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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 HUDSON RIVER SLOOP CLEARWATER INC'S PETITION TO INTERVENE AND REQUEST FOR HEARING

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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 "Hudson River Sloop Clearwater, Inc's Petition to Intervene and Request for Hearing" ("Petition") filed on December 10, 2007 by Hudson River Sloop Clearwater Inc. ("Clearwater" 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 Units 2 and 3 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] Subsequently, on October 1, 2007, the Commission extended the period for filing requests for hearing until November 30, 2007.[3]

On November 23, 2007, Clearwater requested that the Atomic Safety and Licensing Board ("ASLB" or "Board") extend the deadline for filing the instant Petition until December 10, 2007.[4] By Order dated November 27, 2007, the Board granted this request and directed Entergy, and the NRC Staff, to file their answers to all timely petitions to intervene on or before January 22, 2008.[5] As noted above, Clearwater filed its Petition on December 10, 2007, to which Entergy now responds in accordance with the Board's schedule.

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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. at 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 Letter from M. J. Greene to Board, "Request for Extension to File Formal Requests for Hearing and Petitions to Intervene with Contentions" (Nov. 23, 2007).

5 *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).

To be admitted as a party to this proceeding, Clearwater 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, but shows that Clearwater has not demonstrated that it is entitled to discretionary intervention under 10 C.F.R. § 2.309(e). Section IV below describes the 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.

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.[6] 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.[7] These concepts, as well as organizational standing and discretionary intervention, are discussed below.

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

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

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."[8] 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 redressed by a favorable decision.[9] 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."[10] The injury must be "concrete and particularized," not "conjectural" or "hypothetical."[11] As a result, standing will be denied when the threat of injury is too speculative.[12] 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").[13] The injury in fact, therefore, must involve potential radiological or environmental harm.[14]

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8 *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).

9 *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, 103-04 (1998); *Kelley v. Selin*, 42 F.3d 1501, 1508 (6th Cir. 1998)).

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

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

12 *Id.*

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

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

Second, a petitioner must establish that the injuries alleged are "fairly traceable to the proposed action"[15]; in this case, the renewal of IPEC Unit 2 and 3 operating licenses for an additional 20 years.[16] 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 plausible."[17] The relevant inquiry is whether a cognizable interest of the petitioner might be adversely affected by one of the possible outcomes of the proceeding.[18]

Finally, each petitioner is required to show that "its actual or threatened injuries can be cured by some action of the [NRC]."[19] 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."[20]

2. Standing Based on Geographic Proximity

Under NRC case law, a petitioner may in some instances be presumed to have fulfilled the judicial standards for standing based on his or her geographic proximity to a facility or source of radioactivity.[21] "Proximity" standing rests on the presumption that an accident associated with the nuclear facility could adversely affect the health and safety of people working or living

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

16 *Id.*

17 *Id.*

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

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

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

21 *Peach Bottom*, CLI-05-26, 62 NRC at 580.

offsite but within a certain distance of that facility.[22] The NRC has held that the proximity presumption is sufficient to confer standing on an individual or group in proceedings conducted pursuant to 10 C.F.R. Part 50 for reactor construction permits, operating licenses, or significant license amendments.[23] The proximity presumption, which has been defined as being within a 50-mile radius of plants, applies to license renewal cases as well.[24]

3. Standing of Organizations

An organization that wishes to intervene in a proceeding may do so either in its own right (by demonstrating injury to its organizational interests), or in a representative capacity (by demonstrating harm to the interests of its members).[25] To intervene in a proceeding in its own right, an organization must allege—just as an individual petitioner must allege—that it will suffer an immediate or threatened injury to its organizational interests that can be fairly traced to the proposed action and be redressed by a favorable decision.[26] General environmental and policy interests are insufficient to confer organizational standing.[27] Thus, for example, an organization's assertion "that it has an interest in state and federal environmental laws and in the land, water, air, wildlife, and other natural resources that would be affected" is insufficient to establish standing.[28]

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22 *Id.* (citations omitted).

23 *Fla. Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325, 329 (1989) (citations omitted).

24 *See Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant, Unit 1), LBP-07-11, 66 NRC 41, 52-54 (2007).

25 *Yankee*, CLI-98-21, 48 NRC at 195 (citing *Ga. Inst. of Tech.* (Georgia Tech Research Reactor, Atlanta Georgia), CLI-95-12, 42 NRC 111, 115 (1995)).

26 *See Ga. Tech Research Reactor*, CLI-95-12, 42 NRC at 115.

27 *See Int'l Uranium (USA) Corp.* (White Mesa Uranium Mill), CLI-01-21, 54 NRC 247, 252 (2001).

28 *Id.* at 251-52.

Where an organization is to be represented in an NRC proceeding by one of its members, the member must demonstrate authorization by that organization to represent it.[29] A partnership, corporation, or unincorporated association may be represented by a duly authorized member or officer, or by an attorney-at-law.[30] Any person appearing in a representative capacity must file with the Commission a written notice of appearance.[31] The notice of appearance must state the representative's name, address, telephone number, facsimile number, and e-mail address, if any; the name and address of the person or entity on whose behalf the representative appears; and the basis of his or her authority to act on behalf of the party.[32]

To invoke representational standing, an organization (1) must show that at least one of its members has standing in his or her own right (*i.e.*, by demonstrating geographic proximity in cases where the presumption applies, or by demonstrating injury in fact within the zone of protected interests, causation, and redressability); (2) must identify that member by name and address; and (3) must show (*e.g.*, by affidavit) that the organization is authorized by that member to request a hearing on behalf of the member.[33] Where the affidavit of the member is devoid of any statement that he or she wants the organization to represent his interests, the Board should not infer such authorization.[34]

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29 *See, e.g., Ga. Tech Research Reactor*, CLI-95-12, 42 NRC at 115 (citation omitted).

30 *See* 10 C.F.R. § 2.314(b).

31 *See id.*

32 *See id.*

33 *See, e.g., N. States Power Co.* (Monticello Nuclear Generating Plant; Prairie Island Nuclear Generating Plant, Units 1 & 2; Prairie Island Independent Spent Fuel Storage Installation), CLI-00-14, 52 NRC 37, 47 (2000); GPU Nuclear, Inc. (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 202 (2000); *White Mesa*, CLI-01-21, 54 NRC at 250; *see also AmerGen Energy Co., LLC* (License Renewal for Oyster Creek Nuclear Generating Station), LBP-06-07, 63 NRC 188, 195 (2006).

34 *Duquesne Light Co.* (Beaver Valley Power Station, Unit 2), LBP-84-6, 19 NRC 393, 411 (1984).

4. Discretionary Intervention

Pursuant to 10 C.F.R. § 2.309(e), a presiding officer may consider a request for discretionary intervention where a party lacks standing to intervene as a matter of right under 10 C.F.R. § 2.309(d)(1). Discretionary intervention, however, may only be granted when at least one petitioner has established standing and at least one contention has been admitted in the proceeding.[35] The regulation specifies that in addition to addressing the factors in 10 C.F.R. § 2.309(d)(1), a petitioner who seeks intervention as a matter of discretion, in the event it is determined that standing as a matter of right is not demonstrated, must specifically address the following factors set forth in 10 C.F.R. § 2.309(e) in its initial petition, which the Commission, ASLB, or the presiding officer will consider and balance:

(a) Factors weighing in favor of allowing intervention—

1. the extent to which its participation would assist in developing a sound record;
2. the nature of petitioner's property, financial or other interests in the proceeding;
3. the possible effect of any decision or order that may be issued in the proceeding;

(b) Factors weighing against allowing intervention—

4. the availability of other means whereby the petitioner's interest might be protected;
5 the extent to which petitioner's interest will be represented by existing parties; and
6. the extent to which petitioner's participation will inappropriately broaden the issues or delay the proceeding.

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[35] 10 C.F.R. § 2.309(e). *See also PPL Susquehanna LLC* (Susquehanna Steam Electric Station, Units 1 and 2), LBP-07-10, 66 NRC 1, 21 n.14 (2007) ("[D]iscretionary standing [is] only appropriate when one petitioner has been shown to have standing as of right and admissible contention so that a hearing will be conducted.").

Of these criteria, the primary consideration concerning discretionary intervention is the first factor—assistance in developing a sound record.[36] The petitioner has the burden to establish that the factors in favor of intervention outweigh those against intervention.[37]

B. Petitioner's Standing to Intervene

Clearwater, in support of the required showing of standing, provides 26 declarations from 27 individuals, 20 of which are notarized, and all but one of which explicitly aver that the declarant or declarants reside at distances within 50 miles of the IPEC site.[38] As all of the declarants explicitly authorize Clearwater to represent their respective interests in this proceeding, Entergy does not challenge Clearwater's representation of their interests in this proceeding.

Clearwater also has requested "discretionary standing in the event it is denied standing as of right or in the event none of its contentions are admitted."[39] Clearwater has not, however, demonstrated that it is entitled to discretionary intervention pursuant to 10 C.F.R. § 2.309(e). Clearwater's request is based solely on its naked assertions that it meets some of the discretionary intervention factors.[40] Clearwater presents no evidence to support its assertions,

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[36] *See Portland Gen. Elec. Co.* (Pebble Springs Nuclear Power Plant, Units 1 and 2), CLI-76-27, 4 NRC 610, 616 (1979); *see also Pub. Utils. Nuclear Corp.* (Oyster Creek Nuclear Generating Station), LBP-96-23, 44 NRC 143, 160 (1996).

[37] *See Nuclear Eng'g*, ALAB-473, 7 NRC at 745 (requiring potential discretionary intervenor to show "that it is both willing and able to make a valuable contribution to the full airing of the issues . . . in this proceeding").

[38] The Declaration of Randolph Horner avers that he lives "approximately 60 miles from Indian Point," but that he has "a profound connection to the Hudson River Valley." Exh. I.9, at 1. Because Mr. Horner does not claim to work or live within the 50-mile radius of IPEC, Entergy objects to any finding of standing for Clearwater based on Mr. Horner's Declaration.

[39] Petition at 10.

[40] *Id.* at 11.

and as described further below, does not carry its burden of demonstrating that it should be permitted to intervene without an admissible contention.[41]

As explained in Section IV.D, below, Clearwater has not submitted an admissible contention, and has instead raised a variety of issues that are either outside the scope of this proceeding or wholly lacking in substance. In many cases, Clearwater has not presented a single admissible contention of its own, but has purportedly "adopted" the contentions of other intervenors.[42] Accordingly, Clearwater has not met its burden with regard to the most important of the discretionary intervention factors: assistance in developing a sound record. Clearwater also fails to address discretionary intervention factors (a)(2) (property or financial interests) and (a)(3) (possible effect of any decision).

The factors weighing against allowing discretionary intervention also cut against Clearwater. As explained in Section IV.D, below, many of the concerns raised by Clearwater are generic in nature and/or relate to current IPEC operations. Thus, Clearwater has other, more appropriate, means available to protect its interests: a petition for rulemaking pursuant to 10 C.F.R. § 2.802 or a petition for enforcement pursuant to 10 C.F.R. § 2.206. Clearwater's attempts to bootstrap itself into this proceeding, using contentions submitted by other parties, also belies Clearwater's claim that its interests are "unique."[43] Finally, because, as explained in Section IV.D, below, Clearwater's petition raises inadmissible issues, its participation as a party likely would lead to additional similar attempts to inappropriately broaden the issues or delay the proceeding.

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41 *Nuclear Eng'g*, ALAB-473, 7 NRC at 745.

42 Petition at 18, 56-57, 66, 69, 73.

43 *Compare* Petition at 11, with Petition at 18-19, 56-57, 66. Clearwater's Contention EC-2 is also based on substantially the same information presented in Connecticut Residents Opposed to Relicensing of Indian Point and Its Designated Representative's Petition to Intervene and Request for Hearing (Dec. 10, 2007).

In sum, Entergy does not contest Clearwater's standing to represent the interests of its named members based on geographic proximity. Judged against the previously-discussed criteria, Clearwater, through the 25 declarations in Exhibits 1.1 through 1.8 and 1.10 through 1.26, has made a showing sufficient to satisfy the requirements of 10 C.F.R. § 2.309(d), with respect to standing. Clearwater has not demonstrated, however, that it should be granted discretionary intervention, pursuant to 10 C.F.R. § 2.309(e), in the event that none of its contentions are admitted by the Board.

IV. CLEARWATER'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.[44] 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.[45] 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."[46] 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."[47]

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[44] *See* 10 C.F.R. § 2.309(a).

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

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

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

2. Proposed Contentions Must Satisfy the Requirements of 10 C.F.R. § 2.309 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.[48]

The purpose of the contention rule is to "focus litigation on concrete issues and result in a clearer and more focused record for decision."[49] 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."[50] Thus, the rules on contention admissibility are "strict by design."[51] Failure to comply with any one of the six admissibility criteria is grounds for the dismissal of a contention.[52]

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

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

50 *Id.*

51 *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).

52 *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."[53] The petitioner must "articulate at the outset the specific issues [it] wish[es] to litigate as a prerequisite to gaining formal admission as [a party]."[54] Namely, an "admissible contention must explain, with specificity, particular safety or legal reasons requiring rejection of the contested [application]."[55] The contention rules "bar contentions where petitioners have only 'what amounts to generalized suspicions, hoping to substantiate them later.'"[56]

b. Petitioner Must Briefly Explain the Basis for the Contention

A petitioner must provide "a brief explanation of the basis for the contention."[57] This includes "sufficient foundation" to "warrant further exploration."[58] 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."[59] The Board, however, must determine the admissibility of the contention itself, not the admissibility of individual "bases."[60]

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53 10 C.F.R. § 2.309(f)(1)(i).

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

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

56 *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).

57 10 C.F.R. § 2.309(f)(1)(ii); *see* Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,170 (Aug. 11, 1989).

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

59 *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).

60 *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."[61] 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.[62] (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.[63] Any contention that falls outside the specified scope of the proceeding must be rejected.[64]

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."[65] 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.[66] 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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61 10 C.F.R. § 2.309(f)(1)(iii).

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

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

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

65 *See* 10 C.F.R. § 2.335(a).

66 *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.[67] Accordingly, a contention that simply states the petitioner's views about what regulatory policy should be does not present a litigable issue.[68]

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."[69] 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.'"[70] In this regard, "[e]ach contention must be one that, if proven, would entitle the petitioner to relief."[71] 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.[72]

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[67] *Shearon Harris*, LBP-07-11, 66 NRC at 57-58 (citing *Phila. Elec. Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 20 (1974)).

[68] *See Peach Bottom*, ALAB-216, 8 AEC at 20-21, 21n.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.

[69] 10 C.F.R. § 2.309(f)(1)(iv).

[70] *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.

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

[72] *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 and 3), LBP-04-15, 60 NRC 81, 89 (2004), *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.[73] 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.[74]

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.[75] The petitioner must explain the significance of any factual information upon which it relies.[76]

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."[77] Any supporting material provided by a petitioner, including those portions thereof not relied upon, is subject to Board scrutiny, "both for what it does and does not show."[78] The Board will examine documents to confirm that they

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[73] *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).

[74] *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-687, 16 NRC 460, 468 (1982), *vacated in part on other grounds*, CLI-83-19, 17 NRC 1041 (1983) (emphasis added).

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

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

[77] *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).

[78] *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).

support the proposed contention(s).[79] A petitioner's imprecise reading of a document cannot be the basis for a litigable contention.[80] Moreover, vague references to documents do not suffice—the petitioner must identify specific portions of the documents on which it relies.[81] The mere incorporation of massive documents by reference is similarly unacceptable.[82]

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."[83] Conclusory statements cannot provide "sufficient" support for a contention, simply because they are made by an expert.[84] 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.'"[85]

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

With regard to the requirement that a petitioner "provide sufficient information to

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79 *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).

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

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

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

83 *Private Fuel Storage*, LBP-98-7, 47 NRC at 181 (emphasis added); *see also USEC, Inc.* (American Centrifuge Plant), CLI-06-10, 61 NRC 451, 472 (2006) (quoting *Private Fuel Storage*, LBP-98-7, 47 NRC at 181).

84 *See American Centrifuge Plant*, CLI-06-10, 61 NRC at 472.

85 *Fansteel*, CLI-03-13, 58 NRC at 203 (quoting *Oyster Creek*, CLI-00-6, 51 NRC at 207).

show . . . a genuine dispute . . . with the applicant . . . on a material issue of law or fact,"[86] 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.[87] 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."[88] A contention that does not *directly controvert a position taken by the applicant in the application* is subject to dismissal.[89] 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.[90]

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."[91]

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[86] 10 C.F.R. § 2.309(f)(1)(vi).

[87] 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.

[88] 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.

[89] *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).

[90] *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).

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

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 license renewal application ("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."[92] 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."[93] 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 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

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

93 *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 Review ("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

will require an aging management review ("AMR") for the period of extended operation or are subject to an evaluation of time-limited aging analyses.[94] 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.[95]

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."[96] 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 "time-limited aging analyses" ("TLAAs").[97] 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.'"[98] Thus, the "potential detrimental effects of aging that are not routinely addressed by

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management review or evaluation of time-limited aging analyses in accordance with § 54.21." 10 C.F.R. § 54.37(b).

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

95 *See id.* §§ 51.71(d) and 51.95(c).

96 *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.

97 *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).

98 *Turkey Point*, CLI-01-17, 54 NRC at 8 (quoting Final Rule, Nuclear Power Plant License Renewal; Revisions, 60 Fed. Reg. 22,461, 22,462 (May 8, 1995)). 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 id.* at 7-8.

ongoing regulatory oversight programs" is the issue that defines the scope of the safety review in license renewal proceedings.[99]

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.[100] 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.[101] 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.[102]

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 programs" would be "both unnecessary and wasteful."[103] The Commission reasonably refused to

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[99] *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.

[100] 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.

[101] *See* Final Rule, Nuclear Power Plant License Renewal; Revisions, 56 Fed. Reg. 64,943, 64,946 (Dec. 13, 1991). The term "current licensing basis" is defined in 10 C.F.R. § 54.3. *See also* 10 C.F.R. §§ 54.29, 54.30.

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

[103] *Id.* at 7.

"throw open the full gamut of provisions in a plant's current licensing basis to re-analysis during the license renewal review."[104]

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.[105]

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 . . . ."[106] Only passive, long-lived structures and components are subject to AMR.[107] 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" structures and components). The TLAAs involve in-scope systems, structures, and components; consider the

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104 *Id.* at 9.

105 NRC guidance for the license renewal process is set forth in the Generic Aging Lessons Learned Report (NUREG-1801) ("GALL Report"), the Standard Review Plan for License Renewal (NUREG-1800), 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.

106 10 C.F.R. § 54.29(a).

107 *See id.* § 54.21(a)(1).

effects of aging; and involve assumptions based on the original 40-year operating term.[108] 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.[109]

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.[110] The GALL Report also contains recommendations concerning specific areas for which existing programs should be augmented for license renewal.[111] Thus, programs that are consistent with the GALL Report are generally accepted by the Staff as adequate to meet the license renewal rule.[112]

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[108] *See id.* § 54.3.

[109] *See id.* § 54.21(c)(1).

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

[111] *See id.* at 4.

[112] *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.[113] 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."[114] In this regard, the ASLB recently stated that "monitoring is not proper subject matter for license extension contentions."[115] 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.*"[116]

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.[117] 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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[113] *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.").

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

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

[116] *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 NRC 551, 561 (2005).

[117] *See* Final Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467 (June 5, 1996), amended by 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.[118]

Generic issues are identified in the GEIS as "Category 1" impacts.[119] 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."[120] 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."[121] 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,[122] 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.[123] 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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[118] *See* NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Final Report, Vols. 1 & 2 (May 1996), *available at* ADAMS Accession Nos. ML040690705 and ML040690738.

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

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

[121] *Id.*

[122] 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).

[123] 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.[124]

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.[125] 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.[126] 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.[127]

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.[128] In short, when first proposed, the NRC's Part 51 license renewal environmental regulations did not include the

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[124] 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.

[125] 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).

[126] 10 C.F.R. § 51.53(c)(3)(ii), (iv).

[127] 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 No. 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)).

[128] *See Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), LBP-06-20, 64 NRC 131, 155-59 (2006), *aff'd*, CLI-07-3, 65 NRC 13, *recons. denied*, CLI-07-13, 65 NRC 211 (2007); *Entergy*

current provision, 10 C.F.R. § 51.53(c)(3)(iv), regarding "new and significant information."[129] 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."[130] 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."[131] 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.[132] The Commission ultimately approved the changes to the proposed rule and specifically endorsed SECY-93-032.[133] The Statement of Considerations for the final rule refers to SECY-93-032.[134]

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).

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

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

[131] 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).

[132] *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.

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

[134] 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[135] 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.[136]

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."[137] 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."[138] In fact, the U.S. Supreme Court has specifically upheld

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[135] *Turkey Point*, CLI-01-17, 54 NRC at 12, 22-23.

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

[137] *Vermont Yankee*, CLI-07-3, 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 (1st Cir.).

[138] *Vermont Yankee*, CLI-07-3, 65 NRC at 21.

the Commission's authority to discharge its responsibilities under NEPA through generic rulemaking.[139]

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. The requirements for a 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.[140]

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.[141]

If the petitioner makes a prima facie showing, then the Board shall certify the matter to the Commission.[142] If there is no prima facie showing, then the matter may not be litigated, and "the presiding officer may not further consider the matter."[143] In this regard, the recent

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[139] *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.").

[140] 10 C.F.R. § 2.335(b).

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

[142] *See id.* § 2.335 (c), (d).

[143] *Id.* § 2.335(c).

Commission decision in *Millstone* sets forth a four-part test for Section 2.335 petitions, 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."[144]

In summary, a Section 2.335 petition "can be granted only in unusual and compelling circumstances."[145]

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.

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[144] *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).

[145] *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).

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 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.[146] 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.[147] 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."[148] If the petitioner cannot make such a showing, then the issue must be dismissed prior to hearing.[149]

Incorporation by reference should be denied to parties who merely establish standing and then attempt to incorporate issues of other petitioners.[150] 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.[151] As the Commission indicated, "[o]ur contention-pleading rules are designed, in

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

[147] *Id.* at 132.

[148] *Id.*

[149] *Id.*

[150] *Id.* at 133.

[151] *Id.*

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.'"[152]

D. Clearwater's Proposed Contentions Are Not Admissible

In its Petition, Clearwater proffers six environmental contentions. Contention EC-1 alleges that Entergy's ER does not adequately address the impacts of "known and unknown" spent fuel pool leaks.[153] EC-2 alleges that the ER fails to consider allegedly "higher than average cancer rates and other health impacts" in the counties surrounding IPEC.[154] EC-3 alleges flaws in the environmental justice ("EJ") analysis in the ER.[155] EC-4 alleges that the ER's analysis of severe accident mitigation alternatives ("SAMAs") is inadequate.[156] EC-5 alleges that the ER fails to "adequately consider renewable energy and energy efficiency" as alternatives to renewal of the IPEC operating license.[157] EC-6 alleges that the ER fails to consider the impact on the surrounding area of a terrorist attack on the facility.[158]

This section addresses each of these six contentions, and shows that none of Clearwater's proffered contentions is admissible.

1. EC-1: Impacts of "Known and Unknown Leaks" Is Inadmissible

a. Overview of Contention and Purported Supporting Bases

Contention EC-1 alleges that the ER does not comply with NEPA

> because [it] fails to adequately assess new and significant information concerning environmental impacts of radioactive

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

[153] Petition at 18-24.

[154] *Id.* at 24-30.

[155] *Id.* at 31-55.

[156] *Id.* at 56.

[157] *Id.* at 56-65.

[158] *Id.* at 65-73.

> substances that are leaking from spent fuel pools and contaminating the ground water, Hudson River and the local ecosystem.[159]

Additionally, Clearwater claims that

> Entergy's ER admits that there are leaks from the spent fuel pools. . . . [M]any of Entergy's claims in its ER are not accurate including its claim that IP2 is no longer leaking, and its claim that only low concentrations of radionuclides have been detected in groundwater. Moreover, the ER does not include any evaluation of the impacts of the leaks upon groundwater or fish in the Hudson River.[160]

Thus, Clearwater relies upon three specific bases to support this proposed contention: (1) an allegation of inaccuracy in the ER regarding the status of the IP2 spent fuel pool leak; (2) an allegation of failure to provide sufficient accurate information regarding the degree of groundwater contamination; and (3) an allegation of failure to assess the impacts of the leaks upon groundwater or fish in the Hudson River. Clearwater relies upon four principal sources of information to support this contention.

First, Clearwater states that it "adopts Contention 28 of the Attorney General of New York," ("NYAG") and relies upon information presented in that proposed contention.[161] Second, Clearwater cites information contained in Chapter 11, Ionizing Radiation and Environmental Radioactivity, in the book *Environmental Health Science* authored by Morton Lippmann, Beverly S. Cohen, and Ronald B. Schlesinger (Oxford Univ. Press, 2003) ("Lippman Document"). Allegedly, the Lippmann Document describes carcinogenic effects of low-level radioactivity released from "each reactor."[162]

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[159] *Id.* at 18 (internal citations and quotations omitted).

[160] *Id.* at 19.

[161] *Id.* at 18, 21.

[162] *Id.* at 20 n.1.

Third, Clearwater attaches a "Timeline of Leaks at Indian Point Energy Center" as Clearwater Exhibit 3. Exhibit 3 allegedly describes "the history of leaks and other releases from the plant . . . ."[163] It includes a variety of allegations spanning the period from February 1972 to May 2007.[164]

Fourth, Clearwater relies upon "evidence presented at [a] Technical Briefing" held on March 20, 2007, citing http://www.clearwater.org/news/indianpoint2007.html. This information allegedly includes statements by "Barbara Youngberg of the New York State Department of Environmental Conservation ('NYS DEC')," "NYS DEC wildlife pathologist Ward Stone," "David Lochbaum from Union of Concerned Scientists and Phillip Musegaas of Riverkeeper," and "Sergio Smiriglio, a hydrologist with Tim Miller and Associates."[165]

b. Entergy Response to EC-1

Entergy opposes the admission of Proposed Contention EC-1 on the grounds that it: (1) raises issues that are outside the scope of this proceeding by positing stricter requirements than NRC's 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); (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); and (4) impermissibly attempts to incorporate by reference the contentions of other parties, contrary to 10 C.F.R. § 2.309(f)(3).

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[163] *Id.* at 21.

[164] Clearwater Exh. 3.

[165] Petition at 22-23.

(i) *Section 5.0 of the ER 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 complies with the NRC requirement that an applicant for license renewal assess any potentially "new and significant" information regarding environmental impacts of a plant's operation during the extended license term.[166] 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 could lead to an impact finding different from that codified in Part 51.[167] Because NRC does not specifically define the term "significant," Entergy used guidance available in Council on Environmental Quality ("CEQ") regulations.[168] For the purposes of this evaluation, Entergy assumed that MODERATE and LARGE impacts, as defined by the NRC in the GEIS, would be significant.[169] 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 conducted an extensive site assessment utilizing a network of monitoring wells to assess and characterize groundwater movement and behavior relative to groundwater contamination. When the LRA was submitted in April 2007, Entergy had installed numerous groundwater monitoring and test wells to delineate the extent of groundwater impacts and to

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166 ER at 5-1; 10 C.F.R. § 51.53(c)(3)(iv).

167 ER at 5-1.

168 *Id.* (citing 40 C.F.R. § 1508.27).

169 *Id.*

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."[170]

As a result of the 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 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."[171] 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."[172] 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.[173] Therefore, contrary to Clearwater's assertions, Entergy explicitly noted in the ER 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

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[170] ER at 5-4.

[171] *Id.* at 5-4, 5-5.

[172] *Id.* at 5-6.

[173] *Id.*

Effluents Release report prepared in accordance with NRC RG 1.21.[174] 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 the site and, accordingly, the ER specifically states that "*EPA drinking water limits are not applicable*" to site area groundwater.[175] Significantly, Clearwater 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.[176]

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.[177] 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."[178]

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[174] *Id.* at 5-4, 5-5; Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants, *available at* ADAMS Accession No. ML003739960.

[175] ER at 5-6 (emphasis added).

[176] *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.

[177] *Id.*

[178] *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.[179] 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.[180] Based on the above-cited radiological data indicating that estimated doses due to the groundwater contamination are 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.[181] 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 license renewal activities.[182] 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."

Petitioner has not disputed any of Entergy's radiological findings or provided any basis, expert or otherwise, for their assertion that EPA's drinking water standards are even applicable here.[183] In fact, nowhere in this proposed contention is there any specific evidence presented of any adverse impact associated with groundwater contamination.[184] On this basis alone, contention EC-1 should be rejected as a matter of law.

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[179] 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.

[180] ER at 5-3 (citing Section 4.8.2 of the GEIS).

[181] *Id.* at 5-6.

[182] *Id.*

[183] *See, e.g., Millstone*, CLI-01-24, 54 NRC at 359-60 (requiring specificity in the legal or factual reasons for contesting the application).

[184] *See* Petition at 18-23.

(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 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 in April 2007. Since submission of the LRA, Entergy has completed the two-year site hydrogeologic investigation of the Indian Point site, including all three 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.[185]

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.[186] 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.[187]

The Investigation Report presents the results of two years of comprehensive hydrogeological investigations performed at the Indian Point site between September 2005 and September 2007.[188] The overall purpose of the report was to identify the nature and extent of

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[185] Hydrogeological Site Investigation Report (Jan 11, 2008) ("Investigation Report"), appended as Entergy Exhibit M to "Answer of Entergy Nuclear Operations, Inc. Opposing Riverkeeper, Inc.'s Request for Hearing and Petition to Intervene."

[186] During the two-year investigation period, the investigations were conducted in a cooperative and open manner. 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* Investigation Report, Section 1, at 1.

[187] *Id.*

[188] *Id.* The study was performed by GZA GeoEnvironmental, Inc. ("GZA") for Entergy.

radiological groundwater contamination and assess the hydrogeological implications of that contamination.

The groundwater monitoring network is extensive and comprised shallow and deep, overburden and bedrock, single and multi-level monitoring instrumentation installations, site storm drains and building footing drains.[189] Groundwater testing, while initially focused on tritium and plant-related gamma emitters, was 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 also 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.[190]

- 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 leak was identified in 1992; it was repaired on June 9, 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.

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

[190] *Id.* at 102-03, 135.

While additional active leaks cannot be completely ruled out, if they exist, the data indicate that they are very small and of little impact to the groundwater. [191]

- 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.[192]

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 the Hudson River in proximity to IPEC.[193] 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.[194] 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.[195] Because the site groundwater flows to the west towards the Hudson River, it is not possible for the contaminated groundwater to ever 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.[196] Therefore, Petitioner fails to identify a genuine dispute with Entergy or a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

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[191] *Id.* at 2-4, 92.

[192] *Id.* at 11, 89.

[193] *Id.* at 14.

[194] *Id.* at 15.

[195] *Id.*

[196] *Id.*

(iii) *Based on information provided in Section 5.0 of the ER and in the Investigation Report, all of the issues raised in EC-1 are either invalid, beyond the scope of this proceeding, or moot*

As described above, Clearwater provides three specific factual allegations in this contention: (1) an allegation of inaccuracy in the ER in that Entergy claims that "IP2 is no longer leaking"; (2) an allegation of failure to provide sufficient accurate information regarding the degree of groundwater contamination; and (3) an allegation of failure to assess the impacts of the leaks upon groundwater or fish in the Hudson River.[197] Each of these issues is discussed more fully below.

With regard to the first basis, Entergy acknowledges that it identified a leak in the IP2-SFP transfer canal following submission of the LRA. Entergy, however, explicitly indicated in the ER that further Site investigations were ongoing at the time of LRA submission. Obviously, further investigations have the potential to alter any preliminary findings and remedial actions. Any implication by Clearwater that Entergy, intentionally or otherwise, provided misleading information in the ER is entirely unfounded.

Consistent with its commitment to conduct these further investigations, Entergy deliberately searched for and identified the leak in the IP2 transfer canal. That leak has since been repaired and all 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, the data indicate that they are very small and of little impact to the groundwater.[198]

Further, the Investigation Report documents that there are no known leaks from IP3 and the source of leaks from IP1 will be permanently terminated in 2008 by removing the spent fuel

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[197] Petition at 19.

[198] *See* Investigation Report at 92.

from and draining of the IP1 West Pool.[199] Therefore, since submission of the LRA, Entergy has thoroughly investigated and documented the status and duration of the IP2 leak (and also the status of the IP1 leak and IP3) and, importantly, confirmed the original 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.[200] 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, Entergy clearly established in the ER and confirmed in the Investigation Report that contaminated groundwater on the Indian Point site will not impact regional drinking water sources. Clearwater has not, and presumably cannot, refute this fact.[201] Clearwater has used an "apples to oranges" comparison in an attempt to support its contention by comparing identified contamination in groundwater, that is not used for drinking water, to EPA drinking water standards. Therefore, even if Clearwater's assertions that groundwater contamination exceeds the drinking water standards are assumed to be valid, they fail to establish a genuine dispute with the Applicant on a material issue of law or fact. In fact, other than providing second-hand comparisons to inapplicable EPA drinking water standards, Clearwater has not stated with any particularity what information should have been but was not provided by Entergy with respect to available groundwater information. Further, to the extent Clearwater

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[199] *Id.* at 11, 135.

[200] 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).

[201] *Compare infra* Section IV.D.1.b.iv, *with* Petition at 23 (discussing alleged statements of Sergio Smiriglio).

seeks generically to apply EPA's drinking water standards to non-drinking water sources, it must do so through a petition for rulemaking, which is beyond the scope of this proceeding.[202]

With regard to the third and final basis, Clearwater has simply chosen to ignore the fact that Entergy has, in accordance with NRC's regulations in 10 C.F.R. Part 50, Appendix I, and in accordance with RG 1.109,[203] evaluated potential exposure pathways due to groundwater contamination including aquatic foods. In fact, as noted above, Entergy concluded that the only exposure pathway of significance for the identified groundwater contamination is through consumption of fish and invertebrates in the Hudson River, and determined that the calculated doses from this pathway are less than 1/100 of the federal limits.[204] This calculation was performed using the methodology documented in Entergy's Offsite Dose Calculation Manual ("ODCM"). Therefore, this assertion too lacks any factual and/or expert support, 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)(v). Further, "issues concerned with monitoring of radiological releases, or determination of how leakage could harm health or the environment . . . does not relate to aging and/or are addressed as part of ongoing regulatory processes."[205] Accordingly, this issue in no way pertains to managing the effects of aging and is inadmissible.

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[202] *See Turkey Point*, LBP-01-6, 53 NRC at 159, *aff'd*, CLI-01-17, 54 NRC 3; 10 C.F.R. § 2.309(f)(1)(iii).

[203] Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I, *available at* ADAMS Accession No. ML003740384.

[204] Only the Hudson River fish samples taken by Entergy in 2006 indicated the possibility of detectable Strontium-90. Also in 2006, NRC independently collected and analyzed fish samples, which were found not to contain any detectable Strontium-90. Because Entergy's results differed from those of the NRC, and because the highest detectable Strontium-90 results were from fish *upstream* of the Indian Point site, it was determined that the positive results may not be valid. As a result, Entergy, NYDEC, and NRC in 2007 jointly sampled and analyzed additional Hudson River fish samples. The results of this three-way split sampling and analysis identified no detectable levels of Strontium-90 in the sampled fish greater than natural background.

[205] *Turkey Point*, CLI-01-17, 54 NRC at 7; *Pilgrim*, LBP-07-12, *slip op.* at 18 n.81.

(iv) Inadequate Support

Contention EC-1 relies upon a variety of alleged statements from a March 20, 2007, Technical Briefing.[206] None of the supporting "summaries" of these individuals' statements has been appended to Clearwater's Petition, so for this reason alone this information does not provide adequate basis for Clearwater's contention.[207] Further, none of these statements is sufficiently specific to raise a material issue of fact as required by 10 C.F.R. § 2.309(f)(1)(vi).[208]

First, Clearwater claims that "Barbara Youngberg of the New York State Department of Environmental Conservation" allegedly stated that "Cesium-137 has been found in Hudson River sediments and Strontium-90 had been detected in offsite test wells and fish, but . . . *the source of contamination has not yet been established.*"[209] Clearwater's website summarizes Ms. Youngberg's alleged statements in more detail, further confirming the lack of connection between any alleged radiological contamination and IPEC:

> Cesium-137 has been found in Hudson River sediments but *at the same concentrations we would expect to see it elsewhere in the state, so, we cannot conclude it is due to the facility* [IPEC]. . . . Background traces of Sr90 have been found in off-site wells, but also *cannot be directly attributed to the Indian Point facility.* . . .
>
> Detectable levels of Sr90 were found in fish samples. The results were inconclusive; these levels could be due to Sr90 in the environment from previous above ground . . . *testing of nuclear weapons.*[210]

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206 Petition at 22-24.

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

208 *See PFS*, CLI-04-22, 60 NRC at 130 (precluding admission of a contention based on general allegations, with the hope of generating through discovery sufficient facts to show there is a genuine dispute).

209 Petition at 22 (emphasis added).

210 Environmental Advocacy, http://www.clearwater.org/news/indianpoint2007.html (emphasis added) (last accessed Jan. 9, 2008).

Second, Clearwater alleges that "NYS DEC wildlife pathologist Ward Stone said that fish sampling to date has been highly inadequate."[211] Mr. Stone's purported statements are supported by no citation to actual data and are pure speculation.[212] Mr. Stone's alleged speculation cannot provide a basis for this contention.

Third, "David Lochbaum from Union of Concerned Scientists and Phillip Musegaas of Riverkeeper presented information that in spite of requirements that nuclear plants keep track of all contaminant releases, the radioactive materials from the leaks were not being tracked."[213] These individuals also reportedly alleged that wells "nearby" exceeded "New York State and EPA drinking water" limits for Cs-137, tritium, and Sr-90.[214] Apart from the fact that Clearwater relies upon bare assertions allegedly made by individuals at a conference, as explained in subsection (i), above, Mr. Lochbaum's and Mr. Musegaas' alleged comparison to drinking water limits are immaterial to this proceeding.

Fourth, "Sergio Smiriglio, a hydrologist with Tim Miller and Associates, . . . raised some serious questions" about the hydrology of the Indian Point site.[215] As explained above, however, Mr. Smiriglio's alleged statements about the hydrology of the site do not raise a dispute on material issues of fact.

Further, the Lippmann Document, which Clearwater cites to support its allegation that, "each reactor routinely emits relatively low-dose amounts of airborne and liquid

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[211] Petition at 22.

[212] *Id.* ("*if* more thorough biota sampling had been done") (emphasis added).

[213] *Id.* at 23.

[214] *Id.*

[215] *Id.*

radioactivity,"[216] also cannot provide a basis for Contention EC-1. This allegation and all of the information in the Lippmann Document raise generic issues with no specific relevance to IPEC. Neither this allegation nor the Lippmann Document, contain any evidence that the "relatively low-dose amounts" of releases from "each reactor" exceed any of the regulatory limits in 10 C.F.R. Part 20.[217] Thus, this allegation is an impermissible challenge to NRC regulations, and, as described in Section IV.A.2.c, above, cannot support the admission of a contention. Moreover, the Lippmann Document itself substantively undercuts Clearwater's argument. The "Summary" concludes, "[s]tudies of large populations exposed to somewhat elevated amounts of background radiation have *not* been able to demonstrate *any* adverse health effects."[218]

Finally, with respect to the timeline of leaks, Clearwater's Petition does not even allege that there is any connection between these historical allegations and any potential age-related degradation or other impact unique to the period of extended operation, nor does it reference any specific deficiency in Entergy's ER.[219] Thus, it raises no dispute on a material issue of fact as required by 10 C.F.R. § 2.309(f)(1)(iv) and (vi).

(v) Incorporation by Reference

As described in Section IV.C, above, Clearwater's purported adoption of NYAG's contentions at this stage is invalid. Clearwater's statement that it "shares" Riverkeeper's concerns is likewise invalid. This is because, at the pleadings stage, each party must independently submit at least one admissible contention in order to be admitted as a party to a

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[216] *Id.* at 20 n.1.

[217] *Id.*; *see* Lippman Document, Ch. 11.

[218] Lippman Document at 357 (emphasis added).

[219] Petition at 21.

proceeding.[220] Clearwater's wholesale "adoption" is further deficient in that it does not even purport to comply with the requirements for co-sponsorship and joint designation of a representative as required by 10 C.F.R. § 2.309(f)(3). Thus, Clearwater's statement that NYAG "Contention-28 and Riverkeeper Contention EC-3 provide ample factual support for this contention"[221] is irrelevant.[222]

In summary, none of the issues identified by Clearwater in EC-1 contains adequate factual support or 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). Clearwater may not rely upon information submitted in the contentions of other parties. Considering the bare allegations proffered by Clearwater, it fails to raise 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 at IP2 have been repaired and while additional active leaks cannot be completely ruled out, if they exist, the data indicate that they are very small and of little impact to the groundwater. Moreover, they are material to and addressed as part of current term operations and are, therefore, inadmissible in this license renewal proceeding.

Further, the source of leaks from IP1 will be eliminated in 2008 and there are no known leaks from IP3. While the initial evaluation conducted by Entergy did not address the recently-identified leak in the IP2-SFP transfer canal, the conclusions remain the same—estimated doses due to the groundwater contamination are well below NRC dose limits for the period of the

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220 *See Indian Point*, CLI-01-19, 54 NRC at 131-33.

221 Petition at 20.

222 Entergy's opposition to the NYAG's and Riverkeeper's contentions referenced by Clearwater can be found in its Answer to their respective petitions to intervene.

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 potentially new, but not significant, information in the ER, per 10 C.F.R. § 51.53(c)(3)(iv).

2. EC-2: High Cancer Rates and Other Health Impacts Is Inadmissible

a. Overview of Contention and Supporting Bases

Contention EC-2 alleges that,

> Entergy's ER fails to adequately consider the impact that the proposed license renewal for IP2 and IP3 will have on the health of populations living near the power plants, including localities with relatively high concentrations of minority and low-income groups.[223] Even though radiation exposure to the public during the license renewal term is a Category 1 issue, Clearwater presents "new and significant" evidence that is indicative of higher-than-average cancer incidence rates among people living near Indian Point. This suggests that there are issues related to Indian Point that are raising cancer levels higher than at other plants.[224]

EC-2 is primarily based[225] on the alleged new and significant "findings" of Clearwater's Exhibit 4, the Declaration of Joseph J. Mangano and its associated attachment, both of which are documents authored by Clearwater's expert, Joseph Mangano ("Mangano Declaration"). In sum, Clearwater alleges that the information in the Mangano Declaration "shows a strong possibility that there are serious off-site impacts related to radioactive emissions from Indian Point."[226]

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223 Entergy's response to Clearwater's EJ-related allegations, including related allegations in EC-2, is in Section IV.3, below.

224 Petition at 24.

225 EC-2 also contains a number of EJ-allegations, which are addressed below in Section IV.D.3.

226 *Id.* at 26.

Clearwater also identifies, as an additional purported basis, a *Reuters* article about a "recently released . . . research report" by researchers from the University of Mainz on behalf of "Germany's Federal Office of Radiation Protection" ("Mainz Report"). This report allegedly shows that "young children living near nuclear power plants have a significantly higher risk of developing leukemia and other forms of cancer . . . ."[227]

b. Entergy Response to EC-2

Entergy opposes the admission of Proposed Contention EC-2 on the grounds that it: (1) raises generic issues that challenge Commission regulations, contrary to 10 C.F.R. § 2.309(f)(1)(iii); (2) raises issues that are not unique to the period of extended operation and are therefore outside the scope of this proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii); and (3) is based on speculation that does not raise a material issue of fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

(i) *The Mangano Declaration Raises Generic Issues that Inappropriately Challenge Commission Regulations*

Conspicuously absent from the Petition, as well as from the supporting Mangano Declaration, is any assertion or information showing that the Applicant has not and is not operating IPEC in accordance with the Commission's requirements with respect to radiological releases.[228] More importantly, there is no basis for concluding that the pending application fails to satisfy NRC requirements for license renewal in 10 C.F.R. Part 54. To the contrary, it is evident from the Petition, as well as from the Mangano Declaration, that despite the inclusion of references to IPEC in their materials and the bald assertion that the information is new, the issue

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[227] *Id.* at 24, 26.

[228] *See* 10 C.F.R. Part 20.

Clearwater wishes to raise is clearly a generic matter which challenges a Commission regulation with respect to health effects of low levels of radiation.

Clearwater seeks to raise here, essentially, the same issue that was proffered, and rejected, in the McGuire Nuclear Station, Units 1 and 2, and the Catawba Nuclear Station, Units 1 and 2, license renewal proceeding almost six years ago. There, the Board rejected a contention, again relying (in part) on a study by Mr. Mangano, similarly seeking to challenge the radiological impacts of plant operations.[229] Specifically, the Board found that the matter is appropriately identified as a Category 1 issue, not requiring site-specific consideration in individual license renewal environmental reviews. The Board also held that the petitioner there had failed to establish the existence of special circumstances regarding the specific matter of that proceeding that might warrant waiving the regulation; *i.e.*, 10 C.F.R. § 51.53(c)(3) and App. B, Table B-1.[230] The Board's conclusion in the *McGuire* and *Catawba* proceeding is equally relevant in the instant proceeding:

> The issue is manifestly a generic one, as applicable to all nuclear plants as to any one of the plant units at issue in this proceeding. Therefore, even were we to consider the documents submitted in support of the contentions to constitute affidavits as required by section 2.758(b), we do not find a rule waiver to be appropriate in this proceeding. As the Commission has suggested, the Petitioners may wish to present their essentially generic concerns about radiological impacts through a petition for rulemaking under 10 C.F.R. § 2.802.[231]

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[229] *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2, Catawba Nuclear Station, Units 1 and 2), LBP -02-04, 55 NRC 49, 85-87 (2002).

[230] *Id.*

[231] *Id.* at 86-87 (citations omitted).

Similarly, in the Millstone Nuclear Power Station, Units 2 and 3, license renewal proceeding, the Board rejected a substantively similar contention, also supported in part by Mr. Mangano, because it was unrelated to matters material to license renewal under Part 54.[232] The contention there was initially rejected because it consisted of unsupported speculation, contrary to 10 C.F.R. § 2.309, and, in any event, did not bear on any matter related to the detrimental effects of plant aging.[233] The Commission, in affirming the Licensing Board's decision denying the petitioner's motion for reconsideration and petition for leave to amend its petition, held

> Our license renewal inquiry is narrow. It focuses on "the potential impacts of an additional 20 years of nuclear power plant operation," not on everyday operational issues. Those issues are "effectively addressed and maintained by ongoing agency oversight, review, and enforcement. . . ."
>
> We are saying merely that a license renewal proceeding is not the proper forum for the NRC to consider operational issues. If CCAM has information supporting its claim that Millstone's operation has caused "human suffering on a vast scale," its remedy would not be a narrowly focused license renewal hearing, but a citizen's petition under 10 C.F.R. § 2.206.[234]

And finally, yet another board, in the context of a license amendment proceeding, rejected a contention seeking to address the radiological impacts of operation at Millstone within regulatory limits, again purportedly supported by an affidavit submitted by Mr. Mangano, because it was an impermissible challenge to the Commission's regulations in 10 C.F.R. Parts 20 and 50.[235] There, as here,

> Mr. Mangano's affidavit does not make clear whether the increased effluent releases he alleges (and which he claims will

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[232] *Millstone*, LBP-04-15, 60 NRC at 90-91.

[233] *Id.* at 91-92.

[234] *Millstone*, CLI-04-36, 60 NRC at 637-38 (citations omitted).

[235] *Northeast Nuclear Energy Co.* (Millstone Nuclear Power Station, Units 2 and 3), LBP-01-10, 53 NRC 273 (2001), *aff'd sub nom. Millstone*, CLI-01-24, 54 NRC 349, *recons. denied*, CLI-02-1, 55 NRC 1 (2002).

> cause adverse health effects) will be within regulatory limits or violate the Commission's regulations. If the former, Mr. Mangano's assertion represents an impermissible challenge to the Commission's regulations, 10 C.F.R. Part 20 and Part 50, that establish radiological dose limits. *See* 10 C.F.R. § 2.758.[236]

The Commission, on review stated:

> They [the petitioner] say they "are prepared to establish through expert testimony that any increase in routine radiological effluent to the air and water by the Millstone reactors will expose the public to greater risk of cancer, immunodeficiency diseases and other adverse health effects." *See* Appeal Brief at 4. But routine permissible releases occur virtually daily, and they do not remain at a constant level but go up and down routinely. All such releases are small and must remain within NRC-prescribed limits. Regulatory limits on effluent concentrations take into account the licensee's need to make frequent adjustments in releases, while still imposing absolute limits on both the rate of release and the dose to the nearest member of the public. The license amendments at issue here have no bearing on the Licensee's ability to make these frequent adjustments. If the Petitioners are objecting to all possible routine adjustments in effluent releases, then their claim amounts to an impermissible general attack on our regulations governing public doses at operating nuclear plants. *See* 10 C.F.R. § 2.758. Petitioners "may not demand an adjudicatory hearing to attack generic NRC requirements or regulations, or to express generalized grievances about NRC policies."[237]

Without attempting to fully catalogue here his various submissions and presentations to the NRC regarding health effects associated with nuclear power plants, Mr. Mangano has presented the essence of his thesis to the NRC—in various forms—including in comments on environmental impact statements and Limited Appearance statements regarding the North Anna

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[236] *Millstone*, LBP-01-10, 53 NRC at 286-87 (citations omitted). The former 10 C.F.R. § 2.758 is now Section 2.335. Both the previous and current versions provide that no rule or regulation of the Commission may be attacked in any adjudicatory proceeding under the Commission's Rules of Practice, except through a valid waiver request.

[237] *Millstone*, CLI-01-24, 54 NRC at 364 (citing *Oconee*, CLI-99-11, 49 NRC at 334).

Early Site Permit proceeding (February 2005);[238] the Oyster Creek License Renewal proceeding (July 2006 and May 2007);[239] the Grand Gulf Early Site Permit proceeding (July 2005);[240] the Peach Bottom License Renewal proceeding (November 2001 and July 2002);[241] the Shearon Harris License Renewal proceeding (July 2007);[242] the Turkey Point License Renewal proceeding (July 2001);[243] and the Diablo Canyon independent spent fuel storage installation proceeding (July 2007).[244]

The diversity of the sites involved, in terms of their geographic location, and the variety of the nature of the licensing actions at issue, as well as the protracted timeframe over which Mr. Mangano has been presenting fundamentally the same hypothesis,[245] make it abundantly clear that the issue Clearwater seeks to raise in this proceeding is generic and has no unique tie to

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238 *See* Pub. Mtg. Tr. Att. A (Feb. 17, 2005) (Radiation and Public Health Project, Death Rates in Central Virginia in the Vicinity of North Anna Nuclear Station (Jan. 19, 2005)), *available at* ADAMS Accession No. ML050750309.

239 *See* Letter from Joseph Mangano to NRC (July 14, 2006), *available at* ADAMS Accession No. ML062050309; Ltd. Appearance Session Tr. 23-27 (May 31, 2007), *available at* ADAMS Accession No. ML071580352; Joseph Mangano, Radioactive Contamination and Cancer Near the Oyster Creek Nuclear Reactor (May 31, 2007), *available at* ADAMS Accession No. ML071650053.

240 *See* Letter from Joseph Mangano to NRC (July 5, 2005), *available at* ADAMS Accession No. ML051960026.

241 *See* E-mail from Joseph Mangano to NRC (Nov. 21 2001), *available at* ADAMS Accession No. ML020230268; Pub. Mtg. Tr. 79-90 (July 31, 2002), *available at* ADAMS Accession No. ML022390448.

242 *See* Joseph Mangano, Patterns of Radioactive Emissions and Health Trends Near the Shearon Harris Nuclear Reactor (July 17, 2007), *available at* ADAMS Accession No. ML072120423; Ltd. Appearance Session Tr. 5-9 (July 17, 2007), *available at* ADAMS Accession No. ML072040023.

243 *See* Pub. Mtg. Tr. 93-94 (July 17, 2001), *available at* ADAMS Accession No. ML012270223; GEIS Supp. 5, App. A, A-291 to A-307 (Jan. 2002) (Comment of the Radiation and Public Health Project (July 17, 2001)), *available at* ADAMS Accession No. ML020280226.

244 *See* E-mail from Joseph Mangano to NRC (July 2, 2007), *available at* ADAMS Accession No. ML071870039.

245 The Radiation and Public Health Project website includes a list of some 50 articles, letters to editors and other presentations related to a number of reactor facilities—existing and proposed—nationwide, with regard to which Mr. Mangano has presented his position (in more summary form) regarding radiation, nuclear power plants, the tooth fair project, and the incidence of cancer. *See* http://www.radiation.org/press/index.html. Regardless of where the facility is located (or proposed), Mr. Mangano's theme with respect to the foregoing is fundamentally the same.

either license renewal or to IPEC.[246] Clearwater, moreover, has not requested a waiver pursuant to 10 C.F.R. § 2.335(b), has not submitted a supporting affidavit that "must" accompany the waiver request, nor has it addressed the required four-part *Millstone* test for Section 2.335 petitions.[247]

(ii) The Issues Raised Are Not in the Scope of License Renewal

As noted above, the Mangano Declaration and related report upon which admission of Contention EC-2 rests, make clear that the issue Clearwater seeks to raise is generic in nature, and that there is nothing unique to this renewal proceeding that warrants waiver of the categorization of this issue as Category 1. The fundamental hypothesis advanced by Mr. Mangano and his underlying data have been offered in connection with a wide variety of licensing actions throughout the country. Here, he simply includes references to IPEC, in contrast to the references to other facilities in his other presentations, but his bottom line remains the same: radiation releases from nuclear power plants operating in conformance with NRC regulations purportedly can be correlated with the incidence of cancer. Thus, similar to the emergency planning issue in *Millstone*,[248] it is plain that this issue, to the extent it may have any validity, is not unique here, and must be rejected as a matter of law as being outside the scope of this proceeding.[249]

Other than unsupported speculation regarding releases in the future, and superficial citations to Entergy's ER, there simply is nothing put forward by Clearwater to make this issue

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[246] *See Turkey Point*, CLI-01-17, 54 NRC at 11 (citing 10 C.F.R. Part 51, Subpart A, App. B); *Conn. Yankee Atomic Power Co.* (Haddam Neck Plant), CLI-03-7, 58 NRC 1, 8 (citing *Metro. Edison Co.* (Three Mile Island Nuclear Station, Unit 1), CLI-80-16, 11 NRC 674, 675 (1980)).

[247] *See supra* Section IV.B.3.

[248] CLI-05-24, 62 NRC at 561.

[249] 10 C.F.R. §§ 2.309(f)(1)(iii), 2.335.

relevant to operation of IPEC during a renewed period of plant operation. Notably, Entergy's most recent reports—the 2006 Annual Radioactive Effluent Release Report and Annual Radiological Environmental Operating Report for 2006, submitted to the NRC in April 2007 and May 2007, respectively—show no instance where NRC requirements were exceeded during the operating period for Indian Point Units 1, 2 and 3.

The Annual Radiological Environmental Operating Report for 2006 concludes: "the levels of radionuclides in the environment surrounding Indian Point were within the historical ranges, i.e., previous levels resulting from natural and anthropogenic sources for the detected radionuclides. Further, Indian Point operations in 2006 did not result exposure [sic] to the public greater than environmental background levels."[250] "Plant related radionuclides were detected in 2006; however, residual radioactivity from atmospheric weapons tests and naturally occurring radioactivity were the predominant sources of radioactivity in the samples collected. Analysis of the 2006 REMP [Radiological Environmental Monitoring Program] sample results supports the premise that radiological effluents were well below regulatory limits."[251] Nothing provided by Clearwater is to the contrary. As the Commission stated in *Millstone*:

> *Issues that have relevance during the term of operation under the existing operating license as well as license renewal would not be admissible* under the new provision of § 2.758 [now § 2.335] because there is *no unique relevance of the issue to the renewal term.*[252]

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[250] Annual Radiological Environmental Operating Report for 2006, at 1-2, *available at* ADAMS Accession No. ML0714200880.

[251] *Id.* at 2-2.

[252] *Millstone*, CLI-05-24, 62 NRC at 561 (citing Final Rule, Nuclear Power Plant Renewal, 56 Fed. Reg. at 64,961-62 (emphasis in original)).

(iii) *EC-2 Is Based on Speculation that Fails to Raise a Dispute of Material Fact*

The Mangano Declaration, while including some IPEC-specific information, in the end is based on the same dated information he provided in support of other unsuccessful attempts to have a like contention admitted in other proceedings (including license renewal proceedings) in other areas of the country, now, though, even more dated.[253] Mr. Mangano's report includes an amalgam of disassociated "facts" drawn, in some cases, from assessments of the effects of atomic bombs and weapons-testing conducted many decades ago, as well as assessments of beyond design basis accidents/severe accidents including terrorist attacks.[254] This assortment of unrelated factoids is then strung together with data annually reported by Entergy, to show the occurrence of releases of various routine radionuclides over time; releases which, not surprisingly, are subject to fluctuation.[255] Without any further support, or qualification to offer the opinion, he then suggests that "Indian Point is more vulnerable to a meltdown from mechanical failure than most reactors because of its age . . . . The reactors are also vulnerable to a meltdown due to its parts corroding as the plant ages and as the reactors operate much more of the time in recent years."[256]

Such gross speculation has been and should be summarily rejected.[257] Mr. Mangano's analyses and hypotheses with respect to health effects previously have been rejected by the

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253 *See supra* Sections IV.d.2.b.i-ii.

254 *See* Mangano Declaration, Att. A, §§ II.A-B, III.C, IV, V (Public Health Risks of Extending Licenses of the Indian Point 2 and 3 Nuclear Reactors (Dec. 7, 2007)).

255 Mr. Mangano does not suggest, however, that these releases exceeded regulatory limits. *Id.*, Att. A at 9.

256 *Id.*, Att. A at 7.

257 *See McGuire*, LBP-02-04, 55 NRC at 85-87; *Millstone*, LBP-04-15, 60 NRC at 90-91; *Millstone*, CLI-04-36, 60 NRC at 637-38; *Millstone*, LBP-01-10, 53 NRC at 273; *Millstone*, CLI-01-24, 54 NRC at 349.

NRC,[258] and discredited by the State of New Jersey, Commission on Radiation Protection, Department of Environmental Protection.[259] The latter, set out in a 44-page report (which includes two earlier assessments of the Tooth Fairy Project and of the analyses and data employed) goes on at some length to examine significant and material flaws in the study, and refute its findings. In light of the foregoing, Mr. Mangano's report cannot provide a sufficient basis for Clearwater's Petition in this proceeding.

With regard to the Mainz report, it is not appended as an exhibit, nor is any portion of it even directly referenced in Clearwater's Petition.[260] For this reason alone, the Mainz report is an insufficient basis for the proposed contention.[261] Clearwater also does not allege how or why the report has any specific relevance to IPEC.

In sum, Clearwater's Contention EC-2 is inadmissible because it proposes consideration of an issue which is beyond the scope of this proceeding, and presents a generic issue decided by rule not to warrant specific evaluation in the context of an individual license renewal the operation of IPEC in the period of renewal.[262] As such, the Petitioner fails to *raise a material*

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[258] *See* Letter from Christopher L. Grimes, Program Dir., License Renewal and Environmental Impacts, Division of Regulatory Improvements Programs, Office of Nuclear Reactor Regulation, NRC, to Dr. Jerry Brown, Radiation and Public Health Project (Jan. 15, 2002) (regarding comments provided by the Radiation and Public Health Project in connection with the Turkey Point license renewal), *available at* ADAMS Accession No. ML020150511.

[259] *See* Letter from Dr. Julie Timins, Chair, Comm. on Radiation Protection, to N.J. Gov. Jon Corzine (Jan. 18, 2006) (regarding state funding of the Radiation and Public Health Project for further analysis of Strontium-90 in baby teeth of children living near the Oyster Creek Nuclear Generating Station in New Jersey), *available at* ADAMS Accession No. ML060410476.

[260] There is, however, a reference to a Yahoo news article that was published on the internet and discusses the report. Petition at 26.

[261] 10 C.F.R. § 2.309(f)(1)(v); *see also Seabrook*, CLI-89-3, 29 NRC at 240-41; *Browns Ferry*, LBP-76-10, 3 NRC at 216.

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

10 C.F.R. Part 20, which simply cannot be contested in an individual license renewal *issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).* Stripped to its essence, the contention is nothing more than an obvious challenge to the Commission's permissible doses in proceeding.[263] Moreover, in light of the generic nature of the underlying information and the serious questions regarding its overall reliability, discussed above, the information presented by Clearwater is not "new and significant information" of the type which need be addressed in a license renewal ER notwithstanding that the matter is otherwise a Category 1 matter.[264]

3. EC-3: Environmental Justice Contention Is Inadmissible

a. Overview of Contention and Supporting Bases

Contention EC-3 alleges that the ER "fails to acknowledge or describe potential impacts upon the high minority and low-income populations that surround the plant."[265] Specifically, EC-3 states that the ER

> fails to provide a sufficient analysis of the many potential and disparate environmental impacts of Indian Point on the minority and low-income communities residing in close proximity to Indian Point. First, there appears to be a disparate impact upon minority communities for cancer that may be related to radiation releases from Indian Point. Second, there is a group of subsistence fisherman [sic] in the Hudson who will suffer disparate impacts from radiation released from Indian Point that may wind up in the Hudson River fish. Third, there is a large minority, low-income and disabled population in special facilities (including hospitals and prisons) within 50 miles who will be severely impacted if there is an evacuation from the area surrounding Indian Point.[266]

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263 10 C.F.R. § 2.335(a); *see also Turkey Point*, CLI-01-17, 54 NRC at 3.

264 *See* 10 C.F.R. § 51.53(c)(3)(iv).

265 Petition at 31.

266 *Id.*

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[263] 10 C.F.R. § 2.335(a); *see also Turkey Point*, CLI-01-17, 54 NRC at 3.

[264] *See* 10 C.F.R. § 51.53(c)(3)(iv).

[265] Petition at 31.

[266] *Id.*

opinion: (1) purported flaws in Entergy's EJ and demographic methodology;[267] (2) the alleged failure to adequately acknowledge significant local EJ communities;[268] (3) the unsupported assertion that minority or low-income populations *may* be "more vulnerable to the adverse impacts of radiological and nuclear plant-induced chemical pollution in the environment that [sic] is the case for the general minority or total population of the United States";[269] (4) Entergy's purported failure to address the impacts of subsistence fishing";[270] (5) the alleged disproportionate impacts of potential evacuations on EJ communities;[271] (6) the alleged disproportionate impacts of potential evacuations on prisoners, "disabled patients in . . . hospitals" and people located in other "[s]pecial facilities";[272] and (7) Entergy's purported failure to address "the potential impacts upon EJ communities from life-cycle impacts on the production, use and storage of radioactive fuel, especially Native American people [sic] . . . ."[273] As explained below, Contention EC-2 also contains a number of EJ-related allegations that are addressed in this section, as they substantially overlap the allegations in EC-3.

Clearwater further alleges that, based on "paired" comparisons of counties near IPEC with other counties in New York State, "there is a significantly higher incidence of radiosensitive cancers in the nearer counties."[274] Also, based on similar comparisons between Westchester and Rockland County "nuclear" zip code regions and "a control group of zip code regions located

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267 *Id.* at 36.

268 *Id.* at 38.

269 *Id.* at 41-42; *see also id.* at 29-30.

270 *Id.* at 42.

271 *Id.* at 47.

272 *Id.* at 48, 51.

273 *Id.* at 53.

274 *Id.* at 29.

further from the plant,"[275] Clearwater alleges a disproportionate cancer impact for EJ populations closer to the plant.[276] Each of these issues is addressed below, demonstrating the inadmissibility of EC-3.

b. Entergy's Response to EC-3

Contention EC-3 is inadmissible to the extent it addresses emergency planning and issues addressed in the GEIS, which are outside the scope of this proceeding. For other allegations that are not categorically excluded, however, the purported bases provide no evidence of any significant and disproportionate adverse impact. Such evidence is required to establish the requisite genuine dispute on a material issue of law or fact as required by 10 C.F.R. § 2.309(f)(1)(vi).

Subsection (i), below, sets forth the Commission's standards for EJ analyses. Subsection (ii) explains why several of the claims supporting EC-3 are irrelevant to EJ analyses or are outside the scope of this proceeding, or both. Subsection (iii) addresses the clear lack of evidence for any claims of significant adverse impact due to radiological releases. Subsection (iv) addresses the lack of evidence for any purported disproportionate impact with respect to cancer. Subsection (v) addresses the lack of evidence for Clearwater's claims of significant adverse impacts with respect to subsistence fishing.

(i) Standards for EJ Analyses

EJ analysis is guided by the NRC's Final Policy Statement on the Treatment of Environmental Justice Matters in NRC Regulatory and Licensing Actions[277] ("Final Policy

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[275] *Id.*

[276] *Id.* at 30.

[277] 69 Fed. Reg. 52,040 (Aug. 24, 2004).

Statement"), NUREG-1555, Reg. Guide 4.2 Supplement 1, and Executive Order 12898.[278] The Final Policy Statement summarizes the goals of EJ analyses as follows:

> (1) To identify and assess environmental effects on low-income and minority communities by assessing impacts peculiar to those communities; and (2) to identify significant impacts, if any, that will fall disproportionately on minority and low-income communities. It is not a broad-ranging review of racial or economic discrimination.[279]

To this end, "[t]he focus of any 'EJ' review should be on identifying and weighing disproportionately *significant and adverse* environmental impacts on minority and low-income populations that may be *different from the impacts on the general population.*"[280] Thus, if no significant and adverse impacts are identified, then a detailed analysis of disparate impacts is not appropriate.[281]

Accordingly, for an EJ contention to be admissible, mere identification of the presence of an EJ population alone is insufficient.[282] Supported allegations of *significant and disproportionate* adverse impacts must be proffered. "Adverse impacts that fall heavily on minority and impoverished citizens call for particularly close scrutiny."[283] But there are two prerequisites to support the admission of a contention alleging deficiencies in an applicant's EJ

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[278] Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 Fed. Reg. 7629 (Feb. 16, 1994).

[279] Final Policy Statement, 69 Fed. Reg. at 52,048; *see also La. Energy Servs., LP* (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 101 (1998) ("LES") ("nothing in NEPA or in the cases interpreting it indicates that the statute is a tool for addressing problems of racial discrimination").

[280] Final Policy Statement, 69 Fed. Reg. at 52,047 (emphasis added) (internal quotations omitted).

[281] *See id.*

[282] Identification of EJ populations "in impacted area[s that] exceed[] that of the State or County percentage for either the minority or low income population" remains a significant consideration for EJ analyses. *See Dominion Nuclear N. Anna, LLC* (Early Site Permit for North Anna ESP Site), CLI-07-27 (slip op. at 27) (Nov. 20, 2007) (citing Final Policy Statement, 69 Fed. Reg. at 52,048). However, identification of EJ populations alone is insufficient to support admission of an EJ contention. *See North Anna*, slip op. at 39 (describing EJ issues as those "that could lead to a disproportionately high and adverse impact").

[283] *LES*, CLI-98-3, 47 NRC at 106.

analysis: first, "support must be presented regarding the alleged existence of adverse impacts or harm on the physical or human environment"; and, second, "a supported case must be made that these purported adverse impacts could disproportionately affect poor or minority communities in the vicinity of the facility at issue."[284] Thus, a petitioner must "identify [a] *significant and disproportional* environmental impact on the minority or low-income population relative to the general population . . . ."[285]

In particular, allegations of releases of radioactivity below regulatory limits are insufficient to demonstrate significant adverse impact that would support admission of an EJ contention. As the Licensing Board in the *Vogtle* early site permit ("ESP") proceeding recently observed,

> When a contention alleges that increases in radioactive releases create higher doses, but does not provide information or expert opinion to dispute the conclusion that the higher doses would still be under NRC regulatory limits, and no evidence has been presented to show that the higher levels will cause harm, sufficient information to show that a material dispute exists has not been provided and the contention making these claims should not be admitted.[286]

(ii) Petitioner Raises Allegations That are Clearly Outside the Scope of License Renewal or EJ Analyses

Petitioner alleges that EJ populations will be disproportionately impacted by an evacuation resulting from a radiological event, and that residents of special facilities, such as prisons, will be disproportionately impacted by an evacuation or radiological event.[287] In

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[284] *S. Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-07-3, 65 NRC 237, 262 (2007) (citing Final Policy Statement, 69 Fed. Reg. 52,047).

[285] *Sys. Energy Res., Inc.* (Early Site Permit for Grand Gulf ESP Site), LBP-04-19, 60 NRC 277, 294 (2004); *see also LES*, CLI-98-3, 47 NRC at 106.

[286] *Vogtle*, LBP-07-3, 65 NRC at 266.

[287] Petition at 47-48.

essence, both of these claims allege that evacuation of low-income groups, minorities, prisoners, and other residents of special facilities "would be an [sic] extremely problematic in the event of a radiological emergency . . . ."[288] Thus, these claims, although cloaked as EJ issues, are in fact emergency planning issues. Like all emergency planning issues, they are outside the scope of this proceeding and cannot provide a basis for an admissible contention.[289]

Further, Clearwater attempts to include, in its definition of EJ communities, a variety of other groups, such as prisoners, children, students, hospital patients, and the elderly.[290] EJ analyses, of course, apply *only* to "low income and minority communities."[291] Even Clearwater recognizes that these groups are not "traditionally covered by concepts of environmental justice,"[292] *i.e.*, that there is no legal support for their position. Moreover, by attempting to expand the definition of EJ communities to include large portions of the general population, Clearwater appears to desire exactly the sort of "broad-ranging review of racial or economic discrimination" that is beyond the scope of NEPA and that the NRC has repeatedly declined to undertake.[293]

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[288] Petition at 52; *see generally id.* at 48-53.

[289] *Millstone*, CLI-05-24, 62 NRC at 561 ("Emergency planning is, by its very nature, *neither germane to age-related degradation nor unique to the period covered by the . . . license renewal application.*"); 10 C.F.R. § 50.47(a)(1) ("No finding under this [emergency planning] section is necessary for issuance of a renewed operating license.").

[290] Petition at 48, 52.

[291] Final Policy Statement, 69 Fed. Reg. at 52,048.

[292] Petition at 52 n.16.

[293] Final Policy Statement, 69 Fed. Reg. at 52,048; *see also LES*, CLI-98-3, 47 NRC at 101.

Clearwater also alleges disproportionate impacts "by mining and manufacture of nuclear fuel and targeted [sic] to store massive amounts of radioactivity."[294] This allegation challenges Category 1 issues identified in the GEIS.[295] As discussed in Section IV.B.2, above, contentions challenging Category 1 issues 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."[296] Clearwater has not requested a Section 2.335 waiver petition for 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.[297] With one exception, the documents referenced in support of this claim are completely generic in nature and contain no information that is specific to IPEC.[298] This allegation, therefore, cannot provide a viable basis for Contention EC-3.

Contention EC-3 also includes the more general charge that Entergy's ER is "flawed" because the EJ analysis did not address Category 1 impacts.[299] This allegation misconstrues the conclusions of the Commission's regulations, which, as discussed above, are that such issues involve "environmental effects that are essentially similar for all plants," and thus they "need not

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294 Petition at 53.

295 10 C.F.R. Part 51, Subpart A, App. B; GEIS at 9-13 to 9-15.

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

297 10 C.F.R. § 2.335(b); *Millstone*, CLI-05-24, 62 NRC at 561.

298 *See, e.g.*, Petition at 54 (discussing Prof. Karl Grossman's study of the "impacts of the nuclear fuel cycle on Native American populations"); *id.* at 54-55 (discussing Dr. Robert Bullard's study of the EJ "impact of manufacturing nuclear fuel"). The exception is the charge against Entergy, however, in a footnote that discusses Entergy's alleged "[i]ronic[]" connections with the New York Affordable Reliable Electricity Alliance ("NYAREA"), "even though Entergy's impact on minorities and low-income groups *may* be very detrimental . . . ." *Id.* at 55 n.17 (emphasis added).

299 *Id.* at 36.

be assessed repeatedly on a site-specific basis."[300] None of the Category 1 impacts, moreover, are significant adverse impacts that could trigger closer EJ scrutiny.[301] Thus, once again, Clearwater is attempting to use the narrowly-focused EJ analysis to open a broad inquiry into topics that are outside the scope of this proceeding. As a result, claims involving emergency planning, an expanded definition of EJ populations, and the nuclear fuel cycle cannot support admission of Clearwater's Contention EC-3.

(iii) No Significant Adverse Impact Is Alleged

As stated in subsection (i) above, establishing a significant and disproportionate adverse impact is an essential element of an EJ-related contention. Tellingly, Clearwater's Petition identifies no significant adverse impact. Instead, Clearwater merely assumes a significant adverse impact as a starting point for its EJ-related allegations, absent any foundation in law or fact. Because Clearwater offers no evidence of any specific significant adverse impact on *anyone*, stemming from the renewed term of plant operation, it fails to satisfy the first prerequisite for establishing a genuine dispute on a material issue.[302]

Clearwater's primary allegation of adverse impact relies upon Mr. Mangano's purported evidence of and speculation about increased risk of "cancer that *may* be related to radiation releases from Indian Point . . . ."[303] As described in more detail in Section V.2 (Response to EC-2), above, there is no assertion or information, either in the Petition or the Mangano Declaration,

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

[301] *See* 10 C.F.R. Part 51, Subpart A, App. B.

[302] *See Vogtle*, LBP-07-3, 65 NRC at 262.

[303] Petition at 31. Clearwater's additional allegations of adverse impacts related to subsistence fishing are addressed in Subsection IV.D.3.b.v, below.

that the Applicant has not and is not operating IPEC in accordance with the 10 C.F.R. Part 20 requirements with respect to radiological releases. Without any evidence of radiological releases that are above regulatory limits, there is no evidence of harm or significant adverse environmental impact that is sufficient to show that a material dispute of fact exists,[304] so the Mangano Declaration provides no support for the admission of Contention EC-3.

(iv) No Evidence of Disproportionate Impact With Respect to Cancer

In EC-3, Clearwater purportedly presents evidence that EJ communities are disproportionately impacted by "radiological and . . . chemical pollution."[305] The sole basis for this allegation is Clearwater Exhibit 4, again, the Mangano Declaration. The pertinent material in the Mangano Declaration is a comparison of cancer rates for minority groups located near IPEC and cancer rates for minority groups in other areas of New York State. "The hypothesis to be tested is that, [sic] cancer will be higher in areas closer to Indian Point ('nuclear' areas) than distant areas with similar race distribution and poverty rates ('control' areas)."[306] Mr. Mangano also performs a similar comparison of the "closest nine Westchester and Rockland zip code areas" with *selected* "control" zip codes.[307] His analysis concludes that, "cancer rates in counties closest to Indian Point were unexpectedly high compared to counties with similar racial and poverty distribution. Within these closest counties, cancer rates in the zip code areas closest to the plant were also unexpectedly high" in comparison to "control" areas with allegedly similar demographics.[308]

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304 *Vogtle*, LBP-07-3, 65 NRC at 266.

305 Petition at 41-42. Clearwater provides no further discussion or basis to support the "chemical pollution" allegation, so this Section addresses only allegations of radiological impacts.

306 Mangano Declaration, Att. A at 28; *see also id.* at 28-33 (Environmental Justice Issues).

307 *Id.* at 30-33.

308 *Id.* at 33.

Apart from the generally suspect nature of Mr. Mangano's scientific methodology described in Section IV.D.2, above, this is the wrong comparison. As explained above, the focus of an EJ analysis is on "identifying and weighing disproportionately *significant and adverse* environmental impacts on minority and low-income populations that may be *different from the impacts on the general population.*"[309] Thus, Clearwater must demonstrate that IPEC's impacts fall disproportionately on minority or low-income populations, *in comparison to the general population near the plant.* Mr. Mangano presents no such comparison, so there is *no* support in the Mangano Declaration for Clearwater's speculation that "[m]inority groups in the four-county region are more vulnerable to the adverse impacts of radiological and nuclear plant-induced chemical pollution . . . ."[310]

Thus, EC-3 identifies no disproportionate impacts on EJ communities and is not admissible.

(v) No Evidence of Adverse Impact Due to Subsistence Fishing

Finally, Clearwater alleges that the ER "fails to take into account the high percentage of minority and low-income populations in the lower Hudson Valley region who engage in subsistence fishing."[311] This aspect of Clearwater's EJ contention is also empty of substance, because it too assumes, but does not demonstrate, the existence of any significant adverse

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[309] Final Policy Statement, 69 Fed. Reg. at 52,047 (emphasis added); *see also LES*, CLI-98-3, 47 NRC at 101 ("'Disparate impact' analysis is our principal tool for advancing environmental justice under NEPA"); *North Anna*, CLI-07-27, slip op. at 39 (focusing analysis on "disproportionately high and adverse impact[s]"); *Vogtle*, LBP-07-03, 65 NRC at 266 ("the NRC has obligated itself to address only the disproportionate distribution of 'high and adverse' effects") (citing *PFS*, CLI-02-20, 56 NRC 147, 154 (2002); *Grand Gulf*, LBP-04-19, 60, NRC at 294.

[310] Petition at 41. Nor does, Table 30 in the Mangano Declaration, Att. A, support Clearwater's statement.

[311] *Id.* at 42.

impact. Moreover, Clearwater provides no evidence of any disproportionate impact related to subsistence fishing.

For example, while EC-3 is replete with warnings such as, "fishermen and women are unaware that radioactive strontium has been detected in the flesh and bones of some area fish,"[312] it contains no assertion or information showing that the Applicant has not or is not operating IPEC in accordance with the Commission's requirements with respect to radiological releases in 10 C.F.R. Part 20. Clearwater provides no evidence that there are any fish in the Hudson River that are contaminated above regulatory limits, or that any contamination above regulatory limits is linked to IPEC. Indeed, in the Petition and the supporting Mangano Declaration, Clearwater does not identify a single example of an actual radiologically-contaminated fish, much less a fish that was contaminated by discharges from IPEC.[313] Thus, the Board's observation in the *Vogtle* ESP proceeding applies equally here: Clearwater's "concern . . . lacks an adequate showing of adverse impacts, without which disparate impacts have no significance."[314]

Instead, the contention is based upon three incorrect and unjustifiable assumptions, as well as irrelevant studies of PCB contamination. First, Clearwater assumes without any facts or expert testimony that there are radiologically-contaminated fish in the vicinity of IPEC. The second is that any radiological contamination, no matter how small, presents a danger to the public—this assumption, as discussed above, defies the NRC's regulations.[315] In the third, and in defiance of logic and all evidence, Clearwater assumes that all contamination, including Sr-90,

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[312] *Id.* at 46.

[313] *Id.* at 42-47; Mangano Declaration, Att. A. Entergy, however, as described in Section IV.D.1.b.ii, above, *has* evaluated the potential adverse impacts from groundwater contamination, including the potential impacts of fish consumption, and determined that there are no significant adverse impacts.

[314] *Vogtle*, LBP-07-3, 65 NRC at 263.

[315] *See id.* at 266.

found in the Hudson River is linked to IPEC.[316] Clearwater then draws on these assumptions, and *studies of PCB contamination*, to compile a grab-bag of baseless accusations, including:

- "[T]he fish that anglers kept were the most contaminated [by PCBs] in each part of the river";[317]
- "The exposure caused by the presence of radionuclides in fish is clearly an environmental injustice";[318]
- EJ "populations are already disproportionately affected, via bioaccumulation, by increases in hazardous and radioactive material from the nuclear reactors";[319]
- "This is especially dangerous for young children, because strontium acts like calcium in bone formation . . . .";[320]
- "[L]ike PCBs, Strontium-90, Cesium-137, and other radioactive isotopes bioaccumulate in higher trophic levels in the food chain";[321]
- "Additionally, low-income respondents were less aware of the [PCB] health advisories . . . .";[322]
- "The LRA does not set forth mitigation measures which locate, contain, and remediate any and all leaks of strontium, cesium and tritium from Indian Point into the ground, air, groundwater and river";[323]

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316 *See* U.S. NRC, Backgrounder on Radiation Protection and the "Tooth Fairy" Issue, at 5 (Dec. 2004) (explaining that "[a]pproximately 99% of Sr-90 in the environment came from atmospheric testing of nuclear weapons. The second largest source of Sr-90 in the environment was the Chernobyl accident."). Nothing in the Mangano Declaration substantively disputes this information. *See* Mangano Declaration at 12 (acknowledging that "average concentrations [of Sr-90] in bodies plunged by about half from 1964 to 1969, after large-scale weapons testing in the atmosphere was banned").

317 Petition at 44.

318 *Id.* at 45.

319 *Id.* at 45-46. Clearwater also offers no evidence whatsoever to support its accusation that releases of "hazardous" materials or "other [non-radioactive] toxic substances" are linked to IPEC.

320 *Id.* at 46.

321 *Id.* at 44. No evidence is presented in support of this proposition. But more importantly, Clearwater presents no evidence whatsoever that accumulation of contaminants up the food chain has led to any danger that the public could be exposed to contaminants above the regulatory limits, *nor has Clearwater alleged that this is even a possibility*. *Id.* at 42-47.

322 *Id.* at 44.

323 *Id* at 45.

- "Subsistence anglers who fish in the Hudson River are unaware that the food they are catching for their families *may* contain strontium-90 and other radioactive isotopes."[324]

Thus, this Board should reject Clearwater's EJ contention for the same reasons that the Board in the *Vogtle* ESP proceeding rejected the proffered EJ contention: "without adverse effects, . . . how those effects are distributed is immaterial to this proceeding."[325]

In sum, to the extent Clearwater's Contention EC-3 raises allegations that are not categorically excluded as outside the scope of this proceeding or outside the scope of EJ analyses, it presents no evidence that there are any significant or disproportionate adverse impacts. Having failed to establish any significant adverse and disproportionate impacts, Clearwater has failed to demonstrate a genuine dispute on a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi). For these reasons, the Board must deny admission of Contention EC-3.

4. EC-4: SAMA Analysis

a. Overview of Contention and Supporting Bases

Contention EC-4 alleges that "Entergy's analysis of severe accident mitigation alternatives (SAMAs) in its ER fails to satisfy NEPA because it is incomplete, inaccurate and is not adequately based upon scientific and probabilistic analysis."[326] Specifically, Clearwater alleges that "the ER fails to adequately consider the possibility of a terrorist attack on Indian Point . . . the impacts of a radiological event at Indian Point, or an evacuation in the surrounding area, particular [sic] in connection with the EJ communities . . . ."[327]

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[324] *Id* at 46.

[325] *Vogtle*, LBP-07-3, 65 NRC at 267.

[326] Petition at 56.

[327] *Id.*

Clearwater's only bases for this contention are its purported adoption "[p]ursuant to 10 C.F.R. § 2.309(f)(3)" of "Contention 12-15 [sic]" of the NYAG and a statement that "Clearwater also shares the concerns raised in Riverkeeper's Contention EC-2."[328] Clearwater also "references and incorporates by reference its Contentions EC-3 and EC-6."[329]

b. Entergy's Response to EC-4

Clearwater's Contention EC-4 is inadmissible because it provides *no basis*, including any factual support or expert opinion, other than the impermissible incorporation by reference of the contentions of other parties, contrary to 10 C.F.R. § 2.309(f)(1)(v) and (f)(3). As described in Section IV.C, above, parties are not permitted to simply adopt another party's contentions by reference. At the pleadings stage, each party must independently submit at least one admissible contention in order to be admitted as a party to a proceeding.[330] Clearwater's wholesale "adoption" is further deficient in that it does not even purport to comply with the requirements for co-sponsorship and joint designation of a representative as required by 10 C.F.R. § 2.309(f)(3). Thus, Clearwater's purported adoption of NYAG's contentions at this stage is invalid. Clearwater's statement that it "shares" Riverkeeper's concerns is likewise invalid.[331]

As a result, Proposed Contention EC-4 fails to provide a concise statement of alleged facts or expert opinions required by Section 2.309(f)(1)(v), and fails to establish a genuine

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328 *Id.*

329 *Id.*

330 *See Indian Point*, CLI-01-19, 54 NRC at 131-133.

331 Entergy's substantive responses to referenced allegations in NYAG's and Riverkeeper's contentions can be found in its Answers to those respective petitions to intervene. Further, to the extent Clearwater attempts to "incorporate by reference" information in its Contentions EC-3 and EC-6, or raises allegations related to an "evacuation" or a "terrorist attack," Entergy's response is provided in its answers to Contentions EC-3 and EC-6.

dispute with the Applicant on a material issue of law or fact as required by Section 2.309(f)(1)(vi).

5. EC-5: Consideration of Renewable Energy and Energy Efficiency

a. Overview of Contention and Supporting Bases

Contention EC-5 alleges that Entergy's ER "fails to adequately assess the potential for renewable energy and energy efficiency as an alternative [sic] to license renewal of Indian Point."[332] Allegedly, Entergy relies upon NRC guidance in the GEIS, Volume 1, Section 8 (1996) to "categorically eliminate[] from consideration the following alternatives: wind, solar, hydropower, geothermal, wood energy, municipal solid waste, other biomass derived fuels, oil, fuel cells, delayed retirement, utility sponsored conservation, purchased/imported power, and a combination of alternatives."[333]

Clearwater also, once again, relies upon the purported adoption of contentions submitted by another party: "Pursuant to 10 C.F.R. § 2.309(f)(3), Clearwater hereby adopts Contentions 9, 10, and 11 of [NYAG] filed on November 30, 2007."[334] Clearwater also summarizes and repeats some of the allegations in those contentions. For example, Clearwater alleges that, "[a]s stated in AG Contention-10 . . . the ER misstates the findings of the Generic environmental impact statement and/or relies upon [other] plant specific supplements . . . to justify their [sic] cursory dismissal of many renewable energy options."[335]

Clearwater offers two additional bases to support this contention. First, it describes a variety of studies, websites, or other documents that allegedly discuss a variety of "demand side

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[332] *Id.* at 56.

[333] *Id.* at 58.

[334] *Id.* at 57.

[335] *Id.* at 58.

options" that Clearwater implies have not been adequately considered by the Applicant.[336] Second, addressing "supply side options," Clearwater cites a variety of websites and studies purportedly showing that "[c]reative procurement of energy, and distributing the generation of energy could replace Indian Point's 2 GW."[337]

b. Entergy's Response to EC-5

Entergy opposes the admission of Contention EC-5 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); (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); and (3) improperly attempts to incorporate by reference the contentions of the NYAG, contrary to 10 C.F.R. §§ 2.309(f)(1)(v) and (f)(3).

NEPA and NRC regulations in 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."[338] In this instance, the purpose and need of the "major

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[336] *Id.* at 59-61 (citing National Academy of Sciences, Alternatives to the Indian Point Energy Center for Meeting New York Electric Power Needs (allegedly concluding that "reducing our electricity use" is the "preferred option for replacing Indian Point") ("NAS Report"); various New York State Energy Research and Development Authority ("NYSRDA") "Demand Side Programs" available at www.nysedra.org; the Rocky Mountain Institute website, www.rmi.org (describing the concept of the "Negawatt"); "A bill currently pending in the New York State Legislature (Number A8739)" (that allegedly "would amend the public service law" to provide "real time smart metering technology to residential customers"); Charles Komanoff, Securing Power Through Energy Conservation and Efficiency in New York, May 2002, *available at* www.riverkeeper.org/document.php/39/2002_May_Koman.pdf (allegedly showing that "a 15% reduction in electricity usage can be achieved")).

[337] Petition at 61-64 (citing "New York State's Transitional Energy Plan," (allegedly providing "incentives for repowering older dirtier facilities with newer and cleaner facilities"); "Geoexchange Heating and Cooling Systems: Fascinating Facts," *available at* http://www.renewableworks.com/content/GB-003.pdf (allegedly showing that "geothermal heat pumps . . . can lower electricity demand by approximately 1 kW per ton of capacity"); "Wind Power" at http://www.aceny.org/cleantechnologies/wind_power.cfm (allegedly showing that "[w]ind power is growing faster than any other electricity source in the world"); NAS Report at 39 (stating that "there is sufficient wind resource in New York State to replace the Indian Point Units"); NYSRDA, New York State Renewable Portfolio Standard Performance Report for the Program Period ending March 2007 (Aug. 2007) (allegedly showing that significant renewable capacity "could" be available "by the end of 2008")).

[338] *See* 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

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 . . . ."[339]

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.[340] 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 which involves unresolved conflicts concerning alternative uses of available resources.'"[341]

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."[342] Rather, "NEPA requires only consideration of reasonable alternatives, (i.e., those that are feasible and nonspeculative)."[343] 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

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impact of the proposed action, (2) 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).

339 GEIS at xxxiv.

340 10 C.F.R. §§ 51.45, 51.53(c); *see also Nuclear Mgmt. Co., LLC* (Monticello Nuclear Generating Plant), LBP-05-31, 62 NRC 735, 752-53 (2005), *aff'd*, CLI-06-06, 63 NRC 161 (2006).

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

342 *Id.* (citing *Vermont Yankee Nuclear Power Corp. v. Natural Res. Def. Council*, 435 U.S. 519, 551 (1978)).

343 *Id.* (citing *Natural Res. Def. Council Inc. 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)).

> alternatives should be limited to analysis of single, discrete electric generation sources and *only electric generation sources that are technically feasible and commercially viable.*[344]

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.[345] 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."[346] To that end, where, as is the case here, a federal agency is not the sponsor of the project, the Federal Government's consideration of alternatives should "accord substantial weight to the preferences of the applicant and or/sponsor."[347]

As Entergy has indicated in its ER, the proposed action is the renewal of the operating licenses of Indian Point Units 2 and 3, which allow production of approximately 2,158 MWe of base-load power.[348] The ER further states that "[a]lternatives that do not meet this goal are not considered in detail,"[349] which is entirely consistent with the Licensing Board's ruling in the *Monticello* case and with controlling Commission precedent.[350] In the *Monticello* license renewal proceeding, the Applicant's stated goal was the same as is stated here—the production of baseload power.[351] In that case, the Board determined that the Applicant need not address

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[344] GEIS § 8.1 (emphasis added).

[345] *Monticello*, LBP-05-31, 62 NRC at 753 (citing *Simmons v. U.S. Army Corps of Eng'rs*, 120 F.3d 664, 666 (7th Cir. 1997)).

[346] *Hydro Res. Inc.* (P.O. Box 15910, Rio Rancho, NM 87147), CLI-01-4, 53 NRC 31, 55 (2001) (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 (2005), *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).

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

[348] ER at 8-1.

[349] *Id.*

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

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

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.[352]

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* ESP proceeding.[353] Specifically, the Commission's ruling in *Clinton* upheld the Board's exclusion of non-baseload generating options, in part because,

> 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 . . . .[354]

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."[355] 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."[356] Thus, the scope of the "hard look" required by NEPA is also limited by a "rule of reason," which does not demand that a merchant generator, like Entergy,

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

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

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

[355] *Id.* at 807.

[356] *Id.* at 806.

undertake an analysis of energy efficiency and conservation, as an alternative to its goal of generating baseload power.[357]

The Petitioner claims that "Entergy relies upon NUREG-1437, Vol. 1, Section 8 (NRC 1996)" and "[a]s a result, Entergy categorically eliminates from consideration the following alternatives: wind, solar, hydropower geothermal, wood energy, municipal solid waste, other biomass derived fuels, oil, fuel cells, delayed retirement, utility-sponsored conservation, purchased/imported power, and combination of alternatives."[358] While the ER addresses each of these alternative energy sources, the Applicant acknowledges that "these sources have been eliminated as reasonable alternatives 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."[359] This approach is consistent with the GEIS, as discussed above, and is consistent with the *Monticello* case.[360]

Based on the above, the Applicant need only consider reasonable alternatives which are capable of fulfilling the proposed action—to provide an option that allows for 2,158 MWe of baseload power generation capability.[361] Solar and wind power, as explained above, are not always available and cannot supply baseload power, and the other alternatives (*i.e.*, hydropower, geothermal, wood energy, municipal solid waste, other biomass-derived fuels, oil, fuel cells, delayed retirement, utility-sponsored conservation, purchased/imported power, combination of

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[357] *See id.* at 807.

[358] Petition at 58.

[359] ER at 8-50.

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

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

alternatives) simply cannot, with current technology, provide reasonable replacement baseload power generation.[362]

Proposed Contention EC-5 also asserts that the ER fails to consider alternatives "that could displace Indian Point's electricity including: 1) repowering existing power plants to increase their efficiency, increase their power output and reduce their pollution, (2) enhancing existing transmission lines; or 3) exploring other alternatives such as energy efficiency and conservation, and expansion of renewable energy production."[363] The bulk of the contention consists of a meandering discussion of "Demand Side Options" and "Supply Site Options"[364] that consists mainly of bare assertions and speculation. Petitioners failed to provide facts or expert opinions in support of this argument, contrary to 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 demand side and supply side options.[365] Accordingly, Petitioner's argument is insufficient to support the admissibility of the contention.[366]

Further, the Petitioner fails to identify any NEPA, Commission, or Board case law in support of Proposed Contention EC-5. 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 as set forth in the ER. While the Petitioner discusses various alternative energy sources such as wind, solar, and geothermal, it alleges no inadequacies with regard to Entergy's analysis in its ER. Therefore, the Petitioner fails to demonstrate a genuine

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362 *See, e.g.*, Petition at 56-65; ER at 7-4.

363 Petition at 58-59.

364 *See id.* at 59-63.

365 *See Monticello*, LBP-05-31, 62 NRC at 753.

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

dispute with the Applicant on a material issue of law or fact as required by 10 C.F.R. § 2.309(f)(1)(vi).

Finally, as described in Section IV.C, above, parties are not permitted to simply incorporate another party's contentions by reference. This is because, at the contention admissibility stage, each party must independently submit at least one admissible contention in order to be admitted as a party to a proceeding.[367] Clearwater's wholesale "adoption" is further deficient in that it does not even purport to comply with the requirements for co-sponsorship and joint designation of a representative as required by 10 C.F.R. § 2.309(f)(3). Thus, Clearwater's purported adoption of NYAG's contentions in support of contention EC-5 at this stage is invalid. Clearwater's statement that it "shares" Riverkeeper's concerns is likewise irrelevant.[368]

6. EC-6: Consideration of Terrorism under NEPA

a. Overview of Contention and Supporting Bases

Contention EC-5 alleges that

> Entergy's license renewal application does not comply with [NEPA], because the [ER] fails to consider the potential harm that would result from a terrorist or other attack on Indian Point's control rooms, water intake valves and cooling pipes, and the significant and reasonably foreseeable environmental harm that could result from destruction of control and cooling capacities. Additionally, the NRC must consider [SAMA] analysis in connection with this possibility. The ER also fails to consider that the continued storage of spent fuel in the spent fuel pools at Indian Point, as well as other insufficiently protected features relating to cooling, electricity and control, poses a significant and reasonably foreseeable environmental risk of a severe fire and offsite releases of a large amount of radioactivity.[369]

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[367] *See Indian Point*, CLI-01-19, 54 NRC at 131-33.

[368] Entergy's substantive responses to the allegations in NYAG's and Riverkeeper's contentions can be found in its Answers to their respective petitions to intervene.

[369] Petition at 65.

Allegedly, the location of the systems and structures cited by Clearwater are outside of containment, which makes them "attractive targets to terrorists."[370] As a result, Clearwater claims that a terrorist "attack could result in radiation releases that could cause significant adverse environmental and health effects and property damage in one of the most densely populated areas of the country."[371] Clearwater further alleges that the failure to address these risks violates NEPA and the AEA.[372]

Once again, Clearwater attempts to adopt Contention 27 of NYAG, and states that it "shares Riverkeeper's concerns in its Contention EC-2."[373] Clearwater also describes and attempts to rely upon a Declaration included in the NYAG Petition, as well as other information cited by NYAG.[374]

Finally, Clearwater recites a litany of documents *with no specific relevance to IPEC* that allegedly "demonstrate the importance of considering the potential impact of a terrorist attack on Indian Point."[375] Buried in the middle of Clearwater's discussion of the generic dangers of

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[370] *Id.* at 66. Note that, by design, all control rooms are outside containment and it is not clear what Clearwater means by "water intake valves" or "cooling pipes."

[371] *Id.*

[372] *Id.*

[373] *Id.* at 66.

[374] *Id.* at 69.

[375] *Id.* at 68. Clearwater seeks to rely upon the 9/11 Commission Report (July 22, 2004) of the National Commission on Terrorist Attacks Upon the United States, *available at* http://govinfo.library.unt.edu/911/report/911Report.pdf; excerpts from President George W. Bush's 2002 State of the Union address, *available at* http://www.state.gov/r/pa/ei/wh/rem/7672.htm; a General Accounting Office ("GAO") report, GAO-03-752, Nuclear Regulatory Commission: Oversight of Security at Commercial Nuclear Power Plants Needs to Be Strengthened (Sept. 2003), *available at* http://www.gao.gov/new.items/d03752.pdf; NUREG/CR-2859, Evaluation of Aircraft Crash Hazards for Nuclear Power Plants (June 1982); Union of Concerned Scientists' "The NRC's Revised Security Regulations" (Feb. 1, 2007), *available at* http://a4nr.org/library/security/02.01.2007-ucs; NUREG/CR-4910, Relay Chatter and Operator Response After a Large Earthquake (Aug. 1987); a 1997 paper presented by the NRC's N. Siu, J.T. Chen, and E. Chelliah, entitled "Research Needs in Fire Risk Assessment," *available at* http://www.nrc.gov/reactors/operating/ops-experience/fire-protection/fire-protection-files/ml993160136.pdf; NUREG-1738, Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants (Feb. 2001), *available at* ADAMS Accession No. ML010430066; an Associated Press report, "NRC: Nuclear Power Plants Not Protected Against Air Crashes" (Mar. 28, 2002); an

terrorist attacks is a single citation to a 25-year-old document from the Power Authority of the State of New York.[376] Clearwater provides no description of the actual content of this report, nor does it include any explanation of how it supports Clearwater Contention EC-6.

b. Entergy's Response to EC-6

Entergy opposes the admission of Proposed Contention EC-6 on the grounds that it: (1) raises issues that are not within the scope of this proceeding, in direct contravention of controlling legal precedent, and 10 C.F.R. § 2.309(f)(1)(iii); (2) 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); and (3) improperly attempts to incorporate by reference the contentions of other parties, contrary to 10 C.F.R. §§ 2.309(f)(1)(v) and (f)(3).

(i) Consideration of Terrorism Is Outside the Scope of License Renewal Proceedings

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.[377] 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

NAS Report, Safety and Security of Commercial Spent Nuclear Fuel Storage: Public Report (2006), *available at* http://books.nap.edu/catalog.php?record_id=11263#toc; and the Director of National Intelligence's National Intelligence Estimate, The Terrorist Threat to the US Homeland (July 17, 2007), *available at* http://www.dni.gov/press_releases/20070717_release.pdf. Petition at 68-73.

[376] Petition at 72.

[377] *See, e.g.*, *Millstone*, CLI-04-36, 60 NRC at 638; *Monticello*, LBP-05-31, 62 NRC at 756; *AmerGen Energy Co., LLC* (Oyster Creek Nuclear Generating Station), CLI-07-08, 65 NRC 124,129 (2007).

> 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.[378]

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.[379] 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."[380]

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.[381]

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[378] *See Oyster Creek*, CLI-07-8, 65 NRC at 129 (internal quotations and citations omitted).

[379] *Id.* at 129.

[380] *Id.* at 130 n.25.

[381] *Id.* at 131-34.

The Commission's *Oyster Creek* decision thus requires that this Board reject Proposed Contention EC-6. Where a matter has been considered by the Commission, it may not be reconsidered by a Board. Commission precedent must be followed and Petitioner has failed to establish a genuine dispute on a material issue of law.[382]

(ii) EC-6 is an Impermissible Challenge to NRC Regulations

Proposed Contention EC-6 also must be rejected because it impermissibly challenges NRC regulations found in 10 C.F.R. Part 51. With respect to the NRC's Part 51 regulations, Proposed Contention EC-6 improperly challenges the findings in the GEIS; *i.e.*, that the risk from sabotage is small and 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.[383]

In the GEIS, the Commission thus discussed sabotage as the potential initiator of a severe accident. 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

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[382] *Va. 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, 871-72 (1986).

[383] GEIS, Vol. 1 § 5.3.3.1.

scale radiological release, irrespective of the initiating cause.[384] By contending that Entergy and the NRC must address the environmental costs of a successful terrorist attack on the Indian Point facility, Clearwater improperly challenges the GEIS and Part 51 regulations. As noted above, the rulemaking process, not this adjudicatory proceeding, is the proper forum for seeking to modify generic determinations made by the Commission.[385]

(iii) EC-6 Fails to Satisfy Regulatory Requirements Governing Incorporation by Reference

Finally, as described in Section IV.C, above, parties are not permitted to incorporate another party's contentions by reference. This is because, at the pleadings stage, each party must independently submit at least one admissible contention in order to be admitted as a party to a proceeding.[386] Clearwater does not even purport to comply with the requirements for co-sponsorship and joint designation of a representative, as required by 10 C.F.R. § 2.309(f)(3). Thus, Clearwater's purported adoption of NYAG's contentions at this stage is invalid. Clearwater's statement that it "shares" Riverkeeper's concerns is likewise irrelevant.[387]

For the foregoing reasons, the Board must deny Proposed Contention EC-6 in its entirety.

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384 *Oyster Creek*, CLI-07-08, 65 NRC at 131.

385 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. CLI-01-17, 54 NRC at 12. 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.* at 10 n.3 (emphasis added). Petitioner has not availed themselves of this procedure in proposed Contention 26. 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 would 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 at 8 (citing *Three Mile Island*, CLI-80-16, 11 NRC at 675).

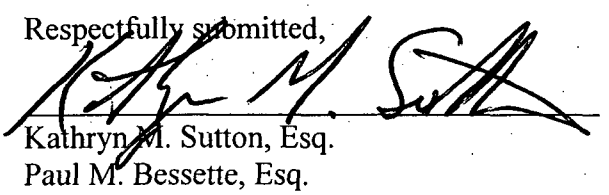
386 *See Indian Point*, CLI-01-19, 54 NRC at 131-33.

387 Entergy's substantive responses to the allegations in NYAG's and Riverkeeper's contentions can be found in its Answers to their respective petitions to intervene.

V. CONCLUSION

Although Clearwater has standing to intervene in this proceeding, it has failed to proffer an admissible contention pursuant to 10 C.F.R. § 2.309(f)(1), for the many reasons set forth above. Therefore, its Petition should be denied in its entirety.

Respectfully submitted,



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Dated at Washington, District of Columbia
this 22nd day of January, 2008

1-WA/2878048

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 Hudson River Sloop Clearwater Inc.'s Petition to Intervene and Request for Hearing" 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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