

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

Before Administrative Judges:

William J. Froehlich, Chairman
Dr. Gary S. Arnold
Nicholas G. Trikouros

In the Matter of

NEXTERA ENERGY POINT BEACH, LLC

(Point Beach Nuclear Plant, Units 1 and 2)

Docket Nos. 50-266-SLR and 50-301-SLR

ASLBP No. 21-971-02-SLR-01

July 26, 2021

MEMORANDUM AND ORDER

(Denying Physicians for Social Responsibility Wisconsin's Request for Hearing)

In this docket, licensee NextEra Energy Point Beach, LLC (NEPB, NextEra) has filed an application seeking a twenty-year subsequent (second) license renewal (SLR) of its Renewed Facility Operating Licenses Nos. DPR-24 and DPR-27 to operate its Point Beach Nuclear Plant, Units 1 and 2. Physicians for Social Responsibility Wisconsin (PSR WI, Petitioner) filed a hearing request on March 23, 2021 proffering four contentions challenging NextEra's application.¹ NextEra and the NRC Staff oppose Petitioner's hearing request.²

For the reasons set forth below, we find Petitioner has established representational standing to intervene, but failed to meet the Commission's contention admissibility standards.

¹ Petition of Physicians for Social Responsibility Wisconsin for Leave to Intervene in Point Beach Nuclear Plant, Units 1 and 2 Subsequent License Renewal Proceeding, and Requesting an Adjudicatory Hearing (Mar. 23, 2021) [hereinafter Petition].

² NextEra Energy Point Beach, LLC's Answer Opposing the Physicians for Social Responsibility Wisconsin's Petition for Leave to Intervene and Request for Hearing (Apr. 19, 2021) [hereinafter NEPB Answer]; NRC Staff's Answer Opposing Physicians for Social Responsibility Wisconsin's Petition to Intervene (Apr. 19, 2021) [hereinafter Staff Answer].

Accordingly, the PSR WI hearing petition must be denied and this proceeding terminated before the Licensing Board.

I. BACKGROUND

On November 16, 2020, NEPB submitted an SLR application to renew the Point Beach operating licenses for an additional 20 years, which would extend the Unit 1 license to October 5, 2050 and the Unit 2 license to March 8, 2053.³ On January 22, 2021, the Nuclear Regulatory Commission (NRC) published a Federal Register notice of opportunity to request a hearing and to petition for leave to intervene.⁴ The Federal Register notice permitted any person whose interest may be affected to file a request for hearing and petition for leave to intervene within 60 days.⁵

On March 23, 2021, PSR WI filed its petition seeking to intervene in this SLR proceeding, proffering four proposed contentions and requesting a hearing.⁶ On April 19, 2021,

³ The Point Beach SLR application, which consists of a cover letter and five enclosures, can be found in an ADAMS package at ADAMS Accession No. ML20329A292. Of particular relevance here are enclosure 3, attachment 1 to the application's cover letter, which is the publicly available version of the application, and enclosure 3, attachment 2 to the application's cover letter, which is the environmental report (ER) appendix to the application. See NEPB, Point Beach Nuclear Plant Units 1 and 2 Subsequent License Renewal Application (Public Version), encl. 3, attach. 1 (rev. 0 Nov. 2020) (ADAMS Accession No. ML20329A247) [hereinafter SLRA]; NEPB, Appendix E Applicant's Environmental Report Subsequent Operating License Renewal Point Beach Nuclear Plant Units 1 and 2, encl. 3, attach. 2 (rev. 0 Nov. 2020) (ADAMS Accession No. ML20329A248) [hereinafter ER]. The SLR application seeks to extend the life of Point Beach Units 1 and 2 from 60 to 80 years, after having already had a license renewal extending operation from 40 to 60 years.

⁴ NextEra Energy Point Beach, LLC; Point Beach Nuclear Plant, Units 1 and 2, 86 Fed. Reg. 6,684 (Jan. 22, 2021).

⁵ Id. at 6,685.

⁶ See Petition at 1, 15–16. The petition is accompanied by several expert and standing declarations. See Declaration of Arnold Gundersen (Mar. 23, 2021) [hereinafter Gundersen Decl.]; Declaration of Alvin Compaan, Ph.D. (Mar. 23, 2021) [hereinafter Compaan Decl.]; Declaration of Mark Cooper, Ph.D. (Mar. 23, 2021) [hereinafter Cooper Decl.]; Declarations in Support of Petition of Physicians for Social Responsibility Wisconsin for Leave to Intervene (Mar. 23, 2021).

NEPB and the NRC Staff filed answers opposing the hearing request.⁷ NEPB and the NRC Staff did not challenge Petitioner's claims of standing, but argued Petitioner failed to proffer an admissible contention.⁸ On April 26, 2021, Petitioner filed a reply and a motion to amend its proposed Contention 2.⁹ On May 21, 2021, NEPB filed an answer opposing the motion to amend.¹⁰ On the same day, the NRC Staff filed an answer that did not oppose the motion to amend, but argued the amended contention is inadmissible.¹¹ On May 28, 2021, Petitioner filed a reply to those answers.¹² On June 22, 2021 oral argument was held, via WebEx, on the four proposed contentions and Petitioner's motion to amend Contention 2.¹³

⁷ See generally NEPB Answer; Staff Answer.

⁸ NEPB Answer at 3; Staff Answer at 6–7.

⁹ Physicians for Social Responsibility Wisconsin's Reply in Support of Petition for Leave to Intervene in Point Beach Nuclear Plant, Units 1 and 2 Subsequent License Renewal Proceeding, and Requesting an Adjudicatory Hearing (Apr. 26, 2021) [hereinafter Petitioner Reply]; Physicians for Social Responsibility Wisconsin's Motion to Amend Contention 2 (Inadequately Tested Reactor Coolant Pressure Boundary) (Apr. 26, 2021) [hereinafter Petitioner Motion to Amend]; Petitioner Motion to Amend., unnumbered attach., Supplemental Declaration of Arnold Gundersen, Nuclear Engineer (Apr. 26, 2021) [hereinafter Gundersen Supp. Decl.]; Petitioner Motion to Amend., unnumbered attach., Letter to Document Control Desk, NRC, from Nathan Palm, EPRI Boiling Water Reactor Vessel and Internals Project (BWRVIP) Program Manager & Timothy Hanley, BWRVIP Chairman, Exelon (Mar. 22, 2021) [hereinafter EPRI letter].

¹⁰ NextEra Energy Point Beach, LLC's Answer Opposing the Physicians for Social Responsibility Wisconsin's Amendment of Contention 2 (May 21, 2021) [hereinafter NEPB Answer to Motion to Amend].

¹¹ NRC Staff's Answer to Physicians for Social Responsibility Wisconsin's Motion for Leave to File Amended Proposed Contention 2 at 1–2 (May 21, 2021) [hereinafter Staff Answer to Motion to Amend].

¹² Physicians for Social Responsibility Wisconsin's Combined Reply in Support of Motion to Amend Contention 2 (Inadequately Tested Reactor Coolant Pressure Boundary) (May 28, 2021).

¹³ See Tr. at 1–142; Licensing Board Order (Scheduling Oral Argument) (May 26, 2021) (unpublished).

II. LEGAL STANDARDS

To participate in an SLR proceeding as an intervenor, a petitioner must establish standing and proffer at least one admissible contention.¹⁴ We summarize the applicable legal standards below.¹⁵

A. Legal Requirements for Standing

In determining whether a petitioner has established standing, the Commission applies contemporaneous judicial concepts of standing that require a petitioner to “(1) allege an injury in fact that is (2) fairly traceable to the challenged action and (3) is likely to be redressed by a favorable decision.”¹⁶ Under section 189a of the Atomic Energy Act, the NRC is required to “grant a hearing upon the request of any person whose interest may be affected by the proceeding”¹⁷ Pursuant to the agency’s regulation implementing this general standing requirement, a petitioner’s hearing request must state:

- (i) The name, address and telephone number of the requestor or petitioner;
- (ii) The nature of the requestor’s/petitioner’s right under the [Atomic Energy Act] to be made a party to the proceeding;
- (iii) The nature and extent of the requestor’s/petitioner’s property, financial or other interest in the proceeding; and
- (iv) The possible effect of any decision or order that may be issued in the proceeding on the requestor’s/petitioner’s interest.¹⁸

However, in the context of certain reactor licensing proceedings (e.g., reactor construction permit proceedings and new reactor operating license proceedings), the Commission has expressly authorized the use of a “proximity presumption,” which presumes that a petitioner has standing if they reside, or otherwise have “frequent contacts,” within

¹⁴ 10 C.F.R. § 2.309(d)(1), (f)(1).

¹⁵ See id. § 2.309(a).

¹⁶ Fla. Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 & 4), CLI-15-25, 82 NRC 389, 394 (2015).

¹⁷ Atomic Energy Act § 189(a)(1)(A), 42 U.S.C. § 2239(a)(1)(A).

¹⁸ 10 C.F.R. § 2.309(d)(1)(i)–(iv).

approximately 50 miles of the facility in question.¹⁹ “Th[is] presumption rests on [the] finding . . . that persons living within the roughly 50-mile radius of [a] facility face a realistic threat of harm if a release from the facility of radioactive material were to occur.”²⁰

Licensing boards routinely have applied the 50-mile proximity presumption in reactor license renewal proceedings, reasoning that “a license renewal allows operation of a reactor over an additional period of time during which the reactor could be subject to the same equipment failures and personnel errors as during operations over the original period of the license.”²¹ The Commission endorsed this approach when it found “no conflict between the basic requirements for standing, as applied in the federal courts, and the NRC’s proximity presumption”²² and held “that the [licensing b]oard correctly applied the proximity presumption.”²³

¹⁹ See PPL Bell Bend, LLC (Bell Bend Nuclear Power Plant), CLI-10-7, 71 NRC 133, 138–39 (2010); Calvert Cliffs 3 Nuclear Project, LLC, and UniStar Nuclear Operating Servs., LLC (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC 911, 915–17 (2009).

²⁰ Calvert Cliffs, CLI-09-20, 70 NRC at 917 (quotations omitted).

²¹ Exelon Generation Co., LLC (Limerick Generating Station, Units 1 & 2), LBP-12-8, 75 NRC 539, 547, rev’d in part on other grounds, CLI-12-19, 76 NRC 377 (2012); see Va. Elec. & Power Co. (North Anna Power Station, Units 1 & 2), LBP-21-04, 93 NRC __, __ & n.32 (slip op. at 15 & n.32) (Mar. 29, 2021), appeal pending, (citing Exelon Generation Co., LLC (Peach Bottom Atomic Power Station, Units 2 & 3), LBP-19-5, 89 NRC 483, 490–91 (2019), aff’d on other grounds, CLI-20-11, 92 NRC 335 (2020); Fla. Power & Light Co. (Turkey Point Nuclear Generating Units 3 & 4), LBP-19-3, 89 NRC 245, 258–59 (2019), appeal dismissed and referred ruling aff’d, CLI-20-3, 91 NRC 133 (2020)).

²² Calvert Cliffs, CLI-09-20, 70 NRC at 917 (footnote omitted); see id. at 915 n.15 (citing with approval Fla. Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 & 4), LBP-01-6, 53 NRC 138, 150 (2001), aff’d on other grounds, CLI-01-17, 54 NRC 3 (2001) (applying proximity presumption in reactor operating license renewal proceeding)).

²³ Id. at 918 (footnote omitted).

B. Legal Requirements for Contention Admissibility

To intervene in a license renewal proceeding, a petitioner must “set forth with particularity”²⁴ a timely-filed admissible contention that fulfills the requirements set forth in 10 C.F.R. § 2.309(f)(1)(i)–(vi), which require a petitioner to:

- (i) Provide a specific statement of the issue of law or fact to be raised or controverted . . . ;
- (ii) Provide a brief explanation of the basis for the contention;
- (iii) Demonstrate that the issue raised in the contention is within the scope of the proceeding;
- (iv) 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;
- (v) Provide a concise statement of the alleged facts or expert opinions which support the requestor’s/petitioner’s position on the issue and on which the petitioner intends to rely at hearing, together with references to the specific sources and documents on which the requestor/petitioner intends to rely to support its position on the issue; [and]
- (vi) . . . [P]rovide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact. This information must include references to specific portions of the application (including the applicant’s environmental report and safety report) that the petitioner disputes and the supporting reasons for each dispute, or, if the petitioner believes that the application fails to contain information on a relevant matter as required by law, the identification of each failure and the supporting reasons for the petitioner’s belief²⁵

The Commission’s contention admissibility requirements are “strict by design.”²⁶ If any of the six requirements in 10 C.F.R. § 2.309(f)(1) are “not met, a contention must be rejected.”²⁷ The petitioner alone bears the burden to satisfy each contention admissibility requirement.²⁸

²⁴ 10 C.F.R. § 2.309(f)(1).

²⁵ Id. § 2.309(f)(1)(i)–(vi).

²⁶ Dominion Nuclear Conn., Inc. (Millstone Nuclear Power Station, Units 2 & 3), CLI-01-24, 54 NRC 349, 358 (2001).

²⁷ Ariz. Pub. Serv. Co. (Palo Verde Nuclear Generating Station, Units 1, 2, & 3), CLI-91-12, 34 NRC 149, 155 (1991) (citation omitted); see USEC, Inc. (Am. Centrifuge Plant), CLI-06-9, 63 NRC 433, 437 (2006) (“These requirements are deliberately strict, and we will reject any contention that does not satisfy the [contention admissibility] requirements.” (footnotes omitted)).

²⁸ Entergy Nuclear Operations, Inc. (Palisades Nuclear Plant), CLI-15-23, 82 NRC 321, 329 (2015) (“[I]t is Petitioners’ responsibility . . . to formulate contentions and to provide ‘the

A petitioner must propose contentions that contain “some reasonably specific factual or legal basis.”²⁹ “An admissible contention must explain, with specificity, particular safety or legal reasons requiring rejection of the contested [application].”³⁰ The contention admissibility “rules require ‘a clear statement as to the basis for the contentions and the submission of . . . supporting information and references to specific documents and sources that establish the validity of the contention.’”³¹ A petitioner need not prove its contention at the contention admissibility stage,³² but the contention admissibility standards require that petitioners “proffer at least some minimal factual and legal foundation in support of their contentions.”³³ For “issues arising under the National Environmental Policy Act [(NEPA)], participants shall file contentions based on the applicant’s environmental report.”³⁴

To be admissible, the issue raised in a contention must fall within the scope of the proceeding and be material to the findings the NRC must make on the application.³⁵ A “material” issue is one where “resolution of the dispute would make a difference in the outcome

necessary information to satisfy the basis requirement’ for admission.” (quoting Statement of Policy on Conduct of Adjudicatory Proceedings, CLI-98-12, 48 NRC 18, 22 (1998)); DTE Elec. Co. (Fermi Nuclear Power Plant, Unit 2), CLI-15-18, 82 NRC 135, 149 (2015) (“[T]he Board may not substitute its own support for a contention or make arguments for the litigants that were never made by the litigants themselves.” (citation omitted)).

²⁹ Dominion Nuclear Conn., Inc. (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 NRC 207, 213 (2003) (citation omitted).

³⁰ Millstone, CLI-01-24, 54 NRC at 359–60.

³¹ AmerGen Energy Co., LLC (Oyster Creek Nuclear Generating Station), CLI-06-24, 64 NRC 111, 118–19 (2006) (quoting Palo Verde, CLI-91-12, 34 NRC at 155–56).

³² Private Fuel Storage, LLC (Indep. Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 139 (2004).

³³ Duke Energy Corp. (Oconee Nuclear Station, Units 1, 2, & 3), CLI-99-11, 49 NRC 328, 334 (1999).

³⁴ 10 C.F.R. § 2.309(f)(2).

³⁵ Id. § 2.309(f)(1)(iii)–(iv).

of the licensing proceeding.”³⁶ Contentions that challenge NRC regulations,³⁷ seek to impose requirements stricter than those imposed by the agency,³⁸ or challenge the manner in which the NRC Staff performs its duties³⁹ are outside the scope of NRC adjudicatory proceedings.⁴⁰ In addition, issues “addressed and decided in Commission rulemaking” may not be challenged in an adjudicatory proceeding (absent the filing and granting of a waiver),⁴¹ as the Commission has deemed such actions impermissible collateral attacks on NRC rules.⁴²

³⁶ Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168, 33,172 (Aug. 11, 1989).

³⁷ As stated in 10 C.F.R. § 2.335(a), “no rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding” without a successful waiver petition. See Dominion Nuclear Conn., Inc. (Millstone Nuclear Power Station, Units 2 & 3), CLI-05-24, 62 NRC 551, 559–60 (2005). Therefore, a contention that challenges a statutory requirement or the Commission’s regulatory process without a waiver must be rejected.

³⁸ See, e.g., Calvert Cliffs 3 Nuclear Project, LLC, and UniStar Nuclear Operating Servs., LLC, et al. (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-14-8, 80 NRC 71, 79 n.27 (2014) (“Contentions that are the subject of general rulemaking by the Commission may not be litigated in individual license proceedings.” (citations omitted)); NextEra Energy Seabrook, LLC (Seabrook Station, Unit 1), CLI-12-5, 75 NRC 301, 315 (2012) (“This proposition contravenes our longstanding practice of rejecting, as a collateral attack, any contention calling for requirements in excess of those imposed by our regulations.” (footnote omitted)); GPU Nuclear, Inc. (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 206 (2000) (rejecting an “attempt[] to impose . . . a requirement more stringent tha[n] the one imposed by the regulations”).

³⁹ See, e.g., Millstone, CLI-05-24, 62 NRC at 570 (“[Licensing] boards lack the authority to supervise the NRC Staff in the performance of its regulatory duties.” (footnote omitted)); Balt. Gas & Elec. Co. (Calvert Cliffs Nuclear Power Plant, Units 1 & 2), CLI-98-25, 48 NRC 325, 350 (1998), aff’d sub nom., Nat’l Whistleblower Ctr. v. NRC, 208 F.3d 256 (D.C. Cir. 2000), cert. denied, 531 U.S. 1070 (2001) (“[I]t is the license application, not the NRC Staff review, that is at issue in our adjudications.” (citation omitted)); Carolina Power and Light Co. (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, & 4), CLI-80-12, 11 NRC 514, 516 (1980) (“Boards do not direct staff in performance of their administrative functions.”).

⁴⁰ See 10 C.F.R. § 2.309(f)(1)(iii).

⁴¹ Id. § 2.335(b).

⁴² See N. Atl. Energy Serv. Corp. (Seabrook Station, Unit 1), CLI-99-6, 49 NRC 201, 217 n.8 (1999) (“We wish to make clear, however, that a petitioner in an individual adjudication cannot challenge generic decisions made by the Commission in rulemakings.” (citations omitted)); Curators of the Univ. of Miss., CLI-95-1, 41 NRC 71, 170 (1995) (“[T]he Intervenor[s] are, in essence, contending that those regulatory provisions are themselves insufficient to protect the public health and safety. This assertion constitutes an improper collateral attack upon our regulations.” (footnote omitted)); Am. Nuclear Corp. (Revision of Orders to Modify Source

In addition, a petitioner must explain the basis for each proffered contention by providing “alleged facts or expert opinions which support the [petitioner’s position . . . and on which the petitioner intends to rely [in litigating the contention] at hearing.”⁴³ However, “[b]are assertions and speculation, even by an expert, are insufficient to trigger a full adjudicatory proceeding.”⁴⁴ Indeed, “an expert opinion that merely states a conclusion . . . 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”⁴⁵ A licensing board must review the petitioner’s information, facts, and expert opinions provided to determine whether they provide adequate support for the proffered contentions.⁴⁶

C. Scope of License Renewal

Under 10 C.F.R. § 54.29, the NRC may grant a license renewal if it finds that specific safety and environmental requirements are satisfied. The NRC review of a license renewal application consists of two simultaneous reviews—a safety review and an environmental review.

i. License Renewal – Safety Review

The Commission has limited the safety review of license renewal applications conducted by the NRC to the matters described in 10 C.F.R. § 54.29:

A renewed license may be issued by the Commission up to the full term authorized by § 54.31 if the Commission finds that:

Materials Licenses), CLI-86-23, 24 NRC 704, 709–10 (1986); *id.* at 707 (“[T]he Commission adheres to the fundamental principle of administrative law that its rules are not subject to collateral attack in adjudicatory proceedings.”).

⁴³ 10 C.F.R. § 2.309(f)(1)(v).

⁴⁴ Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), CLI-12-15, 75 NRC 704, 714 (2012) (quoting AmerGen Energy Co., LLC (Oyster Creek Nuclear Generating Station), CLI-08-28, 68 NRC 658, 674 (2008)).

⁴⁵ USEC, Inc. (Am. Centrifuge Plant), CLI-06-10, 63 NRC 451, 472 (2006) (citation omitted); see Power Auth. of N.Y. (James A. Fitzpatrick Nuclear Power Plant; Indian Point, Unit 3), CLI-00-22, 52 NRC 266, 315 (2000) (“Unsupported hypothetical theories or projections, even in the form of an affidavit, will not support invocation of the hearing process.”).

⁴⁶ Am. Centrifuge Plant, CLI-06-10, 63 NRC at 457.

- (a) Actions have been identified and have been or will be taken with respect to . . .
- (1) managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review under § 54.21(a)(1); and
 - (2) time-limited aging analyses that have been identified to require review under § 54.21(c).⁴⁷

The actions with regard to aging management and time-limited aging analyses (TLAAs) must provide “reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the [current licensing basis (CLB)], and that any changes made to the plant’s CLB . . . are in accord with the [Atomic Energy Act] and the Commission’s regulations.”⁴⁸

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.”⁴⁹ More to the point, the Commission declared that “[t]o require a full reassessment of [safety issues] at the license renewal stage . . . would be both unnecessary and wasteful.

⁴⁷ 10 C.F.R. § 54.29(a)(1)–(2); see Duke Energy Corp. (McGuire Nuclear Station, Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-02-26, 56 NRC 358, 363 (2002); Fla. Power & Light Co. (Turkey Point Nuclear Generating Units 3 & 4), CLI-01-17, 54 NRC 3, 7–8 (2001).

⁴⁸ 10 C.F.R. § 54.29(a). The 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 current licensing basis consists of the license requirements, including license conditions and technical specifications. It also includes the plant-specific design basis information documented in the plant’s most recent Final Safety Analysis Report, and any orders, exemptions, and licensee commitments that are part of the docket for the plant’s license, i.e., responses to NRC bulletins, generic letters, and enforcement actions, and other licensee commitments documented in NRC safety evaluations or licensee event reports. See 10 C.F.R. § 54.3. The current licensing basis additionally includes all of the regulatory requirements found in Parts 2, 19, 20, 21, 30, 40, 50, 55, 72, 73, and 100 with which the particular applicant must comply.” Turkey Point, CLI-01-17, 54 NRC at 9 (citation omitted).

⁴⁹ Turkey Point, CLI-01-17, 54 NRC at 10; see Nuclear Power Plant License Renewal; Revisions, 60 Fed. Reg. 22,461, 22,482 n.2 (May 8, 1995).

Accordingly, the NRC's license renewal review focuses on those potential detrimental effects of aging that are not routinely addressed by ongoing regulatory oversight programs."⁵⁰

NRC's license renewal safety review focuses on "plant systems, structures, and components for which current [regulatory] activities and requirements may not be sufficient to manage the effects of aging in the period of extended operation."⁵¹ License renewal does not address operational issues, because these issues are "effectively addressed and maintained by ongoing agency oversight, review, and enforcement."⁵² Issues that are addressed on an ongoing basis need not be addressed during license renewal.⁵³ The adequacy of a plant's CLB is not addressed during the license renewal safety review.⁵⁴

With respect to each structure, system, or component requiring aging management review, "a license renewal applicant must demonstrate that the 'effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB for the period of extended operation.'"⁵⁵ The NRC has limited the scope of the aging management reviews to those structures and components "[t]hat perform an intended function, as described in § 54.4, without moving parts or without a change in configuration or properties" and "[t]hat are not subject to replacement based on a qualified life or specified time period."⁵⁶

⁵⁰ Turkey Point, CLI-01-17, 54 NRC at 7.

⁵¹ 60 Fed. Reg. at 22,469.

⁵² Turkey Point, CLI-01-17, 54 NRC at 9.

⁵³ See Oyster Creek, CLI-06-24, 64 NRC at 117–18; Turkey Point, CLI-01-17, 54 NRC at 8–10.

⁵⁴ Turkey Point, CLI-01-17, 54 NRC at 23; see 10 C.F.R. § 54.30(b) ("The licensee's compliance with the obligation under Paragraph (a) of this section to take measures under its current license [to ensure that the intended function of those systems, structures or components will be maintained in accordance with the CLB throughout the term of its current license] is not within the scope of the license renewal review.").

⁵⁵ Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), CLI-10-14, 71 NRC 449, 456 (2010) (quoting 10 C.F.R. § 54.21(a)(3)).

⁵⁶ 10 C.F.R. § 54.21(a)(1)(i)–(ii).

As such, “[o]nly passive, long-lived structures and components are subject to an aging management review for license renewal.”⁵⁷

ii. License Renewal – Environmental Review

The NRC is required to take a “hard look” at the environmental impacts of a proposed major federal action that could significantly affect the environment,⁵⁸ as well as reasonable alternatives to that action.⁵⁹ The NRC’s environmental review is limited by “a ‘rule of reason’ in that consideration of environmental impacts need not address ‘all theoretical possibilities,’ but rather only those that have some ‘reasonable possibility’ of occurring.”⁶⁰ In evaluating reasonable impacts, an “agency need not perform analyses concerning events that would be considered ‘worst case’ scenarios . . . or those considered ‘remote and highly speculative.’”⁶¹ As such, NEPA affords “agencies . . . broad discretion ‘to keep their inquiries within appropriate and manageable boundaries.’”⁶² The Commission has echoed this principle stating that “NEPA requires consideration of ‘reasonable’ alternatives, not all conceivable ones.”⁶³

⁵⁷ 60 Fed. Reg. at 22,463.

⁵⁸ See Crow Butte Res., Inc. (Marsland Expansion Area), LBP-19-2, 89 NRC 18, 40 (2019) (citing La. Energy Servs., L.P. (Claiborne Enrichment Center), CLI-98-3, 47 NRC 77, 87–88 (1998)).

⁵⁹ See Seabrook, CLI-12-5, 75 NRC at 338.

⁶⁰ Marsland, LBP-19-2, 89 NRC at 40 (quoting Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), ALAB-156, 6 AEC 831, 836 (1973)).

⁶¹ Holtec Int’l (HI-STORE Consol. Interim Storage Facility), LBP-19-4, 89 NRC 353, 375 (2019) (quoting Private Fuel Storage, L.L.C. (Indep. Spent Fuel Storage Installation), CLI-02-25, 56 NRC 340, 352 (2002); Limerick Ecology Action, Inc. v. NRC, 869 F.2d 719, 754–55 (3d Cir. 1989)).

⁶² Marsland, LBP-19-2, 89 NRC at 40 (quoting Claiborne, CLI-98-3, 47 NRC at 103).

⁶³ Seabrook, CLI-12-5, 75 NRC at 338 (quoting Nat. Res. Def. Council, Inc. v. Morton, 458 F.2d 827, 834, 837, 838 (D.C. Cir. 1972)).

The NRC adopted regulations in 10 C.F.R. Part 51 to implement its NEPA responsibilities.⁶⁴ These regulations direct a focused environmental review, delineating certain environmental issues as generic, known as Category 1 issues, which need not be addressed by an applicant, unless there is “new and significant information.”⁶⁵ Based on the supporting analysis provided in an agency-prepared Generic Environmental Impact Statement (GEIS), the Category 1 issues are summarized and codified in Table B-1 to Appendix B to 10 C.F.R. Part 51.⁶⁶ Conversely, the Commission has defined other environmental issues as site-specific that must be addressed by an applicant or licensee in its environmental report. These issues, known as Category 2 issues, are found at 10 C.F.R. § 51.53(c). Under this framework, the NRC can satisfy its NEPA obligations for license renewal by combining the site-specific analysis of the Category 2 issues with the generic analysis of the Category 1 issues, including consideration of any new and significant information.⁶⁷

The agency’s NEPA regulations require that an applicant include in its environmental report “analyses of the environmental impacts of the proposed action . . . for those issues identified as Category 2 issues”⁶⁸ An environmental report “is not required to contain analyses of the environmental impacts of the license renewal issues identified as Category 1”⁶⁹

⁶⁴ See 10 C.F.R. §§ 51.53(c), 51.71, 51.95(c), pt. 51, subpt. A, app. B; see also Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467 (June 5, 1996).

⁶⁵ 10 C.F.R. § 51.53(c)(3)(iv). The generic issues are codified in the Generic Environmental Impact Statement (GEIS) in Appendix B to 10 C.F.R. Part 51.

⁶⁶ See 1 Office of Nuclear Reactor Regulation (NRR), NRC, NUREG-1437, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, at S-1 to -2 (rev. 1 June 2013) (ADAMS Accession No. ML13106A241) [hereinafter GEIS]; see also Revisions to Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 78 Fed. Reg. 37,282 (June 20, 2013).

⁶⁷ See *Mass. v. NRC*, 522 F.3d 115, 119–21 (1st Cir. 2008).

⁶⁸ 10 C.F.R. § 51.53(c)(3)(ii).

⁶⁹ Id. § 51.53(c)(3)(i).

unless there is “any new and significant information regarding the environmental impacts . . . ” of a Category 1 issue.⁷⁰

In addition, an applicant or licensee must discuss “the environmental impacts of alternatives and any other matters described in [10 C.F.R.] § 51.45,” but an environmental report “is not required to include discussion of need for power or the economic costs and economic benefits of the proposed action or of alternatives to the proposed action” unless such a discussion is “essential” to determine whether an alternative should be included in the ER.⁷¹

In sum, an applicant or licensee must provide a plant-specific review of the Category 2 issues in its environmental report and must address any new and significant information that might render the Commission’s generic Category 1 determinations inapplicable.⁷²

To supplement the GEIS the NRC Staff uses the environmental report to create a Supplemental Environmental Impact Statement (SEIS).⁷³ The SEIS “integrate[s] the conclusions in the [GEIS] for issues designated as Category 1 with information developed for those Category 2 issues applicable to the plant . . . and any new and significant information.”⁷⁴

Since the Category 1 generic environmental determinations have been codified in Table B–1 of Appendix B to Subpart A of 10 C.F.R. Part 51, a petitioner may only challenge the

⁷⁰ Id. § 51.53(c)(3)(iv).

⁷¹ Id. § 51.53(c)(2); see 61 Fed. Reg. at 28,468 (“[T]he issue of need for power and generating capacity will no longer be considered in NRC’s license renewal decisions.”)

⁷² See Exelon Generation Co., LLC (Limerick Generating Station, Units 1 & 2), CLI-13-7, 78 NRC 199, 212–13 (2013).

⁷³ 10 C.F.R. § 51.95(c); see NRR, NRC, NUREG-1555, Standard Review Plans for Environmental Reviews for Nuclear Power Plants, Supp. 1: Operating License Renewal, Final Report (rev. 1 June 2013) (ADAMS Accession No. ML13106A246); see also NRR, NRC, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supp. 23, Regarding Point Beach Nuclear Point Units 1 and 2, Final Report (Aug. 2005) (ADAMS Accession No. ML052230490).

⁷⁴ 10 C.F.R. § 51.95(c)(4).

Category 1 generic conclusions if the rule is waived by the Commission after filing a successful waiver petition.⁷⁵ Otherwise Category 1 conclusions “may not be challenged in litigation”⁷⁶

III. ANALYSIS

Petitioner’s participation is not challenged by either the NRC Staff or NEPB.⁷⁷ As explained in Section A. infra, we find Petitioner has demonstrated representational standing. However, we find each of the four proffered contentions inadmissible.

A. Standing

We conclude, as have other licensing boards, that the 50-mile proximity presumption should apply in all reactor license renewal proceedings, including SLR proceedings.⁷⁸

An organization that seeks to intervene on behalf of one or more of its members must demonstrate representational standing. To do so, the organization must show that (1) at least one of its members would have standing to sue in their own right; (2) the member has authorized the organization to represent their interest; (3) “the interests that the organization seeks to protect are germane to its purpose; and [(4)] neither the claim asserted nor the relief requested requires the member to participate” in the adjudicatory proceeding.⁷⁹

Petitioner has provided declarations from members who live within 50 miles of the Point Beach facility and therefore have standing in their own right pursuant to the proximity presumption.⁸⁰ The members’ declarations authorize Petitioner to represent their interests in

⁷⁵ Id. § 2.335(b).

⁷⁶ Entergy Nuclear Vt. Yankee, LLC and Entergy Nuclear Operations, Inc. (Vt. Yankee Nuclear Power Station), CLI-07-3, 65 NRC 13, 17–18, reconsid. denied, CLI-07-13, 65 NRC 211, 215 (2007).

⁷⁷ NEPB Answer at 3; Staff Answer at 6–7.

⁷⁸ See supra note 21.

⁷⁹ See Private Fuel Storage, L.L.C. (Indep. Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 323 (1999).

⁸⁰ See generally Declarations in Support of Petition of Physicians for Social Responsibility Wisconsin for Leave to Intervene (Mar. 23, 2021).

this proceeding, thus rendering it unnecessary for them to participate as individuals.⁸¹ Further, Petitioner has demonstrated that the interests it seeks to protect in this proceeding are germane to its organizational purposes.⁸² We conclude that Petitioner has met the requirements for standing.

B. Contention 1

i. Background

Contention 1 alleges that “the Environmental Report [(ER)] fails to consider a reasonable range of alternatives to the proposed action because of a failure to analyze thermal pollution mitigation as a means of reducing aquatic biota and migratory bird impingement, entrainment and damage from thermal pollution as required by NEPA and the NRC.”⁸³

Petitioner argues that “[t]he ER unlawfully fails to consider replacement of the once-through cooling system with cooling towers as a reasonable alternative that would ‘reduc[e] or avoid[] adverse environmental effects’ relating to [certain] Category 2 issues,”⁸⁴ such as the thermal impacts and impacts of impingement and entrainment of aquatic organisms associated with once-through cooling systems.⁸⁵ Petitioner contends the analysis included in the ER of two alternatives, license renewal and the no-action alternative, is insufficient.⁸⁶

Labeling Point Beach Units 1 and 2 as “super predators,” Petitioner claims that there are the “recurring effects of killing aquatic organisms and occasional birds” from the once-through cooling system.⁸⁷ Petitioner asserts “[m]itigation in the form of mechanical draft or passive

⁸¹ See generally id.

⁸² See Petition at 2.

⁸³ Id. at 17.

⁸⁴ Id. at 18 (quoting 10 C.F.R. § 51.45(c)).

⁸⁵ Id. at 19.

⁸⁶ Id. at 19–20.

⁸⁷ Id. at 20.

cooling tower systems would sharply reduce the thermal pollution discharges to Lake Michigan,” and may reduce water withdrawal “by about 95%” and result in “far fewer animals and plants . . . sacrificed for the generation of electricity.”⁸⁸ Petitioner states the “ER provides very limited historical data on the plant’s aquatic and wildlife killing in Lake Michigan as a result of impingement and entrainment at the plant intakes.”⁸⁹ Petitioner also contends NEPB failed to consider the cumulative impacts of thermal pollution,⁹⁰ incorrectly considered impacts to Lake Michigan rather than to “localized site conditions,”⁹¹ and relied on “ancient [] data.”⁹² Further, Petitioner references several nuclear reactors that were required to switch to closed-cycle cooling from a once-through cooling system.⁹³

NEPB counters that Contention 1 is inadmissible on several grounds.⁹⁴ NEPB argues Contention 1 impermissibly challenges NRC rules and “is unsupported by information showing that conversion to closed-cycle cooling (the alternative that Petitioner proposes) is reasonable and commercially feasible or that aquatic impacts are significant enough to warrant redesigning and retrofitting the plant.”⁹⁵ Citing 10 C.F.R. § 51.53(c)(3)(ii)(B),⁹⁶ NEPB asserts that no further analysis of thermal impacts is required and that Commission caselaw has made clear that the NRC may not evaluate alternatives to the chosen cooling system.⁹⁷

⁸⁸ Id.

⁸⁹ Id. at 21.

⁹⁰ Id. at 24.

⁹¹ Id. at 24–25; Tr. at 16 (Lodge).

⁹² Petition at 25.

⁹³ Id. at 26–27.

⁹⁴ NEPB Answer at 12.

⁹⁵ Id.

⁹⁶ Although section 51.53(c)(3) states that it applies to applicants for “an initial renewed license,” the Commission has determined this applies to SLR applicants as well. See Fla. Power & Light Co. (Turkey Point Nuclear Generating Plant, Units 3 & 4), CLI-20-3, 91 NRC 133, 141 (2020).

⁹⁷ NEPB Answer at 12–15.

Even if Contention 1 were not barred as an impermissible attack on an NRC rule, NEPB contends, it is still inadmissible because it is insufficiently supported and fails to demonstrate a genuine dispute with the applicant.⁹⁸ NEPB argues that Petitioner does not address the pertinent sections of the SLR application that discuss entrainment and impingement impacts.⁹⁹ NEPB further asserts that Petitioner fails to “provide[] information indicating that retrofitting the plant with cooling towers is a reasonable alternative to mitigate environmental impacts.”¹⁰⁰ Nor does Petitioner, according to NEPB, provide a “reference or source showing that the number of aquatic organisms entrained, impinged, or affected by thermal discharges represents a significant environment impact”¹⁰¹ such that the duty to analyze mitigation should be greater than small.¹⁰² NEPB generally disputes Petitioner’s expert, Arnold Gundersen, and argues the information Mr. Gundersen referenced does not support the contention and fails to demonstrate a genuine dispute.¹⁰³ NEPB concludes by stating Petitioner’s “allegations are nothing more than a combination of generalizations unrelated to Point Beach and recitation of undisputed data from the ER, sprinkled with rhetoric and devoid of meaningful analysis or expert support.”¹⁰⁴

Likewise, the NRC Staff opposes admission of Contention 1, which it categorizes as a contention of omission, arguing it fails to demonstrate a genuine dispute with the applicant on a material issue of law or fact.¹⁰⁵ The NRC Staff contends that Petitioner has not presented

⁹⁸ See id. at 15–25.

⁹⁹ Id. at 15.

¹⁰⁰ Id. at 16.

¹⁰¹ Id. at 17.

¹⁰² See id. (citing Entergy Nuclear Operations, Inc. (Indian Point, Units 2 & 3), CLI-16-7, 83 NRC 293, 323 n.156 (2016)).

¹⁰³ See id. at 15–25.

¹⁰⁴ Id. at 24–25.

¹⁰⁵ Staff Answer at 18–20.

sufficient support for its assertion that consideration of the cooling tower alternative is reasonable and must be included under NEPA or that it is required under NRC regulations.¹⁰⁶ The NRC Staff also argues that Petitioner fails to show why NEPB cannot rely on its Clean Water Act (CWA) permit, as required by 10 C.F.R. § 51.53(c)(3)(ii)(B), since Petitioner did not show that cooling towers are required by the National Pollution Discharge Elimination System (NPDES) permit or by the Wisconsin Department of Natural Resources (WDNR).¹⁰⁷ In addition, the NRC Staff asserts that Petitioner's references to the required installation of cooling towers at other reactors are misplaced, since in those cases the installation was required by the state agency while WDNR imposed no such requirement for Point Beach.¹⁰⁸ Despite the fact that Petitioner referenced an Environmental Protection Agency (EPA) Inspector General report and information on past power uprates from the ER,¹⁰⁹ the NRC Staff concludes stating that "[w]hile Petitioner raises a site-specific issue, identifies adverse impacts, and correctly states that an applicant's Environmental Report needs to consider mitigation alternatives (i.e., means to reduce or avoid adverse impacts), Petitioner does not provide sufficient information to show a genuine dispute on a material issue of law or fact."¹¹⁰

ii. 10 C.F.R. § 2.309(f)(1)(iii), (iv), (vi) – Impermissible Challenge to an NRC Rule

Contention 1 is inadmissible because it constitutes a collateral attack on an NRC rule. The Commission has held that 10 C.F.R. § "51.53(c)(3)(ii)(B) rests on the presumption that [NRC] need not — indeed cannot — review and judge environmental permits issued under the

¹⁰⁶ Id. at 20–24.

¹⁰⁷ Id. at 25–26.

¹⁰⁸ Id. at 27–28.

¹⁰⁹ Id. at 28.

¹¹⁰ Id. at 29.

Clean Water Act by the EPA or an authorized state agency.”¹¹¹ The NRC’s role in evaluating a plant’s cooling system is limited—“the permitting agency ‘determines what cooling system a nuclear power facility may use[,] and NRC factors the impacts resulting from use of that system into the NEPA [] analysis.’”¹¹² The NRC may not consider alternative cooling systems as that would improperly “second-guess[]” the cooling system approved by the permitting agency.¹¹³

Moreover, section 51.53(c)(3)(ii)(B)¹¹⁴ only requires an assessment of entrainment, impingement, and thermal impacts if an applicant or licensee cannot provide a current determination under Clean Water Act (CWA) section 316(b)¹¹⁵ and, if necessary, a variance under CWA section 316(a).¹¹⁶ NEPB provided both a section 316(b) determination and a section 316(a) variance in its ER. Further, if the WDNR issues an update to any of these documents, NEPB is obligated to inform the NRC.¹¹⁷ Therefore, in the absence of any facts provided by Petitioner to suggest that NEPB is operating contrary to its permit, further assessment of entrainment, impingement, or thermal impacts is not required in connection with this SLR proceeding.

¹¹¹ Entergy Nuclear Vt. Yankee, LLC, and Entergy Nuclear Operations, Inc. (Vt. Yankee Nuclear Power Station), CLI-07-16, 65 NRC 371, 387 n.77 (2007). Petitioner did not seek a waiver to challenge an NRC rule that would be required to waive 10 C.F.R. § 51.53(c)(3)(ii)(B). See 10 C.F.R. § 2.335(b); AmerGen Energy Co., LLC (Oyster Creek Nuclear Generating Station), CLI-07-8, 65 NRC 124, 133 (2007).

¹¹² Vt. Yankee, CLI-07-16, 65 NRC at 389 (quoting Pub. Serv. Co. of N.H. (Seabrook Station, Units 1 & 2), CLI-78-1, 7 NRC 1, 26 (1978)).

¹¹³ Id. at 377.

¹¹⁴ Section 51.53(c)(3)(ii)(B) provides:

“If the applicant’s plant utilizes once-through cooling or cooling pond heat dissipation systems, the applicant shall provide a copy of current Clean Water Act 316(b) determinations and, if necessary, a 316(a) variance in accordance with 40 CFR part 125, or equivalent State permits and supporting documentation. If the applicant cannot provide these documents, it shall assess the impact of the proposed action on fish and shellfish resources resulting from thermal changes and impingement and entrainment.” 10 C.F.R. § 51.53(c)(3)(ii)(B).

¹¹⁵ Clean Water Act § 316(b), 33 U.S.C. § 1326(b).

¹¹⁶ Id. § 316(a), 33 U.S.C. § 1326(a).

¹¹⁷ See 10 C.F.R. §§ 54.13(a)–(b), 51.41, 54.35; Tr. at 71–72 (Young).

Section 1.3 of the Point Beach NPDES permit contains the CWA section 316(b) determination.¹¹⁸ The WDNR, the state NPDES-permitting authority, concluded that “[t]he cooling water intake . . . represents interim [best technology available] for minimizing adverse environmental impact in accordance with the requirements in s. 283.31(6), Wis. Stats., and section 316 (b) of the [CWA].”¹¹⁹ Section 8 of the Fact Sheet accompanying the NPDES permit contains the CWA section 316(a) variance determination. There, the WDNR concluded “that the discharge at the maximum heat load of 8,273 MBTU/hr is protective of the balanced, indigenous community of shellfish, fish, and wildlife in and on Lake Michigan and that no temperature limit is needed.”¹²⁰

Thus, NRC rules require no further documentation or analysis with respect to the impacts associated with Point Beach’s cooling system.¹²¹ A petitioner may not attempt to impose stricter requirements than those required by NRC rules—doing so constitutes a prohibited collateral attack on NRC rules.¹²²

Notably, the Commission rejected a substantively similar contention in the Vermont Yankee license renewal proceeding.¹²³ There, a petitioner proffered a contention asserting “that

¹¹⁸ Permits issued by WDNR are referred to as Wisconsin Pollution Discharge Elimination System (WPDES) but carry the same legal effect as NPDES permits. ER, attach. B, WPDES Permit No. WI-0000957-08-0 § 1.3 (July 1, 2016) [hereinafter WPDES Permit].

¹¹⁹ Id. Although this is an interim determination, it is still the current determination as required by 10 C.F.R. § 51.53(c)(3)(ii)(B).

¹²⁰ WPDES Permit, Letter from Amanda Minks, Water Quality Standards Specialist, WDNR, to Steve Jaeger, Wastewater Engineer, WDNR at 3 (Aug. 29, 2012). Petitioner acknowledged that WDNR approved Point Beach’s once-through cooling system. See Petition at 24.

¹²¹ Petitioner’s argument that the NPDES permit will expire “within about 60 days” and its renewal is “speculation” is not relevant. Petitioner Reply at 3. The Commission has held that the expiration of a NPDES permit before the end of the license renewal term does not affect compliance with 10 C.F.R. § 51.53(c)(3)(ii)(B). See Vt. Yankee, CLI-07-16, 65 NRC at 383 (citing Clean Water Act § 332(b)(1)(B), 33 U.S.C. § 1342(b)(1)(B)). In addition, as NEPB counsel noted, the timely renewal doctrine will ensure that the current permit will remain valid until a new permit is issued. Tr. at 26–27 (Lewis).

¹²² See supra note 38.

¹²³ See Vt. Yankee, CLI-07-16, 65 NRC at 375.

the [e]nvironmental [r]eport contains an insufficient analysis of the thermal impacts” on an adjacent water body.¹²⁴ The Commission reversed the licensing board ruling that admitted the contention, concluding that CWA section 511(c)(2)¹²⁵ “precludes us from either second-guessing the conclusions in NPDES permits or imposing our own effluent limitations—thermal or otherwise.”¹²⁶ The CWA, according to the Commission, was specifically intended to deprive the NRC of the authority to “review and judge environmental permits issued under the [CWA] by the EPA or an authorized state agency.”¹²⁷ Therefore, the Commission indicated, it is beyond NRC’s authority to “determine[] what cooling system a nuclear power facility may use”¹²⁸

The Commission made clear how future boards should handle this issue, stating¹²⁹

In future cases where EPA [or . . . a state permitting agency] has made the necessary factual findings for approval of a specific once-through cooling system for a facility after full administrative proceedings, we expect our adjudicatory boards to do as we have done today, i.e., defer to the agency that issued the section 316(a) permit.¹³⁰

¹²⁴ Id. at 381 (citations omitted).

¹²⁵ When Congress enacted CWA section 511(c)(2) it “removed the broad responsibility of multiple federal agencies for water quality standards and [] placed that responsibility solely in the hands of the EPA [or an authorized state agency].” Vt. Yankee, CLI-07-16, 65 NRC at 388 (citing Carolina Power and Light Co. (H.B. Robinson, Unit 2), ALAB-569, 10 NRC 557, 561 (1979)); see Seabrook, CLI-78-1, 7 NRC at 25 (“As Senator Baker explained in introducing the floor amendment which was the forerunner of [CWA] section 511(c)(2), duplication was to be avoided by leaving to EPA and the states the decision as to the water pollution control criteria to which a facility’s cooling system would be held.” (quoting Pub. Serv. Co. of N.H. (Seabrook Station, Units 1 & 2), ALAB-366, 5 NRC 39, 51–52 (1977))).

¹²⁶ Vt. Yankee, CLI-07-16, 65 NRC at 377 (footnote omitted).

¹²⁷ Id. at 387 n.77.

¹²⁸ Seabrook, CLI-78-1, 7 NRC at 26.

¹²⁹ Commission precedent is binding on licensing boards.

¹³⁰ Vt. Yankee, CLI-07-16, 65 NRC at 389 (quoting Seabrook, CLI-78-1, 7 NRC at 28 n.42) (quotations and citation omitted). In its reply, Petitioner asserts that the WDNR “has not at this point made ‘the necessary factual findings for approval of a specific once-through cooling system for a facility after full administrative proceedings.’” Petitioner Reply at 4 (quoting Vt. Yankee, CLI-07-16, 65 NRC at 389). This assertion is unsupported and, indeed, contrary to the facts. As NEPB’s ER demonstrates, WDNR explicitly made a section 316(b) determination and granted a section 316(a) variance. See supra notes 118–120 and accompanying text.

Once an applicant, or in this case a licensee, provides the information in 10 C.F.R. § 51.53(c)(3)(ii)(B), the NRC is “required by law to consider the [permitting agency’s] decision [on thermal impacts] as binding.”¹³¹

For the above reasons, we find Contention 1 inadmissible as it constitutes a collateral attack upon an NRC rule and because the NRC’s consideration of alternative cooling system impacts after an applicant has satisfied 10 C.F.R. § 51.53(c)(3)(ii)(B) is contrary to CWA section 511(c)(2) and Commission precedent. Contention 1 is inadmissible because it impermissibly challenges NRC rules, is not within the scope of the proceeding, does not raise an issue that is material to the findings the NRC must make, and fails to demonstrate a genuine dispute with the applicant in contravention of 10 C.F.R. § 2.309(f)(1)(iii), (iv), and (vi).

C. Contention 2

i. Background

Contention 2, as submitted on March 23, 2021, alleges that

Point Beach’s continued operation violates 10 CFR Part 50, Appendix A, Criterion 14 because the reactor coolant pressure boundary has not been tested so as to have an extremely low probability of abnormal leakage, of rapidly propagating failure, and of gross rupture, and the aging management plan does not provide the requisite reasonable assurance.¹³²

According to Petitioner “in recent years, the NRC has systematically removed conservative calculational aspects of the embrittlement process to allow continued operation.”¹³³

¹³¹ Vt. Yankee, CLI-07-16, 65 NRC at 388 (citing H.B. Robinson, ALAB-569, 10 NRC at 558); see Seabrook, CLI-78-1, 7 NRC at 23–28.

At oral argument, the NRC Staff suggested it “may” rely on the determinations made by the state agency if there is a section 316(b) determination and/or a section 316(a) variance, and that the NRC Staff may consider “state permitting agency concerns” raised by a petitioner. Tr. at 64–66 (Young). It is not clear, however, how this position can be reconciled with CWA section 511 and Commission precedent indicating a state agency’s decision on thermal impacts is “binding” and cannot be “second-guess[ed]” by the NRC. Vt. Yankee, CLI-07-16, 65 NRC at 377, 388.

¹³² Petition at 31.

¹³³ Id.

Petitioner further alleges that “the NRC has allowed Point Beach and its cohorts to use analytical techniques that ignore the data from sample coupons it could readily test.”¹³⁴

Petitioner concludes that as a consequence “[t]here is no scientific basis by which the Point Beach reactors should continue operating without a complete physical analysis of the coupons from its reactors”¹³⁵ Petitioner contends that “the Point Beach reactors present a clear and present danger,” because the NRC and Point Beach have relied upon “error-prone analytical calculations rather than” performing metallurgical tests on coupons/capsules.¹³⁶

Petitioner further contends that Point Beach is one of “the remaining five worst embrittled atomic power reactors in the country,” allegedly (at least in part) due to the removal of conservatisms from the neutron embrittlement monitoring process.¹³⁷ Petitioner claims that Point Beach does not contain enough coupons to test for neutron embrittlement throughout the SLR operating period.¹³⁸ Therefore, to compensate for the alleged lack of coupons, Petitioner alleges “the NRC has instead modified its calculations to allow aging, embrittled nuclear power reactors to continue to operate well past their lifespans and certainly into risky uncharted territory.”¹³⁹ These calculations, according to Petitioner, are “error-prone” and are used by the NRC “to avoid testing [] actual embrittlement through the measurement of [] actual metallurgical coupons.”¹⁴⁰ The lack of capsules and “error-prone analytical calculations” are concerning, Petitioner maintains, because in a “seriously embrittled reactor” there is the risk of pressurized

¹³⁴ Id. at 32.

¹³⁵ Id.

¹³⁶ Id. at 37.

¹³⁷ Id. at 31–32; Tr. at 17 (Lodge).

¹³⁸ Petition at 35 (citing Gundersen Decl. ¶ 7.4.6).

¹³⁹ Id. at 37 (citing Gundersen Decl. ¶ 7.7.3).

¹⁴⁰ Id.; Gundersen Decl. ¶ 7.8.2 (“Instead of evaluating Point Beach’s specific metallurgy, the NRC has allowed Point Beach and its cohorts to use analytical techniques that ignore the data from sample coupons it could readily test.”).

thermal shock, that could cause the reactor vessel to “break open and release massive radioactivity into the surrounding area and the environment.”¹⁴¹

Further, Petitioner’s expert, Arnold Gundersen, states that “there is no scientific basis by which the Point Beach reactors should continue operating unless there is a complete physical analysis of the coupons from its reactors and the five other reactors that are its embrittled cohorts.”¹⁴² Mr. Gundersen states that Point Beach, “[d]uring the last 50 years of operation . . . has been violating [General Design Criterion] 14 by not testing coupons”¹⁴³ As such, Petitioner contends this aging-related issue is not “adequately dealt with by regulatory processes” and warrants denial of the SLR application.¹⁴⁴ In its reply, Petitioner reiterates its previous arguments and adds new arguments.¹⁴⁵

NEPB maintains Contention 2 is inadmissible because it impermissibly challenges NRC’s regulations and the CLB, lacks adequate support, and fails to raise a genuine dispute with the application.¹⁴⁶ NEPB asserts that Petitioner’s references to NRC’s calculations to

¹⁴¹ Petition at 35 (citing Gundersen Decl. ¶ 7.4.5). Pressurized thermal shock is an event or transient that causes “severe overcooling (thermal shock) concurrent with or followed by significant pressure in the reactor vessel.” 10 C.F.R. § 50.61(a)(2).

¹⁴² Gundersen Decl. ¶ 7.8.2.

¹⁴³ Gundersen Decl. ¶ 7.8.4; Tr. at 84 (Lodge). General Design Criterion 14 requires that “[t]he reactor coolant pressure boundary shall be designed, fabricated, erected, and tested so as to have an extremely low probability of abnormal leakage, of rapidly propagating failure, and of gross rupture.” 10 C.F.R. pt. 51, subpt. A, app. A, § II, Criterion 14.

¹⁴⁴ Petition at 38 (quoting PPL Susquehanna LLC (Susquehanna Steam Elec. Station, Units 1 & 2), LBP-07-4, 65 NRC 281, 309 (2007)).

¹⁴⁵ See Petitioner Reply at 6–13. The Commission has made it clear that licensing boards may not entertain arguments advanced for the first time in a reply brief. See Am. Centrifuge Plant, CLI-06-9, 63 NRC at 439 (stating that the Commission “will not permit, in a reply, the filing of new arguments or new legal theories that opposing parties have not had an opportunity to address” (footnote omitted)). Contrary to Petitioner’s assertion, a licensing board is not “obliged” to address new arguments raised in a reply if no motion to strike is filed. Tr. at 124 (Lodge).

¹⁴⁶ See NEPB Answer at 25–35.

determine neutron embrittlement constitute an impermissible challenge to the CLB.¹⁴⁷ Similarly, NEPB contends the various allegations attacking NRC's overall approach to monitoring neutron embrittlement impermissibly challenges NRC Staff decision-making and NRC rules.¹⁴⁸

NEPB argues that Petitioner's assertion that Point Beach does not contain enough capsules to test through the end of the SLR period lacks adequate support and fails to demonstrate a genuine dispute with the applicant.¹⁴⁹ NEPB states that Petitioner fails to address the Reactor Vessel Material Surveillance Program in the SLR application, which discusses testing of the vessel material.¹⁵⁰ Further, to the extent Petitioner suggests NEPB will not test capsules, NEPB notes that the SLR application explicitly states capsule "A" will be removed and tested.¹⁵¹ NEPB also asserts the "vague" Petitioner references to "new" operator administrator controls and "error-prone analytical calculations" lack specificity and are not material to the SLR application.¹⁵²

The NRC Staff opposes admission of Contention 2, arguing that Petitioner fails to reference the specific portions of the SLR application it is challenging.¹⁵³ The NRC Staff explains that Contention 2 refers to reactor pressure vessel (RPV) neutron embrittlement, which "results from the neutron irradiation of the reactor pressure vessel during reactor

¹⁴⁷ Id. at 26–27.

¹⁴⁸ Id. at 27–29; id. at 28 ("As is plainly apparent from these claims, the Petitioner's real quarrel is with generic NRC policies and past decision-making regarding reactor vessel safety, not the Point Beach SLR Application."); see Tr. at 29 (Leidich).

¹⁴⁹ See NEPB Answer at 29–35.

¹⁵⁰ Id. at 29–30.

¹⁵¹ Id. (citing SLRA, app. A, at A-25).

¹⁵² Id. at 33–34 (citing Petition at 36, 37).

¹⁵³ Staff Answer at 31–33.

operation”¹⁵⁴ Because severe neutron embrittlement can cause brittle failure,¹⁵⁵ 10 C.F.R. Part 50, Appendix H requires licensees to monitor neutron embrittlement to ensure the RPV “continues to have adequate fracture toughness to prevent brittle failure.”¹⁵⁶ 10 C.F.R. § 50.61 and 10 C.F.R. Part 50, Appendix G set forth the neutron embrittlement monitoring requirements.¹⁵⁷ To monitor neutron embrittlement, licensees periodically withdraw capsules¹⁵⁸ placed near the inside of the vessel wall.¹⁵⁹ The capsules “duplicate, as closely as possible, the neutron spectrum, temperature history, and maximum neutron fluence experienced at the reactor vessel’s inner surface,” while also “typically receiv[ing] neutron fluence exposures that are higher than the inner surface of the reactor vessel.”¹⁶⁰ This method ensures that the supplement “A” capsule is “withdrawn and tested [for fracture toughness data] prior to the inner surface receiving an equivalent neutron fluence so that the surveillance test results bound the conditions at the end of the subsequent period of extended operation.”¹⁶¹

Specifically, the NRC Staff contends that Petitioner’s reference to an unnamed aging management program is insufficient, as the SLR application contains several aging management programs, none of which were addressed by Petitioner.¹⁶² In addition, the NRC Staff asserts that Petitioner impermissibly challenges NRC rules without a waiver when it seeks

¹⁵⁴ Id. at 30 (citing NRR, NRC, NUREG-2192, Standard Review Plan for Review of [SLR] Applications for Nuclear Power Plants, at 4.2-1 (July 2017) (ADAMS Accession No. ML17188A158) [hereinafter NUREG-2192]).

¹⁵⁵ Id. (citing NUREG-2192 at 4.2-1).

¹⁵⁶ Id. (citing NUREG-2192 at 4.2-1; 2 NRR, NRC, NUREG-2191, Generic Aging Lessons Learned for [SLR] (GALL-SLR) Report, § XI.M31 (July 2017) (ADAMS Accession No. ML17187A204) [hereinafter NUREG-2191, Vol. 2]).

¹⁵⁷ See 10 C.F.R. § 50.61; id. pt. 50, app. G.

¹⁵⁸ Petitioner refers to capsules as “coupons.” See Petition at 31–38.

¹⁵⁹ NUREG-2191, Vol. 2 at XI.M31-1.

¹⁶⁰ Id.

¹⁶¹ Id.

¹⁶² Staff Answer at 31–33.

“a complete physical analysis of the coupons from its reactors and the five other reactors that are its embrittled cohorts.”¹⁶³ The NRC Staff states that the coupon analysis sought by Petitioner is not required by NRC rules.¹⁶⁴ Further, the NRC Staff argues that Contention 2 impermissibly challenges current operating issues, contrary to 10 C.F.R. § 2.309(f)(1)(iii).¹⁶⁵

ii. Motion to Amend Contention 2

Before we address the admissibility of Contention 2, we must address Petitioner’s motion to amend the contention.¹⁶⁶ Petitioner seeks to amend Contention 2 to include three additional sentences, so that amended Contention 2 would read:

Point Beach’s continued operation violates 10 CFR Part 50, Appendix A, Criterion 14 because the reactor coolant pressure boundary has not been tested so as to have an extremely low probability of abnormal leakage, of rapidly propagating failure, and of gross rupture, and the aging management plan does not provide the requisite reasonable assurance. The Electric Power Research Institute has recently admitted that its computer software for predicting embrittlement in boiling water reactors is “nonconservative.” Physical specimens and coupons at Point Beach may indeed prove that embrittlement calculations made at Point Beach are not conservative. Without testing the physical specimens and coupons at Point Beach, NextEra is severely risking public safety.¹⁶⁷

“[M]otions for leave to file . . . amended contentions . . . after the [hearing request] deadline . . . will not be entertained absent a determination by the presiding officer that a participant has demonstrated good cause”¹⁶⁸ Good cause may be shown where

- (i) The information upon which the filing is based was not previously available;
- (ii) The information upon which the filing is based is materially different from information previously available; and

¹⁶³ Id. at 33 (quoting Petition at 38).

¹⁶⁴ Id. at 33–34.

¹⁶⁵ Id. at 35.

¹⁶⁶ See generally Petitioner Motion to Amend.

¹⁶⁷ Id. at 7.

¹⁶⁸ 10 C.F.R. § 2.309(c).

(iii) The filing has been submitted in a timely fashion based on the availability of the subsequent information.¹⁶⁹

Once a movant satisfies the motion to amend requirements, a new or amended contention must still satisfy the contention admissibility standards in 10 C.F.R. § 2.309(f) to be admitted.

The basis for the amendment request was the public release of a February 2021 Electric Power Research Institute letter (EPRI letter) to its membership that stated that its software for monitoring neutron embrittlement in a Boiling Water Reactor (BWR) is “non-conservative” in a specific fluence range.¹⁷⁰

Petitioner asserts its Amended Contention 2 meets the three-prong test under section 2.309(c) for good cause required to amend contentions after the hearing request deadline has passed.¹⁷¹ Turning to the first prong in section 2.309(c)(i), Petitioner asserts that since “the EPRI letter was not publicly available in ADAMS until April 2, 2021,” the amendment is based on information not previously available.¹⁷² Second, Petitioner asserts that “[t]he unexpected EPRI admissions . . . strengthens and supplements the material issue of potential nonconservatism in computer modeling that may be undermining the aging management of the [Point Beach] reactor vessels and internals.”¹⁷³ According to Petitioner, this constitutes information that “is materially different from information previously available”¹⁷⁴ as mandated under section

¹⁶⁹ Id. § 2.309(c)(i)–(iii). The Commission and licensing boards “typically consider 30 to 60 days from the initiating event a reasonable deadline for proposing new or amended contentions.” Entergy Nuclear Generation Co. and Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), CLI-12-21, 76 NRC 491, 499 (2012) (footnote omitted).

¹⁷⁰ EPRI letter attach. 1, at 1.

¹⁷¹ Petitioner Motion to Amend at 7–8.

¹⁷² Id. at 7.

¹⁷³ Id.

¹⁷⁴ Id. (quoting 10 C.F.R. § 2.309(c)(ii)).

2.309(c)(ii). Third, Petitioner contends the motion to amend is timely under section 2.309(c)(iii), because it was filed within thirty days of Petitioner becoming aware of the EPRI letter.¹⁷⁵

NEPB opposes the motion to amend and argues Amended Contention 2 should be rejected because it contains untimely allegations and fails to demonstrate a genuine dispute with the applicant.¹⁷⁶ Specifically, NEPB states that Petitioner's references to baffle-former plates are untimely because those claims could have been raised earlier.¹⁷⁷ In addition, NEPB contends the last two sentences in proposed Amended Contention 2 bear no connection to the EPRI letter and instead constitute an impermissible and untimely "expansion in the wording of the original contention."¹⁷⁸ Further, NEPB argues proposed Amended Contention 2 fails to demonstrate a genuine dispute and must be rejected.¹⁷⁹

The NRC Staff does not oppose the motion to amend but instead contends that proposed Amended Contention 2 is inadmissible.¹⁸⁰ The NRC Staff concedes that Petitioner met the good cause requirements set forth in 10 C.F.R. § 2.309(c) because (i) the EPRI letter was not available before the hearing request deadline;¹⁸¹ (ii) "the EPRI Letter appears to be materially different from information previously available";¹⁸² and (iii) the motion was filed within thirty days of the public availability of the EPRI letter.¹⁸³ Nevertheless, the NRC Staff asserts proposed Amended Contention 2 is inadmissible because the new information in proposed Amended Contention 2 is not material to the findings the NRC must make, does not raise a

¹⁷⁵ Id. at 8 (citation omitted).

¹⁷⁶ NEPB Answer to Motion to Amend at 1.

¹⁷⁷ Id. at 4–5.

¹⁷⁸ Id. at 6.

¹⁷⁹ Id. at 7–12.

¹⁸⁰ Staff Answer to Motion to Amend at 1–2.

¹⁸¹ Id. at 6–7.

¹⁸² Id. at 7.

¹⁸³ Id.

genuine dispute with the applicant, raises issues outside the scope of the proceeding, does not support Petitioner's position, and impermissibly challenges NRC rules without a waiver.¹⁸⁴

The availability of new information may provide good cause for the amendment of a contention. Good cause may be found when a petitioner acts promptly after learning of materially new information. "[N]ewly arising information has long been recognized as providing 'good cause' for acceptance of a late contention."¹⁸⁵ In this case, Petitioner has demonstrated good cause by timely moving to amend its Contention 2 after receiving a public version of the EPRI letter.¹⁸⁶ For the reasons expressed by the NRC Staff, we agree that the EPRI Letter was not previously available, contains information that is materially different from information previously available and was submitted in a timely fashion.¹⁸⁷ Accordingly, we grant the motion to amend Contention 2. However, a new or amended contention must still satisfy the contention admissibility standards in 10 C.F.R. § 2.309(f)(1) to be admitted. We now analyze Contention 2, as amended, against the standards in 10 C.F.R. § 2.309(f)(1).

iii. 10 C.F.R. § 2.309(f)(1)(iii), (iv), (vi) – Impermissible Challenge to NRC Rules

Under 10 C.F.R. § 54.21(c)(1)(i)–(iii), the NRC permits licensees to address TLAAs (of which the RPV is one)¹⁸⁸ in one of three ways: (i) demonstrating that existing "analyses remain valid for the period of extended operation;" (ii) revising existing analyses to demonstrate their validity "to the end of the period of extended operation; or" (iii) demonstrating that "[t]he effects

¹⁸⁴ Id. at 2, 7–13.

¹⁸⁵ Consumers Power Co. (Midland Plant, Units 1 & 2), LBP-82-63, 16 NRC 571, 577 (1982) (citing Ind. & Mich. Elec. Co. (Donald C. Cook Nuclear Plant, Units 1 & 2), CLI-72-75, 5 AEC 13, 14 (1972); Cincinnati Gas & Elec. Co. et al. (William H. Zimmer Nuclear Station), LBP-80-14, 11 NRC 570, 574 (1980), appeal dismissed, ALAB-595, 11 NRC 860 (1980)).

¹⁸⁶ Petitioner Motion to Amend at 8.

¹⁸⁷ The PSR WI April 26, 2021 motion to amend was filed within 30 days of the EPRI letter being made available to the public. Id. at 1 ("The [EPRI] letter was docketed . . . on April 2, 2021[.]").

¹⁸⁸ See 10 C.F.R. § 54.21(a)(1)(i).

of aging on the intended function(s) will be adequately managed for the period of extended operation.”¹⁸⁹ In the Point Beach SLR application, NEPB addressed the requirements in 10 C.F.R. § 54.21(c)(1) for each TLAA.¹⁹⁰ And in accordance with 10 C.F.R. § 54.3, all TLAA from the initial license renewal have been incorporated into the CLB, so only if a TLAA were being created or revised during SLR would a petitioner be able to challenge it.¹⁹¹ Petitioner did not identify any new or revised TLAA. Thus, Petitioner’s suggestion that the existing analysis is inadequate, is “error-prone,” or may not be used challenges the requirements set forth in section 54.21(c)(1), and thus constitutes a collateral attack on NRC rules.¹⁹² Contention 2 is inadmissible because it constitutes a collateral attack on NRC rules regarding neutron embrittlement calculations.

iv. 10 C.F.R. § 2.309(f)(1)(iii), (iv), (vi) – Impermissible Challenge to Current Operating Issues

Contention 2 also is inadmissible because it challenges Point Beach’s compliance with General Design Criterion (GDC) 14, which sets forth requirements for the plant’s design. This constitutes an impermissible challenge to Point Beach’s current operation and its CLB. The Commission has held that the adequacy of the CLB is not an issue within the scope of a license renewal proceeding.¹⁹³ As such, Petitioner’s assertions regarding the CLB and GDC 14 are beyond the scope of this proceeding, not material to the decision the NRC must make, and fail to demonstrate a genuine dispute with the applicant.

¹⁸⁹ Id. § 54.21(c)(1)(i)–(iii).

¹⁹⁰ See SLRA at 1-8, 4.2-4, 4.2-6, 4.2-14, 4.2-18, 4.2-24; see generally id. § 4.2.

¹⁹¹ See 10 C.F.R. § 54.3.

¹⁹² To challenge an NRC rule in an adjudicatory proceeding, a petitioner must seek a waiver under 10 C.F.R. § 2.335. Petitioner did not file such a waiver request. See supra notes 37–42 and accompanying text.

¹⁹³ Turkey Point, CLI-01-17, 54 NRC at 23.

On its face, Contention 2 and its bases challenge operations during the current (renewed) operating period and original operating period.¹⁹⁴ In Contention 2 Petitioner argues, not that testing during the SLR term may be insufficient, but rather that “the reactor coolant pressure boundary has not been tested”¹⁹⁵ Further, Mr. Gundersen asserts that Point Beach has violated GDC 14 for the past 50 years, which is, again, an impermissible challenge that is outside the scope of this proceeding.¹⁹⁶ In addition, with regard to Petitioner’s claim that there are not enough capsules, this assertion appears to attack the SLR term as an afterthought and instead focuses on the alleged historical, and present, lack of capsule testing.¹⁹⁷ These assertions are beyond the scope and not material to this proceeding, and do not demonstrate a genuine dispute with the applicant. For the above reasons, amended Contention 2 impermissibly raises issues that challenge the current operating license period, contrary to 10 C.F.R. § 2.309(f)(1)(iii), (iv), and (vi).

¹⁹⁴ Petition at 31 (“[T]he reactor cooling pressure boundary has not been tested.”); *id.* at 37 (neutron embrittlement is a “present danger”); *id.* at 37 (“Point Beach [has] relied upon error-prone analytical calculations”); *id.* at 37 (stating that there is no record of coupon samples being tested at Point Beach for “at least ten years”); *id.* at 38 (“During the last 50 years of operation, Point Beach has failed to develop an adequate coupon program to physically test the integrity of the [reactor pressure vessel]” (quoting Gundersen Decl. ¶ 7.8.4)); *id.* at 38 (“There is inadequate coupon data specific to Point Beach to justify its continued operation beyond its 50th year” (quoting Gundersen Decl. ¶ 7.8.4)); *id.* at 38 (“[Point Beach] has been violating GDC-14 by not testing coupons” (quoting Gundersen Decl. ¶ 7.8.4)); *id.* at 40–41 (stating that the Point Beach reactor vessels “[have] not been ‘tested so as to have an extremely low probability of abnormal leakage, of rapidly propagating failure, and of gross rupture’ for perhaps more than 20 years” (quoting 10 C.F.R. pt. 51, subpt. A, app. A, § II, Criterion 14)); Tr. at 84, 86–87 (Lodge).

¹⁹⁵ Petition at 31. Although Petitioner does provide support for its assertion that capsule testing will be insufficient during the SLR term, the overall focus of Petitioner’s assertions impermissibly challenge the current operating period. See Petition at 35 (citing Gundersen Decl. ¶ 7.4.6).

¹⁹⁶ Gundersen Decl. ¶ 7.8.4.

¹⁹⁷ Petition at 35–36.

v. 10 C.F.R. § 2.309(f)(1)(v), (vi) – Lack of Adequate Support, and Failure to Demonstrate Genuine Dispute

Petitioner's remaining claims supporting Contention 2 lack specificity and adequate support and fail to demonstrate a genuine dispute with the applicant. For example, while Petitioner contends that "there are not enough sample coupons to remove from the reactor and test for embrittlement during the 60-year period of operations, let alone for an additional 20 more years out to 80 years,"¹⁹⁸ it fails to cite to the SLR application that discusses capsule testing. The Reactor Vessel Material Surveillance Program, which is described in the SLR application's Appendix A providing the updated final safety analysis report supplement, states

This [Aging Management Program] includes withdrawal and testing of the Supplemental "A" surveillance capsule, identified in [Technical Requirements Manual] 2.2. This capsule will receive between one to two times the peak reactor vessel neutron fluence of interest at the end of the [subsequent period of operation] in the TLAs for [upper shelf energy], [pressurized thermal shock], and [pressure-temperature] limits. The surveillance program adheres to the requirements of 10 CFR Part 50, Appendix H, as well as the American Society for Testing Materials (ASTM) standards incorporated by reference in 10 CFR Part 50, Appendix H.¹⁹⁹

This capsule contains weld materials representative of Point Beach Units 1 and 2,²⁰⁰ and once removed, the neutron fluence it received will bound the projected fluence at the end of the SLR operating term.²⁰¹ Further, as stated in the SLR application, NEPB receives supplemental data from other Babcock & Wilcox reactors "to (a) monitor irradiation embrittlement to neutron fluences greater than the projected neutron fluence at the end of the [subsequent period of operation], and (b) provide adequate dosimetry monitoring during the [subsequent period of

¹⁹⁸ Id. at 36 (citing Gundersen Decl. ¶ 7.7.2).

¹⁹⁹ SLRA, app. A, at A-25; see id., app. A, at A-158; id., app. B, at B-148 to -49.

²⁰⁰ NRR, NRC, NUREG-1839, Safety Evaluation Report Related to the License Renewal of the Point Beach Nuclear Plant, Units 1 and 2, at 3-97 (Dec. 2005) (ADAMS Accession No. ML053420137).

²⁰¹ SLRA, app. B, at B-150.

operation].”²⁰² Petitioner fails to address any of this information. Since Petitioner does not address NEPB’s Reactor Vessel Material Surveillance Program, Contention 2 fails to demonstrate a genuine dispute with the applicant and fails to identify the specific sections of the application it is challenging.²⁰³

Further, Petitioner’s contention that NEPB will not conduct an analysis of the capsules or will “ignore the data from sample coupons,”²⁰⁴ lacks adequate support and fails to demonstrate a genuine dispute with the application. In the SLR application, NEPB states that “[t]he [Reactor Vessel Material Surveillance Aging Management Program] withdraws, and subsequently tests, the capsule at an outage in which the capsule receives a neutron fluence of between one and two times the peak reactor vessel neutron fluence of interest at the end of the [subsequent period of operation].”²⁰⁵ The explicit language of the application demonstrates that NEPB will conduct a capsule analysis. Further, NEPB’s capsule analysis will be conducted in accordance with 10 C.F.R. Part 50, Appendix H, which provides that “[f]or each capsule withdrawal, the test procedures and reporting requirements must meet the requirements of the ASTM E 185 to the extent practicable for the configuration of the specimens in the capsule.”²⁰⁶ Thus, the plain language of the SLR application indicates NEPB will both conduct an analysis of the capsules²⁰⁷ and do so in accordance with NRC regulations.²⁰⁸ Accordingly, Petitioner’s assertions fail to demonstrate a genuine dispute with the application.

²⁰² NEPB Answer at 30 (citing SLRA, app. A, at A-26; *id.*, app. B at B-148 to -49).

²⁰³ See Susquehanna Nuclear, LLC (Susquehanna Steam Elec. Station, Units 1 & 2), CLI-17-4, 85 NRC 59, 74 (2017) (citing 10 C.F.R. § 2.309(f)(1)(vi)).

²⁰⁴ Petition at 32; Gundersen Decl. ¶ 7.8.2.

²⁰⁵ SLRA, app. B, at B-149.

²⁰⁶ 10 C.F.R. pt. 50, app. H, § III.B.1.

²⁰⁷ See Tr. at 100–01 (Lewis).

²⁰⁸ A petitioner may not support a contention by assuming a licensee will violate agency regulations. Private Fuel Storage, L.L.C. (Indep. Spent Fuel Storage Installation), CLI-01-9, 53

In Contention 2, Petitioner also references an unspecified “aging management plan [that] does not provide the requisite reasonable assurance.”²⁰⁹ Yet, Petitioner does not cite the specific AMP in the SLR application it disputes.²¹⁰ This omission is fatal to the contention as it does not demonstrate a genuine dispute with the applicant or identify the specific section of the application in dispute.

Petitioner’s remaining allegations are vague and unsupported. The reference to “new” administrative controls that will cause the RPV to crack “unless the operators implement these controls perfectly” is unsupported.²¹¹ It does not contain the requisite specificity required nor does it demonstrate a genuine dispute with the applicant, contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi).

Petitioner’s assertion of “error-prone analytical calculations” are likewise fatally vague and fail to satisfy 10 C.F.R. § 2.309(f)(1)(vi).²¹² Petitioner provides no detail about which calculation it references or what is “error-prone” about that calculation. This argument consists of the type of “[b]are assertions and speculation” that do not support an admissible contention, even if supported by an expert.²¹³ Further, at oral argument it was made clear that the Point

NRC 232, 235 (2001) (“[T]he NRC does not presume that a licensee will violate agency regulations wherever the opportunity arises.”).

²⁰⁹ Petition at 31.

²¹⁰ The SLR application includes several AMPs, including the “Neutron Fluence Monitoring” AMP and the “Reactor Vessel Material Surveillance” AMP. SLRA at 3.1-1 to -2. We may not assume which AMP Petitioner was referring to, absent the requisite specificity. See Fermi, CLI-15-18, 82 NRC at 149 & n.74 (citing Crow Butte Res., Inc. (In Situ Leach Facility, Crawford, Neb.), CLI-09-9, 69 NRC 331, 353–54 (2009); Crow Butte Res., Inc. (N. Trend Expansion Project), CLI-09-12, 69 NRC 535, 565–71 (2009)).

²¹¹ We need not decipher vague pleadings, and we may not create legal arguments for a petitioner. See supra note 28.

²¹² Petition at 37.

²¹³ Oyster Creek, CLI-08-28, 68 NRC at 674.

Beach calculations being questioned are those specified by 10 C.F.R. § 50.61, and a challenge to those calculations is an impermissible challenge to that rule.²¹⁴

Turning to the amended portion of Contention 2, we observe that the EPRI letter addresses boiling water reactors (BWRs), and thus has no obvious relevance to the reactors at Point Beach, which are pressurized water reactors (PWRs). Further, Petitioner does not explain how the EPRI letter applies here. Petitioner admits that the EPRI letter refers only to BWRs,²¹⁵ but suggests the “non-conservatism” is symptomatic of an industry-wide issue in monitoring neutron embrittlement.²¹⁶ This assertion lacks adequate support and fails to demonstrate a genuine dispute with the applicant.

Therefore, Amended Contention 2 is inadmissible because it impermissibly challenges NRC rules, lacks adequate support and specificity, is not within the scope of the proceeding, is not material to the finding the NRC must make, and fails to demonstrate a genuine dispute with the applicant in contravention of 10 C.F.R. § 2.309(f)(1)(iii), (iv), (v), and (vi).

D. Contention 3

i. Background

Contention 3 alleges that “[t]he . . . Environmental Report fails to adequately evaluate the full potential for renewable energy sources, such as solar electric power (photovoltaics) to offset the loss of energy production from [Point Beach and, therefore,] the requested license

²¹⁴ See Tr. at 97–99 (Leidich, Trikourous); see also NEPB Answer to Motion to Amend at 10; Staff Answer to Motion to Amend at 11.

²¹⁵ Tr. at 20 (Lodge).

²¹⁶ Petitioner suggests that since EPRI “developed software for both light [pressurized] water reactors and boiling water reactors,” the conclusions in the EPRI letter regarding BWRs “should prompt very serious discussions and formal inquiry into the adequacy of the software that is used to project the integrity of the reactor vessels at Point Beach.” Tr. at 19–20 (Lodge). This is both speculative and irrelevant. As was noted during oral argument, rather than employing software to monitor neutron embrittlement, Point Beach uses the embrittlement curve found at 10 C.F.R. § 50.61. Tr. at 98 (Leidich). Nor does Petitioner provide any support for the assertion that an issue with PWR software exposes an issue with BWR software.

renewal action from 2030 to 2053 [is] unnecessary.”²¹⁷ Petitioner’s expert, Dr. Alvin Compaan, contends that the SLR application should be denied because NEPB “fail[ed] to adequately assess the solar option.”²¹⁸ Dr. Compaan states that the declining cost of solar will make the power generated at Point Beach “superfluous,”²¹⁹ and that solar plus storage is a viable alternative to replace Point Beach Units 1 and 2.²²⁰ Dr. Compaan provides several options on how solar plus storage could be installed on residential, commercial, and federal conservation land at a sufficient volume to replace the baseload power of Point Beach.²²¹ Petitioner’s other expert, Dr. Mark Cooper, asserts that “[n]uclear power is far too costly,”²²² and concludes that the SLR application should be denied for economic reasons²²³ and that nuclear energy should be discarded in favor of “distributed and renewable resources.”²²⁴ Petitioner further contends that solar is technically feasible on a commercial scale, and therefore must be reviewed as a reasonable alternative in the ER.²²⁵ Petitioner asserts that solar generation is preferable to SLR due to the “harsh economic realities”²²⁶ of nuclear power, the “dramatically-changing

²¹⁷ Petition at 41.

²¹⁸ Compaan Decl. ¶ 5.

²¹⁹ Id. ¶ 33.

²²⁰ See id. ¶¶ 5–37.

²²¹ Id. ¶¶ 20–24.

²²² Cooper Decl. at 2. Dr. Cooper dedicates much of his declaration to the argument that nuclear energy should be abandoned as a feature of the American energy generation portfolio. Id. at 5–6; see generally id. However, Dr. Cooper addresses the ER’s discussion of solar power only once. Id. at 20.

²²³ Id. at 8–9.

²²⁴ Id. at 2; Compaan Decl. ¶ 37.

²²⁵ Petition at 55; see Compaan Decl. ¶¶ 32–24, 37.

²²⁶ Petition at 53.

circumstances in the regional energy mix,²²⁷ and the associated low greenhouse gas emissions and environmental impacts from solar energy generation.²²⁸

NEPB opposes admission of Contention 3, arguing that Petitioner fails to dispute the ER's conclusion that solar plus storage was not a reasonable alternative due to acreage requirements.²²⁹ Instead, NEPB argues, Petitioner generally "assert[ed] that solar power is low cost and available, growing rapidly as an energy source, and capable of being coupled with batteries to provide more reliable power,"²³⁰ albeit without disputing the conclusions in the ER.²³¹ NEPB notes that Petitioner's expert, Dr. Compaan, provides several options on how the large acreage requirement could be met, but contends those options fail to dispute the underlying conclusion in the ER and therefore fails to demonstrate a genuine dispute.²³² NEPB contends that several aspects of Dr. Compaan's testimony demonstrates the unreasonableness of the solar plus storage option, such as the questionable legality of using U.S. Conservation Reserve Program land for solar power²³³ and the fact that "either 87% of suitable residential rooftop space or 68% of commercial rooftop space from the entire state [of Wisconsin] would be needed (together with storage) to replace the power output of Point Beach."²³⁴

In addition, NEPB contends Dr. Compaan's "theoretical model" of solar plus storage is akin to a contention rejected by the Commission in the Davis-Besse proceeding in which the Commission stated that "[t]he mere potential for, or theoretical capacity of, [an alternative] is

²²⁷ Compaan Decl. ¶ 3.

²²⁸ Petition at 48–49; Compaan Decl. ¶¶ 35–37. Petitioner also raises several new arguments in its reply, such as NEPB's discussion of waste management. Petitioner Reply at 20–22. We will not address arguments raised for the time in a reply brief. See supra note 145.

²²⁹ NEPB Answer at 35–49.

²³⁰ Id. at 35.

²³¹ See id. at 35–36.

²³² See id.

²³³ Id. at 37–38.

²³⁴ Id. at 40 (citing Compaan Decl. ¶ 21).

insufficient to show . . . commercial viability as a source of baseload power in the [region of interest by license expiration].”²³⁵ In addition, NEPB contends Dr. Compaan “focuses solely on the mere existence of sufficient rooftops and ignores commercial viability altogether.”²³⁶

NEPB further argues that Petitioner fails to demonstrate “the adverse environmental impacts of license renewal are so great,” compared with their proposed solar alternative, “that preserving the option of license renewal for energy planning decisionmakers would be unreasonable.”²³⁷ NEPB contends that Petitioner’s expert, Dr. Cooper, impermissibly raises economic arguments.²³⁸ NEPB states that 10 C.F.R. § 51.45(c) does not require consideration of “the economic or technical benefits and costs of either the proposed action or alternatives except if these benefits and costs are either essential for a determination regarding the inclusion of an alternative in the range of alternatives considered or relevant to mitigation.”²³⁹ In this instance, NEPB asserts that “[b]ecause this Contention does not relate to mitigation alternatives, and economics are not essential for the inclusion of the SMR alternative, no discussion of economics is required.”²⁴⁰ As such, NEPB concludes, none of Dr. Cooper’s claims are within the scope of this proceeding or demonstrate a genuine dispute.²⁴¹

The NRC Staff also opposes Contention 3, asserting that it is outside the scope of the proceeding and fails to demonstrate a genuine dispute with the applicant on a material issue of law or fact.²⁴² The NRC Staff contends that to the extent Petitioner disputes the need for power,

²³⁵ Id. at 41–42 (quoting FirstEnergy Nuclear Operating Co. (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 NRC 393, 402 (2012)).

²³⁶ Id. at 43 (citing Compaan Decl. ¶ 21).

²³⁷ Id. at 45 (quoting 10 C.F.R. § 51.95(c)(4)).

²³⁸ Id. at 46–49.

²³⁹ Id. at 46 (quoting 10 C.F.R. § 51.45(c)).

²⁴⁰ Id. (citing Petition at 42).

²⁴¹ Id. at 49.

²⁴² Staff Answer at 36–41.

such an argument is beyond the scope of the proceeding because 10 C.F.R. § 51.53(c)(2) states that an environmental report “need not include a discussion of the need for power.”²⁴³ Further, to challenge the need for power, “Petitioner would first have to request a waiver of 10 C.F.R. § 51.53(c)(2) and would have to demonstrate special circumstances unique to Point Beach.”²⁴⁴ As the NRC Staff notes, Petitioner did not file a waiver petition.²⁴⁵

In addition, the NRC Staff asserts that Contention 3 fails to raise a genuine dispute with the applicant on a material issue of law or fact because it does not provide sufficient information to demonstrate that the solar plus storage alternative “is commercially viable on a utility scale or that it will become so in the near future.”²⁴⁶ The NRC Staff notes that NEPB listed several reasons why solar plus storage was not a reasonable option, including large land requirements and solar’s lower generation capacity than nuclear.²⁴⁷ Along the same lines, the NRC Staff argues that Petitioner failed to address “the [ER]’s conclusion that the solar alternative is unreasonable due to the environmental impacts of installing such a large solar array,”²⁴⁸ “ignore[d] the practical and legal realities of such a proposal,”²⁴⁹ and “does not explain how [NEPB] . . . would have access to the residential and commercial rooftops or the conserved farmlands required for installation of solar arrays.”²⁵⁰ The NRC Staff contends Petitioner’s expert analysis using “optimally tilted [solar] panels” is a “minor difference . . . not sufficient to

²⁴³ Id. at 36 (quoting 10 C.F.R. § 51.53(c)(2)).

²⁴⁴ Id. at 37 n.178 (citing Millstone, CLI-05-24, 62 NRC at 559–60).

²⁴⁵ Id.

²⁴⁶ Id. at 39.

²⁴⁷ Id. at 39–41.

²⁴⁸ Id. at 39.

²⁴⁹ Id.

²⁵⁰ Id. at 40.

create a genuine dispute with the [ER's]" conclusion that solar energy in Wisconsin has less generation capacity than the U.S. average.²⁵¹

ii. 10 C.F.R. § 2.309(f)(1)(v), (vi) – Lack of Adequate Support and Failure to Demonstrate Genuine Dispute

Petitioner's assertion that the solar plus storage alternative should have been considered as a reasonable alternative in the ER lacks adequate support and fails to demonstrate a genuine dispute with NEPB's conclusion that solar plus storage would not be commercially viable on a utility scale and operational prior to expiration of the current Point Beach licenses.²⁵²

The NRC has defined the scope of "reasonable alternatives" that must be considered in a license renewal application. The GEIS states that "[a] reasonable alternative [replacement power] must be commercially viable on a utility scale and operational prior to the expiration of the reactor's operating license, or expected to become commercially viable on a utility scale and operational prior to the expiration of the reactor's operating license."²⁵³ The Commission stated that to raise a genuine dispute, contentions regarding reasonable alternatives in license renewal proceedings "must provide alleged facts or expert opinion sufficient to raise a genuine dispute as to whether the best information available today suggests that commercially viable alternative technology (or combination of technologies) is available now, or will become so in the near future, to supply baseload power."²⁵⁴

²⁵¹ Id. (citing Compaan Decl. ¶ 5).

²⁵² 10 C.F.R. § 2.309(f)(1)(v), (vi).

²⁵³ GEIS at 2-18.

²⁵⁴ Seabrook, CLI-12-5, 75 NRC at 342 (quotations and footnote omitted); see id. ("Except in rare cases where there is evidence of unusual predictive reliability, it is not workable to consider, for purposes of NEPA analysis, what are essentially hypothetical or speculative alternatives as a source of future baseload power generation." (footnote omitted)).

In line with the GEIS delineation of reasonable replacement power alternatives, NEPB considered three substitutions: (1) an “[Advanced Light-Water Reactor (ALWR)] with mechanical draft cooling towers located at the [Point Beach nuclear] site[;]” (2) a “[c]luster of small modular reactors (SMRs) with mechanical draft cooling towers located at the [Point Beach nuclear] site[;]” and (3) a “[c]onfiguration of natural gas combined cycle units with mechanical draft cooling towers located at the [Point Beach nuclear] site [along with the] [e]xpansion of the Point Beach solar facility”²⁵⁵

In its ER, NEPB concluded that a number of alternatives requiring new generation capacity, including onshore and offshore wind, hydropower, geothermal, biomass, and fuel cell, wave and current energy, petroleum-fired, coal-fired, solar only, and solar plus storage, were not commercially viable alternatives.²⁵⁶ With respect to solar plus storage, NEPB found it not to be a commercially viable alternative to renewal of Point Beach Units 1 and 2 because “the land use disturbances could result in MODERATE to LARGE impacts on wildlife habitats, vegetation, land use, and aesthetics.”²⁵⁷ For context, NEPB noted that its existing solar array has approximately 565 acres of solar panels which amounts to 100 megawatts of capacity (and no on-site energy storage).²⁵⁸ NEPB concluded it would take 6,780 acres, plus additional acreage for energy storage, to match the current generating capacity of the Point Beach units.²⁵⁹ As such, NEPB recognized that solar plus storage “could be a reasonable alternative” but “its generation capacity is far less than nuclear generation” and is not a commercially viable alternative “due to the acreage requirements.”²⁶⁰

²⁵⁵ ER at 7-3 to -4.

²⁵⁶ Id. at 7-6 to -11.

²⁵⁷ Id. at 7-8.

²⁵⁸ Id.

²⁵⁹ Id.

²⁶⁰ Id. at 7-9.

In contrast, Petitioner's assertions that NEPB should have discussed the costs and benefits of solar plus storage to fulfill 10 C.F.R. § 51.53(c)(2) lacks adequate support and does not directly challenge information in the ER.²⁶¹ Section 51.53(c)(2) states that an ER

is not required to include discussion of . . . the economic costs and economic benefits . . . of alternatives to the proposed action except insofar as such costs and benefits are either essential for a determination regarding the inclusion of an alternative in the range of alternatives considered or relevant to mitigation.²⁶²

Petitioner and its experts fail to proffer adequate support for its argument that a discussion of the costs and benefits of solar plus storage is essential to determine whether it should be included as an alternative.²⁶³ As noted, NEPB concluded the solar plus storage should not be included as a reasonable alternative "due to the acreage requirements."²⁶⁴ Petitioner does not explain why a discussion of costs and benefits is essential if NEPB dismissed the alternative due to the large acreage requirements that "could result in MODERATE to LARGE impacts on wildlife habitats, vegetation, land use, and aesthetics."²⁶⁵ Petitioner alleges that "10 C.F.R. § 51.53(c)(2) oblige[s] [NEPB] to perform a cost-benefit" analysis of solar plus storage "if the environmental impacts of license renewal are great enough to tip the balance against license renewal."²⁶⁶ Section 51.53(c)(2) contains no such obligation.

Notably, Petitioner does not dispute the reason NEPB cites for concluding solar plus storage is not a reasonable alternative—in fact, it agrees that over 6,000 acres would be needed for the solar plus storage alternative.²⁶⁷ Petitioner (and its experts) thus have proffered

²⁶¹ Petitioner Reply at 15–16.

²⁶² 10 C.F.R. § 51.53(c)(2) (emphasis added).

²⁶³ Petitioner did not argue that a discussion of the costs and benefits is "relevant to mitigation."
Id.

²⁶⁴ ER at 7-9.

²⁶⁵ Id. at 7-8.

²⁶⁶ Petitioner Reply at 19.

²⁶⁷ Compaan Decl. ¶ 7. This admission suggests that Petitioner agrees that NEPB relied on the "best information available" to conclude that the solar plus storage alternative requires a

no information to dispute the large acreage requirement for the solar plus storage alternative and the significant environmental impacts of such an allotment that were the basis of NEPB's conclusion that solar plus storage was not a reasonable alternative.²⁶⁸ This defect is fatal to Contention 3.²⁶⁹

In several respects, Petitioner's assertions bolster NEPB's conclusion that solar plus storage is not a reasonable alternative due to acreage requirements. For instance, Dr. Compaan states that 42,000 acres (or 65.7 square miles) is needed "to replace the baseload 1200 [megawatts]" produced by Point Beach.²⁷⁰ That is six times the amount of land NEPB stated it would require.²⁷¹ While Dr. Compaan does outline several options by which the acreage requirement can be met—the underlying acreage requirement itself is undisputed.²⁷²

In its reply, in support of Dr. Compaan and the admissibility of Contention 3, Petitioner cites the Commission's 2012 Seabrook decision, stating that it stands for the proposition that the "Board may rely on Dr. Compaan's future-oriented testimony as added evidence of the

significant amount of land, thereby fulfilling the requirements of NEPA. See Seabrook, CLI-12-5, 75 NRC at 342; Tr. at 132 (Lodge) ("Yes, we agree and admit that there's a large amount of acreage necessary for the photovoltaic collection.").

²⁶⁸ Petitioner also references other forms of renewable energy, such as wind. See Petition at 47, 48, 50, 52; Gundersen Decl. ¶¶ 5.2, 10.6–10.11. Given the ER discussion regarding such alternatives, see supra note 256 and accompanying text, this claim also fails to demonstrate a genuine dispute with the applicant.

²⁶⁹ The Commission rejected an identical contention in the Davis-Besse proceeding, in which Dr. Compaan also submitted an expert declaration. The Commission held that Dr. Compaan had "not identified a 'solar plus storage' combination that can, as a practical matter, produce baseload power either now, or in time to constitute a reasonable alternative to relicensing Davis-Besse." Davis-Besse, CLI-12-8, 75 NRC at 405. At oral argument, Petitioner attempted to distinguish this case. Tr. at 106–07 (Lodge). Even if it were timely, we see no reason to depart from the Commission's holding in Davis-Besse.

²⁷⁰ Compaan Decl. ¶¶ 16–17.

²⁷¹ See supra note 259 and accompanying text.

²⁷² Compaan Decl. ¶¶ 20–24. In addition, NEPB did not state that the required acreage in Wisconsin does not exist, only that "the land use disturbances [from solar photovoltaic systems] could result in MODERATE to LARGE impacts on wildlife habitats, vegetation, land use, and aesthetics." ER at 7-8. Petitioner did not dispute this analysis.

likelihood of industrial-scale photovoltaic availability during the subsequent license renewal period 2030-2053.”²⁷³ Petitioner misinterprets the Commission’s decision in Seabrook. The Commission stated that its Seabrook “ruling does not exclude the possibility that a contention could show a genuine dispute with respect to a technology that, while not commercially viable at the time of the application, is under development for large-scale use and is ‘likely to’ be available during the period of extended operation.”²⁷⁴ Thus, while a petitioner may proffer “future-oriented” testimony to demonstrate a genuine dispute with respect to commercially available technology, it must also show that the solar plus storage technology “is under development for large-scale use”²⁷⁵ Petitioner does not make this showing, and thus Seabrook does not support its position.

Likewise, Petitioner’s focus on the decreasing cost and low greenhouse gas emissions of the solar plus storage alternative misses the mark.²⁷⁶ NEPB did not conclude the solar plus storage alternative would be prohibitively expensive, only that, due to acreage requirements, it was not a reasonable alternative.²⁷⁷ Nor did it conclude this alternative was unreasonable based on greenhouse gas emissions.²⁷⁸ NEPB concluded solar plus storage was not a reasonable alternative due to acreage requirements and the associated environmental impacts,²⁷⁹ and Petitioner failed to demonstrate a genuine dispute with the applicant on that matter.

²⁷³ Petitioner Reply at 15 (citing Seabrook, CLI-12-5, 75 NRC at 342 n.245).

²⁷⁴ Seabrook, CLI-12-5, 75 NRC at 342 n.245 (citing Carolina Env’tl. Study Group v. U.S., 510 F.2d 796, 800 (D.C. Cir. 1975)) (emphasis added).

²⁷⁵ Id.

²⁷⁶ See Compaan Decl. ¶¶ 27, 31, 35–37; Cooper Decl. at 9–20, 23–24; Tr. at 55–56, 117 (Lodge).

²⁷⁷ ER at 7-8 to -9.

²⁷⁸ Id.

²⁷⁹ Id.

Contention 3 is also inadmissible because it lacks adequate support for the proposition that “the adverse environmental impacts of license renewal are so great that preserving the option of license renewal for energy planning decisionmakers [is] unreasonable.”²⁸⁰ Indeed, Petitioner cites the incorrect legal standards when describing the process for analyzing alternatives, suggesting “[t]here must be [an] examination of every alternative within the nature and scope of the proposed action ‘sufficient to permit a reasoned choice.’”²⁸¹ The NRC’s environmental review does not require a determination of the “best” method for electricity generation, rather the review is limited to the adverse environmental effects of the proposed action, as well as analyses of reasonable alternatives.²⁸² Section 51.95(c)(4) states that only if “the adverse environmental impacts of license renewal are so great” as to warrant depriving energy planners of the option of a facility’s continued operation may the NRC consider denying license renewal altogether.²⁸³ Petitioner made no such showing.²⁸⁴

In sum, Contention 3 is inadmissible because, contrary to 10 C.F.R. § 2.309(f)(1)(v) and (vi), it lacks adequate support and fails to demonstrate a genuine dispute with NEPB’s conclusion in the ER that the solar plus storage alternative is not a reasonable alternative.

²⁸⁰ 10 C.F.R. § 51.95(c)(4).

²⁸¹ Petition at 54 (citing Cal. v. Block, 690 F.2d 753, 761 (9th Cir. 1982); quoting Methow Valley Citizens Council v. Reg’l Forester, 833 F.2d 810, 815 (9th Cir. 1987)).

²⁸² See supra notes 58–63 and accompanying text; see also 61 Fed. Reg. at 28,473 (“[T]he NRC has no regulatory power to ensure that environmentally superior energy alternatives are used in the future.”).

²⁸³ 10 C.F.R. § 51.95(c)(4).

²⁸⁴ Petitioner does address 10 C.F.R. § 51.95(c)(4) in its reply, but concludes, without support, that NEPB’s “ER skirts evidence tending to show that the adverse environmental effects of renewing [Point Beach’s] operating license are ‘so great[, compared with the set of alternatives,] that preserving the option of license renewal for [energy planning] decisionmakers would be unreasonable.’” Petitioner Reply at 19 (quoting 10 C.F.R. § 51.95(c)(4)). We need not address this argument raised for the first time on reply. See supra note 145.

E. Contention 4

i. Background

Contention 4 alleges that “[Point Beach] has an elevated risk of a turbine missile accident owing to the poor alignment of its major buildings and structures.”²⁸⁵ Petitioner contends that Point Beach has “a turbine hall that is dangerously aligned relative to the reactor buildings and control rooms” and that this “design is unsafe, because a turbine failure will send 600 [pound] pieces of shrapnel hurtling at 600 [miles per hour] into the containment, safety-related components, and the control room.”²⁸⁶ Petitioner further asserts that the ER fails to discuss missiles from “steam turbine shafts or blades.”²⁸⁷ Mr. Gundersen “conclude[s] that to reduce the risk of damage to safety-related systems, structures, and components, [Point Beach] should be required to install an energy-absorbing turbine missile shield around its turbine.”²⁸⁸

NEPB argues Contention 4 “is inadmissible because it is outside of the scope of the proceeding and fails to demonstrate any genuine material dispute with the application.”²⁸⁹ Specifically, NEPB asserts that Contention 4 “challenge[s] the existing design of the plant and therefore represent[s] an impermissible challenge to the plant’s CLB.”²⁹⁰ Further, NEPB notes that the turbine blades and shafts mentioned in Contention 4 are active components not subject to aging management review.²⁹¹ Alternatively, NEPB contends that extending the aging management review to active components would constitute an impermissible challenge to

²⁸⁵ Petition at 56.

²⁸⁶ Id. (citing Gundersen Decl. ¶ 7.3.4).

²⁸⁷ Petition at 58.

²⁸⁸ Gundersen Decl. ¶ 7.3.9.

²⁸⁹ NEPB Answer at 50; see id. at 50–53.

²⁹⁰ Id. at 50.

²⁹¹ Id. (citing 1 NRR, NRC, NUREG-2191, Generic Aging Lessons Learned for [SLR] (GALL-SLR) Report, at VIII A-1 (July 2017) (ADAMS Accession No. ML17187A031) [hereinafter NUREG-2191, Vol. 1]).

10 C.F.R. § 54.21(a)(1)(i)–(ii).²⁹² NEPB argues that a review of such active components is beyond the scope of the proceeding since Petitioner did not file a section 2.335 waiver request showing special circumstances.²⁹³

NEPB also contends Petitioner inaccurately portrayed 10 C.F.R. § 54.21(a)(3), by claiming it requires a demonstration that the “effects of aging will be adequately managed so that the intended function(s) will be maintained consistent with the CLB for the period of extended operation,”²⁹⁴ but failed to note that this requirement applies only to passive, not active components.²⁹⁵ Nor, NEPB contends, does Petitioner’s citation to 10 C.F.R. § 54.4(a)(1)(i)–(iii) support Contention 4,²⁹⁶ because 10 C.F.R. § 54.4(a)(1) discusses “[s]afety-related systems, structures, and components,”²⁹⁷ but the turbine is not safety-related, and is otherwise excluded from this review as an active component under 10 C.F.R. § 54.21(a)(1)(i).²⁹⁸ NEPB also asserts that, even if the CLB were subject to challenge in this proceeding, Petitioner failed to speak to any “of the measures in Point Beach’s CLB addressing turbine missile risk”²⁹⁹

Similarly, the NRC Staff opposes admission of Contention 4 on the grounds that it addresses a “current operating issue’ . . . not unique” to the SLR term.³⁰⁰ Thus, the NRC Staff asserts, Contention 4 raises an issue outside the scope of the proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii).

²⁹² Id. at 50–51.

²⁹³ Id. at 51.

²⁹⁴ 10 C.F.R. § 54.21(a)(3); see Petition at 60–61.

²⁹⁵ NEPB Answer at 52 (citing 10 C.F.R. § 54.21(a)(1), (3)).

²⁹⁶ See Petition at 60.

²⁹⁷ 10 C.F.R. § 54.4(a)(1).

²⁹⁸ NEPB Answer at 52–53.

²⁹⁹ Id. at 53.

³⁰⁰ Staff Answer at 42 (quoting Pac. Gas and Elec. Co. (Diablo Canyon Nuclear Power Plant, Units 1 & 2), CLI-15-21, 82 NRC 295, 304 (2015)).

ii. 10 C.F.R. § 2.309(f)(1)(iii), (iv), (vi) – Impermissible Challenge to NRC Rules, Beyond the Scope of this Proceeding, Not Material, and Fails to Demonstrate Genuine Dispute

The scope of license renewal is limited to certain age-related issues,³⁰¹ and Contention 4 raises an issue outside the scope of those age-related issues. Specifically, Petitioner impermissibly challenges the original design of the facility.³⁰² Indeed, Petitioner admits it is challenging “a current operating issue”³⁰³ (i.e., the CLB) and recognizes that the physical alignment of the facility stems from its original construction.³⁰⁴ Contention 4 does not address age-related degradation, nor does it raise an issue unique to the SLR period.³⁰⁵ Petitioner does not attempt to argue the danger is unique to the SLR term, but instead focuses on the present (and past) danger stating that the “[Point Beach] design is unsafe” and has been so since “the late 1960’s when [Point Beach] was constructed.”³⁰⁶ Therefore, Contention 4 raises an impermissible challenge to a “current operating issue” not unique to the SLR period.³⁰⁷

Further, active components are not subject to an aging-management review, as stated in 10 C.F.R. § 54.21(a)(1)(i)–(ii). The allegedly inadequate turbine blades and shafts are active

³⁰¹ See supra notes 49–57 and accompanying text.

³⁰² Petition at 56 (referring to the design of Point Beach as “[h]istorically” being “dangerously aligned” and stating the “design [of Point Beach] is unsafe”).

³⁰³ Petitioner Reply at 22; Tr. at 137–38 (Lodge).

³⁰⁴ See Petition at 56.

³⁰⁵ Petitioner’s assertion that “the turbine shafts in Units 1 and 2 are aging and will continue to do so for a score more years in a subsequent license renewal period” does not raise an admissible age-related issue. Petitioner Reply at 22. An assertion that part of the reactor facility will age during the SLR term is an insufficient basis for an admissible contention since, as common sense dictates, all parts of the reactor necessarily will age during the SLR term. The scope of license renewal, however, is narrower. In this regard, an admissible contention must address an age-related issue reviewed as part of NRC’s license renewal process. See supra notes 49–57 and accompanying text.

³⁰⁶ Petition at 56, 61 (emphasis added); see Gundersen Decl. ¶¶ 6.7, 7.3.1.

³⁰⁷ See Diablo Canyon, CLI-15-21, 82 NRC at 304 (citation omitted).

components—not subject to an aging-management review.³⁰⁸ Petitioner impermissibly challenges 10 C.F.R. § 54.21(a)(1)(i)–(ii).³⁰⁹

Contention 4 constitutes an impermissible challenge to both the CLB and the rule limiting aging management review to passive components, seeks to raise issues outside the scope of this proceeding, is not material to the findings that the NRC Staff must make, and is not supported by any information demonstrating a genuine material dispute, contrary to 10 C.F.R. § 2.309(f)(1)(iii), (iv), and (vi).

IV. ORDER

For the reasons set forth above, we deny Petitioner’s hearing request. Under 10 C.F.R. § 2.311, any appeal to the Commission from this Memorandum and Order must be taken within twenty-five (25) days after service.

It is so ORDERED.

THE ATOMIC SAFETY
AND LICENSING BOARD

/RA/

William J. Froehlich, Chairman
ADMINISTRATIVE JUDGE

/RA/

Dr. Gary S. Arnold
ADMINISTRATIVE JUDGE

/RA/

Nicholas G. Trikouros
ADMINISTRATIVE JUDGE

Rockville, Maryland
July 26, 2021

³⁰⁸ “The steam turbine performs its intended functions with moving parts. Pursuant to [10 C.F.R. §] 54.2(a)(1), therefore, it is not subject to an aging management review (AMR).” NUREG-2191, Vol. 1 at VIII A-1. The turbine system is also not within the scope defined by 10 C.F.R. § 54.4. See SLRA at 2.2-5 tbl.2.2-1. At oral argument, Petitioner conceded that the turbine shields and turbine blades are active components. Tr. at 138 (Lodge).

³⁰⁹ With this explanation, it is apparent Petitioner’s remaining assertions misstate the law and have no relevance to the SLR term. Petition at 58–61.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
NEXTERA ENERGY POINT BEACH, LLC)
)
) Docket Nos. 50-266 and 50-301-SLR
)
(Point Beach Nuclear Plant,)
Units 1 and 2))

CERTIFICATE OF SERVICE

I hereby certify that copies of the **MEMORANDUM AND ORDER (Denying Physicians for Social Responsibility Wisconsin's Request for Hearing)** have been served upon the following persons by Electronic Information Exchange.

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Point Beach Nuclear Plant (Units 1 and 2)
Docket Nos. 50-266 and 50-301-SLR

MEMORANDUM AND ORDER (Denying Physicians for Social Responsibility Wisconsin's Request for Hearing)

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Dated at Rockville, Maryland,
this 26th day of July 2021.

Office of the Secretary of the Commission