

April 19, 2021

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
NextEra Energy Point Beach, LLC	)	Docket Nos. 50-266-SLR
	)	50-301-SLR
(Point Beach Nuclear Plant, Units 1 and 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**

**I. INTRODUCTION**

NextEra Energy Point Beach, LLC (“NextEra” or “NEPB”) hereby answers and opposes the petition for leave to intervene and hearing request by the Physicians for Social Responsibility Wisconsin (“Petitioner”) in the subsequent license renewal proceeding for the Point Beach Nuclear Plant, Units 1 and 2 (“Point Beach” or “PBNP”).<sup>1</sup> The Petition should be denied because Petitioner has not submitted an admissible contention.

The Petition sets forth four proposed contentions, none of which are admissible. Petitioner’s Contention 1, which alleges that the Environmental Report (“ER”) fails to consider alternatives to mitigate aquatic impacts, is inadmissible because it impermissibly challenges NRC rules that require no further analysis if certain determinations under the Clean Water Act are provided, lacks adequate factual and expert support demonstrating that any further mitigation is warranted, and thus fails to demonstrate a genuine dispute with the Application.

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<sup>1</sup> 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 (March 23, 2021) (“Petition”) (NRC ADAMS Accession No. ML21082A530).

Petitioner's Contention 2, which alleges that Point Beach is violating General Design Criterion 14 because the reactor pressure vessels have not been adequately tested, is inadmissible because it impermissibly challenges the Point Beach current licensing basis ("CLB"), impermissibly challenges the Staff's performance of its duties, fails to address or dispute information in the Application addressing reactor vessel integrity, and is unsupported by any information demonstrating a genuine material dispute with the Application.

Contention 3, which alleges that the ER fails to adequately evaluate solar power as an alternative, is inadmissible for failing to demonstrate a genuine dispute with the analysis of solar power as a discrete alternative in the ER, or to show that replacing Point Beach with solar power is a reasonable (practical and commercially viable) alternative. In addition, the argument in Contention 3 that nuclear power is too expensive impermissibly challenges the NRC's rules requiring no economic analysis associated with license renewal applications, fails to raise an issue within the scope of this proceeding, and fails to demonstrate a genuine dispute with the Application.

Petitioner's final contention, Contention 4, which alleges that Point Beach's design creates an elevated risk of turbine missiles, is inadmissible because it challenges the CLB, relates to active components outside of the scope of aging management review for license renewal, and fails to demonstrate any genuine material dispute with the application.

## **II. BACKGROUND**

By application dated November 16, 2020, NextEra requested the subsequent (*i.e.*, second) license renewal ("SLR") of Renewed Facility Operating Licenses Nos. DPR-24 and DPR-27 for

the Point Beach Nuclear Plant, Units 1 and 2.<sup>2</sup> On January 22, 2021, the Nuclear Regulatory Commission (“NRC” or “Commission”) published a notice of opportunity to request a hearing and to petition for leave to intervene (“Notice”).<sup>3</sup> The Notice permitted any person whose interest may be affected to file a request for hearing and petition for leave to intervene within 60 days of the Notice.<sup>4</sup>

On March 23, 2021, Petitioner filed its Petition seeking to intervene in this SLR proceeding and requesting a hearing. The Petition is accompanied by a Declaration of Arnold Gundersen (“Gundersen Decl.”), a Declaration of Alvin Compaan (“Compaan Decl.”), and a Declaration of Mark Cooper (“Cooper Decl.”), as well as additional declarations addressing standing.

### **III. PETITIONER’S CONTENTIONS DO NOT MEET THE COMMISSION’S STANDARDS FOR ADMISSIBILITY**

To be admitted to a proceeding, Petitioner must demonstrate standing and plead at least one admissible contention.<sup>5</sup> NextEra does not challenge Petitioner’s standing but submits that Petitioner has proffered no admissible contentions. Therefore, the Petition must be denied.

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<sup>2</sup> The Point Beach application for SLR is available in the NRC’s Agency-wide Documents Access and Management System (“ADAMS”) at Accession No. ML20329A292, *available at* <https://www.nrc.gov/reactors/operating/licensing/renewal/applications/point-beach-subsequent.html#info>. It includes several documents referred to collectively herein as the “Application.” The portion of the Application providing the general and technical information required by 10 C.F.R. §§ 54.19 and 54.21, including the description of the aging management programs, is available at ADAMS Accession No. ML20329A247, and hereinafter cited as the “SLRA.” The technical reference documents included in the Application and supporting the SLRA are available at ADAMS Accession No. ML20329A264, and hereinafter cited as the “Reference Documents.” The environmental report is available at ADAMS Accession No. ML20329A248, and hereinafter cited as the “ER.”

<sup>3</sup> 86 Fed. Reg. 6,684 (Jan. 22, 2021).

<sup>4</sup> *Id.* at 6,685.

<sup>5</sup> 10 C.F.R. § 2.309(a).

## A. Standards for Contention Admissibility

To intervene in a license renewal proceeding, a petitioner must set forth an admissible contention that fulfills the requirements set forth in 10 C.F.R. § 2.309(f)(1)(i)-(vi). 10 C.F.R. § 2.309(f)(1) requires that contentions must be “set forth with particularity”<sup>6</sup> and that each contention must:

- (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 is within the scope of the proceeding;
- (iv) Demonstrate that the issue raised 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, including references to the specific sources and documents that support the petitioner’s position and upon which the petitioner intends to rely; and
- (vi) Provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact.

The Commission’s contention admissibility requirements are “strict by design.”<sup>7</sup> They seek “to ensure that NRC hearings ‘serve the purpose for which they are intended: to adjudicate genuine, substantive safety and environmental issues placed in contention by qualified intervenors.’”<sup>8</sup> The requirements thus reflect a “deliberate effort to prevent the major

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<sup>6</sup> 10 C.F.R. § 2.309(f)(1).

<sup>7</sup> *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 & 3), CLI-01-24, 54 N.R.C. 349, 358 (2001).

<sup>8</sup> *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Unit 2), CLI-03-14, 58 N.R.C. 207, 213 (2003) (quoting *Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, & 3), CLI-99-11, 49 N.R.C. 328, 334 (1999) (internal citation omitted)).

adjudicatory delays caused in the past by ill-defined or poorly-supported contentions that were admitted for hearing although ‘based on little more than speculation.’”<sup>9</sup>

These standards are enforced rigorously. “If any one . . . is not met, a contention must be rejected.”<sup>10</sup> Further, the petitioner alone bears the burden to meet the standards of contention admissibility.<sup>11</sup> “A licensing board . . . may not supply information that is lacking in a contention that otherwise would be inadmissible,”<sup>12</sup> or “substitute its own support for a contention or make arguments for the litigants that were never made by the litigants themselves.”<sup>13</sup>

To warrant an adjudicatory hearing, proposed contentions thus must have “some reasonably specific factual or legal basis.”<sup>14</sup> Admissible contentions “must explain, with specificity, particular safety or legal reasons requiring rejection of the contested [application].”<sup>15</sup> An applicant is “entitled to be told at the outset, *with clarity and precision*, what arguments are being advanced.”<sup>16</sup>

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<sup>9</sup> *PPL Susquehanna, LLC* (Susquehanna Steam Elec. Station, Units 1 & 2), CLI-15-8, 81 N.R.C. 500, 504 (quoting *Oconee*, CLI-99-11, 49 N.R.C. at 334).

<sup>10</sup> *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 N.R.C. 149, 155 (1991) (citation omitted); *USEC, Inc.* (American Centrifuge Plant), CLI-06-9, 63 N.R.C. 433, 437 (2006) (“These requirements are deliberately strict, and we will reject any contention that does not satisfy the requirements.” (footnotes omitted)).

<sup>11</sup> *See Entergy Nuclear Operations, Inc.* (Palisades Nuclear Plant), CLI-15-23, 82 N.R.C. 321, 325, 329 (2015) (“[I]t is Petitioners’ responsibility . . . to formulate contentions and to provide ‘the necessary information to satisfy the basis requirement’ for admission.”) (internal citation omitted).

<sup>12</sup> *DTE Elec. Co.* (Fermi Nuclear Power Plant, Unit 2), CLI-15-18, 82 N.R.C. 135, 141 (2015); *see also id.* at 149 (“[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).

<sup>13</sup> *Id.* at 149 (citation omitted).

<sup>14</sup> *Id.* (quoting *Millstone*, CLI-03-14, 58 N.R.C. at 213).

<sup>15</sup> *Millstone*, CLI-01-24, 54 N.R.C. at 359-60.

<sup>16</sup> *Kansas Gas & Elec. Co.* (Wolf Creek Generating Station, Unit No. 1), ALAB-279, 1 N.R.C. 559, 576 (1975) (emphasis added).

Under 10 C.F.R. § 2.309(f)(1), a petitioner must explain the basis for each proffered contention by stating alleged facts or expert opinions that support the petitioner’s position and on which the petitioner intends to rely in litigating the contention at hearing.<sup>17</sup> To be admissible, the issue raised must fall within the scope of the proceeding and be material to the findings that the NRC must make with respect to the application.<sup>18</sup> The Commission has defined a “material” issue as meaning one where “resolution of the dispute *would make a difference in the outcome of the licensing proceeding.*”<sup>19</sup> Contentions that challenge NRC regulations,<sup>20</sup> seek to impose requirements stricter than those imposed by the agency,<sup>21</sup> or challenge the manner in which the NRC Staff performs its duties<sup>22</sup> are outside the scope of NRC adjudicatory proceedings.

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<sup>17</sup> 10 C.F.R. § 2.309(f)(1)(ii), (v).

<sup>18</sup> 10 C.F.R. § 2.309(f)(1)(iii)-(iv); *PPL Susquehanna, LLC* (Susquehanna Steam Elec. Station, Units 1 & 2), CLI-17-4, 85 N.R.C. 59, 74 (2017).

<sup>19</sup> Final Rule, “Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process,” 54 Fed. Reg. 33,168, 33,172 (Aug. 11, 1989) (emphasis added).

<sup>20</sup> 10 C.F.R. § 2.335(a).

<sup>21</sup> See *Entergy Nuclear Vt. Yankee, LLC* (Vt. Yankee Nuclear Power Station), LBP-15-4, 81 N.R.C. 156, 167 (2015); *NextEra Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-5, 75 N.R.C. 301, 315 (2012); *GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 N.R.C. 193, 206 (2000); *Curators of the Univ. of Missouri* (TRUMP-S Project), CLI-95-1, 41 N.R.C. 71, 170 (1995).

<sup>22</sup> See, e.g., *Dominion Nuclear Connecticut* (Millstone Nuclear Power Station, Units 2 and 3), CLI-05-24, 62 N.R.C. 551, 570 (2005) (Licensing Boards lack the authority to supervise the NRC Staff in the performance of its non-adjudicatory duties); *Carolina Power and Light Co.* (Shearon Harris Nuclear Power Plant, Units 1, 2, 3, and 4), CLI-80-12, 11 N.R.C. 514, 516 (1980) (“Boards do not direct staff in performance of their administrative duties.”). “[I]t is the license application, not the NRC Staff review, that is at issue in our adjudications.” *Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), CLI-01-17, 54 N.R.C. 3, 25 (2001) (quoting *Balt. Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 & 2), CLI-98-25, 48 N.R.C. 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)). Contentions which constitute a general attack upon the methods used by the NRC Staff to ensure compliance with regulations are not appropriate for resolution in a particular licensing proceeding. *Commonwealth Edison Co.* (Byron Nuclear Power Station, Units 1 & 2), LBP-80-30, 12 N.R.C. 683, 690 (1980) (“We decline to convert this proceeding into a generalized investigation of the Staff’s ability to regulate effectively the nuclear industry.”).

A contention also must provide sufficient information to show a genuine dispute with the applicant on a material issue of law or fact.<sup>23</sup> The contention must refer to the “specific portions of the application . . . that the petitioner disputes,” along with the “supporting reasons for each dispute; or, if the petitioner believes that an application fails altogether to contain information required by law, the petitioner must identify each failure, and provide supporting reasons for the petitioner’s belief.”<sup>24</sup> A contention, therefore, is not to be admitted “where an intervenor has no facts to support its position,<sup>25</sup> or has “what amounts only to generalized suspicions.”<sup>26</sup> Further, “[b]are assertions and speculation, even by an expert, are insufficient to trigger a full adjudicatory proceeding.”<sup>27</sup> “[A]n 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.”<sup>28</sup>

## **B. The Scope of License Renewal**

10 C.F.R. Part 54 governs the public health and safety matters that must be considered in a license renewal proceeding. The Commission has specifically limited this safety review to the matters specified in 10 C.F.R. §§ 54.21 and 54.29(a):<sup>29</sup> the management of aging of certain

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<sup>23</sup> 10 C.F.R. § 2.309(f)(1)(vi); *Susquehanna*, CLI-17-4, 85 N.R.C. at 74.

<sup>24</sup> *Susquehanna*, CLI-17-4, 85 N.R.C. at 74 (citing 10 C.F.R. § 2.309(f)(1)(vi)).

<sup>25</sup> 54 Fed. Reg. at 33,171.

<sup>26</sup> *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 N.R.C. 419, 424 (2003).

<sup>27</sup> *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-15, 75 N.R.C. 704, 714 (2012) (citation omitted).

<sup>28</sup> *Palisades*, CLI-15-23, 82 N.R.C. at 328 (quoting *USEC, Inc.* (Am. Centrifuge Plant), CLI-06-10, 63 N.R.C. 451, 472 (2006)). See also *Power Auth. of N.Y.* (James A. Fitzpatrick Nuclear Power Plant and Indian Point, Unit 3), CLI-00-22, 52 N.R.C. 266, 315 (2000) (“Unsupported hypothetical theories or projections, even in the form of an affidavit, will not support invocation of the hearing process.”).

<sup>29</sup> The Commission has stated that the scope of review under its rules determines the scope of admissible issues in a license renewal hearing. Final Rule, “Nuclear Power Plant License Renewal; Revisions,” 60 Fed. Reg. 22,461, 22,482 n.2 (May 8, 1995). “Adjudicatory hearings in individual license renewal proceedings will share the same scope of issues as our NRC Staff review, for our hearing process (like

systems, structures, and components, and the review of time-limited aging evaluations (“TLAA”).<sup>30</sup>

The rules in 10 C.F.R. Part 54 are intended to make license renewal a stable and predictable process.<sup>31</sup> As the Commission has explained, “[w]e sought to develop a process that would be both efficient, avoiding duplicative assessments where possible, and effective, allowing the NRC Staff to focus its resources on the most significant safety concerns at issue during the renewal term.”<sup>32</sup>

To require a full reassessment of [safety issues that are routinely monitored and assessed by ongoing agency oversight and agency-mandated licensee programs] at the license renewal stage, the Commission found, would be both unnecessary and wasteful. 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. License renewal reviews are not intended to “duplicate the Commission’s ongoing reviews of operating reactors.”<sup>33</sup>

To this end, the Commission has confined 10 C.F.R. Part 54 to those issues uniquely determined to be relevant to the public health and safety during the period of extended operation, leaving all other safety issues to be addressed by the existing regulatory processes.<sup>34</sup> This scope is based on the principle established in the license renewal rulemaking proceedings that, with the exception of the detrimental effects of aging and a few other issues related to safety only during

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our Staff’s review) necessarily examines only the questions our safety rules make pertinent.” *Turkey Point*, CLI-01-17, 54 N.R.C. at 10.

<sup>30</sup> See *Turkey Point*, CLI-01-17, 54 N.R.C. at 7-8; *Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-02-26, 56 N.R.C. 358, 363 (2002). See also *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-04-36, 60 N.R.C. 631, 637 (2004) (the potential detrimental effects of aging is essentially the issue that defines the scope of license renewal proceedings).

<sup>31</sup> 60 Fed. Reg. at 22,461, 22,462, 22,463, 22,485.

<sup>32</sup> *Turkey Point*, CLI-01-17, 54 N.R.C. at 7.

<sup>33</sup> *Id.* (citation omitted).

<sup>34</sup> 60 Fed. Reg. at 22,463.

the period of extended operation, the existing regulatory processes are adequate to ensure that the licensing bases of currently operating plants provide and maintain an adequate level of safety.<sup>35</sup> Consequently, license renewal does not focus on operational issues, because these issues “are effectively addressed and maintained by ongoing agency oversight, review, and enforcement.”<sup>36</sup> “Issues . . . which already are the focus of ongoing regulatory processes . . . do not come within the NRC's safety review at the license renewal stage.”<sup>37</sup>

For the same reason, the adequacy of a plant’s current licensing basis is not within the scope of the license renewal review.<sup>38</sup>

In establishing its license renewal process, the Commission did not believe it necessary or appropriate to throw open the full gamut of provisions in a plant’s current licensing basis to re-analysis during the license renewal review. The current licensing basis represents an “evolving set of requirements and commitments for a specific plant that are modified as necessary over the life of a plant to ensure continuation of an adequate level of safety.” 60 Fed. Reg. at 22,473. It is effectively addressed and maintained by ongoing agency oversight, review, and enforcement.

Just as these oversight programs help assure compliance with the current licensing basis during the original license term, they likewise can reasonably be expected to fulfill this function during the renewal term. In short, the regulatory process commonly is “the means by which the Commission continually assesses the adequacy of and compliance with” the current licensing basis. 60 Fed. Reg. at 22,473.<sup>39</sup>

Further, the Commission has limited the scope of the aging management reviews required by 10 C.F.R. Part 54 to those structures and components defined in 10 C.F.R. § 54.4 that

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<sup>35</sup> 60 Fed. Reg. at 22,464.

<sup>36</sup> *Millstone*, CLI-04-36, 60 N.R.C. at 638 (footnote omitted).

<sup>37</sup> *Turkey Point*, CLI-01-17, 54 N.R.C. at 10 (*quoting* 56 Fed. Reg. 64,943, 64,945 (Dec. 13, 1991)).

<sup>38</sup> *Id.* at 23; *see also* 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.”).

<sup>39</sup> *Turkey Point*, CLI-01-17, 54 N.R.C. at 9.

“perform an intended function, as described in § 54.4, without moving parts or without a change in configuration or properties” and that “are not subject to replacement based on a qualified life or specified time period.”<sup>40</sup> In other words, “[o]nly passive, long-lived structures and components are subject to an aging management review for license renewal.”<sup>41</sup> “As the Commission explained in eliminating active components from review,

On the basis of consideration of the effectiveness of existing programs which monitor the performance and condition of systems, structures, and components that perform active functions, the Commission concludes that structures and components associated only with active functions can be generically excluded from a license renewal aging management review. Functional degradation resulting from the effects of aging on active functions is more readily determinable, and existing programs and requirements are expected to directly detect the effects of aging. Considerable experience has demonstrated the effectiveness of these programs and the performance-based requirements of the maintenance rule delineated in § 50.65 are expected to further enhance existing maintenance programs.<sup>42</sup>

Like the technical requirements in Part 54, the NRC rules governing environmental matters in license renewal proceedings (contained in 10 C.F.R. §§ 51.53(c), 51.71(d), 51.95(c), and Appendix B to Part 51) are also intended to produce a more focused and, therefore, more effective review.<sup>43</sup> To accomplish this objective, the NRC prepared a Generic Environmental Impact Statement for License Renewal of Nuclear Plants (“GEIS”), NUREG-1437, and made generic findings in the GEIS, which are codified in Appendix B to 10 C.F.R. Part 51.<sup>44</sup>

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<sup>40</sup> 10 C.F.R. § 54.21(a)(1)(i)-(ii).

<sup>41</sup> 60 Fed. Reg. at 22,463.

<sup>42</sup> *Id.* at 22,471-72. For a similar discussion of the Commission’s rationale in eliminating periodically replaced components from review, *see id.* at 22,478.

<sup>43</sup> Final Rule, “Environmental Review for Renewal of Nuclear Power Plant Operating Licenses,” 61 Fed. Reg. 28,467 (June 5, 1996); *Turkey Point*, CLI-01-17, 54 N.R.C. at 11.

<sup>44</sup> The GEIS was updated in 2013, and the Commission amended §§ 51.53(c), 51.71(d), 51.95(c), and Appendix B to Part 51 to reference the revised GEIS and incorporate certain changes to its generic findings. *See* NUREG-1437, “Generic Environmental Impact Statement for License Renewal of Nuclear Plants,” Rev. 1 (June 2013) (ADAMS Accession Nos. ML13106A241, ML13106A242, and

10 C.F.R. § 51.53(c) then defines the unresolved (“Category 2”) environmental issues that an applicant must address in its environmental report (“ER”). It also requires the applicant’s ER to discuss the environmental impacts of alternatives and any other matters described in § 51.45, but provides that the ER “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 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” and “need not discuss other issues not related to the environmental effects of the proposed action and the alternatives.”<sup>45</sup> As the Commission explained,

The conditional cost-benefit balance has been removed from the GEIS and the rule. In place of the cost-benefit balancing, the NRC will use a new standard that will require a determination of whether or not the adverse environmental impacts of license renewal are so great, compared with the set of alternatives, that preserving the option of license renewal for future decisionmakers would be unreasonable. The final amendment also eliminates NRC’s consideration of the need for generating capacity and the preparation of power demand forecasts for license renewal applications. The NRC acknowledges the primacy of State regulators and utility officials in defining energy requirements and determining the energy mix within their jurisdictions. Therefore, the issue of need for power and generating capacity will no longer be considered in NRC’s license renewal decisions. The final GEIS has been revised to include an explicit statement of purpose and need for license renewal consistent with this acknowledgment. Lastly, the final rule has eliminated the consideration of utility economics from license renewal reviews under the National Environmental Policy Act (NEPA) except when such 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.<sup>46</sup>

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ML13106A244). *See also* Final Rule, “Revisions to Environmental Review for Renewal of Nuclear Power Plant Operating Licenses,” 78 Fed. Reg. 37,281 (June 20, 2013).

<sup>45</sup> 10 C.F.R. § 51.53(c)(2). 10 C.F.R. § 51.45(c), referenced in 10 C.F.R. 51.53(c)(2), and 10 C.F.R. §§ 51.71(d) and 51.95(c) governing the NRC Staff draft and final supplemental environmental impact statements, contain the same limitations.

<sup>46</sup> 61 Fed. Reg. at 28,468-69.

### C. Petitioner's Contentions Are Inadmissible

#### 1. Contention 1 Is Inadmissible Because It Impermissibly Challenges the NRC's Rules, Lacks Adequate Support, and Fails to Demonstrate Any Genuine Material Dispute with the Application

Contention 1 – which alleges that the 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”<sup>47</sup> – is inadmissible because it impermissibly challenges NRC rules. It is also inadmissible because it 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. The few paragraphs pertaining to this contention is Gundersen’s declaration (who has no apparent expertise with the assessment of aquatic impacts) provide only vague and unsupported generalizations and rhetoric (*e.g.*, “PB is a superpredator”<sup>48</sup>). Contention 1 thus fails to demonstrate a genuine dispute with the Application.

#### a. Contention 1 Impermissibly Challenges 10 C.F.R. § 51.53(c)(3)(ii)(B)

Contention 1 represents an impermissible challenge to 10 C.F.R. § 51.53(c)(3)(ii)(B),<sup>49</sup> which only requires an assessment of entrainment, impingement, and thermal impacts if the

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<sup>47</sup> Petition at 17.

<sup>48</sup> See Gundersen Decl., ¶¶ 9.3, 9.11.

<sup>49</sup> 10 C.F.R. § 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.

applicant cannot provide a current determination under Section 316(b) of the Clean Water Act,<sup>50</sup> and, if necessary, a variance under Section 316(a) of that Act.<sup>51</sup> NextEra’s ER provides both a 316(b) determination and a 316(a) determination.

Section 1.3 of the current National Pollution Discharge Elimination System (“NPDES”)<sup>52</sup> permit for Point Beach, included as Appendix B to the ER, states that “[t]he cooling water intake, as described above in Subsection 1.2, represents interim BTA [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 Clean Water Act.”<sup>53</sup> While this is an interim determination, it nevertheless represents the current determination, thus satisfying 10 C.F.R. § 51.53(c)(3)(ii)(B) and obviating any further assessment of the entrainment and impingement impacts of the intake system.<sup>54</sup>

Section 8 of the Fact Sheet accompanying the NPDES permit identifies Attachment B as providing the “Department Determination of Compliance with § 316(a) of the Clean Water Act.”<sup>55</sup> That determination by the State NPDES-permitting agency, the Wisconsin Department

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<sup>50</sup> 33 U.S.C. § 1326(b). Section 316(b) requires EPA to establish standards for cooling water intake structures that reflect the “best technology available for minimizing adverse environmental impact” (*i.e.*, entrainment and impingement).

<sup>51</sup> 33 U.S.C. § 1326(a). Section 316(a) authorizes an NPDES permitting agency to establish an alternative thermal effluent limitation (in lieu of limits or standards that might otherwise apply) upon a determination that the alternative thermal effluent limitation will assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on that body of water.

<sup>52</sup> In Wisconsin, where such permits are issued by the State, they are referred to as WPDES permits.

<sup>53</sup> WPDES Permit No. WI-0000957-08-0 (July 1, 2016) at 1 (ER App. B at pdf page 566). The NPDES permit explains that this is an interim BTA determination because new EPA standards are not applicable until the next permit reissuance. *Id.* NextEra applied for renewal of the NPDES Permit in December 2020.

<sup>54</sup> That an NPDES permit will expire (requiring reissuance and new findings) in the future does not affect compliance with 10 C.F.R. § 51.53(c)(3)(ii)(B). *See Entergy Nuclear Vermont Yankee, LLC* (Vermont Yankee Nuclear Power Station), CLI-07-16, 65 N.R.C. 371, 383 (2007).

<sup>55</sup> WPDES Permit WI-0000957-08-0, Fact Sheet at 8 (ER App. B at pdf page 637). In *Vermont Yankee*, the Commission recognized that the determination in a Fact Sheet constituted the state’s 316(a)

of Natural Resource (“WDNR”), concludes: “the Department agrees 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.”<sup>56</sup>

Consequently, no further assessment of thermal impacts is required by 10 C.F.R.

§ 51.53(c)(3)(ii)(B).

As the Commission has explained in rejecting a similar contention seeking further assessment of thermal impacts beyond an existing 316(a) variance in the Vermont Yankee license renewal proceeding, 10 C.F.R. § 51.53(c)(3)(ii)(B) implements the statutory limitations in Section 511(c)(2)<sup>57</sup> of the Clean Water Act.<sup>58</sup> As the Commission held, Section 511 “precludes us from either second-guessing the conclusions in NPDES permits,” and indeed was specifically intended to deprive the agency of such authority.<sup>59</sup> Consequently, it is the permitting agency that “determines what cooling system a nuclear power facility may use.”<sup>60</sup>

In *Vermont Yankee*, the Commission further noted,

Given this statutory limitation, it is questionable whether we have the authority to consider even the environmental impacts of such permits. *See*

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determination based on the clear language of that determination. *Vermont Yankee*, CLI-07-16, 65 N.R.C. at 386.

<sup>56</sup> WPDES Permit WI-0000957-08-0, Fact Sheet, Attachment B, “Approval of the alternative effluent temperature limit for the Point Beach Nuclear Plant (WI-0000957),” at the third unnumbered page (ER App. B at pdf page 641) (hereinafter “PBNP 316(a) Determination”).

<sup>57</sup> 33 U.S.C. § 1371(c)(2). Section 511(c)(2) provides:

Nothing in the National Environmental Policy Act of 1969 (83 Stat. 852) shall be deemed to –

- (A) authorize any Federal agency authorized to license or permit the conduct of any activity which may result in the discharge of a pollutant into the navigable waters to review any effluent limitation or other requirement established pursuant to this chapter or the adequacy of any certification under section 1341 of this title; or
- (B) authorize any such agency to impose, as a condition precedent to the issuance of any license or permit, any effluent limitation other than any such limitation established pursuant to this chapter.

<sup>58</sup> *Vermont Yankee*, CLI-07-16, 65 N.R.C. at 377.

<sup>59</sup> *Id.*

<sup>60</sup> *Id.* at 389.

*generally Department of Transportation v. Public Citizen*, 541 U.S. 752, 754 (2004) (Because the Federal Motor Carrier Safety Administration “has no ability to prevent such cross-border operations, it lacks the power to act on whatever information might be contained in an EIS and could not act on whatever input the public could provide”).<sup>61</sup>

This observation is pertinent. If the Commission cannot even consider the impacts of the NPDES-permitted intake and cooling system, it would be equally incapable of evaluating alternatives to those systems, and any such evaluation would serve no purpose.

b. Contention 1 Is Insufficiently Supported and Fails to Demonstrate a Genuine Material Dispute with the Application

Even if Contention 1 were not barred (which it is), it should be rejected for being insufficiently supported and failing to demonstrate a genuine material dispute with the Application. As a threshold matter, Petitioner does not even address the section of the ER explaining why further mitigation of entrainment and impingement impacts is unwarranted. In this regard, the ER states:

Ongoing studies performed at PBN will ensure that PBN continues to utilize the best technology available to minimize entrainment and impingement to the fullest extent practicable to maintain compliance with the WPDES permit. NEPB concludes that impacts from impingement and entrainment of aquatic organisms during the proposed operating term would be SMALL. Adherence to the 316(b) rule (79 FR 48300) and Wisconsin legislation (Ch. NR 111), combined with continued compliance to permit regulation with BTA and ongoing studies to identify any potential concerns, will minimize the already existing SMALL impacts.<sup>62</sup>

Because Petitioner neither addresses nor disputes this explanation, it fails to demonstrate any genuine dispute with the Application.

Petitioner also fails to provide information supporting the claim that further mitigation should be required. The gravamen of Contention 1 appears to be that the ER “fails to consider

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<sup>61</sup> *Id.* at 377 n.77.

<sup>62</sup> ER at 4-24.

replacement of the once-through cooling system with cooling towers as a reasonable alternative. . . .”<sup>63</sup> NEPA only requires consideration of reasonable and feasible (technically and economically practical) alternatives to the proposed action,<sup>64</sup> and it is Petitioner’s obligation to show that its proposed alternative is reasonable.<sup>65</sup> Neither the Petition nor Gundersen’s declaration provides information indicating that retrofitting the plant with cooling towers is a reasonable alternative to mitigate environmental impacts.

The Petition and Gundersen point to three reactors (Indian Point Units 2 and 3, and Oyster Creek) where State permitting agencies determined that extended operation would require conversion to closed cycle cooling.<sup>66</sup> As Gundersen acknowledges, the owners of all three reactors chose instead to shut those plants down.<sup>67</sup> Thus, Petitioners own expert declaration demonstrates that cooling towers are not an economically viable alternative and so cannot be considered as a reasonable alternative.<sup>68</sup> Indeed, in the Indian Point proceeding, the direct

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<sup>63</sup> Petition at 18.

<sup>64</sup> *Beyond Nuclear v. NRC*, 704 F.3d 12, 19 (1st Cir. 2013) (citing *Natural Resources Defense Council, Inc. v. Morton*, 458 F.2d 827, 837 (D.C. Cir. 1972); *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 551 (1978)).

<sup>65</sup> *Interim Storage Partners, LLC* (WCS Consolidated Interim Storage Facility), CLI-20-14, 91 N.R.C. \_\_ (2020) (slip op. at 30-31) (“Petitioners have not shown that their proposed alternatives are reasonable. . . . [I]t is the petitioner’s burden to explain why a contention should be admitted.”).

<sup>66</sup> Petition at 26-27; Gundersen Decl., ¶¶ 9.5 – 9.7.

<sup>67</sup> Gundersen Decl., ¶ 9.5.

<sup>68</sup> Petitioner also refers to the conversion of Palisades to closed cycle cooling. Petition at 26. As the document cited by Petitioner (*id.* n.65) shows, this conversion occurred in 1974, very shortly after Palisades commenced operation, and was performed by Consumers Power Company. U.S. EPA, *Technical Development Document for the Proposed Section 316(b) Phase II Existing Facilities Rule at 4-3* (April 2002), available at <https://nepis.epa.gov/Exe/ZyPDF.cgi/20002S6Z.PDF?Dockey=20002S6Z.PDF>. As Consumers was a regulated utility capable of recovering its costs through rates, its ability to convert Palisades to closed cycle cooling shortly after commencing commercial operation provides no indication that such a conversion is commercially viable for a merchant generator.

In addition, Petitioner observes that the alternative energy sources analyzed in the ER assume deployment of cooling towers. Petition at 27. New units, however, are subject to different 316(b) rules that generally require closed cycle cooling. See 40 C.F.R. § 125.84. Further, construction of

capital cost of conversion to closed cycle cooling was estimated to be \$612,400,000 (in 2003 dollars), without any level of contingency.<sup>69</sup> Neither the Petition nor Gundersen’s declaration provide any indication that such an alternative at Point Beach would be commercially viable.

In the same vein, neither the Petition nor Gundersen’s declaration provide any information indicating that heat, entrainment, and impingement are sufficiently significant to warrant considering such an extensive and expensive retrofit. Where license renewal impacts are expected to be “small,” the NRC’s lowest impact category, the duty to analyze mitigation measures also is commensurately small.<sup>70</sup> Here, Petitioner simply reproduces data from the ER without providing any explanation, expert opinion,<sup>71</sup> or other reference or source showing that the number of aquatic organisms entrained, impinged, or affected by thermal discharges represents a significant environment impact. For example, repeating information provided in the

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new units with cooling towers does not involve redesigning and retrofitting the circulating water system and condensers of an existing plant.

<sup>69</sup> Applicant’s Environmental Report Operating License Renewal Stage Indian Point Energy Center (ADAMS Accession No. ML071210530) at 8-6.

<sup>70</sup> *See Entergy Nuclear Operations, Inc.* (Indian Point Nuclear Generating Units 2 and 3), CLI-16-7, 83 N.R.C. 293, 323 n.156 (2016) (“Under basic NEPA principles, it is reasonable to tailor the degree of mitigation analyses to the significance of the impact to be mitigated.”).

<sup>71</sup> Gundersen makes no claims regarding the significance of the number of organisms impacted by Point Beach’s once-through cooling system. Instead, the few assertions that he makes relating to aquatic impacts at Point Beach are little more than disparaging rhetoric and bombast. Gundersen says: “Hundreds of millions of gallons of cold lake water containing fish, millions of fish larva, and other aquatic organisms are removed from the lake, heated by 30 degrees in the condenser, and killed each day; hence PB is a superpredator.” Gundersen Decl., ¶ 9.11. He asserts vaguely that the “environmental damage caused by the waste heat from Point Beach to the Lake Michigan ecosystem is staggering” (*id.*, ¶ 9.3), but provides no specific information or explanation supporting his allegations. These unsupported claims do not show that any specific species is being significantly impacted and provide no meaningful analysis or support. Such “bare assertions” and conclusions “without providing a reasoned basis or explanation” are inadequate.” *See supra* notes 27 & 28. Gundersen also says, “abnormally hot chemically treated water is discharged back into the lake every day, allowing non-native species that thrive on warmer water to invade Point Beach environs and multiply in Lake Michigan.” Gundersen Decl., ¶ 9.12. Again, this pronouncement includes no meaningful analysis or support. Gundersen does not identify any invasive species that is being promoted by Point Beach’s thermal discharge, or provide any information demonstrating a significant adverse impact on native species.

ER, the Petition alleges that in a 2005-2006 impingement study, 1,600,000 fish and crayfish were collected, weighing approximately 6,134 kilograms.<sup>72</sup> Petitioner provides no information to put this in perspective. Petitioner provides no information indicating that these facts represent a significant environmental impact warranting converting the plant to closed cycle cooling (or that conversion to closed cycle cooling would have less of an overall environmental impact). The ER indicates 99.1 percent of the total impingement and almost 93 percent of the biomass were alewife,<sup>73</sup> a non-native species.<sup>74</sup> Petitioner ignores this information in the ER and provides no information showing that entrainment or impingement of alewife is having any deleterious effect on Lake Michigan or the Point Beach environs.

Instead, Petitioner merely claims, without any expert support, that it is a “fiction” and “absurd” to view the destruction of 6,134 kilograms of fish biota as a small impact. Petitioner refers to a newspaper article stating that “the fish killed at Point Beach in 2011 were calculated to reduce the yield of Lake Michigan’s fisheries by an estimated 10,625 pounds a year, or about 4.5 percent of the annual commercial fishing catch by weight.”<sup>75</sup> The only “fiction” here is Petitioner’s reliance on a hearsay newspaper article, rather than the reports (available in ADAMS<sup>76</sup>), which the newspaper article misinterprets. Those reports show that 10,625 pounds a

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<sup>72</sup> Petition at 22 (citing ER at 3-129).

<sup>73</sup> ER at 3-129, 4-22.

<sup>74</sup> ER at 3-102.

<sup>75</sup> Petition at 28 & n.73.

<sup>76</sup> Point Beach Units 1 and 2, License Amendment Request 261, Extended Power Uprate, Response to Request for Additional Information (May 13, 2010) (ADAMS Accession No. ML101340103) (hereinafter “PBNP EPU RAI Response”), Attachment 2, provided to the NRC a copy of NEPB Letter to WDNR, WPDES Permit Renewal Application – Supplemental Documentation (May 8, 2009). The supplemental documentation provided in this letter included:

Supplement to §283.31(6) Report, WPDES Permit Number WI-0000957-07, Appendix A, Estimated of Potential Lost Fishery Yield Due to Impingement of Alewife at Point Beach Nuclear Power Plant, Prepared by D. Heimbuch, AKRF Inc. (Mar. 2009) (“AKRF Estimate”), and

year is the estimated lost yield to the commercial fishery and sports fishery combined.<sup>77</sup> The estimated lost yield to the commercial fishery alone is only 241 pounds.<sup>78</sup> The reports further explain:

Approximately 98% of fishery harvest from Lake Michigan in 2006 was conducted by sport fisheries, while about 2% was commercial fishing. Total fish harvest was estimated as 10,262,513 pounds. Accounting for alewife biomass lost to impingement *as the sole prey of this predator assemblage* and estimating potential fishery losses relating to that loss produced an estimate of 10,625 pounds of potential lost yield to *the combination of commercial and recreational fisheries*. In other words, fishery harvest in Lake Michigan would have declined *by about 0.1%* as a result of PBNP's operations during 2006.<sup>79</sup>

The estimated impact on just the commercial fishery is even smaller. The commercial fishery in 2006 was reported to be 232,552 pounds,<sup>80</sup> so a 241-pound reduction in commercial fishery yield would amount to only a 0.001 percent decline in the yield to the commercial fishery, which is more than three orders of magnitude less than the 4.5 percent impact asserted by Petitioner.<sup>81</sup> Further, this estimate is conservative because it assumes that alewife is the sole forage fish. “[A]n intervention petitioner has an ironclad obligation to examine the publicly available documentary material pertaining to the facility in question with sufficient care to enable [the

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Supplement to §283.31(6) Report, WPDES Permit Number WI-0000957-07, Appendix B, Assessment of Alewife Impingement Impact at Point Beach Nuclear Plant (PBNP) on Lake Michigan Fisheries, Prepared by J. Kitchell (Mar. 2009) (“Kitchell Assessment”).

This supplemental documentation was provided to support the determination that the PBNP intake constitutes best available technology. *See* Wis. Stat. Ch. 283.31(6) (to which the Supplements relate).

<sup>77</sup> AKRF Estimate at 4 (EPU RAI Response at pdf page 134).

<sup>78</sup> There is no commercial or sports fishery for alewife, as alewife is a small forage fish. Therefore, the estimated impact on commercial and sports fisheries pertains to the potential impact on larger predators from a reduction in alewife as their prey.

<sup>79</sup> Kitchell Assessment at 9 (EPU RAI Response at pdf page 149) (emphasis added).

<sup>80</sup> AKRF Estimate at 4 (EPU RAI Response at pdf page 136).

<sup>81</sup> Petitioner's 4.5-percent estimate appears to be derived by erroneously dividing the estimated reduction in combined commercial and sports fishery yield (10,625 lbs.) by just the reported commercial fishery (232,552 lbs.), ignoring the fact that 98 percent of the reduction in yield relates to the sports fishery.

petitioner] to uncover any information that could serve as the foundation for a specific contention.”<sup>82</sup> Ignoring technical reports available on the docket in favor of a demonstrably unreliable newspaper article demonstrates no genuine dispute with the Application. Further, as the reports were part of the body of information before the WDNR when it made the 316(b) determination in the current NPDES permit, they were presumably factored into the WDNR’s best professional judgment in making that determination.

While Contention 1 also refers to alleged migratory bird impacts, Petitioner’s discussion of such impacts is limited to a single assertion that “in 1990 the intakes killed double-crested cormorants”<sup>83</sup> and fails to demonstrate any genuine or current dispute with the Application. Petitioners’ reference to thirty-year old information ignores the ER, which explains,

The intake system was re-designed after cormorant (*Phalacrocorax* spp.) impingement became a problem and caused plant outages in the early 2000s. The warm water around the intake increased alewife presence, which attracted the cormorants to the intake structure. The intake crib was moved 11.5 feet below the lake surface in 2001. At the same time, an acoustic deterrent system was installed to deter alewife from swimming near the intake structure.<sup>84</sup>

Petitioner does not address or dispute this discussion. It does not provide any information indicating that further design changes are needed to mitigate impacts on cormorants. Petitioner provides no basis for any current concern – no expert opinion or reference to any other source or documents indicating any current impact on cormorants requiring mitigation, or any impact on

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<sup>82</sup> *Duke Power Co. (Catawba Nuclear Station, Units 1 and 2)*, ALAB-687, 16 N.R.C. 460, 468 (1982), *vacated in part on other grounds*, CLI-83-19, 17 N.R.C. 1041 (1983).

<sup>83</sup> Petition at 22, citing 2005 SEIS at 2-30. Petitioner also refers to 33 birds, mainly gulls, that were allegedly trapped from 2001 to 2003. *Id.* As gulls are not migratory birds, this assertion appears irrelevant.

<sup>84</sup> ER at 4-24. This same information is included in the 2005 SEIS cited by Petitioner, which Petitioner conveniently fails to mention. *See* 2005 SEIS at 2-30 (“After several failed attempts to reduce or eliminate mortality of cormorants, the intake structure was redesigned in May 2001, and placed below the water surface to eliminate any further mortality.”).

any other migratory bird. Petitioner's reference to migratory birds therefore fails to raise any genuine, material dispute with the Application.

Likewise, neither the Petition nor Gundersen's declaration provides information showing that thermal impacts are significant. Instead, they simply repeat information about past updates from the 2005 SEIS and ER<sup>85</sup> (all predating the current 316(a) determination and thus irrelevant) and quote the description of the temperature contour from the WDNR's 316(a) determination.<sup>86</sup> Rather than providing any information indicating that any of the recited data or the temperature contour represents a significant environmental impact, Petitioner in fact acknowledges and quotes the WDNR's determination "that the thermal plume created at 8,273 MBTU/hr will cause minimal impacts to the fish and invertebrate communities on the representative important species list" – a determination by the State NPDES-permitting agency that the NRC is required to take at face value. As previously discussed, the WDNR also determined 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."<sup>87</sup> Thus, the references in the Petition to the 316(a) determination provide no support for any claim of a significant thermal impact warranting further mitigation.

Petitioner alleges that there is insufficient analysis of the impacts of the thermal discharge between 1975 and 2020,<sup>88</sup> but this allegation is simply a challenge to the WDNR's 316(a) determination, which the NRC is required to accept. Further, WDNR's 316(a) determination references a 2009 alternative effluent limit report that provided additional analysis of the thermal

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<sup>85</sup> Petition at 22-23.

<sup>86</sup> Petition at 24 (quoting PBNP 316(a) Determination, third unnumbered page (ER pdf page 641)).

<sup>87</sup> PBNP 316(a) Determination, third unnumbered page (ER pdf page 641).

<sup>88</sup> Petition at 25.

discharge at uprated conditions.<sup>89</sup> As indicated in WDNR's 316(a) determination, the 2009 report included:

- Additional biological data to compare the current biological condition of the receiving water to the biological monitoring results submitted from the previously approved study.
- Results from hydrodynamic modeling to predict the extent of the thermal plume resulting from the increased thermal discharge.<sup>90</sup>

Petitioner simply ignores this information in the ER and WDNR's 316(a) determination.

Nor is any genuine material dispute shown by Petitioner's allegation that NextEra does not consider the cumulative thermal impacts together with all other significant impacts on the species affected."<sup>91</sup> The WDNR's 316(a) determination specifically states, "Other factors such as threatened and endangered species and *cumulative impacts* from other thermal and pollutant mixing zones, were considered as part of this decision, but determined to not be applicable to this demonstration."<sup>92</sup> Petitioner fails to address or dispute this information in the 316(a) determination and thus raises no genuine dispute with the Application. Further, Petitioner does not explain what cumulative effect has been ignored, how thermal effects would alter the assessment of other impacts on aquatic species, or why any further discussion would be material. Further, Petitioner ignores the discussion of cumulative effects in the ER, which explains:

"NEPB meets its WPDES permit conditions and the temperature quickly returns to ambient

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<sup>89</sup> PBNP 316(a) Determination, 1st unnumbered page (ER pdf page 639), discussing the "Point Beach Nuclear Plant Evaluation of the Thermal Effects Due to a Planned Extended Power Uprate." This 2009 alternative effluent limit report is also an attachment to the PBNP EPU RAI Response, *supra* note 76 (beginning on pdf page 240 of that submittal).

<sup>90</sup> PBNP 316(a) Determination, 2nd unnumbered page (ER pdf page 640).

<sup>91</sup> Petition at 24.

<sup>92</sup> NPDES Permit, Attachment B, "Approval of the alternative effluent temperature limit for the Point Beach Nuclear Plant (WI-0000957)," at third unnumbered page (ER pdf page 641) (emphasis added). The Kitchell Assessment provided to the WDNR to support its 316(a) determination included an assessment of thermal plume effects on alewife impingement. Kitchell Assessment at 9-12 (EPU RAI Response at pdf pages 149-52).

temperatures, minimizing the potential for ongoing activities to combine with impacts from other actions and lead to cumulative impacts.”<sup>93</sup> Again, by failing to address this discussion in the ER, Petitioner fails to demonstrate any genuine material dispute with the consideration of cumulative aquatic impacts in the Application.

Petitioner’s allegation that “NextEra inappropriately assumes the aquatic ‘community’ to include all of Lake Michigan”<sup>94</sup> is conclusory, unsupported, and demonstrates no genuine dispute with the Application.<sup>95</sup> Petitioner provides no reference to any section of the ER to put this allegation in context. Contrary to Petitioner’s claim, the ER “describes the aquatic environment and biota near the PBN site and other areas potentially affected by the continued operation of PBN,”<sup>96</sup> and describes not only Lake Michigan but a number of watersheds.<sup>97</sup> There are three references in the ER to the aquatic community of Lake Michigan, but they are all related to the thermal impacts addressed by the 316(a) determination,<sup>98</sup> which as previously discussed found that “the discharge at the maximum heat load of 8,273 MBTU/hr is protective of

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<sup>93</sup> ER at 4-55.

<sup>94</sup> Petition at 24-25.

<sup>95</sup> Petitioner cites *Appalachian Power Co. v. Train*, 545 F.2d 1351, 1372 (4th Cir. 1976) to support its assertion that NextEra’s analysis should focus on specific, localized site conditions. Petition at 24-25. The portion of this case cited by Petitioner rejected an argument that a plant’s compliance with existing water quality standards constitutes prima facie evidence of compliance with the requirements of § 316(a) and found reasonable EPA view of § 316(a) as providing for consideration of specific site conditions in the setting of thermal limitations for individual power plants. 545 F.2d at 1372. This decision does not address NEPA reviews and says nothing about NextEra’s analysis in the ER. It simply underscores that Petitioner’s dispute is with WDNR’s 316(a) determination, which the NRC is required to accept.

<sup>96</sup> ER at 3-101.

<sup>97</sup> *Id.* at 3-101 to 3-105.

<sup>98</sup> ER at 4-25 (“The thermal discharge associated with the PBN outflow has been demonstrated to be protective of the Lake Michigan aquatic community.”); ER at 6-3 (“Because the thermal discharges associated with PBN outflow have been demonstrated and determined under CWA 316(a) to be protective of the Lake Michigan aquatic community and PBN is operating in conformance with its WPDES permit, impacts are anticipated to be SMALL.”); ER at 8-15 (“PBN has a thermal discharge that has been demonstrated to be protective of the Lake Michigan aquatic community.”).

the balanced, indigenous community of shellfish, fish, and wildlife in and on Lake Michigan.” Petitioner’s allegation thus simply represents an impermissible challenge to the sufficiency of WDNR’s determination, which the Commission is required to accept. In any event, Petitioner ignores the statement in the 316(a)-determination showing that localized impacts were considered.

Although the discharge plume may cause some negative impacts to the fish community of the immediate area or to the localized ecology of the area, the Department has concluded that the thermal plume created at 8,273 MBTU/hr will cause minimal impacts to the fish and invertebrate communities on the representative important species list.<sup>99</sup>

Petitioner neither addresses nor disputes this information and therefore fails to demonstrate any genuine material dispute with the ER.

Indeed, Petitioner does not identify any localized condition or impact that has been ignored. Nor does Petitioner explain why any alleged omission is material. If there are alleged errors or omissions in the environmental analysis, it is the petitioner’s burden to show their significance and materiality.<sup>100</sup> “NEPA is, after all, governed by a ‘rule of reason,’ which frees the agency from pursuing unnecessary or fruitless inquiries.”<sup>101</sup>

In sum, Petitioner has made no showing that redesigning and retrofitting Point Beach is a reasonable and commercially viable alternative. Petitioner has made no showing that any particular aquatic impact is significant enough to warrant such mitigation. Instead, its allegations are nothing more than a combination of generalizations unrelated to Point Beach and recitation

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<sup>99</sup> PBNP 316(a) Determination, 3rd unnumbered page (ER pdf page 641).

<sup>100</sup> *Exelon Generating Co.* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 N.R.C. 801, 811 (2005).

<sup>101</sup> *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-04-22, 60 N.R.C. 125, 139 (2004).

of undisputed data from the ER, sprinkled with rhetoric and devoid of meaningful analysis or expert support.

2. Contention 2 Is Inadmissible Because It Impermissibly Challenges NRC's Regulations, Lacks Adequate Support, and Fails to Raise a Genuine Dispute with the Application.

Contention 2 – which 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”<sup>102</sup> – is inadmissible because it impermissibly challenges the CLB, impermissibly challenges the Staff’s performance of its duties, fails to address or dispute information in the Application, and is unsupported by any information demonstrating a genuine material dispute with the Application. Petitioner’s claim that the NRC has “systematically removed conservative calculational aspects of the embrittlement process” and “allowed Point Beach and its cohorts to use analytical techniques that ignore the data from sample coupons it could readily test”<sup>103</sup> appears simply an attempt by Petitioner to challenge NRC regulation and decision-making. Petitioner barely even addresses the reactor vessels at Point Beach itself, and never addresses the Reactor Vessel Material Surveillance Program described in the Application, which includes testing of vessel material, or any of the TLAA in the Application addressing embrittlement. There are five time-limited aging analyses relating to embrittlement analyzed in the Application: Neutron Fluence Projections (SLRA § 4.2.1), Pressurized Thermal Shock (SLRA § 4.2.2), Upper-Shelf Energy (SLRA § 4.2.3), Adjusted Reference Temperature (SLRA

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<sup>102</sup> Petition at 31.

<sup>103</sup> Petition at 31-32.

§ 4.2.4), and Pressure-Temperature (P-T) Limits and Low Temperature Overpressure Protection (“LTOP”) Setpoints (SLRA § 4.2.5).<sup>104</sup> Petitioner and Gundersen do not mention any of the TLAAs, let alone even attempt to demonstrate any infirmity in them. Nor does Petitioner provide adequate support or underlying basis for its allegations. Thus, Petitioner’s Contention is inadmissible both as a general challenge to NRC regulations and for failing to meet the requirements of 10 C.F.R. § 2.309(f)(1)(v) and (vii).

a. Contention 2 Impermissibly Challenges the CLB

On its face, Contention 2 challenges Point Beach’s compliance with General Design Criterion 14 and is thus a challenge to the plant’s design, which is an impermissible challenge to Point Beach’s CLB. The adequacy of a plant’s current licensing basis is not within the scope of the license renewal review.<sup>105</sup> The measures that Point Beach is taking under its current license to meet its CLB, which appears to be the principal focus of the Contention (e.g., “the reactor cooling boundary has not been tested;”<sup>106</sup> “PB has been violating GDC-14 by not testing coupons;”<sup>107</sup> Point Beach [has] relied upon error-prone calculations”<sup>108</sup>), are likewise beyond the scope of this proceeding.<sup>109</sup> Any challenge to the embrittlement-related calculations (such as

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<sup>104</sup> Further information is provided in WCAP-18555-NP, Revision 1, Point Beach Units 1 and 2 Time-Limited Aging Analyses on Reactor Vessel Integrity for Subsequent License Renewal (Aug. 2020), and in BAW-2192, Rev. 0, Supp. 3NP, Rev. 0, Lower Upper Shelf Fracture Mechanics Analysis of Reactor Vessels of B&W Owners Reactor Vessel Working Group for Levels A & B Service Loads (2020), included as Attachments 3 and 4 to the Reference Documents, respectively.

<sup>105</sup> *Turkey Point*, CLI-01-17, 54 N.R.C. at 23.

<sup>106</sup> Petition at 31, 32.

<sup>107</sup> *Id.* at 38; Gundersen Decl., ¶ 7.8.4.

<sup>108</sup> Petition at 37; Gundersen Decl., ¶ 7.8.

<sup>109</sup> 10 C.F.R. § 54.30(b) (“[T]he 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.”).

compliance with the pressurized thermal shock (“PTS”) rule,<sup>110</sup> or the upper-shelf energy and pressure and temperature limits in Appendix G to 10 C.F.R. Part 50<sup>111</sup>) supporting operation during the current license term is an impermissible challenge to the CLB. This alone requires rejection of the Contention.

b. Contention 2 Is Inadmissible as a General Challenge to the NRC Staff’s Performance and NRC Regulations

Contention 2 is also inadmissible as an attack on NRC Staff regulation and decision-making, including presumably NRC rulemakings pertaining to pressurized thermal shock (though Petitioner’s claims are too vague to identify any specific NRC regulation or action). It is well established that Licensing Boards have no authority to supervise the NRC Staff in the performance of its administrative duties.”<sup>112</sup> Nor may “a petitioner . . . demand an adjudicatory hearing to attack generic NRC requirements or regulations, or to express generalized grievances about NRC policies.”<sup>113</sup> A challenge to NRC Staff decision-making is simply outside the scope of a licensing proceeding.

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<sup>110</sup> 10 C.F.R. § 50.61.

<sup>111</sup> 10 C.F.R. Part 50, App. G, §§ IV.A.1, IV.A.2.

<sup>112</sup> See *supra*, n.22.

<sup>113</sup> *Oconee*, CLI-99-11, 49 N.R.C. at 334 (citing *North Atlantic Energy Service Corp.* (Seabrook Station, Unit 1), CLI-99-6, 49 N.R.C. 201, 217 n.8 (1999)). A contention presents an impermissible challenge to the Commission’s regulations by seeking to impose requirements in addition to those set forth in the regulations. See *Entergy Nuclear Operations, Inc.* (Palisades Nuclear Plant), CLI-15-22, 82 N.R.C. 310, 318 (2015) (demand for testing of additional vessel samples was an impermissible challenge to the Alternate PTS Rule); *Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), CLI-87-12, 26 N.R.C. at 395 (refusal to extend Emergency Planning Zone); *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 & 2), LBP-82-106, 16 N.R.C. 1649, 1656 (1982) (“In the absence of a ‘regulatory gap,’ the failure to allege a violation of the regulations or an attempt to advocate stricter requirements than those imposed by the regulations will result in a rejection of the contention, the latter as an impermissible collateral attack on the Commission’s rules.”); *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), LBP-01-6, 53 N.R.C. 138, 159 (2001) (the “contention presents an impermissible challenge to the Commission’s regulations by seeking to impose requirements in addition to those set forth in the regulations”).

Here, Petitioner’s Contention 2 is clearly directed at the Staff’s decision-making and approvals. The Petitioner alleges that:

- “the NRC has systematically removed conservative calculational aspects”<sup>114</sup>;
- “[t]he NRC has not incorporated the actual data”<sup>115</sup>;
- “[t]he NRC has allowed Point Beach and its cohorts to use analytical techniques that ignore the data”<sup>116</sup>;
- “[t]he NRC’s approach to increasing neutron embrittlement has been to develop new operator administrative controls”<sup>117</sup>;
- “[i]nstead of performing metallurgical tests on the coupons/capsules, the NRC has instead modified its calculations to allow aging, embrittled nuclear power reactors to continue to operate”<sup>118</sup>; and
- “the NRC and Point Beach have relied upon error-prone analytical calculations.”<sup>119</sup>

Petitioner even goes so far as to attack Staff decision-making as to other nuclear power plants, such as Diablo Canyon, Palisades, Indian Point, and Yankee Rowe.<sup>120</sup> 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. Such an attack on the NRC Staff’s decision-making is beyond the scope of this licensing renewal proceeding, and not an admissible contention in this proceeding.

Further, if the vague assertions in the Petition are meant to suggest that embrittlement-related TLAAs may not be extended by analysis, any such suggestion constitutes an

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<sup>114</sup> Petition at 31, 37.

<sup>115</sup> Petition at 31, 37.

<sup>116</sup> Petition at 32, 37.

<sup>117</sup> Petition at 36.

<sup>118</sup> Petition at 37 (“the NRC has granted waivers for each of the five most embrittled reactors still operating to avoid testing their actual embrittlement through the measurement of their actual metallurgical coupons”).

<sup>119</sup> Petition at 37.

<sup>120</sup> Petition at 37.

impermissible challenge to the provisions in the license renewal rule addressing TLAAs. NRC regulations allow a license renewal applicant to address TLAAs with one of three approaches: (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 of aging on the intended function(s) will be adequately managed for the period of extended operation.”<sup>121</sup> Thus, extending existing analyses, such as the analyses supporting compliance with the PTS rule, is a permissible approach.

c. Contention 2 Lacks Support and Fails to Show a Genuine Dispute with the Application

The only discernible claim having some apparent relationship to Point Beach aging management – that allegedly “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”<sup>122</sup> – fails to address or dispute relevant information in the Application, and therefore fails to demonstrate any genuine material dispute with the Application. The description of the Reactor Vessel Material Surveillance Program in the Application, which both supports and provides input to embrittlement-related TLAAs, explicitly states:

This AMP includes withdrawal and testing of the Supplemental “A” surveillance capsule, identified in TRM 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] SPEO in the TLAAs for USE, PTS, and P-T temperature limits. The surveillance program adheres to the requirements of 10 CFR Part 50, Appendix H, as well as the

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<sup>121</sup> 10 C.F.R. § 54.21(c)(1).

<sup>122</sup> Petition at 36; Gundersen Decl., ¶ 7.7.2. Even this allegation is focused more on the current license term, rather than the second period of extended operation at issue in this proceeding.

American Society for Testing Materials (ASTM) standards incorporated by reference in 10 CFR Part 50, Appendix H.<sup>123</sup>

This capsule contains the limiting weld material representative of both units,<sup>124</sup> and the fluence that it will have received at 51 effective full power years (“EFPY”) when it is proposed to be withdrawn will bound the 72 EFPY projected fluence.<sup>125</sup> Moreover, as the Application states, Point Beach receives supplemental data from other plants with reactor vessels manufactured by Babcock & Wilcox (“B&W”) (which the Point Beach units have<sup>126</sup>) to (a) monitor irradiation embrittlement to neutron fluences greater than the projected neutron fluence at the end of the SPEO, and (b) provide adequate dosimetry monitoring during the SPEO.<sup>127</sup>

The Petition and Gundersen declaration simply ignore all of this information in the Application. Petitioner and Gundersen do not address capsule “A.” The Petitioner is required to “include references to specific portions of the application (including the applicant’s environmental report and safety report) that the petitioner disputes,” in order to establish a genuine dispute with the application.<sup>128</sup> Yet, the only time that Petitioner addresses the Application in Contention 2, it is directed at references to capsule “N” and two capsules stored in the spent fuel pool.<sup>129</sup> By failing to address capsule “A”, Petitioner raises no genuine dispute with the Application.

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<sup>123</sup> SLRA, App. A at A-25. *See also* SLRA, App A at A-158, App. B. at B-148.

<sup>124</sup> The “replacement surveillance capsule contain[s] materials closely matching the limiting materials for both Units 1 and 2 . . .” NUREG-1839, Safety Evaluation Report Related to the License Renewal of the Point Beach Nuclear Plant, Units 1 and 2 (Dec. 2005) at 3-97 (ADAMS Accession No. ML053420137).

<sup>125</sup> SLRA, App. B at B-150.

<sup>126</sup> SLRA at 4.2-9.

<sup>127</sup> SLRA, App. A at A-26, App B at B-148-49.

<sup>128</sup> 10 C.F.R. § 2.309(f)(1)(vi).

<sup>129</sup> Petition at 36 & n.108-109 (“PBNP is storing two capsules in the spent fuel storage pool at the reactor site, one from each unit. They were removed from the reactors in 1994 and 1997, respectively and have apparently not been tested. Testing now, 25 years after removal, will provide no useful data. In

To the extent that Petitioner may be suggesting that the capsule will not be tested, or that Point Beach will “ignore the data from sample coupons,”<sup>130</sup> it again fails to address or demonstrate any genuine material dispute with the Application. The Application states that Point Beach’s “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.”<sup>131</sup> Appendix H 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.”<sup>132</sup> Further, the Application explicitly 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 SPEO.”<sup>133</sup> As stated in the Application, “[t]he data from this surveillance program *are used to* monitor neutron irradiation embrittlement of the reactor vessel and are inputs to the neutron embrittlement TLAAAs.”<sup>134</sup> “These data are used to evaluate the TLAAAs on neutron IE [irradiation embrittlement] (e.g., USE [upper shelf energy], PTS, P-T limits evaluations, etc.) as needed to demonstrate compliance with the requirements of 10 CFR

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addition, each reactor still contains a Capsule ‘N’ inside the two reactor units, noted as being held on ‘standby.’”).

<sup>130</sup> Petition at 32.

<sup>131</sup> SLRA, App. B. at B-148.

<sup>132</sup> 10 C.F.R. Part 50, App. H, § III.B.1. Consistent with this requirement, the Application states: “All surveillance capsules, including those previously withdrawn from the reactor vessel, must meet the test procedures and reporting requirements of the applicable ASTM standards referenced in 10 CFR Part 50, Appendix H, to the extent practicable, for the configuration of the specimens in the capsule.” SLRA, App. B at B-149.

<sup>133</sup> SLRA, App. B at B-149.

<sup>134</sup> *Id.*

Part 50, Appendix G, and 10 CFR 50.61 for the SPEO, as described in NUREG-2192, Section 4.2.”<sup>135</sup>

In addition, the Pressurized Shock Rule itself provides:

To verify that  $RT_{\text{NDT}}$  for each vessel beltline material is a bounding value for the specific reactor vessel, licensees shall consider plant-specific information that could affect the level of embrittlement. This information includes but is not limited to the reactor vessel operating temperature and any related surveillance program results.

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Surveillance program results means any data that demonstrates the embrittlement trends for the limiting beltline material, including but not limited to data from test reactors or from surveillance programs at other plants with or without surveillance program integrated per 10 CFR part 50, appendix H.<sup>136</sup>

A contention may not presume that a licensee will violate such requirements.<sup>137</sup>

The other claims in the Petition and Gundersen’s declaration relating to Contention 2 are vague generalizations or unsupported assertions that do not raise any genuine, material dispute with the Application. For example, the Petition and Gundersen’s Declaration both claim that Point Beach is the most or one of the top five embrittled reactors in the United States.<sup>138</sup> The Petition, however, provides no support for this assertion, and the Gundersen Declaration relies on an NRC presentation that primarily discusses Palisades and makes no reference to Point

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<sup>135</sup> *Id.*

<sup>136</sup> 10 C.F.R. § 50.61(c)(2) & n.5. Regulatory Guide 1.99 provides that if surveillance data “gives a higher value of adjusted reference temperature than that given by using the procedures [formulas and generic data] of Regulatory Position 1.1, the surveillance data should be used.” Reg. Guide 1.99 Rev. 2, “Radiation Embrittlement of Reactor Vessel Materials” (May 1988), Position 2.1 at 1.99-4.

<sup>137</sup> “[T]he NRC does not presume that a licensee will violate agency regulations wherever the opportunity arises.” *Private Fuel Storage, L.L.C.* (Indep. Spent Fuel Storage Installation), CLI-01-9, 53 N.R.C. 232, 235 (2001). *See also Oyster Creek*, CLI-00-6, 51 N.R.C. at 207 (“NIRS also fails to offer documentary support for its argument that AmerGen is likely to violate our safety regulations. Absent such support, this agency has declined to assume that licensees will contravene our regulations.”).

<sup>138</sup> Petition at 31-32, 35; Gundersen Decl., ¶¶ 7.4.1, 7.5.6, 7.5.7.

Beach.<sup>139</sup> And the analysis of pressurized thermal shock in the Application (never discussed by Petitioner or Gundersen) shows that Point Beach will remain below the screening criteria in the PTS rule throughout the second period of extended operation.<sup>140</sup>

Gundersen and Petitioner maintain that Point Beach should not be permitted to continue to operate unless there is an analysis of coupons from five other remaining reactors that Gundersen considers Point Beach's embrittled cohorts.<sup>141</sup> While not clear, it appears that Gundersen is referring to Palisades, Indian Point 3, Diablo Canyon 1, and Beaver Valley;<sup>142</sup> but each of these units have reactor vessels manufactured by Combustion Engineering.<sup>143</sup> Mr. Gundersen provides no explanation why testing of coupons from these units would have any relevance to the B&W-manufactured vessels at Point Beach.

The Petition and the Gundersen Declaration also mention "new" operator administrative controls that are purportedly implemented during a reactor emergency to avoid cracking the reactor pressure vessel.<sup>144</sup> This vague allusion to some unidentified new administrative controls does not meet the specificity requirements for contentions, nor is it accompanied by any explanation of its relevance to the Application or materiality. The Petition and Gundersen claim that "[t]hese administrative controls require the reactor operators to raise the reactor's temperature before increasing the pressure . . ."<sup>145</sup> and therefore perhaps they are alluding to

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<sup>139</sup> See NRC, *Basis for NRC Requirements on Pressurized Thermal Shock* (Mar. 19, 2013) (ADAMS Accession No. ML13077A156).

<sup>140</sup> SLRA at 4.2-6.

<sup>141</sup> Gundersen Decl., ¶ 7.8.2

<sup>142</sup> Gundersen Decl., ¶¶ 7.5.7, 7.8.1.

<sup>143</sup> See NRC, *Reactor Vessel Integrity Database Version 2.0.1*, available at <https://www.nrc.gov/reactors/operating/ops-experience/reactor-vessel-integrity/database-overview.html>.

<sup>144</sup> Petition at 36; Gundersen Decl., ¶¶ 7.6.1 - 7.6.1.1.

<sup>145</sup> *Id.*

pressure-temperature (“P-T”) limits that are required in accordance 10 C.F.R. Part 50, Appendix G;<sup>146</sup> but the relationship to emergency procedures is not apparent, and P-T limits are not new, having been an NRC requirement for decades.<sup>147</sup> In addition, to the extent that Petitioner or Gundersen is suggesting that NextEra will violate the P-T limits, such a suggestion cannot form the basis for an admissible contention. “[I]n the absence of evidence to the contrary, the NRC does not presume that a licensee will violate agency regulations wherever the opportunity arises.”<sup>148</sup>

The assertion in the Petition and the Gundersen Declaration that the NRC and Point Beach have relied upon “error-prone analytical calculations”<sup>149</sup> is similarly fatally vague and unsupported. Neither document provides any detail to indicate what particular calculation is purportedly “error-prone,” let alone why. Such conclusory assertions and mere speculation make for nothing more than the sort of ill-defined and poorly supported contentions that the Commission’s Rules of Practice are intended to avoid. Indeed, “[b]are assertions and speculation, even by [a purported] expert, are insufficient to trigger a full adjudicatory proceeding.”<sup>150</sup> Gundersen’s assertion that some unidentified calculation is “error prone” fails to provide the “reasoned basis or explanation” needed to support an admissible contention.<sup>151</sup>

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<sup>146</sup> 10 C.F.R. Part 50, App. G, § IV.A.2. P-T limits are controlled under the technical specifications. See Appendix A to Facility Operating License DPR-24 and Facility Operating License DPF-27 for Point Beach Nuclear Plant Units Nos. 1 and 2, LCO 3.4.3 (ADAMS Accession No. ML053110031).

<sup>147</sup> See, e.g., *Fracture Toughness and Surveillance Program Requirements*, 38 Fed. Reg. 19,012, 19,016, (Jul. 17, 1973).

<sup>148</sup> *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-9, 53 NRC 232, 235 (2001).

<sup>149</sup> Petition at 37; Gundersen Decl., ¶ 7.8.

<sup>150</sup> *Pilgrim*, CLI-12-15, 75 N.R.C. at 714 (citation omitted).

<sup>151</sup> *Palisades*, CLI-15-23, 82 N.R.C. at 328.

In summary, Petitioner’s Contention 2 fails as impermissible challenge to the CLB, an impermissible attack on NRC decision-making, and vague and unsupported generalizations that raise no genuine material dispute with the Application.

3. Contention 3 Is Inadmissible Because It Fails to Adequately Support and Show a Genuine Material Dispute with the Application

Contention 3 – which alleges that the ER “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 PBNP, and to make the requested license renewal action unnecessary”<sup>152</sup> – is inadmissible for failing to allege and adequately support a genuine dispute with the analysis of solar power as a discrete alternative in the ER. In much of Contention 3, the Contention and Compaan assert 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.<sup>153</sup> None of these general claims, however, actually disputes the conclusion of the Point Beach ER which clearly states that “[s]olar with energy storage . . . was not considered further as a discrete alternative

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<sup>152</sup> Petition at 41. While Contention 3 refers to renewable energy sources, it appears limited to photovoltaics (the only renewable energy alternative specifically identified in the Contention). There are a few scattered references to wind in the ensuing discussion in the Petition, but none address the analysis in the ER of wind as an alternative. The Petition refers to Compaan’s assertion that the inclusion of large-scale wind and solar power into the California grid tends to offset the need for a large baseload power plant to provide peak power (*id.* at 47) and his opinion that, as the amount of solar and wind increase, demand could go to zero so no baseload power would be required (*id.* at 48). The Petition also includes a reference to Cooper’s claims that the cost of wind is estimated to decline (*id.* at 50) and the argument that wind variability has minimal impact on grid reliability and cost (*id.* at 52). None of these assertions addresses or disputes the discussion in the ER rejecting wind plus battery storage as a reasonable alternative because of the very large acreage that would be required – with MODERATE to LARGE impacts on wildlife habitats, vegetation, land use, and aesthetics – and the commercial unviability of acquiring such land use rights and acreage in Wisconsin. ER at 7-7. Gundersen’s declaration also includes claims that wind power is more economic and safer than continued operation of Point Beach (Gundersen Decl., ¶¶ 5.2, 10.6 – 10.11), but the Petition nowhere references or relies on these assertions in support of Contention 3. In any event, they too fail to address or dispute the analysis of a wind alternative in the ER.

<sup>153</sup> See Petition at 46-47.

*due to the acreage requirements.*”<sup>154</sup> None of these general claims regarding the adequacy and cost of solar power raises an actual genuine dispute with the Point Beach Application.

The limited portion of Contention 3 and Compaan’s Declaration that addresses the ER’s conclusion as to acreage requirements also fails to raise a genuine dispute with the Application due to a lack of support. Compaan actually agrees with the NextEra’ calculation of the acreage of a 1200 MW peak solar facility,<sup>155</sup> and he himself calculates that, when the average output of the solar arrays is taken into account, it would require 42,000 acres – 65.7 square miles – to replace Point Beach’s baseload capacity.<sup>156</sup> Compaan acknowledges that this land requirement “seems prohibitive.”<sup>157</sup>

Compaan then tries to brush off this this land requirement, but limits his “analysis” to a few paragraphs that summarily assert that the solar panels can be placed on rooftops or U.S. Conservation Reserve Land.<sup>158</sup> As discussed below, neither of these summary assertions demonstrates a reasonable, feasible alternative meeting NextEra purposes (to provide utility scale baseload power,<sup>159</sup> which NextEra (as a merchant generator with no retail customer base<sup>160</sup>) would sell in the wholesale market), or one that is material to the outcome of this proceeding.

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<sup>154</sup> ER at 7-9.

<sup>155</sup> Compaan Decl., ¶ 7.

<sup>156</sup> Compaan Decl., ¶¶ 16-17.

<sup>157</sup> Compaan Decl., ¶ 17.

<sup>158</sup> Compaan Decl., ¶¶ 20-24. The claims in Contention 3 in the Petition follow the claims made in the Compaan Declaration, without providing any additional support. *See* Petition at 45-46.

<sup>159</sup> ER at 7-1.

<sup>160</sup> *See* ER at 7-6.

a. Petitioner’s Suggestion that Solar Replacement Power Could be Sited on Conservation Reserve Land Is Unsupported and Fails to Demonstrate a Genuine Dispute with the Application

Contention 3 and Compaan claim that the necessary solar facilities could be sited on farmland set aside for the U.S. Conservation Reserve Program.<sup>161</sup> As a threshold matter, Petitioner and Compaan fail to show that the farmland set aside for the U.S. Conservation Reserve Program could be legally used for solar generation. In fact, solar generation is not one of the permissible uses of farmland set aside under the federal Conservation Reserve Program.<sup>162</sup> Consequently, there is no indication that using conservation farmland for solar generation is a reasonable, feasible alternative.

In addition, even if solar generation could be sited on farmland set aside for the U.S. Conservation Reserve Program (contrary to current law), neither the Petition nor Compaan explain why siting the necessary solar facilities on conservation land would lessen the acreage requirement, or reduce the impacts below the MODERATE to LARGE impacts described in the ER.<sup>163</sup> Neither the Petition nor Compaan explain why diverting conservation land from its intended purpose would be desirable, or would avoid impacts on wildlife, vegetation, land use and aesthetics.

Compaan summarily asserts that these impacts should be assessed as minimal,<sup>164</sup> but otherwise does not address the land use disturbances and impacts to wildlife habitats and vegetation that would occur from installing solar on protected land. The Conservation Reserve Program is intended to take environmentally sensitive land and re-establish valuable land cover

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<sup>161</sup> Petition at 46; Compaan Decl., ¶ 22.

<sup>162</sup> See 7 C.F.R. § 1410.63.

<sup>163</sup> See ER at 7-8 to 7-9.

<sup>164</sup> Compaan Decl., ¶ 5a.

to help improve water quality, prevent soil erosion, and reduce loss of wildlife habitat, increasing habitat for endangered and threatened species.<sup>165</sup> As a matter of common sense, installing new solar panels and electrical distribution systems on this Conservation Reserve Program land could impact those protected attributes of the land, in addition to the impacts on wildlife habitats, vegetation, land use, and aesthetics described in the ER. Yet, Compaan provides no support for his bare assertion that these impacts would be minimal. Such a conclusory assertion, even from a purported expert, cannot support a litigable contention.<sup>166</sup>

b. Petitioner’s Suggestion that Replacement Solar Power Could Be Located on Rooftops Is Not Adequately Supported and Fails to Show that Such an Alternative Is Practical and Commercially Feasible

Contention 3 and Compaan similarly fail to provide adequate support for the claim that placing solar panels on rooftops throughout the state of Wisconsin is a reasonable alternative requiring further review in the Environmental Report. In asserting energy alternatives for license renewal, Petitioner must establish alternatives “that can, as a *practical* matter, produce baseload power either now, or in time to constitute a reasonable alternative to relicensing.”<sup>167</sup> Alleging “the *eventual* development” of an alternative “fail[s] to provide . . . the necessary support for the proposition that [the alternative] constitutes a reasonable alternative to the renewal of [an]

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<sup>165</sup> U.S. Dept of Agriculture, Farm Service Agency, *Conservation Reserve Program*, available at <https://www.fsa.usda.gov/programs-and-services/conservation-programs/conservation-reserve-program/>.

<sup>166</sup> *Pilgrim*, CLI-12-15, 75 N.R.C. at 714. “[A]n expert opinion that merely states a conclusion . . . without providing a reasoned basis or explanation for that conclusion is inadequate.” *USEC, Inc.*, CLI-06-10, 63 N.R.C. at 472.

<sup>167</sup> *FirstEnergy Nuclear Operating Co.* (Davis-Besse Nuclear Power Station, Unit 1), CLI-12-8, 75 N.R.C. 393, 405 (2012).

operating license.”<sup>168</sup> In addition, the applicant must be in the position to implement the proposed alternative.<sup>169</sup>

Contention 3 does not adequately establish that there are enough rooftops throughout the state for solar to feasibly replace power output by Point Beach. Compaan’s underlying source, the National Renewable Energy Laboratory (“NREL”) State and Local Planning for Energy (“SLOPE”) tool, refers to an upper bound of potential rooftop space,<sup>170</sup> with a number of caveats not addressed by Compaan. As explained on the website, the SLOPE tool “[e]stimates are modeled and have a *high degree* of uncertainty.”<sup>171</sup> “The technical generation potential of residential and commercial rooftop PV provides an upper bound of feasible development potential for planning purposes[, which] does not consider economic or market feasibility.”<sup>172</sup> It also “does not account for existing systems.”<sup>173</sup> From this information, it is clear that the SLOPE tool may greatly overestimate available suitable rooftop space, and says nothing about what is practical or commercially feasible (particularly for a utility-scale project). Thus, Compaan’s claim “that either residential rooftops alone or commercial rooftops alone could host

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<sup>168</sup> *Id.*

<sup>169</sup> *See Env'tl. Law & Policy Ctr.*, 470 F.3d at 683-684 (citations omitted) (finding that it was reasonable for the Board to conclude that NEPA did not require consideration of energy efficiency alternatives when [the Applicant] was in no position to implement such measures).

<sup>170</sup> Compaan used the DOE SLOPE tool to estimate rooftop space. Compaan Decl., ¶ 21. However, as the DOE clearly cautions on its rooftop analyzer, “The technical generation potential of residential and commercial rooftop PV provides an upper bound of feasible development potential for planning purposes. Technical generation potential does not consider economic or market feasibility. The technical generation potential of residential and commercial rooftop PV is estimated by combining modeled suitable rooftop area with solar resource availability and quality and system performance data . . . Technical potential does not account for existing systems.” National Renewable Energy Laboratory, SLOPE: State and Local Planning for Energy, Residential Rooftop PV, *available at* <https://gds.nrel.gov/slope/data-viewer?layer=energy-generation.residential-pv&year=2017&resolution=state&geography=G55>.

<sup>171</sup> *Id.* (emphasis added).

<sup>172</sup> *Id.*

<sup>173</sup> *Id.*

solar panels sufficient to cover all of the yearly electricity energy output of the PB nuclear”<sup>174</sup> lacks adequate support and fails to establish a practical, feasible alternative.

Indeed, Contention 3 and Compaan fail to provide any information showing that this theoretical rooftop space, if it were sufficient, would be reasonably capable of being outfitted with solar in time to generate sufficient power to replace Point Beach by 2030, when the current licenses expire. “[A] petitioner ordinarily 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.”<sup>175</sup> Even using the highly uncertain, upper-bound SLOPE estimates of available rooftop space, either 87% of suitable residential rooftop space or 68% of commercial rooftop space from the entire state would be needed (together with storage) to replace the power output of Point Beach.<sup>176</sup> As the SLOPE tool indicates, there are 76,990 commercial buildings in Wisconsin.<sup>177</sup> Thus, even using Compaan’s proposed estimates for generation, one would potentially need to build solar power on over 52,000 commercial buildings (68% of 76,990 buildings) to replace Point Beach (assuming the average generation per suitable commercial rooftop).<sup>178</sup> Further, Compaan’s

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<sup>174</sup> Compaan Decl., ¶ 21.

<sup>175</sup> *Seabrook*, CLI-12-5, 75 N.R.C. at 343, *aff’d sub nom, Beyond Nuclear v. U.S. NRC*, 704 F.3d 12, 20 (1st Cir. 2013). *See also Davis-Besse*, CLI-12-8, 75 N.R.C. at 397.

<sup>176</sup> *See* Compaan Decl., ¶ 21 (10,512,000 MWh of required replacement generation / 12,111,240 MWh of available residential rooftop generation equals approximately 87%, while 10,512,000 MWh / 15,415,280 MWh of available rooftop generation equals approximately 68%).

<sup>177</sup> National Renewable Energy Laboratory, SLOPE: State and Local Planning for Energy, Commercial Buildings, *available at* <https://gds.nrel.gov/slope/data-viewer?layer=bldg-benchmarking.building-count&year=2017&resolution=state&geography=G55> (total building values can be obtained by hovering over the state in the map).

<sup>178</sup> The SLOPE tool also provides a bar chart showing the number of commercial buildings by building size and type and allows download of the underlying data. *See id.* Summing the “barea\_gt.5k” data for each of the commercial building types in Wisconsin shows that it would take all commercial

estimate of the solar generation that could be produced on rooftops is based on average generation,<sup>179</sup> and therefore does not take into account seasonal variation (such as the effect of winter daylight limitations, accumulated snowfall, or multiple rainy or cloudy days in a row) that might necessitate even greater numbers of rooftop installations to replace Point Beach's generation year round.

Compaan's proposal is reminiscent of a contention rejected by the Commission in the Davis-Besse license renewal proceeding in which Compaan advocated wind power in the form of interconnected wind farms or solar photovoltaic power, in combination with energy storage, as an alternative to license renewal.<sup>180</sup> Noting the applicant's observation that the contention neither claimed nor showed that interconnected wind farms have been used to provide baseload power anywhere in the world,<sup>181</sup> the Commission agreed that a "theoretical model" for interconnecting wind facilities is insufficient to support an argument that wind power will be commercially viable on the required scale by license expiration.<sup>182</sup> "The mere potential for, or theoretical capacity of, wind generation facilities is insufficient to show their *commercial*

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building over 5,000 square feet, numbering over 47,000, to provide a total area approximately equal to the 65.7 square miles (1.83 billion square feet) that Compaan calculates to be necessary to replace Point Beach's generation.

As another point of comparison, according to the National Renewable Energy Laboratory, "limiting commercial systems to those larger than 100 kW. . . , the median system size has ranged from 200 kW to 350 kW for [commercial] rooftop systems." NREL, U.S. Solar Photovoltaic System and Energy Storage Cost Benchmark: Q1 2020 (Jan. 2021) at 5, *available at* <https://www.nrel.gov/docs/fy21osti/77324.pdf>. Even if commercial rooftop solar systems in this range of size were assumed (without regard to whether there is actually a sufficient number of suitable rooftops on which such systems could be installed) and using Compaan's calculation that a total solar system capacity of 7,643 MW would be required to replace the 1200 MW baseload capacity of Point Beach, the estimated number of commercial rooftops needed would still be somewhere between approximately 22,000 to 38,000.

<sup>179</sup> See Compaan Decl., ¶ 21.

<sup>180</sup> *Davis-Besse*, CLI-12-8, 75 N.R.C. at 399.

<sup>181</sup> *Id.* at 401.

<sup>182</sup> *Id.*

*viability* as a source of baseload power in the [region of interest by license expiration].”<sup>183</sup> The Commission also rejected the proposed solar-plus-storage alternative, holding that 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.”<sup>184</sup>

These holdings are very much on point, as Compaan is advocating interconnection of thousands of rooftop solar installations, along with energy storage, without any showing that such a “theoretical model” has been implemented to produce baseload power anywhere, or that such an alternative is commercially viable or practical. Contention 3 and Compaan fail to provide any information showing that it is practicable or commercially feasible to obtain such rooftop space, build, and fully implement solar power production on each roof (with energy storage) within 9 years’ time.<sup>185</sup> Compaan does not address how one would obtain rights to the space, which would require entering into contracts with the owner of *every single individual*

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<sup>183</sup> *Id.* at 402.

<sup>184</sup> *Id.* at 405.

<sup>185</sup> Compaan also fails to show that battery storage, when coupled with solar energy, has progressed to the point needed to support replacing Point Beach’s capacity. Compaan points to Florida Power & Light Company’s development of the FPL Manatee Energy Storage Center in Manatee County, Florida. Compaan Decl., ¶¶ 28-29. The media article upon which Compaan relies indicates that this facility is the “world’s biggest solar-charged battery storage project.” Energy Storage News, *Work begins on 409MW/900MWh Florida battery project to ease natural gas plants into retirement* (Feb. 2, 2021), available at <https://www.energy-storage.news/news/work-begins-on-409mw-900mwh-florida-battery-project-to-ease-natural-gas-pla>. Yet, its 409MW capacity is considerably smaller than Point Beach’s capacity, and its 900MWh rating reflects its ability to provide its 409MW capacity for just a little over two hours. Indeed, as the article states, this storage facility “will allow the utility to rely far less on natural gas *peaker* plants.” *Id.* Consequently, while NextEra is committed to the continued development of battery storage and believes that, as a general matter, solar energy coupled with battery storage could provide baseload power, as the ER acknowledges (ER at 7-8), Compaan fails to show that a battery storage facility of size and battery duration sufficient to replace Point Beach’s total 24/7 baseload capacity exists or is under development today anywhere. Accordingly, this contention should be rejected because NEPA requires consideration only of reasonable (technically and economically practical or feasible) alternatives to the proposed action and battery storage is not yet such a reasonable alternative. *Beyond Nuclear v. NRC*, 704 F.3d at 19.

*building in question.* Compaan only devotes one paragraph (Para. 21) to arguing for rooftops, but it focuses solely on the mere existence of sufficient rooftops and ignores commercial viability altogether, thus failing entirely to support rooftop solar as a reasonable alternative needing further evaluation.

Residential rooftop solar is “behind the meter” technology that homeowners implement primarily to reduce their own electricity costs, and the notion that NextEra could acquire solar energy from 87 percent of the households in the State seems absurd. The notion that NextEra could acquire the rights to install solar generation on tens-of-thousands of commercial rooftops seems equally ridiculous. Nor does Compaan address how NextEra would perform the transmission or distribution build out that may be necessary to implement such widespread distributed power, or how battery storage would be implemented. As a merchant generator in Wisconsin, NextEra has no transmission or distribution system of its own, no direct link to the ultimate consumer, no power of eminent domain, and no role in encouraging residential or commercial consumers to develop solar generation of their own.

In short, Petitioner and Compaan provide no information showing that NextEra (or any other entity, for that matter) could reasonably develop sufficient rooftop solar generation to replace Point Beach’s baseload capacity in any reasonable amount of time. Without any such explanation, Contention 3 and Compaan fail to provide adequate support to demonstrate that the solar rooftop alternative is sufficiently reasonable, practicable, and commercially feasible to require further analysis in the ER. “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.”<sup>186</sup>

Perhaps Compaan is not envisioning a utility-scale baseload power project, but instead simply an increase in solar generation in Wisconsin eventually reducing demand and obviating the need for replacement power. Indeed, Contention 3 seeks an evaluation of the potential of solar energy “to make the requested license renewal action from 2030 to 2053 unnecessary.”<sup>187</sup> But such an evaluation is beyond the scope of the review in this proceeding, as the Commission’s rules do not require analysis of need for power.<sup>188</sup> Further, Compaan makes no showing that the deployment of rooftop solar is expected to displace Point Beach’s capacity in the near future. To the contrary, the Wood McKenzie/U.S. Energy Storage Association Report to which Compaan refers<sup>189</sup> projects only that 13.4% of homes could be equipped with solar panels by 2030<sup>190</sup>—a far cry from the 87% that would be needed under Compaan’s calculation.

As one final note, Contention 3 and Compaan also fail to address the opportunity cost of using most of the rooftops in Wisconsin to replace Point Beach. The SLOPE tool appears to indicate that there is still a significant amount of coal and natural gas used to generate power in

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<sup>186</sup> *Seabrook*, CLI-12-5, 75 N.R.C. at 342.

<sup>187</sup> Petition at 41.

<sup>188</sup> 10 C.F.R. § 51.53(c)(2) (“The [environmental] report is not required to include discussion of need for power. . .”). See also 10 C.F.R. § 51.95(c)(2).

<sup>189</sup> Compaan Decl., ¶ 30.

<sup>190</sup> Solar Energy Industries Association, *Solar Market Insight Report 2020 Year in Review*, available at <https://www.seia.org/research-resources/solar-market-insight-report-2020-year-review>. “[L]icensing boards are expected ‘to examine cited materials to verify they do, in fact, support a contention.’” *Entergy Nuclear Operations, Inc.* (Palisades Nuclear Plant), CLI-15-22, 82 N.R.C. 310, 320 n.68 (2015) (quoting *USEC Inc.*, CLI-06-10, 63 N.R.C. at 457). Materials cited as a basis for a contention are subject to scrutiny by a licensing board for statements that both support the petitioner’s assertions and those that do not. *Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), LBP-10-24, 72 N.R.C. 720, 750 (2010); *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), LBP-96-2, 43 N.R.C. 61, 90 (1996).

Wisconsin.<sup>191</sup> Every rooftop and battery that is used to replace a nuclear power plant with solar cannot also be used to replace a coal or natural gas fired facility. As such, the overall environmental cost of using half of the rooftops in the State to replace nuclear power, at the expense of replacing coal or natural gas, is potentially significant. Yet, Contention 3 and Compaan fail to address this opportunity cost.

c. Petitioner and Compaan Fail to Demonstrate that Their Proposed Solar Alternative Is Material

Contention 3 is also inadmissible because Petitioner and Compaan fail to make any showing that 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 decision-makers would be unreasonable. This is the standard applicable to license renewal.<sup>192</sup> Petitioner and Compaan, however, appear to be under the misimpression that the Commission's NEPA review is to choose a preferred alternative.<sup>193</sup> By failing to explain why their proposed alternative renders preserving the option of extended operation so great in comparison as to be unreasonable, Petitioner fails to show that its Contention could affect the outcome of this proceeding, and hence fails to demonstrate its materiality.

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<sup>191</sup> National Renewable Energy Laboratory, SLOPE: State and Local Planning for Energy, Energy Generation Mid-Case Scenario, *available at* <https://gds.nrel.gov/slope/data-viewer?layer=standard-scenarios.mid-re-cost&year=2020&resolution=state&geography=G55>.

<sup>192</sup> 10 C.F.R. § 51.95(c)(4); 61 Fed. Reg. at 28,468, 28,471, 28,471, 28,485. *See also* GEIS at 2-1.

<sup>193</sup> *See* Petition at 54 (asserting that “[t]here must be an examination of every alternative within the scope of the proposed action ‘sufficient to permit a reasoned choice’”); Compaan Decl., ¶ 37 (“[W]e contend that the 20-year subsequent operating license renewals for the Point Beach Nuclear Plant units 1 and 2 should be denied.”).

d. Petitioner’s Argument That Nuclear Power Is Too Expensive Impermissibly Challenges the NRC’s Rules, Fails to Raise an Issue Within the Scope of This Proceeding, and Fails to Demonstrate a Genuine Dispute with the Application

Petitioner also relies on a Declaration from Mark Cooper, which it claims “wrecks the notion, not just of ALWR or [small modular reactor] SMR replacement power generation, but any alleged economic justification for the continued operation of PBNP today through the early 2030s let alone the early 2050’s.”<sup>194</sup> Cooper’s declaration is devoted to arguments that “[n]uclear power is far too costly to include in a 21<sup>st</sup> century electricity system . . .”,<sup>195</sup> but his economic arguments are beyond the scope of review set forth in the NRC rules and hence an impermissible challenge to those rules. 10 C.F.R. § 51.45(c) states that “Environmental reports prepared at the license renewal stage under § 51.53(c) need not discuss 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.”<sup>196</sup> Because 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.<sup>197</sup> As the Commission stated in promulgating the rules governing environmental review of license renewal applications, “the NRC recognizes that the

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<sup>194</sup> Petition at 44.

<sup>195</sup> Cooper Decl. ¶ 2; Petition at 49.

<sup>196</sup> 10 C.F.R. § 51.45(c). The same limitation applies to the NRC Staff’s review. *See* 10 C.F.R. §§ 51.71(d), 51.95(c)(2).

<sup>197</sup> Petitioner asserts that “NextEra rejects all three alternatives [deemed reasonable in the ER] as unable to competitively replace PBNP.” Petition at 42. This assertion is inaccurate. Nowhere in the ER is there any rejections of these alternatives as non-competitive, and Petitioner offers no citation supporting its inaccurate claim.

determination of the economic viability of continuing the operation of a nuclear power plant is an issue that should be left to appropriate State regulatory and utility officials.”<sup>198</sup>

Moreover, Cooper’s advocacy for “progressive capitalism” to “transform the electricity system”<sup>199</sup> into a “21<sup>st</sup> century approach . . . that relies on alternative generation, demand reduction, and intense management of supply and demand”<sup>200</sup> constitutes exactly the type of intrusion into the decision-making of State regulators and utilities that the Commission’s rules are intended to avoid.<sup>201</sup>

[T]he NRC has no role in the energy planning decisions of State regulators and utility officials. From the perspective of the licensee and the State regulatory authority, the purpose of renewing an operating license is to maintain the availability of the nuclear plant to meet system energy requirements beyond the term of the plant’s current license. The underlying need that will be met by the continued availability of the nuclear plant is defined by various operational and investment objectives of the licensee. Each of these objectives may be dictated by State regulatory requirements or strongly influenced by State energy policy and programs. . . . The objectives of the various entities involved may include lower energy cost, increased efficiency of energy production and use, reliability in the generation and distribution of electric power, improved fuel diversity within the State, and environmental objectives such as improved air quality and minimized land use.

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The operation of a nuclear power plant beyond its initial license term involves separate regulatory actions, one taken by the utility and the NRC, and the other taken by the utility and the State regulatory authorities. The decision standard would be used by NRC to determine whether, from an environmental perspective, it is reasonable to renew the operating license and allow State and utility decisionmakers the option of considering a currently operating nuclear power plant as an alternative for meeting future

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<sup>198</sup> 61 Fed. Reg. at 28,471.

<sup>199</sup> Cooper Decl. at 3.

<sup>200</sup> Cooper Decl. at 5.

<sup>201</sup> 61 Fed. Reg. at 28,468 (“The NRC acknowledges the primacy of State regulators and utility officials in defining energy requirements and determining the energy mix within their jurisdictions. Therefore, the issue of need for power and generating capacity will no longer be considered in NRC’s license renewal decisions.”).

energy needs. The test of reasonableness focuses on an analysis of whether the environmental impacts anticipated for continued operation during the term of the renewed license reasonably compare with the impacts that are expected from the set of alternatives considered for meeting generating requirements. . . .

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After the NRC makes its decision based on the safety and environmental considerations, the final decision on whether or not to continue operating the nuclear plant will be made by the utility, State, and Federal (non-NRC) decisionmakers. This final decision will be based on economics, energy reliability goals, and other objectives over which the other entities may have jurisdiction. The NRC has no authority or regulatory control over the ultimate selection of future energy alternatives. Likewise, the NRC has no regulatory power to ensure that environmentally superior energy alternatives are used in the future.<sup>202</sup>

Thus, Cooper seeks to inject the very sort of inquiry that the Commission's rules preclude.

Cooper's criticism of the existing power purchase agreement ("PPA") between NextEra and Wisconsin Electric Power Company,<sup>203</sup> and his assertion that "the regulator should consider how to mitigate the impact of the current [PPA],"<sup>204</sup> are not only beyond the scope of this proceeding and barred by the NRC rules, as discussed above, but not even applicable to the second period of extended operation. The current PPA, which was approved by the Wisconsin Public Service Commission,<sup>205</sup> does not extend beyond the current license terms for each unit.<sup>206</sup>

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<sup>202</sup> 61 Fed. Reg. at 28,472-73.

<sup>203</sup> Cooper Decl. at 4, 9, 24.

<sup>204</sup> *Id.* at 9.

<sup>205</sup> Wisconsin Public Service Commission, *In the Matter of the Application for All Approvals Necessary for the Transfer of Ownership and Operational Control of the Point Beach Nuclear Plant from Wisconsin Electric Power Company (d/b/a WE Energies) to FPL Energy Point Beach, LLC, a subsidiary of FPL Group Capital, Inc.*, Final Decision at 48-49, available at <https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=82880>.

<sup>206</sup> "Subject to the terms and conditions of this Agreement, this Agreement shall commence on the Effective Date and, unless terminated earlier as expressly provided herein, shall continue in effect until 11:59:59 p.m. (CPT) on the day before (a) with respect to Unit 1, October 5, 2030 (the 'Unit 1 Termination Date') and (b) with respect to Unit 2, March 8, 2033 (the 'Unit 2 Termination Date'); provided, however, that in the event that the Unit 1 Termination Date or Unit 2 Termination Date is scheduled to fall during any Peak Period, the Unit 1 Termination Date or Unit 2 Termination Date, as

Indeed, the Petition acknowledges Cooper's focus on the current economics for Point Beach today.<sup>207</sup> This focus on the current economics of Point Beach's operation is unrelated to license renewal and beyond the scope of the proceeding.

Cooper attacks not only the economics of Point Beach's operation but also the economics of the SMR alternative discussed in the ER, which Cooper characterizes as a "nightmare" and speculates as likely to be three to five times more expensive than already available technologies.<sup>208</sup> In addition to being barred by 10 C.F.R. § 51.45(c), these claims do not appear material to the findings that the NRC Staff must make. As previously discussed, the inquiry in this proceeding is whether or not the adverse environmental impacts of license renewal are so great, compared with the set of alternatives, that preserving the option of license renewal for future decision-makers would be unreasonable. Eliminating consideration of SMRs (or any other alternative) on economic grounds would not affect this determination, as it would not make the impacts of license renewal any greater when compared to the remaining alternatives.

In summary, none of the discussion in Cooper's declaration is within the scope of this proceeding or demonstrates a genuine material dispute with the Application. Instead, the economic issues he seeks to raise represent impermissible challenges to the NRC rules.

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applicable, shall be extended until the day after the end of such Peak Period." Point Beach Nuclear Plant, *Power Purchase Agreement Between FPL Energy Point Beach, LLC and Wisconsin Electric Power Company* at Section 13.1 (Dec. 19, 2006), available at <https://www.sec.gov/Archives/edgar/data/783325/000010781508000082/wecex10-1.htm>.

<sup>207</sup> Petition at 44.

<sup>208</sup> Cooper Decl. at 22-23.

4. Contention 4 Is Inadmissible Because It Is Outside the Scope of the Proceeding and Fails to Demonstrate a Genuine Material Dispute with the Application

Contention 4 – which alleges that “PBNP has an elevated risk of a turbine missile accident owing to the poor alignment of its major buildings and structures”<sup>209</sup> – is inadmissible because it is outside of the scope of the proceeding and fails to demonstrate any genuine material dispute with the application. The Contention and Gundersen assert that “the PBNP design is unsafe”<sup>210</sup> and that “PB should be required to install an energy-absorbing turbine missile shield around its turbines.”<sup>211</sup> These assertions challenge the existing design of the plant and therefore represent an impermissible challenge to the plant’s CLB. The adequacy of a plant’s CLB is not within the scope of the license renewal review.<sup>212</sup>

Gundersen does not even attempt to argue that his concerns regarding turbine missiles are within the scope of the license renewal review, or to relate that concern to any portion of the Application. Indeed, he cannot, as the turbine blades and shafts (the only components mentioned by Petitioner<sup>213</sup>) are obviously active components and therefore not within the scope of the aging management review.<sup>214</sup> Any suggestion that such active components are subject to an aging

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<sup>209</sup> Petition at 56.

<sup>210</sup> *Id.*; Gundersen Decl., ¶ 7.3.4. *See also* Gundersen Decl., ¶ 7 (“PB is Unsafe”), ¶ 7.1 (“The NRC has already determined that the design of Point Beach is not safe for newer reactors”), ¶ 7.2 (“There are numerous flaws at the Point Beach reactors that make it unsafe for this agency to approve the NextEra license extension to operate Point Beach for 80 years.”).

<sup>211</sup> Petition at 58; Gundersen Decl., ¶ 7.3.9.

<sup>212</sup> *Turkey Point*, CLI-01-17, 54 N.R.C. at 23; *see also* 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.”).

<sup>213</sup> Petition at 58.

<sup>214</sup> “The steam turbine performs its intended functions with moving parts. Pursuant to Title 10 of the Code of Federal Regulations (10 CFR) 54.2(a) (1), therefore, it is not subject to an aging management review (AMR).” NUREG–2191, *Generic Aging Lessons Learned for Subsequent License Renewal* (GALL–SLR) Report (July 2017), Vol. 1 at VIII A-1 (ADAMS Accession No. ML17187A031).

management review would constitute an impermissible challenge to 10 C.F.R. §§ 54.21(a)(1)(i)-(ii), which limit the required review to passive, long-lived components. Such a challenge to the NRC rules is barred.<sup>215</sup>

Petitioner's limited arguments that the contention is within the scope of the license renewal proceeding are baseless. Petitioner first argues that "the evidence strongly suggests that turbine missiles at Point Beach have not been 'adequately dealt with by regulatory processes,' hence it warrants review in this subsequent license extension proceeding."<sup>216</sup> However, the Commission's rule excluding active components from review is based on the Commission's generic determination of the effectiveness of existing programs which monitor the performance and condition of systems, structures, and components that perform active functions.<sup>217</sup> That rule cannot be sidestepped by simply disputing the adequacy of the regulatory process. If Petitioner believed that the rule should not apply in this instance, it should have submitted a petition for waiver showing special circumstances.<sup>218</sup> In the absence of any waiver, "the scope of Commission review determines the scope of admissible contentions in a renewal hearing,"<sup>219</sup> and that scope does not extend to review of active components.

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The turbine system is also not within the scope defined by 10 C.F.R. § 54.4. *See* SLRA at 2.2-5.

<sup>215</sup> 10 C.F.R. § 2.335.

<sup>216</sup> Petition at 58-59. The language that Petitioner quotes can be traced back to a footnote in the Commission's Turkey Point decision.

Some aging-related issues are adequately dealt with by regulatory processes and need not be subject to further review during the license renewal proceeding. An example might be those structures and components that already must be replaced at mandated, specified time periods.

*Turkey Point*, CLI-01-17, 54 N.R.C. at 10 n.2. The Commission's explanation why its license renewal rules exclude some aging-related issues from aging management review obviously does not mean that such issues are brought within the scope of the proceeding by a petitioner's mere allegation that regulatory processes are inadequate.

<sup>217</sup> 60 Fed. Reg. at 22,471.

<sup>218</sup> *Turkey Point*, CLI-01-17, 54 N.R.C. at 10 (citing 10 C.F.R. § 2.758 and 56 Fed. Reg. at 64,961).

<sup>219</sup> *Id.*

Petitioner next cites 10 C.F.R. § 54.4(a) for the proposition that NextEra 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,”<sup>220</sup> but 10 C.F.R. § 54.4(a) says no such thing. Rather, 10 C.F.R. § 54.21(a)(3) provides that “*For each structure and component identified in paragraph (a)(1) of this section, [the integrated plant assessment 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.*” Paragraph (a)(1) of this section screens out active components, such as the turbine blades and shafts. Petitioner’s inaccurate citation and quotation omitting the language excluding active components provides no support for its contention.

Finally, citing 10 C.F.R. § 54.4(a)(1)(i)(iii), Petitioner misleadingly asserts “Section § 54.4 considers plant systems, structures, and components within the scope of Part 54 to include SSCs that have “[t]he capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in § 50.34(a)(1), § 50.67(b)(2), or § 100.11,” and then argues that “[s]ince NextEra cannot make a showing that it has mitigated the possibilities of major damage from a turbine missile event, the current licensing basis may not be sustained.”<sup>221</sup> 10 C.F.R. § 54.4(a)(1) encompasses “Safety-related systems, structures, and components which are those relied upon to remain functional during and following design-basis events to ensure the following functions . . . [including the capability to prevent or mitigate accident consequences].” The turbine is not safety related, and even if it were, active components would be excluded from aging management review pursuant to 10

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<sup>220</sup> Petition at 60 & n. 207.

<sup>221</sup> Petition at 60-61.

C.F.R. § 54.21(a)(1)(i). Moreover, Petitioner’s conclusion that “the current licensing basis may not be sustained”<sup>222</sup> does not even purport to show that some aging management of components within the scope of the license renewal rule is required, but simply challenges the CLB.

Even if the CLB were subject to challenge in this proceeding (which it is not), Petitioner and Gundersen provide no discussion of the measures in Point Beach’s CLB addressing turbine missile risk, and therefore no basis for Gundersen’s assertion that additional shielding is required. As discussed in the Point Beach FSAR, the turbine systems include a single failure proof independent overspeed protection and cross-over steam dump system in both units making the likelihood of exceeding the maximum design speed “practically zero,” and rugged monoblock rotors with integrally forged blade discs installed in the late 1990s that significantly reduce concerns associated with missile generation associated with turbine overspeed.<sup>223</sup> “The CLB for protection against turbine missiles assures a very low probability of turbine missile generation using a probabilistic analysis to determine the appropriate frequency of tests and inspections of the low pressure turbine rotor, the steam admission valves, and the overspeed protection system.”<sup>224</sup> Gundersen addresses none of this information.

In short, Contention 4 represents an impermissible challenge to both the CLB and the rule limiting aging management review to passive long-lived 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. It must therefore be rejected.

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<sup>222</sup> Petition at 61.

<sup>223</sup> Point Beach Nuclear Plant, Units 1 and 2, Updated Final Safety Analysis Report, § 14.1.12 (ADAMS Accession No. ML1926B609).

<sup>224</sup> Point Beach Units 1 and 2, Safety Evaluation for Extended Power Uprate (2001) at 81 (ADAMS Accession No. ML110450159).

#### IV. CONCLUSION

For all of the foregoing reasons, Petitioner has failed to proffer an admissible contention, and its Petition should therefore be denied.

Respectfully submitted,

*/signed electronically by Anne Leidich /*

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April 19, 2021

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

Before the Atomic Safety and Licensing Board

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

**Certificate of Service**

I hereby certify that the foregoing NextEra Energy Point Beach, LLC’s Answer Opposing the Physicians for Social Responsibility Wisconsin’s Petition for Leave to Intervene and Request for Hearing has been served through the E-Filing system on the participants in the above-captioned proceeding this 19th day of April, 2021.

/signed electronically by Anne R. Leidich/

\_\_\_\_\_  
Anne R. Leidich