do not sit to 'flyspeck' environmental documents or to add details or nuances.").

722 *See, e.g., AmerGen Energy Co.* (Oyster Creek Nuclear Generating Station), 50-0219-LR, 64 NRC 229, 246-47 (2006) (contention challenging sufficiency of monitoring required by NRC rule is inadmissible collateral attack).

723 *See* 10 C.F.R. § 51.53(c)(3)(ii)(B).

> impact of the proposed action on fish and shellfish resources resulting from heat shock and impingement and entrainment.[724]

That regulation, § 51.53(c)(3)(ii)(B), implements the fundamental jurisdictional division that Congress, in § 511(c), established between NRC under NEPA (in the context of its license-renewal authority under the Atomic Energy Act, 42 U.S.C. § 2011 *et seq.*), and USEPA—or an authorized state, here NY—under the CWA. Section § 511(c) states:

> Nothing in [NEPA] shall be deemed to – (A) authorize [NRC] . . . to review any effluent limitation or other requirement established pursuant to this chapter . . . ; or (B) authorize [NRC] to impose, as a condition precedent to the issuance of any license or permit, any effluent limitation other than any such limitation established pursuant to this chapter.[725]

The division of authority between the NRC and USEPA that §511(c) compels is detailed in an official memorandum of understanding ("MOU") between these two agencies.[726] Pursuant to this MOU, the NRC (1) ceased determining whether nuclear facilities are in compliance with CWA limitations; (2) stopped assessing discharges "at the level of [CWA] limitations;" and, most dramatically with respect to Proposed Contention 30, (3) agreed that "*[it] will not require*

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[724] *Id.* (emphasis added); *see also Entergy Nuclear Vermont Yankee* (Vermont Yankee Nuclear Power Station), CLI-07-16, 65 NRC 371, 383 (2007) (applicant must "merely" submit the state equivalent of § 316(a) and (b) determinations to satisfy § 51.53).

[725] 33 U.S.C. § 1371(c)(2) (2004). The history of § 511(c) confirms Congressional intent to take the NRC out of the business of interpreting the CWA. *See, e.g.*, 118 Cong. Rec. 10,673 (Mar. 28, 1972) (Statement of Rep. Reuss) (after § 511, CWA permits are no longer "reviewed by agencies of the Federal Government to insure that approval of the permit took into account environmental impacts"). In *Calvert Cliffs' Coordinating Comm., Inc. v. U.S. Atomic Energy Comm'n*, 449 F.2d 1109 (D.C. Cir. 1971), the D.C. Circuit invalidated the then Atomic Energy Commission's ("AEC") policy of "defer[ing] totally to water quality standards devised and administered by state agencies" as part of its NEPA review, in a licensing action implicating alleged CWIS and thermal impacts, as here. *Id.* at 1122. The sponsors of the CWA responded to what they perceived as a threat to "the very purpose of [the CWA] – the establishment of a detailed, comprehensive, effective program to regulate the discharge of pollution into the Nation's waters," which they concluded "would be imperiled" by requiring NRC's substantive assessment in the context of NEPA. *See, e.g.*, 118 Cong. Rec. 33,751 (Oct. 4, 1972) (statement of Sen. Muskie); *see also* 118 Cong. Rec. 10,647 (Mar. 28, 1972) (statement of Rep. Wright) (describing duplicative CWA review as "illogical"). Thus, "Section 511(c)(2) [sought] to overcome that part of the Calvert Cliffs' decision requiring AEC [NRC] or any other licensing or permitting agency to independently review water quality matters." 118 Cong. Rec. 33,759 (Oct. 4, 1972) (statement of Sen. Muskie); *see also* 118 Cong. Rec. 33,709 (1972) (statement of Sen. Jackson) (similar).

[726] *See* 40 Fed. Reg. 60,115 (Dec. 31, 1975) ("Memorandum of Understanding and Policy Statement Regarding Implementation of Certain NRC and EPA Responsibilities").

adoption of alternatives in order to minimize impacts on water quality and biota that are subject to [CWA] limitations or requirements."[727] In promulgating § 51.53(c)(3)(ii)(B), NRC further implemented § 511(c) and its MOU, underscoring its limited LRA obligations in the explanatory preamble to that regulation:

> The permit process authorized by the [CWA] is an adequate mechanism for control and mitigation of these potential aquatic impacts. *If an applicant to renew a license has appropriate EPA or State permits, further NRC review of these potential impacts is not warranted.* Therefore, the proposed rule requires an applicant to provide the NRC with certification that it holds [CWA] permits, or if State regulation applies, current State permits. If the applicant does not so certify, its must assess these aquatic impacts.[728]

In short, since the mid-1970's, NRC has not been in the business of implementing the CWA or overseeing its application to licensees. Rather, the language, purpose and intent of § 51.53(c)(3)(ii)(B), in conjunction with longstanding NRC precedent, confirms that Entergy's submission of its SPDES Permit and supporting documentation (reflecting state determinations equivalent to § 316(a) and (b)), satisfies § 51.53(c)(3)(ii)(B), and means that NRC can neither evaluate the contents of those determinations, nor second-guess their substance by undertaking an analysis of aquatic impacts.[729] Indeed, NRC cannot even consider whether IPEC's SPDES

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[727] *Id.* (emphasis added); *see also* 10 C.F.R. § 51.10 (2006) (citing 40 Fed. Reg. 60,115 when discussing "the limitations imposed on NRC's authority and responsibility" by the CWA).

[728] 56 Fed. Reg. 47,016, 47,019 (Sept. 17, 1991) (emphasis added); *see also* 61 Fed. Reg. 28,467, 28,475 (June 5, 1996) ("The Commission does not have authority under NEPA to impose an effluent limitation other than those established in permits issued pursuant to the [CWA].").

[729] *See, e.g., Vermont Yankee*, CLI-07-16, 65 NRC at 387 ("[S]ection 511(c)(2) of the Clean Water Act does not give us the option of looking behind the agency's permit to make an independent determination as to whether it qualifies as a bona fide section § 316(a) determination."); *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), LBP-04-15, 60 NRC 81, 93 n.55, *aff'd*, 60 NRC 631 (2004) (citing Section 511(c)(2) of the Clean Water Act and noting "NRC has been barred by statute from making substantive determinations regarding compliance with the Clean Water Act"); *Pub. Serv. Co. of N.H.* (Seabrook Station, Units 1 and 2), CLI-78-1, 7 NRC 1, 23-24 (1978) (affirming the Appeal Board's decision to accept and use "without independent inquiry" USEPA's 316(b) determination).

Permit is valid[730], action it need not take here since NYS already has affirmed in this Proceeding that IPEC's SPDES Permit is both current and effective.[731]

Therefore, NRC's jurisdiction is circumscribed by § 51.53(c)(3)(ii)(B) and § 511(c). NRC must accept as dispositive IPEC's current SPDES Permit, and supporting documentation, and can neither duplicate the assessment that produced that Permit, nor perform its own independent review of the matters governed by that Permit.

(a) Entergy's SPDES Permit and Supporting Documentation Constitute the State Equivalent of Current § 316(a) and (b) Determinations

Consistent with § 51.53(c)(3)(ii)(B), Entergy provided NRC with a copy of its current, effective NYSDEC-issued SPDES Permit and "supporting documentation," which includes the most recent consent order containing NYSDEC's equivalent § 316(a) and (b) determinations.[732] NYS does not dispute that Entergy both submitted a copy of its SPDES Permit, and explained its

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730 *See, e.g.*, *Millstone*, LBP-04-15, 60 NRC at 93 n.55 (rejecting contention challenging validity of SPDES permit issued by the state of Connecticut, because the validity of a plant's Clean Water Act permit has "nothing whatever to do with aging-related issues, is beyond the scope of this proceeding, and [contentions on this issue are] therefore inadmissible."). This is not law for law's sake, but sound rationale that affirms EPA's (or an authorized state's) CWA authority. As NRC recognized in *Tennessee Valley Authority* (Yellow Creek Nuclear Plant, Units 1 and 2), LBP-04-15, 8 NRC 702 (1978), in § 511(c), Congress sought to protect the "exclusive province" of EPA (or an authorized state), because of the need for expertise on complex water issues, an expertise Congress concluded that NRC did not possess, and to avoid needless duplication and delay: "The whole concept of EPA is that environmental considerations are to be determined in one place by an agency whose sole mission is protection of the environment." *Id.* at 712-13 (quoting Senator Muskie) (footnote omitted)); *see also Vermont Yankee*, CLI-07-16, 65 NRC at 389-90 ("NRC abstinence from setting water quality standards was fully consistent with congressional general intent that the Clean Water Act was to be implemented in a way that would avoid needless duplication and unnecessary delays at all levels of government.") (citations omitted); 61 Fed. Reg. 28,467, 28,475 (June 5, 1996) ("Agencies responsible for existing permits are not constrained from reexamining the permit issues if they have reason to believe that the basis for their issuance is no longer valid.").

731 *See* Petition at 28 (acknowledging that IPEC's SPDES Permit is "*technically 'current'*") (emphasis added)); *id.* at 289 (admitting that IPEC's SPDES permit has been legally extended); *see also* ER, Attachment C (SPDES Permit).

732 *See* ER, Attachment C and at 4-90 (referencing FEIS, Appendices F-II (HRSA) and F-III (Fourth Amended Consent Order)).

NYSDEC-equivalent § 316(a) and (b) determinations, in the ER.[733] Indeed, NYS, including in its Scoping Comments in this very Proceeding and elsewhere, characterizes the IPEC SPDES Permit as "technically current."[734]

Nor could NYS reasonably contest that IPEC's SPDES Permit is current and effective, since New York law and recent NRC decisions make clear that an applicant can satisfy § 51.53(c)(3)(ii)(B) by submitting an administratively extended state-issued NPDES permit. Indeed, as recently as 2007, NRC held that another Entergy facility, Vermont Yankee Nuclear Station, satisfied § 51.53(c)(3)(ii)(B) by doing just this. As the Commission reasoned, in *Entergy Nuclear Vermont Yankee*, the fact that the state SPDES permit might be in "limbo" pending the state's decision whether to renew that permit was "irrelevant."[735]

It is likewise undisputed that a valid NYSDEC-issued SPDES permit is the "state equivalent" of a § 316(a) determination. Indeed, NYSDEC counsel repeatedly has asserted its regulations "mirror" federal law.[736] Moreover, NYSDEC *may not* issue a SPDES permit "outside the guidelines and requirements" of the CWA, not to mention its "mirroring" New York

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[733] *See generally* Petition; *see also* 6 N.Y.C.R.R. § 621.11(l) ("when a permittee has submitted a timely and sufficient application for renewal of a permit for an activity of a continuing nature per subdivision (a) of this section, *the existing permit does not expire until the department has made a final decision on the renewal application* and if such application has been denied, then not until the last day for seeking review of the agency order or any later date fixed by a court. Projects or activities of a continuing nature are those involving an ongoing operational activity) (emphasis added); *see also Dynegy Northeast Generation, Inc.* (Danskammer Generating Station), No.: 3-3346-00011, 2006 WL 1488863, *passim* (May 24, 2006) (repeatedly referring to Danskammer's administratively-extended SPDES permit as current).

[734] *See* Petition at 28 (acknowledging that IPEC's SPDES Permit is "*technically 'current'*") (emphasis added)); *id.* at 289 (admitting that IPEC's SPDES permit has been legally extended); *see also* ER, Attachment C (SPDES Permit).

[735] CLI-07-16, 65 NRC at 383-84.

[736] Little Declaration, ¶ 10; *see also* Aff. of William Little, NYSDEC attorney, ¶ 15 (Jun. 2, 2004) (DEC No. 3-5522-0011/00004) (submitted in SPDES permitting proceeding) ("Section 316(b) of the Clean Water Act ('CWA'), enacted in 1972, contains the federal BTA requirement for cooling water intake structures which served as the model for § 704.5."); Aff. of William Little, NYSDEC attorney, ¶ 15 (Jan. 20, 2004) (DEC No. 3-5522-0011/00004) (submitted in SPDES permitting proceeding) (discussing "the applicable state regulation, 6 N.Y.C.R.R. § 704.5, which mimics CWA § 316(b) . . . .").

law.[737] Since NYSDEC is forbidden from issuing SPDES permits outside the guidelines and requirements of the CWA or New York law, there can be no doubt that a New York-issued SPDES permit, to the extent such issues are addressed in it, represents the "state equivalent" of a § 316(a) determination.[738]

Unable to challenge the current, effective status of IPEC's SPDES Permit, NYS resorts to the argument that the NYSDEC staff's self-styled "tentative" draft permit for IPEC, which is the subject of the pending SPDES permit adjudicatory proceeding and will not be final until that proceeding is complete, has some legal effect.[739] Of course, a draft SPDES permit has no legal effect as a matter of New York law.[740] Thus, that the NYSDEC has issued a "draft" permit instead of a "final" permit is evidence in and of itself that Entergy's SPDES Permit is still valid.[741] [742] The NRC must, therefore, reject Petitioner's reliance on the NYSDEC staff's proposal of a tentative draft SPDES permit. For this reason, Petitioner's argument must fail.

In short, because Entergy has presented IPEC's current, effective SPDES Permit and supporting documents in the ER to satisfy § 51.53(c)(3)(ii)(B), Contention 30 should not be admitted. This is, furthermore, as it should be, since the pace of the NYSDEC decision-making

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[737] *See EPA v. California*, 426 U.S. 200, 208 (1976) (citing 33 U.S.C. § 1342(b) (1970)); *Dynegy Northeast Generation, Inc.* (Danskammer Generating Station), No. 3-3346-00011, 2005 WL 2252719, at *18 (NYSDEC May 13, 2005) ("In accordance with its EPA-approved permitting program, [NYSDEC] is required by the federal CWA to enforce that legislation's basic mandates.").

[738] *See* 10 C.F.R. § 51.53(c)(3)(ii)(B).

[739] *See* Petition at 275.

[740] 6 N.Y.C.R.R. Parts 621 and 624 (reflecting the hearing procedures by which draft SPDES permits are adjudicated); *Dynegy Northeast Generation, Inc.* (Danskammer Generating Station), No. 3-3346-00011, 2004 WL 715397, at *17 (NYSDEC Mar. 25, 2004) (noting that the purpose of adjudication is to contest a draft SPDES permit, which may be modified as a result).

[741] *See Vermont Yankee*, CLI-07-16, 65 NRC at 383-84 (accepting current permit despite issuance of draft permit because draft permit was the subject of state litigation).

[742] *See* State of New York Scoping Comments, at 8; *see also* Little Declaration at ¶ 20 (referring to 6 N.Y.C.R.R. § 621.11(l) and noting that "the operation of IP2 and IP3 was lawfully extended pending resolution of the pending SPDES renewal applications").

in the SPDES Permit administrative proceeding, and therefore issuance of a final permit there, are within NYSDEC's, not Entergy's, control.[743] In short, in addition to being contrary to NRC's regulations and settled precedent, there simply is no reasoned basis for NRC to admit Contention 30 in light of the pending SPDES Permit proceeding.

(b) Contention 30 Amounts to an Impermissible Collateral Attack on the NRC's Promulgation of 10 C.F.R. § 51.53 (c)(3)(ii)(B)

Contention 30 is also outside the scope of this proceeding, because NYS fails to allege deficiencies with Entergy's thermal analysis in its ER.[744] This, taken alone, warrants rejection of the Proposed Contention 30.[745] Instead and strangely, NYS mounts a collateral attack on § 51.53(c)(3)(ii)(B), asking NRC to trump its own regulations and instead apply the New York State Criteria Governing Thermal Discharges, 6 N.Y.C.R.R. Part 704, here as the new, customized benchmark for NRC's analysis of IPEC's thermal discharge.[746] Of course, allegations under 6 N.Y.C.R.R. Part 704 are outside the scope of NRC's jurisdiction.[747] Nor is this surprising, since NYSDEC is the authority, unless successfully contested, to administer 6 N.Y.C.R.R. Part 704, as it will with respect to IPEC, again unless successfully challenged, in the pending SPDES Permit administrative proceeding. Thus, Petitioner's Proposed Contention 30 should not be admitted.

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[743] *See, e.g* Aff. of William Little, NYSDEC attorney ¶ 21 (January 20, 2004) (DEC No. 3-5522-0011/00004) (submitted in SPDES permitting proceeding) ("Piecemeal review of components of the DEC permit application review process . . . does not present . . . a fully-formed record . . . . This creates uncertainty for the Department, the applicant, and those who would oppose a particular project.").

[744] *See generally* Contention 30.

[745] *See PPL Susquehanna*, 50-387-LR, 65 NRC at 327 (contention dismissed because it "identifi[ed] no failure of the ER to contain information" required by NRC); *Vogtle*, 52-011-ESP, 65 NRC at 252-53 ("All properly formulated contentions must focus on the license application in question.").

[746] *See* Petition at 277-78.

[747] *See, e.g., Vogtle*, 52-011-ESP, 65 NRC at 254 ("All properly formulated contentions must focus on the license application in question").

Moreover, as detailed below, Entergy's thermal analysis in the ER, in fact, uses the NYSDEC-approved (under 6 N.Y.C.R.R. Part 704) thermal requirements in IPEC's SPDES Permit, and therefore necessarily 6 N.Y.C.R.R. Part 704, as a benchmark.[748] The ER further confirms that Entergy is complying with—indeed, has never been out of compliance with—the thermal requirements in its NYSDEC-issued SPDES Permit.[749] Indeed, though omitted from Petitioner's argument in Proposed Contention 30, Entergy's ER contains (as Riverkeeper concedes) an extensive discussion of the Hudson River ecological studies, supported by an unparalleled dataset three decades in the making, including as it relates to IPEC's thermal discharge.[750] Thus, there is no reasoned dispute that Entergy has addressed IPEC's thermal discharges in its ER.

In the final analysis, Petitioner's Proposed Contention 30 either seeks to challenge an existing NRC regulation—namely that Entergy is merely required to submit its current, effective SPDES Permit, or asks that the NRC impose more strict requirements on Entergy than its current regulations contemplate or allow. Thus, Petitioner's Proposed Contention 30 also amounts to a collateral attack on NRC's promulgation of § 51.53(c)(3)(ii)(B), which is impermissible.[751] Proposed Contention 30, therefore, should be dismissed as outside the scope of this Proceeding.

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[748] *See* ER, at 4-23.

[749] *See id.* at 4-23 – 4-24.

[750] *See* ER, at 4-24; *see also* Riverkeeper Petition at 29 ("Entergy's [ER] contains . . . a "heat shock" Analysis' (Sections 4.4.5.2 and 4.4.6 (at 4-23 to 4-24)).").

[751] *See, e.g.*, *Seabrook*, LBP-82-106, 16 NRC at 1656 (contention which "advocate[s] stricter requirements than those imposed by the regulations" is "an impermissible collateral attack on the Commission's rules" and must be rejected).

(ii) Contention 30 Lacks Adequate Factual and Expert Opinion Support, Contrary to 10 C.F.R. § 2.309(f)(1)(v)

NYS's Proposed Contention 30, which alleges that IPEC's operation may be in non-compliance with a New York thermal criterion and therefore[752] may cause "heat shock," is inadmissible, because NYS has failed to provide the factual and/or expert opinion support § 2.309(f)(1)(v) requires. Indeed, NYS's lone witness supports Entergy's, not NYS's, position. He expressly acknowledges that the late 1990's NYSDEC-mandated thermal modeling (on which NYSDEC relies for its non-compliance assertions) is not viable. Petitioner, therefore, fails to meet the NRC's standards for admission of Proposed Contention 30.

More specifically, in its statement of facts purportedly supporting Proposed Contention 30, Petitioner claims that late 1990's NYSDEC-mandated hydrothermal modeling (in which NYSDEC directed the conditions modeled) may indicate that Entergy may violate the thermal criteria set forth at 6 N.Y.C.R.R. § 704.2.[753] But, Petitioner's own witness—David Dilks—undermines the very modeling on which Petitioner relies for its position that IPEC may be non-compliant with New York State thermal criteria (as distinct from the actual criteria NYSDEC set in the SPDES Permits under its § 316(a) and comparable New York law variance authority).[754] Dr. Dilks asserts that the late 1990's modeling performed by Entergy's predecessors and other Hudson River facility owners "contains many uncertainties and flaws."[755] Of course, if Petitioner's witness doubts the modeling, it must doubt the results—that is, the assertion of non-compliance. Of course, NRC is "not to accept uncritically the assertion that . . . an . . . opinion

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[752] Of course, NYSDEC cannot be arguing that compliance with New York thermal criteria, including under a NYSDEC-authorized variance, as 6 N.Y.C.R.R. Part 704 allows, can cause heat shock, without placing at risk its current USEPA authorization to administer the CWA permitting program in New York.

[753] *See* Petition at 277-78.

[754] *See id.* at 278.

[755] *Id.* at 278; Dilks Declaration at ¶¶ 21, 23 (emphasis added).

supplies the basis for a contention;" instead, any supporting material provided by a petitioner is subject to Board scrutiny "both for what it does and does not show."[756] Hydrothermal modeling aside, where Dr. Dilks is not contradicting Petitioner's own position, his report is largely inadmissible due to its speculative nature.[757] NRC precedent makes absolutely clear that, regardless of their qualifications, experts may not rely on bare assertions or speculation to form the basis of their supposedly "expert" opinion.[758] As an example, and by no means an exhaustive list, Dr. Dilks speculates that the IPEC thermal discharges "*can* have drastic physical and biological consequences," failing to provide any facts or data showing that such consequences (1) exist or (2) are the result of IPEC operations.[759] Statements like this one are the very definition of speculation, and NRC case law proscribes the admission of such conjecture.

Moreover, Entergy has retained leading national scientists with extensive, River-specific thermal expertise, Dr. J. Craig Swanson, a leading hydrothermal modeler[760], and Mr. Charles V.

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[756] *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 181, *aff'd on other grounds*, CLI-98-13, 48 NRC 26 (1998); *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 NRC 61, 90, *rev'd in part on other grounds*, CLI-96-7, 43 NRC 235 (1996).

[757] A chart of Entergy's complete objections to the declarations of Dr. Dilks and Messrs. Jacobson and Little is submitted herewith as Entergy Exhibit N.

[758] *See Vogtle*, 52-011-ESP, 65 NRC at 253 (observing that "neither mere speculation nor bare or conclusory assertions, even by an expert, alleging that a matter should be considered will suffice to allow the admission of a proffered contention"); *Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), 070-03098-ML, 61 NRC 71, 80 (2005) (noting that "[w]hile the expert's method for forming his opinion need not be generally recognized in the scientific community, the opinion must be based on the 'methods and procedures of science' rather than on 'subjective belief or unsupported speculation.'").

[759] Federal case law, like the NRC, similarly prohibits the admission of factually unsupported expert opinion. *See, e.g.*, *Pelletier v. Main Street Textiles*, 470 F.3d 48, 52 (1st Cir. 2006) (concluding plaintiff's expert's opinion was speculative and was based on insufficient facts and data because he had never visited the site of the accident and apparently based his opinions on deposition testimony and preliminary expert reports about the accident); *Bouchard v. N.Y. Archdiocese*, No. 04 Civ. 9978 (CSH), 2006 WL 3025883, at *7 (S.D.N.Y. Oct. 24, 2006) (concluding expert's opinions were "argumentative and conclusory" because they were based upon insufficient facts and data).

[760] Declaration of J. Craig Swanson, Ph.D. in Opposition to Riverkeeper Proposed Contention EC-1 and New York Attorney General Contention 30 ¶¶ 1-2 (hereinafter "Swanson Declaration") (Entergy Exhibit J to Riverkeeper Answer).

Beckers, Jr.[761], another leading modeler responsible for performing the late 1990's modeling that NYSDEC required and for which it set the modeling parameters (over Mr. Beckers' objections).[762] Mr. Beckers and Dr. Swanson attest to the fact, echoed by NYS's witness Dr. Dilks, that there is no reasonable scientific basis for making a compliance determination for IPEC based on the late 1990's modeling. As Mr. Beckers states, this modeling was a NYSDEC-ordered hypothetical exercise under conditions that, *as NYSDEC is fully aware*, did not and could not exist.[763] As Mr. Beckers further explained, "*the tidal and current conditions specified by NYSDEC never occur in the River. . . . Thus, the conditions modeled were wholly unrealistic and the results represent conditions that can never occur in the River, because the tidal and current conditions specified never occur.*"[764] And NYSDEC's inaction, *i.e.*, in not arresting purported non-compliance and in relegating thermal assessment to a future Permit period, underscores what Mr. Beckers has pointed out—namely, that NYSDEC is fully aware that the late 1990's modeling does not reflect non-compliance.[765]

In addition, at Entergy's request, Dr. Swanson conducted an independent review of that modeling.[766] Dr. Swanson focused on the several components of the NYSDEC-directed modeling that were not in line with expected engineering, or hydrodynamic and hydrothermal, realities, including the timing and duration of so-called "slack water conditions" (that is, the

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761 Declaration of Charles V. Beckers, Ph.D. in Opposition to Riverkeeper Proposed Contention EC-1 and New York Attorney General Contention 30 ¶ 1 (hereinafter "Beckers Declaration") (Entergy Exhibit K to Riverkeeper Answer).

762 *Id.* ¶ 5.

763 *See* Beckers Declaration, Ex. 2 at 2 (emphasis added).

764 *Id.*, Ex. 2, at 2 (emphasis added); Declaration of Charles C. Coutant, Ph.D. in Opposition to Riverkeeper Proposed Contention EC-1 and New York Attorney General Contention 30 ¶ 18 (hereinafter "Coutant Declaration") (Entergy Exhibit E to Riverkeeper Answer) ("no reasonable biologist would draw conclusions regarding possible biological impacts based on the 1999 Hydrothermal Modeling").

765 *See* Draft SPDES Permit, Condition 7; Little Declaration, Ex. N at 41-42 (Issues Ruling).

766 Swanson Declaration ¶ 11.

point during a tidal cycle at which there exists little or no current in the River) offshore of the discharge location, and the identified point of non-compliance in NYS's Proposed Contention 30.[767] As detailed in Dr. Swanson's declaration and not repeated here, the conditions that NYSDEC required to be modeled are not realistic and, in fact, could not occur offshore of Indian Point.[768] Of course, purely hypothetical modeling cannot support an allegation of non-compliance.[769] As such, NYS's Proposed Contention 30 to this effect is inadmissible.

NYS further resorts to the ambiguous argument that IPEC's operation may cause "heat shock" to fish in the River.[770] However, as Petitioner conveniently ignores, NYSDEC itself determined what it concluded are the correct thermal requirements for IPEC in IPEC's SPDES Permit.[771] NYSDEC established those SPDES Permit conditions as the measure of IPEC's compliance with New York law. Compliance with the Permit, therefore, means compliance with 6 N.Y.C.R.R. Part 704.[772] As Petitioner does not dispute, Entergy has complied with the thermal criteria in its SPDES Permit.[773] Indeed, NYSDEC never has taken any steps to invalidate those Permit conditions, as it must under the CWA and New York law, if it believed that actual non-compliance existed.[774] Rather, in the pending SPDES Permit proceeding, NYSDEC agreed to

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767 *Id.* ¶ 13.

768 *Id.* ¶ 14.

769 *Id.* ¶¶ 14, 34-35.

770 Petition at 271.

771 *See* ER, at 4-23.

772 *See* ER, at 4-23 (permit conditions were "established by the NYSDEC to ensure the protection and propagation of a balanced indigenous population of shellfish, fish, and wildlife in the Hudson River"); *see also* Little Declaration, Ex. K, Draft Environmental Impact Statement for SPDES Permits for Bowline Plant, Indian Point Units 2 and 3, Roseton Steam Electric Generating Stations ("DEIS"), at VI-26 (Dec. 1999) (current SPDES Permit for IPEC contains "discharges [established by NYSDEC that are] different from those in Part 704, but still sufficient to meet the standard.").

773 *See* ER, at 4-23 – 4-24.

postpone any thermal assessment to the *next* permitting period, thus confirming it considers thermal discharges a "back burner" issue for IPEC.[775] Viewed in this context, Petitioner's claim that Entergy's uncontested compliance with the NYSDEC-approved thermal conditions in that agency's SPDES Permit somehow harms the Hudson River is incorrect.[776] As such, Proposed Contention 30 should not be admitted.

Moreover, since submission of the LRA, Entergy's experts have completed an assessment, titled "Entrainment and Impingement at Indian Point, a Biological Impact Assessment" (the "AEI Report") and retained Charles C. Coutant, Ph.D., an expert in assessing the impacts of thermal discharges on freshwater, estuarine, and marine environments, including the Hudson River.[777] The AEI Report uses Conditional Mortality Rates ("CMRs") to reflect the risk of entrainment and impingement within a sphere of influence of IPEC. "Heat shock," if it occurred, would occur in a significantly smaller area than this sphere of influence, because the thermal plume covers only a fraction of this area. Accordingly, as Dr. Coutant concluded, the AEI Report establishes the absence of "heat shock" impacts as a result of IPEC's thermal discharge.[778]

The remainder of NYS's Proposed Contention 30 amounts to a recitation of general thermal principles with no express link between IPEC's operation and the realization of the discussed effects on fish. For example, NYS's expert—Dr. Dilks—states that "[i]ncreases in

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[774] *See* 6 N.Y.C.R.R. § 621.13(a)(5) (authorizing permit revocation for "noncompliance with previously issued permit conditions"); *see also* 40 C.F.R. § 123.26(a), (b)(1) (requiring the state to maintain "[a] program . . . to identify persons subject to regulation who have failed to comply with permit application or other program requirements").

[775] *See* Draft SPDES Permit, Condition 7; Little Declaration, Ex. N at 41-42 (Issues Ruling).

[776] As detailed above, it is also outside of the scope of this Proceeding as a matter of NRC law. *See, e.g., Millstone*, LBP-04-15, 60 NRC at 93 n.55 (citing Section 511(c)(2) of the Clean Water Act) ("NRC has been barred by statute from making substantive determinations regarding compliance with the Clean Water Act.").

[777] Coutant Declaration ¶¶ 1-3.

[778] *Id.* ¶ 25.

water temperature have been shown to have numerous biological consequences."[779] Notably, none of the statements of principle is followed by an analysis or scientific estimation of what in fact occurs under the actual operating and environmental conditions at IPEC. Absent a reasoned scientific connection between assertions of general principle and the operations of IP2 and IP3's respective CWIS, such arguments are nothing more than unscientific speculation lacking in factual support relevant to this proceeding.[780] Indeed, as noted by Dr. Coutant, a reasonable scientist would not rely on Drs. Seaby and Henderson's recitation of basic thermal concepts to reach any conclusions regarding the potential thermal impact of IP2 and IP3's respective CWIS.[781] Nor should NRC.[782]

NRC should, therefore, reject NYS's insincere and unsupported litigation position by refusing to admit Contention 30.

(iii) *Contention 30 Identifies No Material Dispute*

Even assuming that NRC had jurisdiction to evaluate the substance of IPEC's SPDES Permit, which it does not (as discussed above), and also that Petitioner's factual assertions regarding the status of the Hudson River are correct and supported, which they are not (as discussed above), Proposed Contention 30 should not be admitted because it identifies no

[779] Dilks Declaration ¶ 8 (listing four well-known potential effects of increased water temperature, ranging from lethal to indirect effects); *see also id.* ¶ 7 ("discharge of . . . waste heat can have drastic physical and biological consequences").

[780] *See Vogtle*, 52-011-ESP, 65 NRC at 253 (observing that "neither mere speculation nor bare or conclusory assertions, even by an expert, alleging that a matter should be considered will suffice to allow the admission of a proffered contention"); *Duke Cogema*, 070-03098-ML, 61 NRC at 80 (noting that "[w]hile the expert's method for forming his opinion need not be generally recognized in the scientific community, the opinion must be based on the 'methods and procedures of science' rather than on 'subjective belief or unsupported speculation.'").

[781] Coutant Declaration ¶¶ 13-14.

[782] *See* 10 C.F.R. §2.309(f)(1)(v) (requiring factual support); *Vogtle*, 52-011-ESP, 65 NRC at 253 (2007) (observing that "neither mere speculation nor bare or conclusory assertions, even by an expert, alleging that a matter should be considered will suffice to allow the admission of a proffered contention"); *Duke Cogema*, 070-03098-ML, 61 NRC at 80 (noting that "[w]hile the expert's method for forming his opinion need not be generally recognized in the scientific community, the opinion must be based on the 'methods and procedures of science' rather than on 'subjective belief or unsupported speculation.'").

material issue. To satisfy NRC's materiality standard, Petitioner's proposed information must be able to affect the outcome of this proceeding.[783]

Here, the information in support of Proposed Contention 30 does not, and cannot, affect the outcome of this Proceeding for two reasons. First, Petitioner's alleged omissions in Entergy's ER, even if accepted as correct, do not undermine Entergy's compliance with NRC regulations (under NEPA).[784] This is particularly true at this stage of the NEPA process and under the NEPA "rule of reason."[785] Stated otherwise, however much Petitioner does not agree with Entergy's ER, it has not shown that Entergy's ER is so deficient that the NRC could not perform its required analysis based upon the data therein.[786] Petitioner's own admission that it used the information provided or referenced in the ER to form a different "conclusion" than Entergy, Petition at 278 ("the review by State's expert of Entergy's own data"), is itself an admission that the *information* provided is sufficient to allow such analysis to be performed. The responsibility of drawing such conclusions, however, is firmly entrusted to the NRC staff, 10 C.F.R. § 51.103(a)(5) ("the Commission shall determine whether or not the adverse environmental impacts of license renewal are so great that preserving the option of license

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[783] 10 C.F.R. § 2.309(f)(1)(iv) (contention must raise issues "material to the findings the NRC must make to support the action that is involved in the proceeding"); *PPL Susquehanna*, 50-387-LR, 65 NRC at 305 (contentions must be material to "the findings the NRC must make to support the a license renewal").

[784] *See Vogtle*, 52-011-ESP, 65 NRC at 255-56 (dismissing contention because analysis petitioner alleged was "lacking" was not required by NRC regulations).

[785] *See Deukmejian v. NRC*, 751 F.2d 1287, 1301 (D.C. Cir. 1984) ("[A]gencies need not discuss in detail events whose probabilities they believe to be inconsequentially small.").

[786] *PPL Susquehanna*, 50-387-LR, 65 NRC at 309-10 (NEPA achieves its objectives by "ensur[ing] that the agency . . . will have available . . . detailed information concerning significant environmental impacts"); *Clinton*, CLI-05-29, 62 NRC 801, 811 (2005) ("Our boards do not sit to 'flyspeck environmental documents or to add details or nuances.").

renewal for energy planning decisionmakers would be unreasonable"), and therefore are not a material concern at this stage of the proceeding.[787]

Second, the sum total of NYS's purported expert criticism, again even if accepted as correct, amounts to "fly-specking" in view of the comprehensiveness of the ER, and confirmed by the AEI Report.[788] Each failing, alone, is fatal to the Proposed Contention—together they reveal that Contention 30 is intended to enable NYSDEC to litigate SPDES issues in this forum, rather than raise a material dispute with the content of the ER.

31. Proposed Contention 31: Failure to Adequately Analyze Impingement and Entrainment

Proposed Contention 31 states:

> NEPA REQUIRES THAT THE NRC REVIEW THE ENVIRONMENTAL IMPACTS OF THE OUTMODED ONCE-THROUGH COOLING WATER INTAKE SYSTEM USED AT INDIAN POINT, WHICH CAUSES MASSIVE IMPINGEMENT & ENTRAINMENT OF FISH & SHELLFISH.[789]

In Proposed Contention 31, NYS claims that the ER violates NEPA and the NRC's implementing regulations because the ER purportedly fails to adequately analyze and quantify the adverse impacts on the Hudson River fishery from impingement and entrainment allegedly caused by IPEC's once-through cooling system.[790] NYS further contends that the NRC should deny the LRA because, allegedly, "massive numbers of fish" are "impinged and entrained by the

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[787] *See PPL Susquehanna*, 50-387-LR, 65 NRC at 327 (contention must explain "why the application is unacceptable in some material respect") (emphasis added); *Millstone*, LBP-04-15, 60 NRC at 94 ("properly formulated contentions must focus on the license application"); *Florida Power & Light Co.* (Turkey Point), CLI-01-17, 54 NRC 3, 25 (2001) ("it is the license application, not the NRC Staff Review" on which contentions must focus).

[788] *Exelon Generating Co. LLC*, CLI-05-29, 62 NRC 801, 811 (2005) ("Our boards do not sit to 'flyspeck environmental documents or to add details or nuances."); ER at 4-1 – 4-88, 8-1 – 8-67; AEI Report at 22-80.

[789] Petition at 281.

[790] *Id.* at 286-87 (the ER "does not provide any estimate of actual numbers of fish impinged or entrained at either IP2 or IP3. This omission is a major omission because it fails to acknowledge the significant and obvious environmental impacts of once-through cooling.").

intake structures of the once-through cooling systems," and unlike "a number of other nuclear plants around the country" IPEC uses a once-through cooling system that has a "profound effect on the Hudson River fishery."[791]

Entergy opposes the admission of Proposed Contention 31 on the grounds that it (1) falls outside the "scope" of license-renewal, contrary to 10 C.F.R. § 2.309(f)(1)(iii), consistent with its plain meaning and settled NRC precedent; (2) lacks adequate factual or expert opinion support, contrary to 10 C.F.R. § 2.309(f)(1)(v); and (3) fails to establish a genuine dispute with Entergy on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). As briefly detailed below, a license renewal applicant need only provide a current § 316(b) determination, or equivalent SPDES permits and supporting documentation, as Entergy did in its LRA. Thus, Entergy's LRA satisfies applicable NRC requirements, particularly § 51.53(c)(3)(ii)(B), and NEPA. In the final analysis, Proposed Contention 31 amounts to a collateral attack on the NRC's promulgation of § 51.53(c)(3)(ii)(B), and on that basis alone is inadmissible.[792]

Moreover, NYS has not established with the requisite factual or expert opinion support that Entergy's ER is deficient in any material respect. Rather, NYS simply disputes Entergy's conclusions, again without adequate support. Lastly, NYS's contention could not affect the outcome of this Proceeding as it in no way successfully undermines the data-set presented in Entergy's ER, which provides NRC more than adequate data for the necessary analyses. In the final analysis, NYS's Proposed Contention 31 amounts to a collateral attack on the NRC's

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[791] *Id.* at 281-82.

[792] *See, e.g.*, *Seabrook*, LBP-82-106, 16 NRC at 1656 (contention which "advocate[s] stricter requirements than those imposed by the regulations" is "an impermissible collateral attack on the Commission's rules" and must be rejected).

promulgation of § 51.53(c)(3)(ii)(B), not to mention the pending SPDES Permit administrative proceeding before the NYSDEC-appointed ALJs, and is therefore inadmissible.[793]

a. Proposed Contention 31 Is Outside the Scope of this Proceeding Because Entergy's LRA Includes the State-Equivalent § 316(b) Determination that Satisfies § 51.53(c)(3)(ii)(B) and NYS Only Disputes Conclusions in the ER

As detailed above in Entergy's response to Proposed Contention 30 and not repeated here, NRC law clearly defines the scope of Entergy's obligations with respect to the aquatic impacts that are the subject of Proposed Contention 31. If Entergy provides a current state determination equivalent to § 316(b), NRC has no obligation to assess the impact of the proposed action on the aquatic environment.[794]

As also detailed above and not repeated here, in its ER, Entergy provided NRC with a copy of its current, effective NYSDEC-issued SPDES Permit and "supporting documentation," here the Consent Order containing NYSDEC's equivalent of § 316(a) and (b) determinations for IPEC.[795] Because Entergy has presented a valid and currently effective SPDES permit and supporting documents in the ER to satisfy § 51.53(c)(ii)(B), Proposed Contention 31 should not be admitted.

In addition, to be admissible, Proposed Contention 31 must state *why* Entergy's discussion in the ER fails to present the information required by 10 C.F.R. Part 51.[796] Contentions that are not based on the applicant's ER—that neither identify specific errors or

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[793] *See, e.g., AmerGen Energy Co.* (Oyster Creek Nuclear Generating Station), 50-0219-LR, 64 NRC 229, 246-47 (2006) (contention challenging sufficiency of monitoring required by NRC rule is inadmissible collateral attack).

[794] *See* 10 C.F.R. § 51.53(c)(3)(ii)(B); CWA, § 511(c); *Vermont Yankee*, CLI-07-16, 65 NRC at 383 (applicant must "merely" submit the state equivalent of § 316(a) and (b) determinations); 40 Fed. Reg. 60,117-18 (1975); 56 Fed. Reg. 47,016, 47,019 (Sept. 17, 1991).

[795] *See* ER at Attachment C and at 4-90 (referencing FEIS, Appendices F-II (HRSA) and F-III (Fourth Amended Consent Order)).

[796] *Turkey Point*, CLI-01-17, 54 NRC at 16; *see also Vogtle*, 52-011-ESP, 65 NRC at 254 ("All properly formulated contentions must focus on the license application in question . . . .").

deficiencies therein—are beyond the scope and are properly dismissed. Proposed Contention 31, which states that IPEC's CWIS operation in the Hudson River is "simply no longer tenable, either in fact or in law,"[797] fails to satisfy this standard. Significantly, NYS does not set forth any facts or expert opinion that establish that IPEC's CWIS causes adverse impacts on Hudson River fish, but merely asserts that IPEC uses cooling water each day and that the Hudson River ecology is not ideal.[798] Indeed, NYS only disputes what the ER concludes, not any of the information or analysis actually in the ER.[799] Because it "identifies no failure of the ER to contain information,"[800] Proposed Contention 31 should not be admitted.[801] This result is particularly appropriate here, since Proposed Contention 31 is merely a vehicle for reciting NYS's views on a particular subject, a likewise impermissible ground for admission of a proposed contention.[802]

b. The ER Satisfies NEPA, and Proposed Contention 31 Lacks Adequate Factual or Expert Opinion Support, Contrary to 10 C.F.R. § 2.309(f)(1)(v)

Petitioner's claim in Proposed Contention 31 that Entergy's ER fails to accurately quantify the impingement and entrainment impacts of the plant's operation,[803] is inadmissible because it has no credible factual or expert opinion support.[804] NYS, therefore, fails to meet the NRC's admissibility requirements for a proposed contention.

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797 Petition at 281.

798 *Id.* at 282, 286.

799 *See id.* at 287-88 (disputes conclusion that impingement impacts are "small;" disputes conclusion that mitigation measures are not needed; disputes that entrainment impacts are "small;" disputes that mitigation measures are not needed).

800 *PPL Susquehanna*, 50-387-LR, 65 NRC at 327.

801 *Turkey Point*, CLI-01-17, 54 NRC at 18-19 (2001).

802 *PPL Susquehanna*, 50-387-LR, 65 NRC at 327 (dismissing contention that stated petitioner's viewpoints regarding the "acceptable" level of biological impact).

803 *See* Petition at 286-87 (the ER "does not provide any estimate of actual fish impinged or entrained").

804 Under 10 C.F.R. § 2.309(f)(1)(v), each contention must include "concise statement of the alleged facts or expert opinions which support the requestor's/petitioner's position on the issue and on which the petitioner intends to

(i) The ER Adequately Addresses Impingement and Entrainment

Petitioner's position that the ER fails to adequately address the potential impingement and entrainment impacts of IPEC's CWIS operations is incorrect as a matter of fact and law. As detailed above, no specific assessment of the substance of the Proposed Contention, *i.e.*, entrainment or impingement, is required in Entergy's ER, because it has included its current state-equivalent § 316(b) determination. Nonetheless, even if specific assessment were required, Entergy's ER provides it in a manner that satisfies NRC regulation and NEPA.

More particularly, Entergy's ER, which as a matter of law includes all documents referenced therein and all documents in the related public record,[805] fully identifies the potential impacts of open-cycle cooling in a manner required by NEPA. It summarizes the approximately three decades of comprehensive, verified data relating to the potential aquatic impacts of IPEC's CWIS operation, including with respect to entrainment and impingement, as those terms are defined by NRC law and NEPA.[806] Entergy's ER also fully assesses alternatives in a manner required by NEPA in the context of license renewal, including by specifically discussing closed-cycle cooling.[807] Indeed, NYSDEC's own discussion of alternatives, in the interim generic

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rely at hearing, together with references to the specific sources and documents on which the requestor/petitioner intends to rely to support its position on the issue."

[805] NEPA regulation and case law are clear that documents referenced in NEPA-mandated reports are deemed included in those reports. *See, e.g.*, 40 C.F.R. § 1502.21 (content of EIS includes all documents incorporated by reference); *Concord Vill. Owners v. Barram*, No. 97-Civ. 2607, 1997 U.S. Dist. LEXIS 10773, at *13 (E.D.N.Y. July 24, 1997) ("it is *accepted practice* for an EIS to incorporate other documents by reference") (emphasis added). In addition, a petitioner is charged with accounting for all information in the relevant public record, here the ongoing SPDES permit proceeding before NYSDEC. *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), LBP-04-4, 59 NRC 129, 146 (2004) ("petitioner has an ironclad obligation to examine the publicly available documentary material pertaining to the facility" when drafting contentions).

[806] ER at 4-8 to 4-24.

[807] *Id.* at 8-1 to 8-71.

FEIS, includes no more alternatives than Entergy considered in its ER, and no more depth in its discussion.[808]

NYS nonetheless contends that Entergy did not "provide any estimate" of entrainment and impingement at IPEC.[809] However, ER discussion reflects the ongoing impacts assessment, with its copious quantification of numerous aspects of the relevant fish populations, entrainment and impingement.[810] Moreover, Petitioner has provided witness statements that are incorrect with respect to their criticism of the ER, are speculative or scientifically indefensible about fisheries conditions, or provide no reasoned basis for concluding that operation of the IPEC CWIS has had any adverse impact on Hudson River ecology, including as a result of entrainment and impingement.[811]

By contrast, and consistent with the ALJs' Issues Ruling, Entergy has retained leading national fisheries biologists with extensive, Hudson River-specific entrainment and impingement expertise who have performed a comprehensive assessment of whether IPEC's CWIS operations can be reasonably said, as a scientific matter, to represent an adverse environmental impact to the

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[808] Little Declaration, Ex. L (FEIS). *Compare* Little Declaration, Ex. K, DEIS, at VIII-1 to VIII-62 (considering prescribed outages; efficient cooling water flow rates; closed cooling water systems; Isotropy modified vertical traveling water screens; cylindrical wedge-wire (Johnson) screens; fine-mesh screens; barrier nets; fine mesh barrier systems; behavioral systems; district heating and cooling; importation of power; and multiple choice alternative) *with* FEIS, at 29-36 (considering closed-cycle cooling, modified usage or flow rates; structural protections such as traveling screens, barrier nets, aquatic filter barriers such as the Gunderboom Marine Life Exclusion System, and wedgewire intake structures; and behavioral and deterrent systems). Likewise, the highly detailed closed-cycle cooling assessment, prepared by leading nuclear engineer Enercon Services, Inc. ("Enercon"), and submitted to NYSDEC prior to its issuance of the FEIS, is unaddressed in that document, but reflected in the ER. *Compare* ER, at 8-1 to 8-19 *with* FEIS, at 29-36. Consequently, Entergy's closed-cycle cooling analysis in the ER, which has the benefit of the Enercon Report, addresses closed-cycle cooling in greater depth than the FEIS.

[809] *See* Petition at 287.

[810] *See, e.g.*, ER at 4-19 (incorporating data discussing impingement).

[811] Declaration of Mark T. Mattson, Ph.D. in Opposition to Riverkeeper Proposed Contention EC-1 and New York Attorney General Contention 31-32 ¶¶ 42, 50, 53 (hereinafter "Mattson Declaration") (Entergy Exhibit H to Riverkeeper Answer); Declaration of Lawrence Barnthouse, Ph.D. in Opposition to Riverkeeper Proposed Contention EC-1 and New York Attorney General Contention 31 ¶ 21 (hereinafter "Barnthouse Declaration") (Entergy Exhibit C to Riverkeeper Answer).

aquatic ecosystem.[812,813] These consultants are: (1) Dr. Lawrence W. Barnthouse, President and Principal Scientist of LWB Environmental Services, Inc.; (2) Dr. Douglas G. Heimbuch, Technical Director in the Natural Resources Group at AKRF; (3) Dr. Webster Van Winkle of Van Winkle Environmental Consulting Co.; and (4) Dr. John R. Young, a senior scientist at ASA Analysis & Communication, Inc.

The expertise of these consultants is unparalleled. Dr. Barnthouse is a leader in the assessing the potential impacts of energy technologies in freshwater, estuarine and marine environments[814], with substantial, first-hand experience assessing the Hudson River ecosystem—for nearly two decades on behalf of NRC and USEPA.[815] Dr. Heimbuch is a leader in the fields of fisheries science and biostatistics with extensive, first-hand experience analyzing fish abundance and distribution data from the Hudson River, and again a trusted consultant retained by USEPA and state authorities.[816] Dr. Van Winkle has particular depth and expertise in assessing the potential impacts of CWIS withdrawals on ecological communities.[817] Dr.

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[812] *See generally*, AEI Report. By contrast, Petitioner presents its entrainment and impingement contention through the expert testimony of Mr. Roy Jacobson, a NYSDEC biologist with no formal education in fisheries biology, whose graduate education focused on the white-tailed deer and angora goat in Texas. Jacobson Declaration, Ex. A (Resume of Roy A. Jacobson). This can hardly be considered adequate "expert support" under 10 C.F.R. 2.309(f). *See Pub. Serv. Co. of New Hampshire* (Seabrook Station, Units 1 and 2), LBP-89-32, 30 NRC 375, 417 (1989) (noting that an expert's testimony "is not sufficient" since it "is not the testimony of an expert in that field"), *rev'd on other grounds*, 32 NRC 135; *Comm'w Edison Co.* (Zion Station, Units 1 and 2), LBP-80-7, 11 NRC 245, 274 n.154 (1980) (striking portions of an expert's report after he admitted that he was not an expert in certain fields).

[813] AEI Report at 22-80.

[814] Barnthouse Declaration ¶ 1.

[815] *Id.* ¶ 2.

[816] Declaration of Douglas G. Heimbuch, Ph.D. in Opposition to Riverkeeper Proposed Contention EC-1 and New York Attorney General Contention 31 ¶¶ 1-2 (hereinafter "Heimbuch Declaration") (Entergy Exhibit D to Riverkeeper Answer).

[817] Declaration of Webster Van Winkle, Ph.D. in Opposition to Riverkeeper Proposed Contention EC-1 and New York Attorney General Contention 31 ¶¶ 1-2 (hereinafter "Van Winkle Declaration") (Entergy Exhibit F to Riverkeeper Answer).

Young[818] and Dr. Mattson[819] have managed the unparalleled Hudson River datasets for approximately three decades, and are responsible for the comprehensive, verified Biological Monitoring Program ("HRBMP").[820] Dr. Young has first-hand experience assessing the Hudson River ecology, including providing entrainment assessment services focusing on IPEC.[821] These consultants are preeminent scientists in their field, and bring to bear substantial knowledge and expertise on fisheries and the Hudson River.

Since submission of the LRA, these experts have completed that assessment, titled "Entrainment and Impingement at Indian Point, a Biological Impact Assessment" (the "AEI Report").[822] As noted in the Executive Summary of that Report, its purpose, fundamental approach and conclusions are as follows:

> This report evaluates whether entrainment and impingement by the respective cooling water intake structures ("CWIS") at Indian Point Unit 2 ("IP2") and Indian Point Unit 3 ("IP3") have caused an adverse environmental impact ("AEI"), using biologically-based definitions of AEI that are consistent with established definitions and standards of ecological risk assessment and fisheries management.
>
> The approach involves three elements. First, we use the *extensive Hudson River fisheries datasets* to determine (1) whether changes in the status of species of interest identified by the New York State Department of Environmental Conservation ("NYSDEC") have occurred since IP2 and IP3 began commercial operation, (2) whether cooling-water withdrawals by IP2 and IP3 during this period could have been responsible for any such changes, or (3) whether alternative stressors including striped bass predation,

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818 Declaration of John R. Young, Ph.D. in Opposition to Riverkeeper Proposed Contention EC-1 and New York Attorney General Contention 31 ¶ 1 (hereinafter "Young Declaration") (Entergy Exhibit G to Riverkeeper Answer).

819 Mattson Declaration ¶ 1.

820 Young Declaration ¶ 3.

821 *Id.*

822 A copy of the AEI Report is attached to the Barnthouse Declaration (Entergy Exhibit C to Riverkeeper Answer).

zebra mussels, and harvesting are the more probable cause of perceived changes.

Second, we use a widely-accepted method for quantifying the impacts of harvesting on the sustainability of fish populations, termed the Spawning Stock Biomass per Recruit ("SSBPR") model, to determine whether entrainment and impingement at IP2 and IP3 could have adversely affected the sustainability of the Hudson River striped bass and American shad populations.

Third, we examine long-term trends in the abundance of all Hudson River fish species for which adequate trends data sets can be developed to determine whether species with high susceptibility to entrainment at IP2 and IP3 are more likely to have declined in abundance over the past 30 years than are species with low susceptibility to entrainment.

All three elements of the assessment support a conclusion that IP2 and IP3 have not caused an AEI. Evaluation of alternative hypotheses concerning the causes of changes in abundance of Hudson River fish populations found no evidence supporting the hypothesis that IP2 and IP3 contributed to these changes. Instead, the evaluation shows that overharvesting is the most likely cause of recent declines in abundance of American shad, with striped bass predation being a potentially significant contributing factor. Increased predation by the rapidly growing Hudson River striped bass population is the most likely cause of recent declines in the abundance of Atlantic tomcod, river herring and bay anchovy. Striped bass predation probably contributed to the decline in abundance of white perch, although other unknown causes were also involved.

* * * *

Considered together, the evidence evaluated in this report shows that the operation of IP2 and IP3 *has not caused effects on early life stages of fish that reasonably would be considered "adverse" by fisheries scientists and/or managers. The operation of IP2 and IP3 has not destabilized or noticeably altered any important attribute of the resource.*[823]

[823] AEI Report, Executive Summary.

Thus, as this Report comprehensively demonstrates, IPEC's CWIS is not causing an adverse environmental impact on the Hudson River ecosystem, and Petitioner's proposed contention is thus fatally flawed.

(ii) Proposed Contention 31 Lacks Adequate Expert Support

In addition, Proposed Contention 31 suffers from a lack of expert support.[824] Petitioner submitted two declarations in support of this contention, but it nonetheless fails to meet § 2.309(f)(1)(v)'s requirements because: (1) Roy Jacobson is not qualified to give any opinions on aquatic organism impacts, (2) William Little is not qualified to give scientific opinions whatsoever, and (3) these alleged experts' conclusions are improperly speculative.[825]

First, Petitioner's supposed expert—Roy Jacobson—is not qualified to give opinions about the possible impact of entrainment or impingement on aquatic organisms.[826] As under the federal rules, an expert in an NRC proceeding "may qualify as an expert by 'knowledge, skill, experience, training, or education' to testify '[i]f scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue."[827] Mr. Jacobson has an undergraduate degree in Environmental and Forest Biology and a Master's degree in Wildlife Ecology, the focus of which was deer and goats in Texas.[828] NRC

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824 *See* 10 C.F.R. § 2.309(f)(1)(v) (requiring expert support to admit a contention).

825 As noted earlier, a chart of Entergy's complete objections to the Declarations of Roy Jacobson and William Little is submitted herewith as Entergy Exhibit N.

826 *See* 10 C.F.R. § 2.309(f)(1)(v) (requiring expert support for admissible contentions); *Duke Energy Corporation*, CLI-04-21, 60 NRC 21, 27 (2004) ("a licensing board normally has considerable discretion in making evidentiary rulings, such as deciding whether a witness is qualified to serve as an expert"); *see also Entergy Nuclear Vermont Yankee* (Vermont Yankee Nuclear Power Station), LBP-04-31, 60 NRC 686, 700 (2004) (the panel "reasonably may expect" to hear disputes concerning the professional qualifications of experts).

827 *Catawba*, CLI-04-21, 60 NRC at 27.

828 Jacobson Declaration at Ex. A (resume of Roy Jacobson).

precedent makes clear that experts must be qualified *in the field in which they seek to provide expert testimony.*[829]

Federal precedent, which is persuasive authority for NRC,[830] is entirely consistent with NRC's rule of limiting experts to their respective fields. Thus, although Mr. Jacobson may be qualified by his education to provide testimony on Texan deer and goats, he is not similarly qualified by education as a fisheries biologist, well-versed in entrainment and impingement issues. Moreover, Mr. Jacobson's resume indicates that he has never performed entrainment or impingement studies or written peer-reviewed articles on the subject. Merely "reviewing environmental impact statements" or performing "permit review" is not sufficient expertise for Mr. Jacobson to draw on.[831] Mr. Jacobson is therefore not qualified, and Contention 31 should not be admitted for want of expert support.

Second, Petitioner's other supposed expert William Little is an NYSDEC attorney and is thus lacking in relevant scientific qualifications. In his declaration, Mr. Little advances a number of conclusions regarding the environmental implications of IPEC's once-through looking system.[832] Mr. Little is an attorney with no apparent fisheries biology (or hydrothermal) training

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[829] *Seabrook*, LBP-89-32, 30 NRC at 417 (noting that an expert's testimony "is not sufficient" since it "is not the testimony of an expert in that field").

[830] *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), 72-22-ISFSI, 62 NRC 328, 357 (2003) (nothing that, "the Federal Rules of Evidence, and specifically Rule 702, provide a standard to gauge a witness's expert status"); *see also Duke Cogema*, 070-03098-ML, 61 NRC at 80 ("where the opinions of two experts may appear to be in conflict with each other, Federal Rule of Evidence 702 may also serve as guidance" in evaluating an expert's testimony).

[831] Indeed, Mr. Jacobson's declaration highlights his lack of experience. He relies heavily on the studies of *fisheries biologists* to make conclusions, albeit speculative ones, regarding Entergy's operation. Jacobson Declaration at ¶ 8 (species "seem to be declining in abundance"). He then relies on the declaration of an *attorney* for entrainment numbers. *See id.* at ¶ 20. NRC must not abide these shortcomings.

[832] *See, e.g.*, Little Declaration at ¶¶ 11, 12, 31, 37-39, 42.

or experience to speak of.[833] He, therefore, is clearly seeking to provide so-called expert testimony outside his field. NRC precedent proscribes this.[834]

Third, and finally, the declarations of Mr. Jacobson and Mr. Little both suffer from speculation (as does Dr. Dilk's, as described above). NRC precedent makes clear that speculative expert witness statements are inadmissible.[835] As an example, and by no means an exhaustive list, Mr. Jacobson makes generalizations about cooling water intake systems that have no specific applicability to IPEC; rather, a leap of faith is required.[836] Though he relies on it to overcome his lack of qualifications, Mr. Jacobson also speculatively muses that impingement figures "could vary" from literature estimates.[837] Speculation such as that is fatal to the admission of Contention 31. Thus, Contention 31 lacks adequate expert opinion support and should not be admitted.

c. *Proposed Contention 31 Identifies No Material Dispute*

Even assuming that NRC had jurisdiction to evaluate the substance of IPEC's SPDES Permit, which it does not (as discussed above), and also that Petitioner's factual assertions regarding the status of the Hudson River are relevant and correct, which they are not (as discussed above), to be admissible Petitioner's Proposed Contention must also be material. To

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833 *See id.* at ¶ 1.

834 *See Seabrook*, LBP-89-32, 30 NRC at 417 (noting that an expert's testimony "is not sufficient" since it "is not the testimony of an expert in that field").

835 *See Vogtle*, 52-011-ESP, 65 NRC at 253 (observing that "neither mere speculation nor bare or conclusory assertions, even by an expert, alleging that a matter should be considered will suffice to allow the admission of a proffered contention"); *Duke Cogema*, 070-03098-ML, 61 NRC at 80 (noting that "[w]hile the expert's method for forming his opinion need not be generally recognized in the scientific community, the opinion must be based on the 'methods and procedures of science' rather than on 'subjective belief or unsupported speculation.'"); *Private Fuel Storage*, 72-22-ISFSI, 47 NRC at 181 (stating that "an expert opinion that merely states a conclusion (*e.g.*, the application is 'deficient,' 'inadequate,' or 'wrong') without providing a reasoned basis or explanation for that conclusion is inadequate").

836 *See* Jacobson Declaration at ¶ 9.

837 *See id.* ¶ 22.

satisfy NRC's materiality standard, the proposed information must be able to affect the outcome of this Proceeding.[838]

Proposed Contention 31 does not, and cannot, affect the outcome of this Proceeding because the alleged errors in Entergy's ER in no way undermine Entergy's compliance with NRC regulations (under NEPA).[839] However much Petitioner opposes renewal of IPEC's operating license, it has not shown that Entergy's ER is so deficient that the NRC could not perform its required analysis based upon the data therein.[840] Petitioner lists a number of impacts that can be caused by once-through cooling, Petition at 281, 286-87, but it never (1) explains how inclusion of this information in the ER is necessary to satisfy 10 C.F.R. Part 51; (2) alleges that, in contrast, the information provided in the ER is false or incomplete; or (3) alleges an error in Entergy's analysis that would demand a different outcome. Proposed Contention 31, therefore, fails to comply with 10 C.F.R. § 2.309(f)(1)(vi). Petitioner cannot, moreover, simply point to its declarations to make the required showing.[841]

What Petitioner does instead is merely offer its own opinion regarding what course the NRC staff should follow based on the information already available.[842] Petitioner fails to even explain why Entergy's data mandates a different outcome than that suggested in the ER; it merely makes conclusory statements about what should occur.[843] The responsibility of drawing

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[838] 10 C.F.R. § 2.309(f)(1)(iv) (contention must raise issues "material to the findings the NRC must make to support the action that is involved in the proceeding"); *PPL Susquehanna*, 65 NRC at 305 (2007) (contentions must be material to "the findings the NRC must make to support the relicensing").

[839] *See Vogtle*, 52-011-ESP, 65 NRC at 255-56 (dismissing contention because analysis petitioner alleged was "lacking" was not required by NRC regulations).

[840] *PPL Susquehanna*, 50-387-LR, 65 NRC at 309-10 (NEPA achieves its objectives by "ensur[ing] that the agency . . . will have available . . . detailed information concerning significant environmental impacts").

[841] *Vogtle*, 52-011-ESP, 65 NRC at 253-54 ("simply attaching material . . . without setting forth an explanation of that information's significance, is inadequate to support the admission of the contention.").

[842] *See, e.g.*, Petition at 281 ("The perpetuation of once-through cooling here . . . is simply no longer tenable").

[843] *See, e.g., id.* at 289 ("Based on the data . . . closed cycle cooling . . . is the only answer here.").

such conclusions, however, is firmly entrusted to the NRC staff.[844] A discussion of the proper conclusion to draw from this data-set is, therefore, not a material concern at this stage of the Proceeding.[845]

This is highlighted by the fact that the discussion of impacts required by NEPA is governed by a "rule of reason" standard—neither IPEC in its ER nor the NRC in its SEIS need pursue all possible avenues of analysis.[846] So long as "a reasonably thorough discussion of the significant aspects of the probable environmental consequences" occurs prior to license renewal, NEPA is satisfied.[847]

Additionally, the sum total of Petitioner's purported expert criticism, again even if accepted as correct, amounts to "background noise" in view of the comprehensiveness of the ER, and confirmed by the AEI Report.[848] The sum of Petitioner's challenge to the ER in Proposed Contention 31 consists merely of describing certain conclusions in the ER as "misleading" or "self-serving" without explaining how these supposed errors undermine the data-set as a whole—and it is the adequacy of the data set which is a key component in satisfying NEPA.[849]

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[844] 10 C.F.R. § 51.103(a)(5) ("the Commission shall determine whether or not the adverse environmental impacts of license renewal are so great that preserving the option of license renewal for energy planning decisionmakers would be unreasonable").

[845] *See PPL Susquehanna*, 50-387-LR, 65 NRC at 327 (contention must explain "why the application is unacceptable in some material respect") (emphasis added), *Millstone*, LBP-04-15, 60 NRC at 94 ("properly formulated contentions must focus on the license application"), *Turkey Point*, CLI-01-17, 54 NRC at 25 ("it is the license application, not the NRC Staff Review" on which contentions must focus).

[846] *Deukmejian*, 751 F.2d at 1300 (applying "rule of reason" and allowing NRC to proceed without performing additional analysis requested by petitioner).

[847] *Dubois v. United States Dep't of Agric.*, 102 F.3d 1273, 1287 (1st Cir. 1996) ("rule of reason [applies] in determining whether an EIS contains a reasonably thorough discussion of the significant aspects of the probable environmental consequences").

[848] ER, 4-1 to 4-88, at 8-1 to 8-67.

[849] Petition at 287-88.

The data underlying the ER, however, consists of a nearly forty-year assessment and was characterized by NYSDEC staff as "probably, the best data set on the planet."[850] For Petitioner to state that the impacts caused by impingement and entrainment are "far from small" is far from an assault on the adequacy of the ER under 10 C.F.R. Part 51. Proposed Contention 31 is no more than an impermissible attempt to "fly-speck" the ER by challenging its minor details while ignoring the value of the document in its entirety.[851]

In the final analysis, Proposed Contention 31 is again entirely geared toward the conclusion that Entergy must retrofit with closed-cycle cooling—Petitioner's final statement on this topic is that "the data" (a tacit admission that the data-set provided is sufficient) mandates "closed cycle cooling." This is a conclusion that is impermissible under NEPA, which can compel no outcome.[852] Hence, Proposed Contention 31 is immaterial at its very core, and inadmissible.

32. Proposed Contention 32: Failure to Conform to the Endangered Species Act

Proposed Contention 32 states:

> NEPA REQUIRES THAT THE NRC REVIEW THE ENVIRONMENTAL IMPACTS OF THE OUTMODED ONCE-THROUGH COOLING WATER INTAKE SYSTEM USED AT INDIAN POINT, WHICH HARMS ENDANGERED SPECIES AND CANDIDATE THREATENED SPECIES.[853]

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[850] *See, e.g.*, Letter from William Sarbello (then-NYSDEC staff-person) to Proposed § 316(b) Rule Comment Clerk, United States Environmental Protection Agency, Attachment at 15 (Nov. 9, 2000) (submitted herewith as Entergy Exhibit I to Riverkeeper Answer).

[851] *Swanson v. United States Forest Serv.*, 87 F.3d 339, 343 (9th Cir. 1996) (upholding EIS containing adequate discussion of environmental consequences in spite of allegations of specific factual errors).

[852] *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350-51 (1989) ("If the adverse environmental effects of the proposed action are adequately identified and evaluated, the agency is not constrained by NEPA from deciding that other values outweigh the environmental costs.").

[853] Petition at 290.

In this contention, Petitioner argues: (1) that NRC's approval of the LRA "might" jeopardize the continued existence of the Hudson River shortnose sturgeon population; and (2) that Entergy is in violation of the Endangered Species Act, 16 U.S.C. § 1531, et. seq. (the "ESA"), because it does not possess an incidental take permit for the impingement of shortnose sturgeon on the intake screens at IPEC.[854]

Entergy opposes the admission of Proposed Contention 32 on the grounds that it is (1) outside the scope of this license renewal proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii), (2) not adequately supported in fact or law, contrary to 10 C.F.R. § 2.309(f)(1)(v), and (3) does not show a genuine dispute on a material issue of law or fact contrary to 10 C.F.R. § 2.309(f)(1)(vi). More specifically, Entergy is required in the ER only to assess the impacts of operations during the license renewal period on threatened and endangered species, and any decision as to whether approval of the LRA will jeopardize the continued existence of a species is left to the consultation process between the NRC and the National Marine Fisheries Service ("NMFS"). Moreover, Petitioner provides no basis for its speculation that continued operations during the license renewal period would jeopardize shortnose sturgeon, and the evidence is to the contrary. Second, Entergy is not required to demonstrate compliance with the ESA in the ER and, in any event, Entergy already holds the requisite approvals under the ESA for the operation of IPEC.

a. *The ER Provides the Required Analysis of Impacts to Threatened and Endangered Species*

Entergy's obligation to address endangered and threatened species in the ER is circumscribed as follows: "[T]he applicant shall assess the impacts of the proposed action on

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[854] *See* Petition at 32.

threatened or endangered species in accordance with the [ESA]."[855] The ER contains the required assessment of these impacts in §§ 4.10.5 and 4.10.6. As documented in these sections, Entergy corresponded with NMFS to request a listing of all threatened and endangered species in the vicinity of IPEC.[856] Working from this NMFS-supplied list, Entergy proceeded to address each of the species identified by NMFS, in particular the shortnose sturgeon, and the potential for impacts to each.[857] Nowhere in Proposed Contention 32 does Petitioner allege that the ER is incomplete or otherwise lacking in information with regard to its assessment. Thus, contrary to 10 C.F.R. § 2.309(f)(1)(ii), there are simply no bases presented by Petitioner that might warrant admission of this proposed contention.[858]

As discussed in the ER, Entergy acknowledges that the NRC must undertake the consultation process with NMFS under § 7 of the ESA and, as relevant here, ensure that its approval of the LRA is not likely to jeopardize the Hudson River shortnose sturgeon population.[859] Petitioner's assertion that approval of the LRA "*might* jeopardize the continued existence of the shortnose sturgeon, which become impinged on the intake screens at IP2 and IP3,"[860] is unfounded speculation and, indeed, is contradicted by the express findings of NMFS

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855 10 C.F.R. § 51.53(c)(3)(ii)(E).

856 *See* ER at 4-27, 28.

857 *See id.* at 4-28 – 4-31. The ER also identified the Atlantic sturgeon as a candidate for listing by the NMFS. *See id.* at 4-28. However, it is not presently a threatened or endangered species under the ESA and, therefore, while potential affects on this species were described in the ER, such a discussion is not required by 10 C.F.R. § 51.53(c)(3)(ii)(E) (requiring assessment of impacts on threatened and endangered species only).

858 *See also PPL Susquehanna*, 50-387-LR, 65 NRC at 327 (petitioner "identifies no failure of the ER to contain information" and, therefore, the contention is outside the scope of the license renewal proceeding).

859 *See* ER, at 4-27, 4-31; s*ee also* 16 U.S.C. § 1536(a)(2) ("Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized . . . by such agency . . . is not likely to jeopardize the continued existence of any endangered or threatened species . . . .").

860 Petition at 291 (emphasis added).

for IPEC and in other matters involving the Hudson River shortnose sturgeon population.[861] As NYSDEC is aware, shortnose sturgeon are not susceptible to impingement or entrainment,[862] and their number has expanded significantly throughout the prior 30 years of IPEC operations.[863] Contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi), the Petitioner has failed to provide any expert opinion to bolster its conjecture, or reference to the ER that might support this issue. Thus, it would seem unreasonable to conclude that continued operations would suddenly jeopardize this species. It would also be contrary to established NRC precedent prohibiting contentions based upon speculation to admit Proposed Contention 32.[864] In any event, Entergy and NRC will—as they must—abide by their ESA obligations resulting from the consultation process. Petitioner's speculation as to those obligations is not germane to that process or this proceeding.

b. Entergy Does Not Require an Incidental Take Permit Under the ESA

As noted above, Entergy's obligation is to assess in the ER the impacts of the approval of the LRA on threatened and endangered species.[865] Entergy is not obligated to demonstrate compliance with the ESA in the ER and, therefore, Petitioner's allegations of noncompliance with the ESA are outside the scope of this proceeding.[866]

Moreover, and contrary to Petitioner's allegations, Entergy is in compliance with the ESA. As a general rule, the ESA prohibits the taking of an endangered species.[867] However, this

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[861] *See* ER, at 4-29 (citing NMFS 2000 Environmental Assessment indicating a four-fold increase in the Hudson River shortnose sturgeon population since the 1970's).

[862] Mattson Declaration ¶ 34.

[863] *See id.* ¶ 36 (discussing the 400% increase in Hudson River shortnose sturgeon since the late 1970's).

[864] *See Vogtle*, 52-011-ESP, 65 NRC at 253 (observing that "neither mere speculation nor bare or conclusory assertions, even by an expert, alleging that a matter should be considered will suffice to allow the admission of a proffered contention").

[865] *See* 10 C.F.R. § 51.53(c)(3)(ii)(E).

[866] *See Vogtle*, 52-011-ESP, 65 NRC at 255-56 (dismissing contention because analysis petitioner alleged was "lacking" was not required by NRC regulations).

[867] *See* 16 U.S.C. § 1538(a)(1)(B) (prohibiting the taking of any endangered species).

general rule does not apply to any taking contemplated in a biological opinion issued under § 7(b) of the ESA that concludes that the proposed action will not jeopardize the endangered species.[868] Indeed, Congress' specific intention was to avoid duplicative incidental take permits where a biological opinion had been issued:

> The purpose of Section 7(b)(4) and the amendment to Section 7(o) is to resolve the situation in which a Federal agency or a permit or license applicant has been advised that the proposed action will not violate Section 7(a)(2) of the Act but the proposed action will result in the taking of some species incidental to that action -- a clear violation of Section 9 of the Act which prohibits any taking of a species. The Federal agency or permit or license applicant is then confronted with the dilemma of having a biological opinion which permits the activity to proceed but is, nevertheless, proscribed from incidentally taking any species even though the incidental taking was contemplated in the biological opinion and determined not to be a violation of Section 7(a)(2). The Committee intends that such incidental takings be allowed *provided that the terms and conditions specified by the Secretary to minimize the impact of the taking are complied with.*[869]

As discussed in the ER, but overlooked by Petitioner in Proposed Contention 32, in 1979, Dr. Michael J. Dadswell of NMFS issued a biological opinion under § 7(b) of the ESA on the impact on shortnose sturgeon of once-through cooling at, among other facilities, IPEC.[870] That opinion concluded that:

> the once through cooling system of the power plants involved in this case is not likely to jeopardize the continued existence of the shortnose sturgeon because, even assuming 100% mortality of impinged fish, its contribution to the natural annual mortality is *negligible*. In addition, the biology of the shortnose sturgeon effectively isolates the species from most of the effects of power plant intakes.[871]

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[868] *See id.* § 1536(o)(2).

[869] H.R. REP. NO. 97-567, at 2826 (1982) (Endangered Species Act of 1982) (emphasis added).

[870] *See* ER at 4-30.

[871] *See* DADSWELL BIOLOGICAL OPINION 16-17 (referenced ER at 4-30) (emphasis supplied). Indeed, NYSDEC has acknowledged that this opinion had been rendered. *See* FEIS, at 26 ("In testimony to the EPA in 1979, NMFS concluded in a Biological Opinion made pursuant to Section 7 of the Endangered Species Act that the

Given these negligible impacts, the Biological Opinion did not require any mitigation or monitoring associated with the operations of IPEC or, for that matter, any of the other power plants addressed in the Biological Opinion. Thus, because the incidental take of shortnose sturgeon due to the operation of IPEC was specifically contemplated in the Biological Opinion, Entergy does not require a separate (and, as Congress has indicated, duplicative) incidental take permit covering the same activity.

Based upon the foregoing, Proposed Contention 32 should be dismissed in its entirety.

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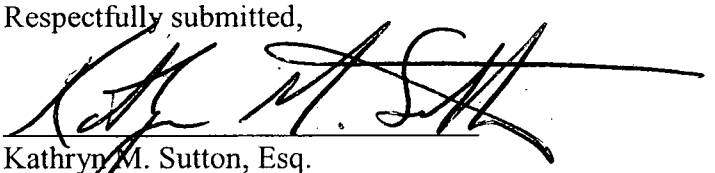
once-through cooling system of the power plants did not pose a threat to the shortnose sturgeon population in the Hudson River.").

V. CONCLUSION

For the foregoing reasons, NYS has submitted no admissible contentions. Accordingly, its Petition must be denied.

Respectfully submitted,



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Dated in Washington, D.C.
this 22nd day of January, 2008

1-WA/2876142

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:
Lawrence G. McDade, Chair
Dr. Richard E. Wardwell
Dr. Kaye D. Lathrop

In the Matter of	Docket Nos. 50-247-LR and 50-286-LR
ENTERGY NUCLEAR OPERATIONS, INC.	ASLBP No. 07-858-03-LR-BD01
(Indian Point Nuclear Generating Units 2 and 3)	January 22, 2008

CERTIFICATE OF SERVICE

I hereby certify that copies of "Answer of Entergy Nuclear Operations, Inc. Opposing New York State Notice of Intention to Participate and Petition to Intervene" were served this 22nd day of January 2008 upon the persons listed below, by first class mail and e-mail as shown below. Due to the size of the multiple exhibits to be filed in this proceeding, the exhibits have been provided in hard copy only, via first class mail.

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