

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

**BEFORE THE ATOMIC SAFETY AND LICENSING BOARD**

---

In the Matter of: )

NEXTERA ENERGY SEABROOK, LLC )

(Seabrook Station Unit 1) )

---

) Docket No. 50-443-LA-2

) May 5, 2017

---

**NEXTERA’S ANSWER OPPOSING C-10 RESEARCH & EDUCATION  
FOUNDATION’S PETITION FOR LEAVE TO INTERVENE AND HEARING  
REQUEST ON NEXTERA ENERGY SEABROOK, LLC’S LICENSE AMENDMENT  
REQUEST 16-03**

---

Steven Hamrick, Esq.  
NextEra Energy Seabrook, LLC  
801 Pennsylvania Ave., NW Suite 220  
Washington, D.C. 20004  
Phone: (202) 349-3496  
Fax: (202) 347-7076  
E-mail: steven.hamrick@fpl.com

Paul M. Bessette, Esq.  
Morgan, Lewis & Bockius LLP  
1111 Pennsylvania Avenue, N.W.  
Washington, D.C. 20004  
Phone: (202) 739-5796  
Fax: (202) 739-3001  
E-mail: paul.bessette@morganlewis.com

William S. Blair, Esq.  
NextEra Energy Seabrook, LLC  
700 Universe Blvd.  
Juno Beach, FL 33408  
Phone: (561) 304-5238  
Fax: (561) 304-5366  
E-mail: william.blair@fpl.com

Ryan K. Lighty, Esq.  
Morgan, Lewis & Bockius LLP  
1111 Pennsylvania Avenue, N.W.  
Washington, D.C. 20004  
Phone: (202) 739-5274  
Fax: (202) 739-3001  
E-mail: ryan.lighty@morganlewis.com

*Counsel for NextEra Energy Seabrook, LLC*

## TABLE OF CONTENTS

	<b>Page</b>
I. INTRODUCTION .....	1
II. TECHNICAL BACKGROUND.....	3
III. LEGAL STANDARDS .....	7
A. Standing .....	7
B. Contention Admissibility .....	10
IV. PETITIONER HAS NOT DEMONSTRATED STANDING .....	13
V. PETITIONER HAS NOT SUBMITTED AN ADMISSIBLE CONTENTION.....	16
A. Contention A: Visual Inspections, Indexing, and Extensometers.....	19
B. Contention B: Prestressing.....	28
C. Contention C: Core Sample Testing and Petrography .....	34
D. Contention D: Challenge to LSTP as Not “Representative” .....	41
E. Contention E: Proprietary Information .....	50
F. Contention F: Rebar .....	54
G. Contention G: Tipping Point.....	59
H. Contention H: Inspection Intervals .....	63
I. Contention I: Sea Level Rise .....	68
J. Contention J: LAR Terminology .....	69
VI. CONCLUSION.....	71

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

**BEFORE THE ATOMIC SAFETY AND LICENSING BOARD**

\_\_\_\_\_ )  
In the Matter of: )

NEXTERA ENERGY SEABROOK, LLC )

(Seabrook Station Unit 1) )  
\_\_\_\_\_ )

) Docket No. 50-443-LA-2

) May 5, 2017

**NEXTERA’S ANSWER OPPOSING C-10 RESEARCH & EDUCATION  
FOUNDATION’S PETITION FOR LEAVE TO INTERVENE AND HEARING  
REQUEST ON NEXTERA ENERGY SEABROOK, LLC’S LICENSE AMENDMENT  
REQUEST 16-03**

**I. INTRODUCTION**

On February 7, 2017, the U.S. Nuclear Regulatory Commission (“NRC”) published in the *Federal Register* a notice of opportunity to request a hearing (“Hearing Opportunity Notice”)<sup>1</sup> on NextEra Energy Seabrook, LLC’s (“NextEra”) license amendment request 16-03 (“LAR”)<sup>2</sup> for

---

<sup>1</sup> Application and Amendments to Facility Operating Licenses and Combined Licenses Involving Proposed No Significant Hazards Considerations and Containing Sensitive Unclassified Non-Safeguards Information and Order Imposing Procedures for Access to Sensitive Unclassified Non-Safeguards Information, 82 Fed. Reg. 9601, 9604 (Feb. 7, 2017) (“Hearing Opportunity Notice”).

<sup>2</sup> SBK-L-16071, Letter from to R. Dodds to NRC Document Control Desk, “License Amendment Request 16-03 – Revise Current Licensing Basis to Adopt A Methodology for the Analysis of Seismic Category I Structures with Concrete Affected by Alkali-Silica Reaction,” (Aug. 1, 2016) (ML16216A240) (“Original LAR”). The Original LAR included eight enclosures and one attachment, including Enclosure 7, “NextEra Energy Seabrook’s Evaluation of the Proposed Change” (Non-Proprietary) (“LAR Evaluation”); Attachment 1, Markup of UFSAR Pages (“UFSAR Markup”); Enclosure 2, MPR-4288, Rev. 0, “Seabrook Station: Impact of Alkali-Silica Reaction on Structural Design Evaluations” (July 2016) (Non-Proprietary) (“MPR-4288”); and Enclosure 3, MPR-4273, Rev. 0, “Seabrook Station - Implications of Large-Scale Test Program Results on Reinforced Concrete Affected by Alkali-Silica Reaction” (July 2016) (Non-Proprietary) (“MPR-4273”). NextEra supplemented the LAR on September 30, 2016. SBK-L-16153, Letter from to R. Dodds to NRC Document Control Desk, “Supplement to License Amendment Request 16-03 – Revise Current Licensing Basis to Adopt A Methodology for the Analysis of Seismic Category I Structures with Concrete Affected by Alkali-Silica Reaction,” (Sept. 30, 2016) (ML16279A048) (“LAR Supplement”). The LAR Supplement included five enclosures, including Enclosure 3, MPR-4153, Rev. 2, “Seabrook Station - Approach for Determining Through-Thickness Expansion from Alkali-Silica Reaction” (July 2016) (Non-Proprietary) (“MPR-4153”). The Original LAR and LAR Supplement, and all attachments, are collectively the “LAR.”

Seabrook Station Unit 1 (“Seabrook”). The LAR seeks NRC approval to revise the Seabrook Updated Final Safety Analysis Report (“UFSAR”) to include methods for analyzing Seismic Category I structures with concrete affected by an alkali-silica reaction (“ASR”). On April 10, 2017, C-10 Research and Education Foundation, Inc. (“Petitioner”) filed its “Petition for Leave to Intervene” (“Petition”) seeking to intervene in this proceeding, requesting a hearing, and proposing ten contentions.<sup>3</sup>

Pursuant to 10 C.F.R. § 2.309(i), NextEra submits this Answer opposing the Petition. As explained below, Petitioner’s proposed contentions fail at a fundamental level in that Petitioner largely fails to challenge the LAR itself. Petitioner’s principal theme is that NextEra has not committed to implement a perpetual, extensive core sample testing regime at Seabrook, and that such testing is required for an accurate assessment of ASR on plant structures going forward.<sup>4</sup> However, the LAR explicitly calls for core sample testing as an integral part of its ASR monitoring methodology.<sup>5</sup> Moreover, nearly all of Petitioner’s citations to purported authority predate the LAR submission by more than two years, reference now-superseded iterations of NextEra’s ASR assessment program, and offer little, if any, germane commentary to matters within the actual scope of the LAR. All of the proposed contentions are either out of scope, immaterial, unsupported, or fail to raise a genuine dispute with the application, or suffer from a combination of these deficiencies. Furthermore, Petitioner has not met its burden to demonstrate standing.

---

<sup>3</sup> C-10 Research and Education Foundation, Inc., “Petition for Leave to Intervene: Nuclear Regulatory Commission Docket No. 50-443,” (Apr. 10, 2017) (ML17100B013) (“Petition”).

<sup>4</sup> *See, e.g., id.* at 2 (claiming, incorrectly, that NextEra has chosen “not to continue core sample testing”).

<sup>5</sup> *See generally, e.g.,* MPR-4153.

Accordingly, the Atomic Safety and Licensing Board (“Board”) should deny the Petition because Petitioner has neither demonstrated standing nor submitted an admissible contention, contrary to 10 C.F.R. §§ 2.309(d) and (f)(1).

## **II. TECHNICAL BACKGROUND**

ASR is a chemical reaction that occurs in susceptible concrete, causing it to expand in volume, and potentially reduces the capacity of concrete structures. The reaction occurs over time in concrete between alkalis in the cement and reactive non-crystalline silica, which is found in many common aggregates. The reaction produces an alkali-silicate gel that expands as it absorbs moisture. The expansion exerts a stress on the surrounding concrete and results in cracking.

NextEra initially identified pattern cracking typical of ASR in the B Electrical Tunnel at Seabrook in 2009, and subsequently, several other seismic Category I structures. As a result, multiple campaigns were conducted to remove concrete cores from the walls in several plant structures to confirm the presence of ASR. Petrographic examination of the cores concluded the concrete had ASR.

At Seabrook, seismic Category I structures other than the containment building were designed to the requirements of American Concrete Institute (“ACI”) 318-71, “Building Code Requirements for Reinforced Concrete.” The containment building is a reinforced concrete structure that is designed in accordance with the requirements of Section III of the American Society of Mechanical Engineers (“ASME”) Boiler & Pressure Vessel Code (1975 Edition). The Seabrook license references these codes, which use material property testing as the means for calculating structural capacities. ACI 318-71 and the ASME Code consider the material properties of concrete; however, they do not include provisions for the analysis of reinforced concrete structures affected by ASR. While ASR may affect the material properties of concrete,

including the elastic modulus, the change in material properties does not necessarily result in a corresponding decrease in *capacity* of a reinforced concrete structure. ASR-induced expansion in reinforced concrete has an effect, similar in some ways to that of “prestressing,”<sup>6</sup> that mitigates the loss of structural capacity that would be assumed based on the change in material properties, up to a point.<sup>7</sup>

Following discovery of ASR at Seabrook, a prompt operability determination was completed utilizing basic material property testing as prescribed by the existing codes. This resulted in overly conservative conclusions, as it did not account for the “prestressing” effect, but was appropriate for a short-term assessment. The assessment concluded that “margins to the code design limits remained.”<sup>8</sup> Meanwhile, in view of the need for a longer-term assessment approach, NextEra determined to develop a methodology that would yield an *appropriately* conservative assessment of structural adequacy for reinforced concrete structures that included loads induced by ASR-expansion.

Accordingly, NextEra collaborated with MPR Associates (“MPR”) and the Ferguson Structural Engineering Laboratory (“FSEL”) at the University of Texas at Austin to conduct the large-scale test program (“LSTP”) with the objective of creating a methodology for analyzing ASR-affected structures—*i.e.*, to fill the gap in the codes.<sup>9</sup> The LSTP considered data from tests conducted specifically for Seabrook as well as data from publicly-available literature. On

---

<sup>6</sup> As relevant here, “prestressing” is a construction technique used to compress and strengthen concrete before it supports an applied load. M. COLLINS & D. MITCHELL, PRESTRESSED CONCRETE STRUCTURES § 1.1 (1991) (“Prestressed concrete is a type of reinforced concrete in which the steel reinforcement has been tensioned against the concrete. This tensioning operation results in self-equilibrating system of internal stresses (tensile stresses in the steel and compressive stresses in the concrete) which improves the response to the concrete external loads.”).

<sup>7</sup> See LAR Evaluation at 3.

<sup>8</sup> NRC Information Notice 2011-20: Concrete Degradation by Alkali-Silica Reaction at 3 (Nov. 18, 2011) (ML112241029).

<sup>9</sup> MPR-4273 (included as an attachment to the Original LAR).

numerous occasions during testing, NRC inspectors from Region I and representatives from the NRC's Office of Nuclear Reactor Regulation audited the LSTP activities. Inspectors witnessed testing, verified compliance with procedures, evaluated adherence to quality assurance/control requirements and examined the newly fabricated instrument beam and associated monitoring devices. While NRC's review of the LAR is ongoing, NRC did conclude that "the approach being pursued by [NextEra], to a significant extent based on large-scale testing at UT-Austin, is technically the appropriate approach to address structural performance of ASR-affected Seabrook structures for limit states where gaps exist in ASR literature."<sup>10</sup>

MPR-4273 contains a detailed discussion of the LSTP. MPR-4288 contains the methodology, based on data from the LSTP and other literature, for performing evaluations of structural adequacy on ASR-affected reinforced concrete structures at Seabrook.<sup>11</sup> A correlation between elastic modulus and structural expansion, developed in MPR-4153 using data from the LSTP, is used as part of the ASR monitoring program.<sup>12</sup> These three reports (collectively, "MPR Reports"), which were submitted as part of the LAR, provide the basis for the conclusions regarding the impact of ASR on structural limit states and design considerations for Seabrook structures, and the basis for the LAR itself. The MPR Reports, among other sources, also informed enhancements to Seabrook's current licensing basis ("CLB") Structures Monitoring Program ("SMP"), which are specifically aimed at detection and monitoring of ASR degradation in plant structures.

---

<sup>10</sup> Memorandum from A. Erickson, NRC, to J. Trapp, NRC, "Position Paper – 'Assessment of ACI 318-71 as Design Basis for Category I Concrete Structures Affected by Alkali-Silica Reaction at Seabrook Station,'" Encl. at 6 (June 10, 2013) (ML13128A521).

<sup>11</sup> MPR-4288 (included as an attachment to the Original LAR).

<sup>12</sup> MPR-4153 (included as an attachment to the LAR Supplement).

Per the enhanced SMP, ASR monitoring includes long-term determination and trending of concrete expansion. The SMP describes a three-tiered system for triaging different structures based, *initially*, on their in-plane expansion, as shown in the chart below.<sup>13</sup>

Tier	Recommendation from Inspection	In-Plane Expansion	Inspection Frequency
1	Routine inspection in accordance with SMP	NA*	As prescribed in the SMP
2	Qualitative monitoring	Areas with pattern cracking that cannot be accurately measured	30 months
	Quantitative monitoring and trending	0.05%	
3	Structural evaluation and implement enhanced ASR monitoring	0.1%	6 months

As explained further in the LAR and MPR Reports, Tier 3 structural evaluation includes removal of core samples for compressive and elastic modulus testing for the purpose of determining through-thickness expansion to-date. This is accomplished by calculating the normalized elastic modulus (ratio of the test result from the ASR-affected area to the original elastic modulus), then using an empirical correlation of normalized modulus and expansion from the LSTP to provide a conservative estimate of expansion to-date.<sup>14</sup> Tier 3 enhanced ASR monitoring also requires installation of extensometers for measuring through-thickness expansion, from the date of installation forward.<sup>15</sup> Total expansion is calculated by adding the extensometer measurements to the expansion to-date as of the time of extensometer

---

<sup>13</sup> LAR Evaluation at tbl.5.

<sup>14</sup> MPR-4153 at iv.

<sup>15</sup> *Id.* § 5.1.

installation.<sup>16</sup> The first campaign of extensometer installations and material property testing of cores was completed and is documented in MPR-4153.<sup>17</sup>

In summary, the LAR proposes to revise the UFSAR to include methods for analyzing seismic Category I structures with concrete affected by ASR, as informed by the LSTP and trade literature, and described in the MPR Reports. “The overall conclusion from analyses of structural limit states is that limit state capacity is not degraded when small amounts of ASR expansion are present in structures. Presently, the ASR expansion levels in Seabrook structures are below the levels at which limit state capacities are reduced.”<sup>18</sup> Importantly, the LAR does not seek NRC approval for means to predict the concrete failure or “tipping point,” does not seek approval of a solution or remedy to ASR, and does not propose to modify CLB programs that consider other possible effects on concrete structures, including radiation and rebar corrosion.

### **III. LEGAL STANDARDS**

To grant the Petition, the Board must find that the Petitioner has both demonstrated standing, under the provisions of 10 C.F.R. § 2.309(d), and proposed at least one admissible contention, subject to the requirements of 10 C.F.R. § 2.309(f).<sup>19</sup> The standards applicable to these requirements are detailed below.

#### **A. Standing**

Atomic Energy Act (“AEA”) Section 189a states that “the Commission shall grant a hearing upon the request of any person whose interest may be affected by the proceeding.”<sup>20</sup>

The Commission’s regulations implementing this requirement include the standing requirements

---

<sup>16</sup> *Id.* at iv.

<sup>17</sup> *Id.* § 5.1.

<sup>18</sup> LAR Evaluation § 3.2.1.

<sup>19</sup> 10 C.F.R. § 2.309(a).

<sup>20</sup> AEA § 189a(1)(A).

in 10 C.F.R. § 2.309(d)(1), which require a petitioner to address: (1) the nature of the petitioner’s right under the AEA to be made a party to the proceeding; (2) the nature and extent of the petitioner’s property, financial, or other interest in the proceeding; and (3) the possible effect of any decision or order that may be issued in the proceeding on the petitioner’s interest.

In assessing these factors, the NRC applies “contemporaneous judicial concepts of standing.”<sup>21</sup> Thus, to demonstrate standing, a petitioner must show: (1) an actual or threatened, concrete and particularized injury that is (2) fairly traceable to the challenged action and (3) likely to be redressed by a favorable decision.<sup>22</sup> These three criteria are referred to as injury-in-fact, causation, and redressability, respectively.

First, a petitioner’s injury-in-fact showing “requires that the party seeking review be himself among the injured.”<sup>23</sup> The injury must be “concrete and particularized,” not “conjectural” or “hypothetical.”<sup>24</sup> As a result, standing will be “denied when the threat of injury is too speculative.”<sup>25</sup> Second, a petitioner must establish that the injuries alleged are “fairly traceable to the proposed action.”<sup>26</sup> Finally, each petitioner must demonstrate that the injury can be “redressed” by a favorable decision. Furthermore, “it must be likely, as opposed to merely speculative that the injury will be redressed by a favorable decision.”<sup>27</sup>

---

<sup>21</sup> *Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC 911, 914-16 (2009) (internal citation omitted); *see also Nuclear Mgmt. Co., LLC* (Monticello Nuclear Generating Plant), CLI-06-6, 63 NRC 161, 163 (2006).

<sup>22</sup> *See Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 6 (1996).

<sup>23</sup> *Sierra Club v. Morton*, 405 U.S. 727, 734-35 (1972).

<sup>24</sup> *Sequoyah Fuels Corp.* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 72 (1994) (citations omitted).

<sup>25</sup> *Id.*

<sup>26</sup> *Id.* at 75.

<sup>27</sup> *Id.* at 76 (quoting *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 561 (1992) (internal quotations omitted)).

Under some circumstances, a petitioner may be presumed to have standing based on geographic proximity to a facility.<sup>28</sup> In certain proceedings involving power reactors, “proximity” standing has generally been found for petitioners who reside within 50 miles of the facility in question.<sup>29</sup> The Commission has explained, however, that this proximity presumption only applies to proceedings involving applications for “construction permits, operating licenses, or significant amendments thereto such as the expansion of the capacity of a spent fuel pool.”<sup>30</sup> The presumption applies because “those cases involved the construction or operation of the reactor itself, with clear implications for the offsite environment, or major alterations to the facility with a clear potential for offsite consequences.”<sup>31</sup> Thus, in license amendment proceedings, absent an “obvious potential for offsite consequences,” a petitioner must satisfy the traditional standing requirements.<sup>32</sup>

Finally, an organization that wishes to intervene in a proceeding may do so either in its own right (by demonstrating injury to its organizational interests), or in a representational capacity (by demonstrating harm to the interests of its members).<sup>33</sup> To establish representational standing, an organization must: (1) show that at least one of its members has standing in his or

---

<sup>28</sup> See *Exelon Generation Co., LLC* (Peach Bottom Atomic Power Station, Units 2 & 3), CLI-05-26, 62 NRC 577, 579-83 (2005).

<sup>29</sup> See, e.g., *Calvert Cliffs*, CLI-09-20, 70 NRC at 915-16.

<sup>30</sup> *Fla. Power & Light Co.* (St. Lucie, Units 1 & 2), CLI-89-21, 30 NRC 325, 329 (1989) (citing *Virginia Elec. Power Co.* (North Anna Nuclear Power Station, Units 1 & 2), ALAB-522, 9 NRC 54 (1979)).

<sup>31</sup> *St. Lucie*, CLI-89-21, 30 NRC at 329.

<sup>32</sup> *Id.* at 329-30; see also *Commonwealth Edison Co.* (Zion Nuclear Power Station, Units 1 & 2), CLI-99-04, 49 NRC 185, 191 (1999); *Fla. Power & Light Co.* (Turkey Point Nuclear Plant, Units 3 & 4), LBP-08-18, 68 NRC 533, 539 (2008).

<sup>33</sup> *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 195 (1998) (citing *Ga. Inst. of Tech.* (Ga. Tech Research Reactor), CLI-95-12, 42 NRC 111, 115 (1995)).

her own right; (2) identify that member; and (3) show, “preferably by affidavit,” that the organization is authorized by that member to request a hearing on behalf of the member.<sup>34</sup>

## **B. Contention Admissibility**

Under 10 C.F.R. § 2.309(f)(1), a hearing request “must set forth with particularity the contentions sought to be raised.” Section 2.309(f)(1)(i) through (vi) identifies the six admissibility criteria for each proposed contention.<sup>35</sup> Failure to comply with any one of the six admissibility criteria is grounds for rejecting a proposed contention.<sup>36</sup> The Commission has stated that it “should not have to expend resources to support the hearing process unless there is an issue that is appropriate for, and susceptible to, resolution in an NRC hearing.”<sup>37</sup>

Of particular relevance here is the longstanding principle that a contention challenging an NRC rule or the basic structure of the Commission’s regulatory process is outside the scope of the proceeding under 10 C.F.R. § 2.309(f)(1)(iii) and, therefore, inadmissible,<sup>38</sup> and cannot be raised by a board *sua sponte*.<sup>39</sup> “This includes contentions that advocate stricter requirements than agency rules impose, or that otherwise seek to litigate a generic determination established

---

<sup>34</sup> *Consumers Energy Co.* (Palisades Nuclear Power Plant), CLI-07-18, 65 NRC 399, 408-10 (2007); *see also N. States Power Co.* (Monticello Nuclear Generating Plant, Prairie Island Nuclear Generating Plant, Units 1 & 2; Prairie Island Indep. Spent Fuel Storage Installation), CLI-00-14, 52 NRC 37, 47 (2000); *GPU Nuclear Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 202 (2000).

<sup>35</sup> Those criteria are: (i) provide a specific statement of the legal or factual issue sought to be raised; (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 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 regard to a material issue of law or fact.

<sup>36</sup> *See* Changes to Adjudicatory Process, 69 Fed. Reg. 2182, 2221 (Jan. 14, 2004); *see also Private Fuel Storage, L.L.C.* (Indep. Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999).

<sup>37</sup> Changes to Adjudicatory Process, 69 Fed. Reg. at 2202.

<sup>38</sup> *Phila. Elec. Co.* (Peach Bottom Atomic Power Station), ALAB-216, 8 AEC 13, 20, (1974), *aff’d in part on other grounds*, CLI-74-32, 8 AEC 217 (1974); *see also* 10 C.F.R. § 2.335(a) (absent a waiver, “no rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding”).

<sup>39</sup> *DTE Elec. Co.* (Fermi Nuclear Power Plant, Unit 3), CLI-15-01, 81 NRC 1, 10 (2015) (noting the general principle and explaining the Commission “likewise will not allow the Board to do the same”).

by a Commission rulemaking.”<sup>40</sup> “Additionally, the adjudicatory process is not the proper venue to hear any contention that merely addresses petitioner’s own view regarding the direction regulatory policy should take.”<sup>41</sup>

For license amendment proceedings, such as this one, the scope of a proceeding is defined by and restricted to the Commission’s notice of opportunity for a hearing.<sup>42</sup> The Hearing Opportunity Notice for this proceeding reiterates this principle, stating that: “Contentions must be limited to matters within the scope of the proceeding,”<sup>43</sup> and describing the LAR, which defines the scope of the proceeding, as follows: “The amendment would revise the Seabrook Station Updated Final Safety Analysis Report to include methods for analyzing seismic Category I structures with concrete affected by an alkali-silica reaction.”<sup>44</sup> Any contention that falls outside the specified scope of the proceeding must be rejected.<sup>45</sup> Therefore, contentions that challenge separate licensing actions and submittals, or unrelated CLB programs, are not admissible in this proceeding.

With respect to factual information or expert opinion proffered in support of a contention, “the Board is not to accept uncritically the assertion that a document or other factual information or an expert opinion supplies the basis for a contention.”<sup>46</sup> “[A]n expert opinion that merely

---

<sup>40</sup> *Crow Butte Res., Inc.* (Marsland Expansion Area), LBP-13-6, 77 NRC 253, 284 (2013), *aff’d*, CLI-14-2, 79 NRC 11 (2014) (citing several previous decisions holding the same).

<sup>41</sup> *Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Unit 3), LBP-08-9, 67 NRC 421, 431 (2008) (citing *Peach Bottom*, ALAB-216, 8 AEC at 21 n.33).

<sup>42</sup> *See Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), ALAB-825, 22 NRC 785, 790-91 (1985).

<sup>43</sup> Hearing Opportunity Notice, 82 Fed. Reg. at 9602.

<sup>44</sup> *Id.* at 9604.

<sup>45</sup> *See Portland Gen. Elec. Co.* (Trojan Nuclear Plant), ALAB-534, 9 NRC 287, 289 n.6 (1979) (affirming the board’s rejection of issues raised by intervenors that fell outside the scope of issue identified in the notice of hearing); *see also Yankee*, CLI-98-21, 48 NRC at 204.

<sup>46</sup> *Private Fuel Storage, L.L.C.* (Indep. Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 181 (1998), *aff’d*, CLI-98-13, 48 NRC 26 (1998).

states a conclusion (*e.g.*, the application is ‘deficient,’ ‘inadequate,’ or ‘wrong’) without providing *a reasoned basis or explanation* for that conclusion is inadequate because it deprives the Board of the ability to make the necessary, reflective assessment of the opinion” as it is alleged to provide a basis for the contention.<sup>47</sup>

Any supporting material provided by a petitioner, including those portions not relied upon, is subject to Board scrutiny, “both for what it does and does not show.”<sup>48</sup> The Board will examine documents to confirm that they support the proposed contentions.<sup>49</sup> A petitioner’s imprecise reading of a document cannot be the basis for a litigable contention.<sup>50</sup> Moreover, vague references to documents do not suffice—the petitioner must identify specific portions of the documents on which it relies.<sup>51</sup>

Finally, “it is Petitioners’ responsibility, not the Board’s, to formulate contentions and to provide the necessary information to satisfy the basis requirement for admission.”<sup>52</sup> Although licensing boards have some limited discretion to reformulate or narrow contentions for adjudicatory efficiency, they “may not supply information that is lacking in a contention that otherwise would be inadmissible.”<sup>53</sup> The Board may not supply legal support, technical support,

---

<sup>47</sup> *USEC, Inc. (Am. Centrifuge Plant)*, CLI-06-10, 63 NRC 451, 472 (2006) (emphasis added) (quoting *Private Fuel Storage*, LBP-98-7, 47 NRC at 181).

<sup>48</sup> *See Yankee Atomic Elec. Co. (Yankee Nuclear Power Station)*, LBP-96-2, 43 NRC 61, 90 (1996), *rev’d in part on other grounds*, CLI-96-7, 43 NRC 235 (1996).

<sup>49</sup> *See Vt. Yankee Nuclear Power Corp. (Vt. Yankee Nuclear Power Station)*, ALAB-919, 30 NRC 29, 48 (1989), *vacated in part on other grounds and remanded*, CLI-90-4, 31 NRC 333 (1990).

<sup>50</sup> *See Ga. Inst. of Tech. (Ga. Tech Research Reactor, Atlanta, Ga.)*, LBP-95-6, 41 NRC 281, 300 (1995), *aff’d*, CLI-95-12, 42 NRC 111 (1995).

<sup>51</sup> *Pub. Serv. Co. of N.H. (Seabrook Station, Units 1 & 2)*, CLI-89-3, 29 NRC 234, 240-41 (1989).

<sup>52</sup> *Entergy Nuclear Ops., Inc. (Palisades Nuclear Plant)*, CLI-15-23, 82 NRC 321, 329 (2015) (internal citation omitted).

<sup>53</sup> *DTE Elec. Co. (Fermi Nuclear Power Plant, Unit 2)*, CLI-15-18, 82 NRC \_\_ (slip op. at 8) (Sept. 8, 2015).

expert opinion, references to specific sources, or a reasoned basis or explanation for a conclusion<sup>54</sup>—even for *pro se* litigants.<sup>55</sup>

#### **IV. PETITIONER HAS NOT DEMONSTRATED STANDING**

As a threshold matter, Petitioner bears the burden of showing standing.<sup>56</sup> As discussed below, Petitioner has not met its burden to show standing pursuant to 10 C.F.R. § 2.309(d). In fact, Petitioner does not even plead standing in the Petition. It has not alleged facts sufficient to demonstrate organizational standing on its own behalf, and it has not pled facts sufficient to demonstrate representational standing on behalf of anyone else. Accordingly, the Petition should be rejected for this reason alone.

As noted above, an organization such as Petitioner may establish representational standing by showing that at least one member has standing to intervene in their own right and has authorized the organization to request a hearing on their behalf.<sup>57</sup> Alternatively, an organization may establish organizational standing if it demonstrates a risk of “discrete institutional injury to itself.”<sup>58</sup>

The Petition alleges that safety, in general, “is germane to the health, well-being, livelihoods and property of the people [Petitioner] represent[s]: the citizens within a ten-mile radius of Seabrook.”<sup>59</sup> The Petition also alleges that Petitioner’s “office is located within the EPZ of Seabrook,” and that its “board of directors and most of [its] members reside in the

---

<sup>54</sup> See *id.* at \_\_ (slip. op. at 19) (“the Board may not substitute its own support for a contention or make arguments for the litigants that were never made by the litigants themselves”).

<sup>55</sup> See *id.* at \_\_ (slip op. at 14) (“even though [petitioner] is not represented by counsel, the Board should not have read into [petitioner]’s petition a different challenge from the one [petitioner] presented”).

<sup>56</sup> See *PPL Bell Bend, LLC* (Bell Bend Nuclear Power Plant), CLI-10-07, 71 NRC 133, 139 (2010).

<sup>57</sup> *Ga. Tech.*, CLI-95-12, 42 NRC at 115.

<sup>58</sup> *Palisades*, CLI-07-18, 65 NRC at 411-12.

<sup>59</sup> Petition at 1.

communities adjacent to the plant.”<sup>60</sup> The Petition, however, does not provide further detail regarding the organizational interests of the Petitioner or the specific location of any individual. Nor does Petitioner clarify whether it claims organizational or representational standing. But, Petitioner clearly has not established representational standing because it has not: (1) identified any organizational member, (2) shown that any member authorized representation, or (3) stated how any member is affected by the proposed action.<sup>61</sup> Because the Petition does not identify any organizational members (and makes only the vague assertion that they “represent” everyone within a ten-mile radius of the plant), NextEra assumes that Petitioner asserts organizational standing.

The Commission has stated that “[o]rganizations seeking to intervene in their own right must satisfy the same ‘standing’ requirements as individuals seeking to intervene.”<sup>62</sup> Pursuant to 10 C.F.R. § 2.309(d)(1), a petition must state:

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

The Petition provides contact information for Petitioner,<sup>63</sup> but otherwise fails to address the remaining three threshold requirements, which deprives the Board of the ability to evaluate standing. For example, if Petitioner’s vague reference to “communities adjacent to the plant” is

---

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

<sup>61</sup> *See Ga. Tech.*, CLI-95-12, 42 NRC at 115; *Palisades*, CLI-07-18, 65 NRC at 409-10.

<sup>62</sup> *Palisades*, CLI-07-18, 65 NRC at 411.

<sup>63</sup> Petition at 17.

intended to trigger the proximity presumption, then Petitioner’s failure to provide physical addresses for any members precludes the Board from evaluating the proximity presumption’s potential applicability.<sup>64</sup>

Similarly, Petitioner’s failure to identify its interests in this proceeding or the possible effect of any decision on its organizational interests, or the interests of any member, prevents the Board from evaluating any possible “discrete institutional injury” to Petitioner.<sup>65</sup> Moreover, Petitioner’s assertion that granting the LAR “could put the public at serious risk” is far too vague to establish standing.<sup>66</sup> Petitioner offers no explanation for how its vague purported harm is fairly traceable to the LAR, other than referring to “deteriorating concrete,” and thus fails to satisfy the causation element of traditional standing.<sup>67</sup> Petitioner’s generalized concerns also are not “concrete and particularized,” but are “conjectural” or “hypothetical” and must be denied as “too speculative.”<sup>68</sup> Petitioner, therefore, fails to demonstrate how any of its interests may be affected and redressed by this proceeding.

\* \* \* \* \*

As Petitioner has not pled facts sufficient to demonstrate either organizational or representational standing, the Petition fails to satisfy the requirements of 10 C.F.R. § 2.309(a) and (d). Thus, the Petition should be rejected.

---

<sup>64</sup> See *Palisades*, CLI-07-18, 65 NRC at 41 (noting that, to demonstrate an interest based on proximity, a petitioner must provide more than general assertions of proximity). Here, the Petition does not contain the information needed to make this determination.

<sup>65</sup> See *Entergy Nuclear Operations, Inc. (Palisades Nuclear Plant)*, CLI-08-19, 68 NRC 251, 270 (2008) (noting that general environment and policy interests have been repeatedly found insufficient).

<sup>66</sup> See Petition at 1.

<sup>67</sup> See *Yankee*, CLI-96-1, 43 NRC at 6.

<sup>68</sup> See *Sequoyah*, CLI-94-12, 40 NRC at 72.

## V. PETITIONER HAS NOT SUBMITTED AN ADMISSIBLE CONTENTION

In its hearing request, Petitioner submitted ten proposed contentions.<sup>69</sup> In brief, these ten proposed contentions relate to: (a) ASR monitoring methodology; (b) prestressing effect; (c) petrographic analysis; (d) representativeness of the FSEL LSTP; (e) reliance on proprietary information; (f) rebar corrosion; (g) the “tipping point”; (h) inspection intervals; (i) impact of sea level rise, and; (j) use of inappropriate language.<sup>70</sup> As explained in further detail below, none of the proposed contentions are admissible because each one fails to satisfy one or more of the admissibility criteria in 10 C.F.R. § 2.309(f)(1).

All of the contentions rest largely on one principal theme—that NextEra is not conducting ongoing core sample testing at Seabrook, and that such testing is required for an accurate assessment of ASR on plant structures going forward.<sup>71</sup> However, as explained in detail in NextEra’s response to Contention A, and throughout this Answer, Petitioner’s assertion is demonstrably false. The LAR explicitly calls for core sample testing as an integral part of its ASR monitoring methodology, and the results of the first campaign of tests are included in a technical document submitted as part of the LAR.<sup>72</sup> Accordingly, most of Petitioner’s contentions fail at a very fundamental level in that they fail to challenge the LAR.

This is plainly evident in that nearly all of their citations and references predate the LAR submission. With only one exception, Petitioner’s citations to Seabrook-related commentary (from itself and others) reference documents prepared at least two years before the LAR was

---

<sup>69</sup> See Petition at 2-3.

<sup>70</sup> See *id.*

<sup>71</sup> See, e.g., *id.* at 2 (claiming, incorrectly, that NextEra has chosen “not to continue core sample testing”).

<sup>72</sup> See generally, e.g., MPR-4153.

submitted in August 2016.<sup>73</sup> These outdated commentaries reference now-superseded iterations of NextEra’s ASR assessment program, and thus offer little, if any, meaningful support for their contentions. As to the sole commentary cited by Petitioner that post-dates submission of the LAR, that of Dr. Brown dated September 30, 2016,<sup>74</sup> it only considers the Original LAR package submitted on August 1, 2016—it does not consider the LAR Supplement,<sup>75</sup> which provides significant additional information.<sup>76</sup> Moreover, it is unclear whether Petitioner is holding out Dr. Brown as its expert for this proceeding, as it did not submit an affidavit from him, and his commentary on the LAR states that it was “Prepared under contract from the Union of Concerned Scientists,” an organization that has not sought intervention here.

The overarching premise of Dr. Brown’s September 30, 2016 commentary is that NextEra must evaluate the *mechanical properties* of ASR-affected structures through core sampling.<sup>77</sup> But this misses the point of the LAR, which is to change Seabrook’s license to include loads induced by ASR-expansion for the purpose of determining *structural adequacy*. The distinction between “mechanical” consequences and “structural” consequences is important because the latter is relevant for assessing whether an ASR-affected structure can perform its design function. As explained throughout the technical documents underlying the LAR, the mechanical effect of ASR does not necessarily result in an adverse impact to structural capacity,

---

<sup>73</sup> See, e.g., Petition at 9 (citing Letter from S. Gavutis, C-10, and D. Wright, UCS, to W. Dean, NRC (Sept. 13, 2012) (ML12339A254) (“C-10 and UCS 9/13/12 Letter”).

<sup>74</sup> See Petition at 4 (citing P.W. Brown, Commentary on Seabrook Station License Amendment Request 16-03 (Sept. 30, 2016) (ML16306A248) (“Brown 9/30/16 Commentary”).

<sup>75</sup> See Brown 9/30/16 Commentary at 1 (noting the “reviewed documents” include only SBK-L-16071 and its non-proprietary enclosures).

<sup>76</sup> See generally LAR Supplement.

<sup>77</sup> See Brown 9/30/16 Commentary at 2.

at least up to the point of expansion that was observed in the test program. Dr. Brown is silent as to this important distinction.

Additionally, as explained above, ACI 318-71 and the ASME Code do not include explicit provisions for the analysis of structures affected by ASR.<sup>78</sup> The LAR proposes to fill this gap with a comprehensive, tested method to incorporate the effects and loads of ASR into the Seabrook design basis to demonstrate that ASR-affected structures continue to meet those design codes.<sup>79</sup> Whereas Dr. Brown’s limited comments suggest he would *prefer* an approach that relies primarily on mechanical property data from ongoing extensive core bore testing, they do not remotely prescribe a comprehensive, workable alternative. Again, Dr. Brown is silent as to how such mechanical property data could be used to demonstrate that ASR-affected structures continue to meet those design codes when such data is not directly linked to structural integrity, which is the fundamental purpose of the LAR. Moreover, the mere suggestion of a *preferred* approach does not identify a material deficiency in NextEra’s approach, which relies on actual expansion measurements<sup>80</sup>—the foremost method cited by industry publications for monitoring ASR expansion.<sup>81</sup>

Petitioner also proposes additional contentions on various topics outside the scope of this proceeding. Contention E attacks NRC regulations (and Federal law) regarding the protection of proprietary information. However, such attacks are barred in adjudicatory proceedings. Contention I claims “any” LAR must consider sea level rise. But, Petitioner fails to explain why

---

<sup>78</sup> See also LAR Evaluation § 1.0.

<sup>79</sup> See *id.*

<sup>80</sup> See generally LAR Evaluation § 3.5.1 (explaining NextEra is using both in-plane and through-thickness expansion).

<sup>81</sup> See generally, e.g., U.S. Department of Transportation Federal Highway Administration, “Report on the Diagnosis, Prognosis, and Mitigation of Alkali-Silica Reaction in Transportation Structures” (Jan. 2010), available at <https://www.fhwa.dot.gov/pavement/concrete/pubs/hif09004/hif09004.pdf> (“FHWA Report”).

it believes the LAR (and other existing CLB programs) does not already address this topic. And Contention J claims the stated purpose of the LAR, to “demonstrate” structural adequacy, lacks objectivity. However, such language has been used for decades to describe methodologies before the NRC, and cannot form the basis for an admissible contention.

Ultimately, Petitioner argues that NextEra is not conducting core sample testing, which is false; it proffers no expert opinion that considers the full LAR; and it offers *preferred* but vague and likely inapplicable approaches that do not dispute the sufficiency of the application itself.

Accordingly, Petitioner’s proposed contentions:

- (1) fail to demonstrate that the issue raised in the contention is within the scope of the proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii);
- (2) fail to demonstrate that the issues raised therein are material to the findings the NRC must make to approve the LAR, contrary to 10 C.F.R. § 2.309(f)(1)(iv);
- (3) are unsupported, contrary to 10 C.F.R. § 2.309(f)(1)(v); and
- (4) fail to provide sufficient information to demonstrate a genuine dispute with regard to a material issue of law or fact, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

Accordingly, the Petition has not proposed an admissible contention, and must be rejected.

**A. Contention A: Visual Inspections, Indexing, and Extensometers**

In its first contention, Petitioner argues that “[v]isual inspection, crack width indexing, and extensometer deployment are not sufficient tools for determining the presence and extent of ASR in safety-related structures at Seabrook Station.”<sup>82</sup> Petitioner acknowledges that “each of these is a legitimate tool that can, and *should*, be used,” but only if there is also ongoing sample testing of Seabrook’s concrete because “ASR can be present within the matrix of a given

---

<sup>82</sup> Petition at 2; *see also id.* at 3.

structure and yet not be visible.”<sup>83</sup> But Petitioner appears unaware that NextEra is already doing what it seeks: removing cores and testing Seabrook’s concrete as part of its efforts to monitor the progression of ASR.<sup>84</sup> In fact, it is a key element of the LAR. Accordingly, Contention A fails to demonstrate a genuine dispute with the application, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Moreover, Petitioner’s citations to external authority, including several claims by Dr. Brown, actually reference now-superseded iterations of NextEra’s ASR assessment program and other outdated information rather than the current LAR. Such assertions clearly fail to challenge (or even consider) the entirety of the pending application.<sup>85</sup> Thus, in addition to its failure to demonstrate a genuine dispute with the application, Contention A fails to marshal the requisite support, contrary to 10 C.F.R. § 2.309(f)(1)(v).

1. Contrary to Petitioner’s Assertions, the LAR Includes Sample Testing of Seabrook’s Concrete

The Petition states, “NextEra continues to rely on visual ‘walkdown’ inspections, superficial crack indexing, and extensometer deployment in order to gauge the progression of ASR.”<sup>86</sup> While this statement is accurate—the LAR does reference all of these techniques—it is not complete. These are not the only the tools within NextEra’s comprehensive and systematic approach for evaluating ASR at Seabrook as described in the LAR. In other words, directly contrary to Petitioner’s assertions, the LAR does not “rely” on these techniques alone. In fact, these techniques already are part of the Seabrook SMP, per the NRC’s Maintenance Rule, and were added without the need for a license amendment. The LAR is necessary because the codes

---

<sup>83</sup> *Id.* at 3, 4 (emphasis added).

<sup>84</sup> *See, e.g.*, MPR-4153 at 5-1 (explaining “cores were taken” and “testing was performed”).

<sup>85</sup> *See, e.g.*, Petition at 3 (citing UCS, “Continuing Problems with Monitoring Concrete Damage at Seabrook” (Nov. 4, 2013) (this commentary is an attachment to the UCS letter available at ML13309B06) (“UCS 11/4/13 Commentary”), which pre-dates the LAR by more than two years).

<sup>86</sup> Petition at 3.

cited in the license do not provide a means for evaluating ASR-affected structures; in other words, the proposed methodology goes *above and beyond* visual inspections, crack indexing, and extensometer measurements.

As noted in Section II, above, the LAR describes a three-tiered system for triaging different structures based on their in-plane expansion.<sup>87</sup> Structures with higher levels of ASR expansion are inspected more frequently than structures with minimal ASR expansion.<sup>88</sup> Areas with no indications of pattern cracking or water ingress (*i.e.*, Tier 1) are subject to routine inspections under the Structures Monitoring Program (“SMP”).<sup>89</sup> Locations with pattern cracking that cannot be accurately measured and those with measurable in-plane expansion of 0.05% or more (*i.e.*, Tier 2) are subject to qualitative monitoring on a 30-month interval; the latter also is subject to trending.<sup>90</sup> Any areas exhibiting in-plane expansion of 0.1% or more are subject to structural evaluation and enhanced ASR monitoring every six months.<sup>91</sup> The SMP requires installation of extensometers for measuring through-thickness (*i.e.*, “Z-direction”) expansion in boreholes at Tier 3 locations.<sup>92</sup> The Tier 3 actions described in the LAR include concrete sample testing:

Extensometers provide a relative and quantitative measurement of the expansion because the readings show the increase in expansion relative to the time it was installed. The measured expansion needs to be combined with the expansion that occurred up to the time of instrument installation to yield the total through-thickness expansion to a given time. NextEra will use an empirical correlation developed in the large-scale test program to correlate

---

<sup>87</sup> LAR Evaluation at tbl.5.

<sup>88</sup> *Id.* § 3.5.1.

<sup>89</sup> *Id.* at tbl.5.

<sup>90</sup> *Id.*

<sup>91</sup> *Id.*

<sup>92</sup> *Id.*

concrete *elastic modulus measurements* with the through-thickness expansion to date.<sup>93</sup>

The method for taking these measurements is described in MPR-4153, which notes that the first step is to “[d]etermine the current elastic modulus of the concrete by material property *testing of cores removed from the structure.*”<sup>94</sup> As of July 2016, the first campaign of extensometer installations had been completed at Seabrook.<sup>95</sup> MPR-4153 notes that “*cores were taken*” and “*elastic modulus testing was performed.*”<sup>96</sup> MPR-4153 even provides the results of those tests.<sup>97</sup> Therefore, to the extent Petitioner claims it is insufficient to rely solely “on visual inspection and crack width indexing as gauges of the extent of ASR,”<sup>98</sup> NextEra agrees. That is precisely the reason it included the material property testing and elastic modulus measurement as part of the LAR and Tier 3 actions. And that is also the reason why NextEra is monitoring the progress of ASR not just on structural surfaces, but also in the Z-direction. At bottom, there simply is no genuine dispute here because Petitioner does not challenge the LAR or MPR-4153. Indeed, Petitioner does not even acknowledge that the testing has already been and will continue to be conducted.

When submitting a contention, a petitioner must read all pertinent portions of the document it is challenging—it cannot simply ignore relevant content and then cry foul.<sup>99</sup> As is evident from its failure to acknowledge (much less, challenge) the very testing it demands,

---

<sup>93</sup> *Id.* § 3.5.1. (citing MPR-4153).

<sup>94</sup> MPR-4153 § 4.1. (emphasis added).

<sup>95</sup> *Id.* § 5.1.

<sup>96</sup> *Id.* (emphasis added).

<sup>97</sup> *Id.* at App’x D (“Through-Thickness Expansions To-Date for the First Campaign of Extensometers”).

<sup>98</sup> Petition at 3.

<sup>99</sup> *See Dominion Nuclear Conn., Inc.* (Millstone Nuclear Power Station, Units 2 and 3), CLI-01-24, 54 NRC 349, 358 (2001), *reconsidered, denied*, CLI-02-01, 55 NRC 1 (2002).

Petitioner has not done so here. And all petitioners have an affirmative duty to inspect the application with “a level of discipline and preparedness” when crafting contentions.<sup>100</sup> Petitioner has not met this burden. Accordingly, the Board should reject Contention A because it rests on an incomplete or inaccurate reading of the LAR and therefore fails to demonstrate a genuine dispute, contrary to 10 C.F.R. § 2.309(f)(1)(vi).<sup>101</sup>

## 2. Petitioner’s Proffered Support for Contention A Is Outdated and Irrelevant

The Petition includes a series of miscellaneous quotes from various references as purported support for Contention A. These quotes include vague criticisms of visual inspections, crack indexing, and extensometers.<sup>102</sup> But Petitioner acknowledges that “each of these is a legitimate tool that can, and *should*, be used.”<sup>103</sup> Thus, read in context, Petitioner criticizes the use of these techniques *without* sample testing. As discussed above, however, the LAR does include sample testing as an integral part of the proposed methodology. Thus, at the most basic level, these various quotes and citations provide no support for an admissible contention. Moreover, none of the excerpts—nor any other part of Contention A—challenge the specific application of these methods as described in the LAR because they pre-date the LAR itself or ignore highly-relevant portions thereof.

First, Petitioner, citing statements it made, along with UCS, in 2013 (three years before submission of the LAR), arguing that the LAR relies on a 2012 crack index method that is

---

<sup>100</sup> *La. Energy Servs., L.P.* (Nat’l Enrichment Facility), CLI-04-25, 60 NRC 223, 224-25 (2004), *reconsid. denied*, CLI-04-35, 60 NRC 619 (2004).

<sup>101</sup> *See Ga. Tech.*, LBP-95-6, 41 NRC at 300 (rejecting a contention based on a mistaken reading of a key document).

<sup>102</sup> *See, e.g.*, Petition at 3-4.

<sup>103</sup> *See id.* at 4 (emphasis added).

insufficient without core sample testing.<sup>104</sup> As an initial matter, NextEra *is* conducting core sample testing; thus, Petitioner’s overarching argument falls flat. Furthermore, C-10’s and UCS’s 2013 criticisms of crack indexing models “that *only* consider[] crack width”<sup>105</sup> do not square with the three-tiered approach discussed in the LAR, which supplements the Combined Cracking Index with actual through-thickness extensometer measurements for all areas exhibiting in-plane expansion of 0.1% or more,<sup>106</sup>—*i.e.*, the monitoring program does not “only” consider crack width. C-10’s and UCS’s 2013 commentary also includes the claim that ASR in reinforced concrete causes “networks of microcracks” and that crack width indexing, alone, is not enough because, “although crack widths will be narrow, the concrete will turn to mush.”<sup>107</sup> Apart from the fact that there is simply no technical basis (or any evidence from extensive testing conducted at Seabrook to date) for Dr. Brown’s alarmist assertion that the concrete will “turn to mush,” Petitioner has not explained how this comment, which pre-dates the LAR by nearly three years, relates to or challenges the LAR. Dr. Brown also does not argue that *limited* crack width indexing *up to the Tier 3 threshold in the LAR* is insufficient; in fact his general comments do not mention *any* threshold. In other words, they do not support an assertion that the concrete degrades unacceptably before the Tier 3 testing and monitoring methodology is triggered. So

---

<sup>104</sup> *Id.* at 3 (citing UCS and C-10, “Commentary on ‘Seabrook Station: Impact of Alkali-Silica Reaction on Concrete Structures and Attachments’ at 6 (Mar. 2013) (which purports to be “Based on” commentary by Paul W. Brown, Ph.D.) (“C-10 and UCS 3/13 Commentary”), available at [http://www.c-10.org/research/wp-content/uploads/2013/11/C-10\\_UCSMarch2013commentary.pdf](http://www.c-10.org/research/wp-content/uploads/2013/11/C-10_UCSMarch2013commentary.pdf)). The commentary quotes a “Cracking Index,” defined as “the summation of the crack widths on the horizontal or vertical sides of a 20-inch by 20-inch square.” See C-10 and UCS 3/13 Commentary at PDF page 5. However, the LAR proposes a “Combined Cracking Index,” which uses a different methodology including a “20-inch by 30-inch grid.” See UFSAR Markup § 3.8.4.7.2. Thus, Petitioner’s claim that the LAR uses the 2012 methodology is incorrect.

<sup>105</sup> *Id.* (citing C-10 and UCS 3/13 Commentary).

<sup>106</sup> LAR Evaluation at tbl.5.

<sup>107</sup> Petition at 4 (citing a document titled “Written correspondence via email from Paul Brown, PhD to Deborah Grinnell, C-10 Foundation, on ASR Concerns at Seabrook Station dated 6/19/13” (undated) (“C-10 6/19/13 Document”) (NextEra notes that the cited document appears to have been created by Petitioner and is of unknown authenticity).

again, this comment misses the mark. “[A]n expert opinion that merely states a conclusion (e.g., the application is ‘deficient,’ ‘inadequate,’ or ‘wrong’) without providing a *reasoned basis or explanation* for that conclusion is inadequate because it deprives the Board of the ability to make the necessary, reflective assessment of the opinion.”<sup>108</sup> Accordingly, these excerpts, scattered throughout the contention without explanation, do not support an admissible contention.

More importantly, these criticisms pre-date the completion of Large Scale Testing program (“LSTP”) undertaken by NextEra and referenced extensively in the LAR. Petitioner was clearly aware, as noted in its Petition, that “validation of the use of [crack-width indexing] for monitoring structural impact of ASR” was a key objective of the LSTP.<sup>109</sup> As explained in the LAR, the LSTP concluded that “[a] Combined Cracking Index (CCI) methodology based on crack width summation was shown to be effective for in-plane expansion monitoring,”<sup>110</sup> but not for monitoring through-thickness expansion. That is the very reason NextEra developed the Tier 3 monitoring process described in the LAR, which explicitly relies on calculation of existing expansion based on core bore testing and ongoing monitoring through extensometers—not on CCI monitoring. But the Petition does not even mention this conclusion. And the outdated commentary from 2013 does not challenge, or even acknowledge the existence of, the comprehensive data on this topic compiled as part of the LSTP and described in the LAR. Accordingly, these excerpts fail to provide support for an admissible contention.<sup>111</sup> As the Commission has explained, in order to demonstrate a genuine, material dispute, a petitioner must

---

<sup>108</sup> USEC, CLI-06-10, 63 NRC at 472 (emphasis added) (quoting *Private Fuel Storage*, LBP-98-7, 47 NRC at 181).

<sup>109</sup> Petition at 4 (citing NRC Integrated Inspection Report 05000443/2014002 (May 16, 2014)).

<sup>110</sup> LAR Evaluation § 3.2.1.

<sup>111</sup> A petitioner’s proffered support is subject to Board scrutiny, “both for what it does and does not show.” See *Yankee*, LBP-96-2, 43 NRC at 90.

address the *specific analysis* in the LAR and explain how it is incorrect using facts that are specific to the facility in question.<sup>112</sup> Petitioner has not done so here. Accordingly, Petitioner has not identified a genuine dispute regarding the limited use of crack indexing as proposed in the LAR.

Second, Petitioner, citing another 2013 document, authored by UCS, broadly suggests visual inspection “is not a reliable way to understand the extent of damage within concrete.”<sup>113</sup> These comments, too, are outdated and unsupported. And, again, NextEra essentially agrees with this basic point. As noted above, visual inspections are only prescribed for structures with “no indications of pattern cracking or water ingress.”<sup>114</sup> If such inspections identify patterns of cracking or water ingress, they are added to Tier 2 and subject to enhanced CCI monitoring. The proffered commentary from 2013 is silent as to (because it pre-dates) the LAR’s proposed limited use of visual inspections as part of Tier 1 actions. The commentary does not argue that *limited* use of visual inspections *up to the Tier 2 threshold in the LAR* is insufficient; again, it simply does not mention *any* threshold. Petitioner’s proffered support is insufficient to establish that visual inspection is not reliable before the testing and monitoring methodology of Tiers 2 and 3 are triggered. Such statements, again, do not demonstrate a genuine dispute with the LAR.<sup>115</sup> And, in any event, NextEra is doing precisely what Petitioner requests in the overall contention: it uses visual inspection, which “is a legitimate tool that can, and *should*, be used,”<sup>116</sup>

---

<sup>112</sup> See *USEC*, CLI-06-10, 63 NRC at 472 (internal citations omitted).

<sup>113</sup> Petition at 3 (citing UCS 11/4/13 Commentary).

<sup>114</sup> LAR Evaluation at tbl.5.

<sup>115</sup> See *USEC*, CLI-06-10, 63 NRC at 472.

<sup>116</sup> Petition at 4 (emphasis added). Moreover, visual inspections are well-accepted industry practice for initially identifying deterioration that could be related to ASR. See, e.g., FHWA Report § 2.1, 3.

in combination with more detailed testing of core samples. Thus, there is no genuine dispute, and the commentary on visual inspection does not support an admissible contention.

Third, Petitioner criticizes the use of extensometers because they may not be able to detect “very localized” ASR effects in areas “parallel” to the bore holes in which they are placed.<sup>117</sup> The Petition provides no other explanation for this comment, and its purpose is not entirely clear. The LAR explains that extensometers will be installed in *all* areas exhibiting in-plane expansion of 0.1% or more—*i.e.*, the most conservative locations are used to evaluate concrete members.<sup>118</sup> But Petitioner neither acknowledges nor explains how Dr. Brown’s vague comment demonstrates some alleged deficiency in the LAR, including any challenge to the proposed extensometer locations. And if the comment is intended to demand that NextEra instead drill numerous additional bore holes in order to identify possible or hypothetical “very localized” area with ASR, such a demand is both impractical and unsupported by any plant data or reasoned explanation, and cannot serve as the basis for an admissible contention.<sup>119</sup> This is especially so as NextEra has not identified a significant variation in ASR distress with depth into the wall, as determined through cores removed in the initial effort and more recently as part of extensometer installation.<sup>120</sup>

In sum, to the extent Petitioner argues that relying *solely* on visual inspections, or crack width indexing, or extensometers, or some combination of these, is insufficient to examine ASR,

---

<sup>117</sup> Petition at 4 (citing Brown 9/30/16 Commentary at 2).

<sup>118</sup> LAR Evaluation at tbl.5.

<sup>119</sup> *See USEC, CLI-06-10, 63 NRC at 472.*

<sup>120</sup> SBK-L-12122, Letter from P. Freeman, NextEra, to NRC Document Control Desk, “Seabrook Station; Response to Confirmatory Action Letter,” Encl. at 3 (June 8, 2012) (“when the length of the cores were evaluated (i.e., depth into the wall) it was observable that the cracking was most severe at the exposed surface and reduced towards the center of the sample. This is consistent with the industry’s understanding of the confinement effects on ASR expansion.”).

NextEra agrees—there simply is no dispute here. Again, this is the reason NextEra has elected to conduct material property testing and elastic modulus measurements as part of the structural evaluation and enhanced ASR monitoring described in the LAR. And to the extent the proffered support is intended to challenge *any* use of visual inspection, indexing, or extensometers, the outdated commentary fails to consider or challenge the specific tiered application of those techniques as outlined in the LAR, as the contention admissibility regulations demand. Either way, the Petition fails to provide adequate support for an admissible contention or demonstrate a genuine dispute with the LAR.

\* \* \* \* \*

In summary, Petitioner has not taken a hard look at the LAR. Therefore, Contention A fails to demonstrate a genuine dispute with the application, contrary to 10 C.F.R. § 2.309(f)(1)(vi), and fails to marshal the requisite support, contrary to 10 C.F.R. § 2.309(f)(1)(v). Accordingly, the Board should dismiss Contention A in its entirety.

**B. Contention B: Prestressing**

In Contention B, Petitioner argues that ASR expansion in reinforced concrete is not equivalent to “prestressing.” As noted in the earlier Technical Background discussion, ASR can potentially impact the material properties (*e.g.*, compressive strength, elastic modulus, and tensile strength) of a concrete structure over time. But as explained in the LAR, the expansion caused by ASR in *reinforced* concrete can actually have a *mitigating* effect on loss of structural capacity, up to a certain point (“Mitigating Effect”).<sup>121</sup> Importantly, Petitioner agrees with this

---

<sup>121</sup> See, *e.g.*, LAR Evaluation at 3; MPR-4288 at 4-2.

fundamental proposition,<sup>122</sup> and cites commentary describing the process by which it occurs.<sup>123</sup> In other words, Petitioner does not dispute the actual mechanisms of the Mitigating Effect.

Rather, Contention B takes issue with the LAR's *analogy* of the Mitigating Effect to the concept of "prestressing." Petitioner argues that "[e]xpansion occurring within a reinforced concrete structure due to ASR is not equivalent to a 'pre-stressing' effect."<sup>124</sup> Petitioner misconstrues the LAR to imply *absolute* equivalence between the two. But, the LAR makes no such assertion, and Petitioner's inaccurate reading cannot serve as a basis for a contention.<sup>125</sup> More fundamentally, Petitioner has not demonstrated that its argument is material to any finding the NRC must make to approve the application. Indeed, the sole use of the word "prestressing" in the LAR Evaluation appears in a "background" section.<sup>126</sup> Accordingly, Contention B is unsupported, immaterial, and fails to demonstrate a genuine dispute, contrary to 10 C.F.R. § 2.309(f)(1)(iv)-(vi).

1. Petitioner Misconstrues the "Prestressing" Discussion in the LAR

As relevant here, "prestressing" is a construction technique used to compress and strengthen concrete before it supports an applied load.<sup>127</sup> Although ASR can change the material properties of a concrete structure, the LAR explains the Mitigating Effect, noting:

the change in material properties does not necessarily result in a corresponding decrease in capacity of a reinforced concrete structure. ASR-induced expansion in reinforced concrete has a

---

<sup>122</sup> See Petition at 5 (acknowledging "a temporary increase in certain measures of strength").

<sup>123</sup> See *id.* at 5 (citing Brown 9/30/16 Commentary at 3-4).

<sup>124</sup> *Id.* 2; see *id.* at 4 (using similar language).

<sup>125</sup> *Ga. Tech.*, LBP-95-6, 41 NRC at 300, *aff'd*, CLI-95-12, 42 NRC at 124.

<sup>126</sup> See LAR Evaluation at 3.

<sup>127</sup> See COLLINS & MITCHELL § 1.1.

prestressing *effect* that *mitigates* the loss of structural capacity that would be assumed based on the change in material properties.<sup>128</sup>

MPR-4288 explains this concept in further detail:

When reinforcement is present to restrain the tensile force exerted by ASR expansion, an equivalent compressive force develops in the concrete that is *comparable* to prestressing. If loads applied on the structure result in tensile stresses (direct, diagonal, or otherwise), the compressive stresses in the concrete must be completely *overcome* before additional tensile load is reacted by the reinforcement.<sup>129</sup>

The phrase “equivalent compressive force” in the MPR-4288 excerpt above was intended to convey equivalence (up to a point, as explained in the very next sentence in MPR-4288) with the “tensile force exerted by ASR expansion,” *not* equivalence with prestressed concrete. To be clear—MPR-4288 states only that the Mitigating Effect is “comparable” to prestressing; and the LAR Evaluation notes the effect merely “mitigates” the loss of structural capacity that would be seen in non-reinforced concrete. Although small when compared to the effects of true prestressing, the prestressing effect present in ASR-affected structures is large enough to negate material property reductions (up to the point the prestressing effect is overcome). Moreover, prestressing is a commonly used term, among experienced structural engineers, to describe the internal compression/tension force equilibrium resulting from ASR expansion in a reinforced concrete element.<sup>130</sup>

---

<sup>128</sup> LAR Evaluation at 3 (emphasis added).

<sup>129</sup> MPR-4288 at 4-2 (emphasis added).

<sup>130</sup> *E.g.*, N. Smaoui et al., Stresses Induced by Alkali-Silica Reactivity in Prototypes of Reinforced Concrete Columns Incorporating Various Types of Reactive Aggregates, 34 CAN. J. CIV. ENG. 1554, 1554-66 (2007) (“The ASR in reinforced concrete induces a tension stress in the reinforcements, accompanied by a compressive stress in the surrounding concrete. This prestress is generally limited to 4MPa [] but is highly variable. Several studies have demonstrated the positive effect of this so-called “chemical prestress” induced by ASR, which increases, for instance, the shear capacity of reinforced concrete beams.” (emphasis added)); S. Multon et al., Structural Behavior of Concrete Beams Affected by Alkali-Silica Reaction, ACI MATERIALS JOURNAL 67, 71 (Mar.-Apr. 2005) (“Reinforcement acted by decreasing the strains along the longitudinal direction, which could be explained as a chemical prestressing effect in the

In contrast, Contention B argues that “[e]xpansion occurring within a reinforced concrete structure due to ASR is not equivalent to a ‘pre-stressing’ effect” because the mitigation is “temporary and unpredictable.”<sup>131</sup> Petitioner, therefore, appears to misconstrue the LAR’s analogy of the Mitigating Effect to the concept of prestressing. The LAR neither asserts nor relies on any claim that ASR-affected concrete is, in all measures, “equivalent” to prestressed concrete. But more importantly, the approach described in the LAR does not credit the increase in capacity of the ASR-affected structural members.<sup>132</sup> Instead, the LAR merely offers the Mitigating Effect as an explanation for testing results that revealed, in reinforced concrete, mechanical property reductions do not translate into corresponding reductions in structural capacity (at least up to the thresholds observed in the LSTP).

Furthermore, to the extent Petitioner is suggesting the LAR regards the Mitigating Effect to be permanent, it simply misreads the relevant documents. MPR-4288 does state that the compressive force responsible for the Mitigating Effect is “comparable to prestressing.”<sup>133</sup> But, in the very next sentence, it explicitly acknowledges that the force can be “overcome”—*i.e.*, it only mitigates the tensile force of the expansion up to a certain point.<sup>134</sup> Thus, the LAR plainly agrees that the Mitigating Effect is limited. A petitioner has a duty to read all pertinent portions

---

reinforced and reactive beams.” (emphasis added)); F. Bach et al., Load-Carrying Capacity of Structural Members Subjected to Alkali-Silica Reactions, 7 CONSTRUCTION AND BUILDING MATERIALS 109, 115 (1993) (“The shear capacity is increased because the expansions lead to a prestressing of the reinforcement.” (emphasis added)).

<sup>131</sup> Petition at 2; *see id.* at 4 (using similar language).

<sup>132</sup> *See, e.g.*, MPR-4273 at vi, 2-3 n.3; MPR-4288 at 5-2, 5-4.

<sup>133</sup> MPR-4288 at 4-2.

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

of the application.<sup>135</sup> And, as noted earlier, a petitioner’s imprecise reading of a document cannot be the basis for a litigable contention.<sup>136</sup>

Likewise, the commentary cited by the Petitioner, noting the Mitigating Effect “will *for some period of time* counteract the loss of structural capacity,” but “does not *stop* the progress of the reaction,”<sup>137</sup> does not identify a genuine dispute with the LAR. NextEra agrees with Petitioner on that aspect of ASR, and such agreement is reflected in the LAR and supporting documents.<sup>138</sup> And Petitioner makes no effort to explain how its citation to commentary from 2013 (regarding crack length and microcracks)<sup>139</sup> is relevant to prestressing or disputes the LAR; indeed, that commentary also pre-dates the LAR by nearly three years. Vague, unparticularized statements, without some minimal explanation, do not supply the requisite “reasoned basis” for an admissible contention.<sup>140</sup> Accordingly, these arguments fail to demonstrate a genuine dispute with the LAR, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

Furthermore, Petitioner cites no authority for its assertion that the Mitigating Effect is “unpredictable.”<sup>141</sup> The Petition references Petitioner’s 2012 “Notes of Questions for Paul Brown” asserting that ASR has “an autocatalytic aspect to it. In other words, the worse it gets, the worse it gets.”<sup>142</sup> This statement suggests that ASR, in general, progresses in a non-linear

---

<sup>135</sup> *Millstone*, CLI-01-24, 54 NRC at 358.

<sup>136</sup> *See Ga. Tech.*, LBP-95-6, 41 NRC at 300, *aff’d*, CLI-95-12, 42 NRC at 124.

<sup>137</sup> Petition at 5 (citing Brown 9/30/16 Commentary at 3-4 (emphasis added)).

<sup>138</sup> MPR-4288 at 4-2 (explaining the effect *can* be “overcome”).

<sup>139</sup> Petition at 5 (citing C-10 and UCS 3/13 Commentary).

<sup>140</sup> *USEC*, CLI-06-10, 63 NRC at 472 (emphasis added) (quoting *Private Fuel Storage*, LBP-98-7, 47 NRC at 181).

<sup>141</sup> Petition at 4.

<sup>142</sup> *Id.* at 5 (citing C-10, “Advisory Committee for Reactor Safeguard - Meeting, July 10, 2012; C-10 Foundation’s Notes of Questions for Paul Brown, as Summarized from ML122070401: Transcript of the ACRS Plant License Renewal Subcommittee Meeting, July 10, 2012 (Open) Page 1-179” at 6 (undated);

manner. Petitioner offers no expert opinion or reasoned explanation for this assertion beyond the simple “the worse it gets, the worse it gets” statement, and certainly provides no material challenge to the extensive findings of the test program referenced in the LAR. But even if this were the case, the LAR discusses monitoring intervals and sets expansion limits that ensure corrective action is taken before any unacceptable impact on structural integrity, regardless of the rate of ASR progression. Simply put, this claim is baseless and lacks the support required by 10 C.F.R. § 2.309(f)(1)(v).

## 2. Petitioner Has Not Demonstrated Materiality

Petitioner also seems to be under the erroneous assumption that the LAR must demonstrate that the Mitigating Effect is, in fact, “equivalent” to prestressing in order to be approved. Indeed, Petitioner claims (without authority or explanation) that the LAR “relies heavily” on this principle.<sup>143</sup> But even if true—which it is not<sup>144</sup>—Petitioner fails to explain how the prestressing discussion is material to *any* findings the NRC must make to approve the LAR.<sup>145</sup> Petitioner conspicuously neglects to refer to any regulatory provisions, or even a reasoned explanation, to demonstrate materiality. Nor could it. The prestressing discussion in the LAR merely provides background information; it is not an element of the methodology for which NextEra is seeking NRC approval in the LAR.

---

NextEra observes that the cited document appears simply to be C-10’s impressions and notes from the referenced meeting).

<sup>143</sup> *Id.* at 4. In reality, the 34-page LAR Evaluation document uses the word “prestressing” only once—in a background section, at that. *See generally* LAR Evaluation.

<sup>144</sup> The MPR Reports repeatedly state that prestressing is *not* credited in the evaluations. *See, e.g.*, MPR-4273 at vi, 2-3 n.3; MPR-4288 at 5-2, 5-4.

<sup>145</sup> This includes Dr. Brown’s commentary, quoted in Petitioner’s discussion of Contention C, on the difference in the “tensile strength range” of prestressed steel versus that of rebar. Petition at 7. Petitioner does not point to any use of a prestressing-related tensile strength value in the methodology proposed in the LAR—nor is there one. It simply is not material to the LAR.

Petitioner has an affirmative duty to plead sufficient facts to demonstrate materiality.<sup>146</sup>

In other words, Petitioner, alone, must connect the dots.<sup>147</sup> Contrary to 10 C.F.R.

§ 2.309(f)(1)(iv), Petitioner has not done so here.

\* \* \* \* \*

Because Contention B is immaterial, unsupported, and fails to demonstrate a genuine dispute, it is inadmissible and should be rejected in its entirety.

**C. Contention C: Core Sample Testing and Petrography**

In Contention C, Petitioner asserts that “[t]horough petrographic analysis, including core sample testing of Seabrook’s concrete, must be integral to NextEra’s assessment of the advance of ASR.”<sup>148</sup> As an initial matter, Petitioner appears to misuse the term “petrographic analysis” throughout the Petition. Petitioner’s suggestion that petrographic analysis “include[s] core sample testing” is not consistent with the common use of that term. “Petrography” or “petrographic analysis” refers to a visual examination technique used to examine concrete for degradation, including the *presence* of ASR in concrete.<sup>149</sup>

Taken literally, a demand for petrographic analysis would be irrelevant in the context of the monitoring program described in the LAR. Seabrook’s SMP treats *all* structures that are subject to monitoring as if ASR is present—thus, there is no need to “detect” what it already

---

<sup>146</sup> See *Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), LBP-01-35, 54 NRC 403, 422 (2001).

<sup>147</sup> *Palisades*, CLI-15-23, 82 NRC at 329 (rejecting the Board’s attempt to resurrect a deficient contention because “it is Petitioners’ responsibility, not the Board’s, to formulate contentions and to provide ‘the necessary information to satisfy the basis requirement’ for admission”).

<sup>148</sup> Petition at 6.

<sup>149</sup> See, e.g., Letter from W. Dean, NRC, to D. Wright, UCS, Enclosure at 7 (Dec. 6, 2013) (ML13340A405) (explaining “petrographic examination is used to confirm the *presence* of [ASR]”) (emphasis added).

assumes.<sup>150</sup> Accordingly, for the purposes of Contention C, NextEra assumes Petitioner's demand for "petrographic analysis" refers to mechanical property testing of sample cores from Seabrook.

To the extent Petitioner simply suggests that mechanical property testing of sample cores from Seabrook should be performed, NextEra agrees.<sup>151</sup> That is precisely why NextEra has included core sample testing<sup>152</sup> as part of its plan to monitor ASR, as described in the LAR. There simply is no genuine dispute on this point.

Likewise, the outdated commentary proffered as support for Contention C vaguely criticizes testing that was performed several years ago; but Petitioner offers no connection between these criticisms and the monitoring program outlined in the LAR.<sup>153</sup> Thus, Contention C does not raise an issue material to the findings the NRC must make to approve the LAR, is unsupported, and fails to demonstrate a genuine dispute, contrary to 10 C.F.R. § 2.309(f)(1)(iv)-(vi). Accordingly, Contention C is inadmissible and must be rejected.

---

<sup>150</sup> See, e.g., SBK-L-16022, Letter from D. Curtland, NextEra, to NRC Document Control Desk, "Response to Request for Voluntary Response to 2.206 Petition Regarding methods for Identification of Concrete Affected by Alkali-Silica Reaction" at 2 (Feb. 23, 2016) (ML16056A083) ("all of the concrete structures at Seabrook Station are susceptible to ASR. For this reason, NextEra's ASR Monitoring Program assumes that every structure has ASR, regardless of whether it has actually been identified and confirmed. As a result, NextEra performs visual ASR examinations of all concrete structures, as though those sites have confirmed ASR."); see also LAR Evaluation at tbl.5 (showing that the acceptance criteria is solely based on in-plane expansion, and does not rely on a confirmation of the presence of ASR).

<sup>151</sup> Petition at 2; 6-8.

<sup>152</sup> This is described more fully in NextEra's response to Contention A, above.

<sup>153</sup> Petitioner also reiterates, in Contention C, its challenge on the subject of "prestressing." See Petition at 7-8. Prestressing is the primary topic in Contention B. Accordingly, NextEra incorporates by reference its response to Contention B in full.

1. NextEra Is Conducting Mechanical Property Testing

As explained in greater detail in response to Contention A,<sup>154</sup> NextEra is, in fact, conducting mechanical property testing of sample cores from Seabrook. The first campaign to examine out-of-plane expansion has been completed and involved testing of cores.<sup>155</sup> The results of those tests are available in the LAR.<sup>156</sup> Thus, Petitioner’s repeated assertions that NextEra has chosen “not to continue core sample testing,”<sup>157</sup> or is attempting to “avoid”<sup>158</sup> such testing, are not only speculative—they are mistaken. Petitioner’s assertion that NextEra is not undertaking these activities rests on a mistaken reading of relevant documents. Thus, Contention C fails to demonstrate a genuine dispute with the application.<sup>159</sup>

To the extent Petitioner intends Contention C to call for a monitoring program that uses mechanical property testing, alone, to demonstrate structural adequacy at Seabrook, it misses the point of the LAR, which is to change Seabrook’s license to include loads induced by ASR-expansion for the purpose of determining *structural adequacy*. As explained earlier, the distinction between “mechanical” consequences and “structural” consequences is important; the latter is relevant for assessing whether an ASR-affected structure can *perform its design function*. As explained throughout the technical documents underlying the LAR, the mechanical effect of ASR does not necessarily result in an adverse impact to structural capacity. Petitioner is silent as

---

<sup>154</sup> See *supra* Part V.A.

<sup>155</sup> MPR-4153 at 5-1.

<sup>156</sup> *Id.* at App’x D.

<sup>157</sup> Petition at 2, 6.

<sup>158</sup> *Id.* at 6 (misreading the proposed UFSAR revision as containing a rationale to avoid core sampling); *id.* at 7 (quoting stale commentary from 2013 claiming NextEra is attempting to “avoid accumulating data”); *id.* (making the baseless assertion that “NextEra seems to make an effort to avoid and even discredit” core sample testing); *id.* at 8 (incorrectly suggesting NextEra “has avoided further use” of core sample testing).

<sup>159</sup> *Ga. Tech.*, LBP-95-6, 41 NRC at 300 (rejecting a contention based on a mistaken reading of the Safety Analysis Report).

to this important distinction, as it is used in the LAR. Additionally, to the extent Petitioner's requested core sample testing is a demand that NextEra comply with the requirements of ACI 349.3R and ASTM C856-11, Petitioner has previously acknowledged there is no requirement to do so.<sup>160</sup> In fact, Petitioner filed a petition for rulemaking under 10 C.F.R. § 2.802 seeking a change to NRC regulations that would require compliance with these standards.<sup>161</sup> However, contentions that seek to litigate matters that are the subject of an ongoing rulemaking proceeding are not admissible.<sup>162</sup>

As explained in the LAR, ACI 318-71 and the ASME Code do not include explicit provisions for the analysis of structures affected by ASR. The LAR proposes to fill this gap with a comprehensive method to incorporate the effects and loads of ASR into the Seabrook design basis. As further explained in the LAR, the LSTP confirmed that material property measurements, such as compressive strength, cannot be used to accurately calculate structural capacity per ACI equations, at least through the point of testing conducted in the LSTP, because the material property approach does not consider the interaction between ASR expansion and reinforcement structures—an interaction that Dr. Brown acknowledges is real.<sup>163</sup> Contention C may reflect Petitioner's *preference* but it does not explain how such mechanical property data could be used to demonstrate that ASR-affected structures continue to meet ACI 318-71 and the ASME Code given this Petitioner-acknowledged interaction, which is the fundamental purpose

---

<sup>160</sup> See OEDO-2016-00007, Letter from R. Taylor, NRC, to S. Gavutis, C-10 at 3 (July 6, 2016) (ML16169A172) (explaining in response to a 10 C.F.R. 2.206 petition from C-10, “[y]our petition requests that the NRC immediately require Seabrook[‘s] compliance with industry standards ACI 349.3R and ASTM C856-11, which you acknowledge are not current regulatory requirements.”).

<sup>161</sup> See Letter from S. Gavutis, C-10, to A. Vietti-Cook, NRC (Sept. 25, 2014) (ML14281A124) (docketed as PRM-50-109 on October 3, 2014).

<sup>162</sup> See, e.g., *Private Fuel Storage, LLC* (Indep. Spent Fuel Storage Installation), LBP-00-01, 51 NRC 1, 5 (2000); see also 10 C.F.R. § 2.335; *Crow Butte*, LBP-13-6, 77 NRC at 284, *aff’d*, CLI-14-2, 79 NRC 11. (prohibiting contentions that advocate stricter requirements than agency rules impose).

<sup>163</sup> See Brown 9/30/16 Commentary at 3-4.

of the LAR. Moreover, it takes more than a suggestion of a “preferred approach” to identify a genuine dispute with the LAR.<sup>164</sup> Accordingly, Contention C is inadmissible.

## 2. Petitioner’s Proffered Support Is Stale And Immaterial

As part of Contention C, Petitioner offers several excerpts from outdated commentary as purported support for its arguments. But Petitioner offers nothing to explain how such criticism is material to, or demonstrates a genuine dispute with, the LAR. Accordingly, Contention C also is immaterial and unsupported, contrary to 10 C.F.R. § 2.309(f)(1)(iv)-(v).

For example, Petitioner offers its own commentary from 2013 criticizing testing performed on core samples “extracted from Seabrook Station seven years ago,”<sup>165</sup> because such testing did not include “splitting tensile strength determinations,”<sup>166</sup> and claiming there was “no evidence to support” certain conclusions from that testing.<sup>167</sup> But Petitioner offers nothing in the way of a logical connection between the historical testing and the present application—or explaining how it is relevant. And the commentary certainly does not opine on the methodology described in the LAR—because it predates the LAR by nearly three years. Even assuming this commentary could be read to challenge the monitoring program in the LAR because it does not include “splitting tensile strength determinations,” Petitioner has not demonstrated a genuine dispute. MPR-4273 explains that splitting tensile testing was conducted in the LSTP and showed little correlation to ASR, confirming previous industry research:

Elastic modulus was the property that was most sensitive to ASR degradation. The trend between elastic modulus and ASR expansion was also the most repeatable among the material properties investigated. Therefore, elastic modulus is preferred

---

<sup>164</sup> See *Millstone*, CLI-01-24, 54 NRC at 358.

<sup>165</sup> Petition at 6.

<sup>166</sup> *Id.* (citing C-10 and UCS 3/13 Commentary at 3).

<sup>167</sup> *Id.* (citing C-10 and UCS 3/13 Commentary at 2).

over compressive strength or splitting tensile strength as a parameter for determining ASR development.<sup>168</sup>

Petitioner does not acknowledge this discussion, much less does it offer an informed critique, supported by factual information or expert opinion, to challenge the conclusion.

Moreover, splitting tensile strength is not used by either of the Seabrook design codes (ACI 318-71 or the ASME Code) or in Seabrook's design basis;<sup>169</sup> thus, changes in splitting tensile strength material properties would not have an impact on structural evaluations at Seabrook. Petitioner does not appear to recognize this, and certainly does not offer an explanation for how such testing could be utilized. Petitioner simply has not explained how, within the framework and methodology discussed in the LAR, the lack of such testing demonstrates a deficiency in the application. The parties and the Board are simply left to guess, and that is not their burden.<sup>170</sup> Accordingly, Petitioner has not demonstrated that the issues it raises are material to any findings the NRC must make to approve the LAR, has not demonstrated a genuine dispute with the LAR, and has not supported its proposed contention.<sup>171</sup>

The only commentary offered by Petitioner in support of Contention C that specifically considers (part of) the LAR is dated September 30, 2016.<sup>172</sup> In that commentary, Dr. Brown cites an article by Winnicki and Pietruszczak for the proposition that compressive testing is

---

<sup>168</sup> MPR-4273 at 4-12.

<sup>169</sup> *See, e.g.*, SBK-L-12061, Letter from P. Freeman, NextEra, to NRC Document Control Desk, "Response to Request for Additional Information; NextEra Energy Seabrook License Renewal Application; Supplemental Response – Alkali Silica Reaction," Encl. 1 at 11 (Mar. 30, 2012) (ML12094A364) (explaining that "[t]esting of concrete cores for tensile properties are not performed as tensile properties of concrete are not used in the design of concrete structures at Seabrook Station.").

<sup>170</sup> *See USEC*, CLI-06-10, 63 NRC at 457 ("it is not up to the boards to search through pleadings or other materials to uncover arguments and support never advanced by the petitioners themselves").

<sup>171</sup> *See id.* ("It is a contention's proponent, not the licensing board, that is responsible for formulating the contention and providing the necessary information to satisfy the basis requirement for the admission of contentions." (citations omitted)).

<sup>172</sup> Petition at 7 (citing Brown 9/30/16 Commentary at 4).

needed to predict the response of reinforced concrete to ASR, and criticized the LAR for not referencing a model to predict the mechanical consequences of ASR.<sup>173</sup> The models referenced by Dr. Brown provide a means for predicting ASR-induced strain; whereas, the program described in the LAR uses actual measurements. In other words, “predicting” ASR-induced strain using a model is not necessary. Dr. Brown offers no explanation to the contrary; he simply calls the lack of a model “an important limitation” and moves on to his next point. Yet again, merely offering a conclusion that an application is “deficient” or “inadequate,” without a reasoned basis or explanation, is categorically inadequate as requisite support for an admissible contention.<sup>174</sup>

Additionally, on September 19, 2016, the NRC Staff issued to NextEra a request for supplemental information (“RSI”) necessary for the Staff to complete its docketing review.<sup>175</sup> NextEra submitted the LAR Supplement, providing information requested in the RSI, to the NRC on September 30, 2016.<sup>176</sup> The LAR Supplement included, as an attachment, MPR-4153, which described the process and technical basis for correlating modulus and expansion.

Notably, Dr. Brown’s commentary was based *solely* on the Original LAR, dated August 1, 2016;<sup>177</sup> it did not address the LAR Supplement or MPR-4153. Accordingly, it is not clear that Dr. Brown is aware of the information therein, including that the program “requires companion compressive strength testing” to determine the load to use in modulus of elasticity

---

<sup>173</sup> Brown 9/30/16 Commentary at 4.

<sup>174</sup> USEC, CLI-06-10, 63 NRC at 472.

<sup>175</sup> See Letter from J. Poole, NRC, to E. McCartney, NextEra, “Seabrook Station, Unit No. 1 – Supplemental Information Needed for Acceptance of Requested Licensing Action Re: Alkali-Silica Reaction (CAC No. MF8260),” (Sept. 19, 2016) (ML16258A022).

<sup>176</sup> See LAR Supplement.

<sup>177</sup> See Brown 9/30/16 Commentary at 1 (explicitly stating the “reviewed documents include” only the original LAR and its publicly-available attachments).

testing.<sup>178</sup> In any event, as Petitioner has not offered any other support for Contention C that considers the LAR Supplement or MPR-4153, it has not shown a genuine dispute.

\* \* \* \* \*

Overall, Petitioner’s assertions that NextEra has discontinued sample testing is demonstrably untrue, and its dated commentary offering conclusory assertions and opining on old tests without considering the LAR Supplement simply does not identify any deficiency in the LAR, and fails to demonstrate the requisite materiality or support demanded by 10 C.F.R. § 2.309(f)(1)(iv)-(vi). Accordingly, Contention C is inadmissible and must be rejected.

**D. Contention D: Challenge to LSTP as Not “Representative”**

In Contention D, Petitioner asserts, erroneously, that NextEra is attempting to “substitute” “not representative” data from the LSTP in lieu of performing core sample testing at Seabrook.<sup>179</sup> But from this Contention and, in fact, the majority of the Petition itself, it is clear that Petitioner does not understand the rigor associated with NextEra’s monitoring efforts or technical details behind the monitoring limits as fully described in the LAR. Further, Petitioner does not appear to understand how the various elements of the monitoring plan fit together and support the structural analysis of ASR-affected structures at Seabrook, also as described in the LAR. Therefore, because Petitioner fails to address, at the most basic level, how the LAR makes use of the LSTP, its specific criticisms of the LSTP (based almost exclusively on speculative and unsupported extracts from often-outdated documents) also fail to demonstrate a genuine dispute with the LAR, contrary to 10 C.F.R. § 2.309(f)(1)(vi).

---

<sup>178</sup> See MPR-4153 at 4-1.

<sup>179</sup> Petition at 2, 8 (arguing the LSTP data “cannot be substituted” for core sample testing).

Additionally, Contention D is wholly devoid of support for Petitioner’s speculation that the LSTP is not “representative.” In fact, Petitioner’s only<sup>180</sup> citation to authority for this proposition is a letter from 2012 (authored in part by the Petitioner itself) that has no obvious or explained connection to the idea of representativeness.<sup>181</sup> Regardless of whether this topic could be material to the LAR, and subject to further investigation by NRC Staff in its review of the LAR, Petitioner’s bare claim that the LAR is insufficient does not demonstrate the support required by 10 C.F.R. § 2.309(f)(1)(v). Moreover, it is not the parties’ or Board’s responsibility to search through the Petition (or other documents) for such support.<sup>182</sup> And, while the Board has the ability to redraft contentions to clarify their scope,<sup>183</sup> a petitioner (even a *pro se* petitioner) has the burden to plead the existence of support.<sup>184</sup> The Board is also not empowered to cure the lack of support by importing information from outside the contention as pled by the Petitioner.<sup>185</sup> Accordingly, Contention D also is inadmissible for failure to satisfy the requirements of 10 C.F.R. § 2.309(f)(1)(v).

---

<sup>180</sup> This is the only external support aside from quoting the LAR and citing a NUREG document that it does not explain, which also is insufficient. *See Private Fuel Storage, LLC* (Independent Spent Fuel Storage Installation), LBP-98-10, 47 NRC 288, 298-99 (1988) (explaining that offering support without any explanation of its significance does not provide an adequate basis for a contention).

<sup>181</sup> *See* Petition at 9.

<sup>182</sup> *See* USEC, CLI-06-10, 63 NRC at 457 (“it is not up to the boards to search through pleadings or other materials to uncover arguments and support never advanced by the petitioners themselves”).

<sup>183</sup> *See, e.g., S. Nuclear Operating Co.* (Early Site Permit for Vogtle ESP Site), LBP-07-3, 65 NRC 237, 255 (2007).

<sup>184</sup> *See Fermi*, CLI-15-18, 82 NRC at \_\_ (slip op. at 8) (“it is Petitioners’ responsibility, not the Board’s, . . . to provide the necessary information to satisfy the basis requirement for admission”); *id.* at \_\_ (slip op. at 19) (“the Board may not substitute its own support for a contention”); *id.* at \_\_ (slip op. at 14) (applying these principles to *pro se* petitioners).

<sup>185</sup> *See Palisades*, CLI-15-23, 82 NRC at 329; *Fermi*, CLI-15-18, 82 NRC at \_\_ (slip op. at 8, 14, 19).

1. NextEra Is Conducting Core Sample Testing

Once again, by claiming that NextEra has “turned away from core sampling,”<sup>186</sup> Petitioner demonstrates its failure to read and comprehend the LAR. As explained in greater detail in response to Contention A,<sup>187</sup> NextEra is, in fact, conducting material property testing of sample cores from Seabrook to determine the through-thickness expansion to date using the methodology defined in MPR-4153.<sup>188</sup> This testing examines the current elastic modulus of the concrete, which in turn requires compressive strength testing. The first campaign to examine out-of-plane expansion involved testing of cores.<sup>189</sup> The results of those tests are available in the LAR.<sup>190</sup> Petitioner neither references nor challenges the tests conducted to date. Accordingly, Contention D fails to demonstrate a genuine dispute with the LAR.<sup>191</sup>

Petitioner criticizes the LAR for “only” mentioning testing “for determining through-thickness expansion for mid-plane cracks.”<sup>192</sup> Petitioner then claims “the full range” of testing is necessary.<sup>193</sup> NextEra interprets Petitioner’s call for the “full range” of testing to mean compressive strength testing and elastic modulus testing for purposes of structural analyses.<sup>194</sup> But it is unclear whether Petitioner recognizes that “determining through-thickness expansion,” per the methodology in the LAR, requires both compressive strength testing and elastic modulus

---

<sup>186</sup> *Id.* at 10.

<sup>187</sup> *See supra* Part V.A.

<sup>188</sup> *See* MPR-4153 at iv.

<sup>189</sup> MPR-4153 at 5-1.

<sup>190</sup> *Id.* at App’x D.

<sup>191</sup> *See USEC*, CLI-06-10, 63 NRC at 472 (the intervenor must address the specific analysis in the document and explain how it is incorrect using facts that are specific to the facility in question).

<sup>192</sup> Petition at 9.

<sup>193</sup> *Id.*

<sup>194</sup> Although Petitioner does not define the phrase “full range,” it offers, in support of its demand, a 2012 letter it wrote asserting that testing of “compressive strength and Young’s moduli are appropriate.” *Id.* (citing C-10 and UCS 9/13/12 Letter).

testing. Moreover, as described fully in response to Contention C above, NextEra has demonstrated—though the extensive testing process described fully in the LAR and its references—that the material properties of cores removed from ASR-affected reinforced concrete do not accurately characterize structural performance due to the Mitigating Effect also discussed above. And, as noted in response to Contention C, Petitioner does not explain how the testing it demands could be used to demonstrate that ASR-affected structures continue to meet ACI 318-71 and the ASME Code given the presence of the Mitigating Effect, which Petitioner acknowledges is real. Thus, it fails to identify a genuine dispute with the LAR.<sup>195</sup>

## 2. The Methodology Described In the LAR Uses Core Sample Data

Like a domino effect, Petitioner’s misunderstanding of the LAR has led to its demonstrably incorrect assertion that NextEra is attempting to substitute data from the LSTP *in lieu* of performing core sample testing.<sup>196</sup> Contention D further claims “NextEra intends to . . . analyz[e] the advancement of ASR at their working atomic reactor, without having to properly and fully test the actual concrete at the plant!”<sup>197</sup> But this claim is untrue and unsupported.

To the extent Petitioner’s argument suggests NextEra intends or is relying on a wholesale substitution of LSTP data for core sample testing data, its assertion obviously is false; the process outlined in the LAR clearly considers testing data from Seabrook’s core samples as an integral element of the proposed methodology.<sup>198</sup> If Petitioner is suggesting that *any* use of the LSTP data, in lieu of core sample testing, is *somehow* flawed or disallowed, Petitioner simply has not provided a reasoned basis or explanation for such an argument. It has not pointed to any

---

<sup>195</sup> See *Millstone*, CLI-01-24, 54 NRC at 358.

<sup>196</sup> Petition at 2, 8 (arguing the LSTP data “cannot be substituted” for core sample testing).

<sup>197</sup> *Id.* at 9.

<sup>198</sup> See *generally* MPR-4153 at iv (explaining that compressive strength testing and elastic modulus testing are used to calculate expansion to date).

specific purported substitution, or any particular part of the application, or explained how that purported substitution would render the LAR materially deficient. Ultimately, neither its mistaken reading of the LAR nor its vague, unparticularized assertions can serve as the basis of an admissible contention.<sup>199</sup>

### 3. Petitioner's Programmatic Challenges to the LSTP Are Unsupported

Contention D argues that core sample testing *must* be performed because the LSTP data is “not ‘representative’ of the progression of ASR at Seabrook Station.”<sup>200</sup> First, Petitioner offers nothing to explain the relevance of representativeness in the specific context of the LAR. Fundamentally, Petitioner fails to recognize that the LSTP results are not applied directly to plant structures, but rather are used to calibrate ACI 318-71 and ASME Code equations; and fails to address or challenge the conclusion in MPR-4288 that the code equations remain valid and indicate that using the original specified concrete strength and the code equations is conservative.<sup>201</sup> Second, Petitioner's only citation to authority in the whole of Contention D (aside from quoting the LAR and citing a NUREG document that it does not explain) is a letter from 2012 authored in part by the Petitioner that opines on non-linear progression of ASR.<sup>202</sup> Petitioner offers no connection from this statement to the topic of “representativeness.” The remainder of the discussion is comprised merely of speculation, conjecture, and surmise by Petitioner. As discussed below, Contention D significantly lacks the support required by 10 C.F.R. § 2.309(f)(1)(v) and fails to demonstrate materiality or a genuine dispute, contrary to 10 C.F.R. §§ 2.309(f)(1)(iv), (vi).

---

<sup>199</sup> *Millstone*, CLI-01-24, 54 NRC at 358.

<sup>200</sup> Petition at 2, 8.

<sup>201</sup> *See* MPR-4288 §§ 2, 5.

<sup>202</sup> *See* Petition at 9.

First, Petitioner attacks the LSTP because it allegedly “sets no definitive parameters” for “representativeness” to Seabrook’s concrete.<sup>203</sup> Likewise, Petitioner alleges the LSTP lacks a “clear definition of the level of representativeness sought.”<sup>204</sup> But Petitioner’s allegation ignores the very section of the LAR that discusses this topic. MPR-4273 includes an entire section titled, “Representativeness Objectives of Test Programs.”<sup>205</sup> This section describes the key features of its programmatic design for representativeness, and the subsequent sections of the report expand upon those features with additional details.<sup>206</sup> The “Representativeness” discussion in MPR-4273 even “presents [a graphic representation of] various sources of information and indicates their relative representativeness for evaluating structural performance of ASR-affected reinforced concrete structures at Seabrook Station.”<sup>207</sup> Petitioner entirely disregards, rather than disputes, this discussion in MPR-4273; Petitioner did not acknowledge it, reference it, or point to specific assertions within it to offer a meaningful challenge.

Instead, Contention D is supported only by vague remarks (*e.g.*, “one can only wonder” whether the data is representative;<sup>208</sup> the data “in all likelihood” is not representative),<sup>209</sup> but offers no real evidence or explanation in support thereof. Furthermore, Petitioner vaguely challenges the use of test specimens designed to represent the Seabrook concrete “to the maximum extent practical,”<sup>210</sup> and suggests a generic NUREG technical report discussing the

---

<sup>203</sup> *Id.* at 10-11.

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

<sup>205</sup> MPR-4273 § 2.4.2.

<sup>206</sup> *See id.* at 2-7.

<sup>207</sup> *Id.* at 2-7; *see also id.* fig. 2-2.

<sup>208</sup> Petition at 10.

<sup>209</sup> *Id.* at 9.

<sup>210</sup> *Id.* at 9 (citing MPR-4273 § 1.2.2).

effect of radiation on ASR is “notable,”<sup>211</sup> but has nothing to offer in the way of reasoned explanations for how these remarks expose a material deficiency in the LAR. Petitioner’s conspicuous silence regarding the various conservatisms and specific conclusions in the LAR discussing the “bounding” nature of the LSTP is also telling.<sup>212</sup> In the end, the Commission’s rules and regulations demand much more. Because Petitioner has not offered a reasoned basis, factual information, or expert opinion to sustain its allegations, and has not even challenged the relevant portions of the application, these very high-level remarks fail to satisfy the support and genuine dispute elements of 10 C.F.R. §§ 2.309(f)(1)(v)-(vi) for an admissible contention.

Next, without citing any support, Petitioner also claims that Seabrook’s concrete is extraordinarily unique<sup>213</sup> and “present[s] far too many variables to allow even a well-performed set of tests (as the FSEL tests obviously were) in Texas to reflect their characteristics.”<sup>214</sup> Petitioner cites no authority for this very general assertion. Even assuming, for the sake of argument, such a claim was true, Petitioner does not explain how its assertion is tied to the LAR, how it is material to some finding the NRC must make to grant the LAR, or how it demonstrates a deficiency therein. Petitioner ignores, rather than disputes, the very portions of the application that explain the bounding nature and inherent conservatisms underpinning the methodology discussed in the LAR. This argument, likewise, is not a sufficient basis for an admissible contention.<sup>215</sup> And to the extent Petitioner asserts the LAR must consider the effects of heat and

---

<sup>211</sup> *Id.* at 10 (quoting NUREG/CR-7171 but offering no explanation of the quote, other than calling it “notable”).

<sup>212</sup> *E.g.*, LAR Evaluation § 3.2.1 (“The specimens used in the large-scale test programs experienced levels of ASR that bound ASR levels currently found in Seabrook structures (i.e., are more severe than at Seabrook”).

<sup>213</sup> Petition at 10 (citing salt content, heat, etc.).

<sup>214</sup> *Id.* at 11.

<sup>215</sup> *See* 10 C.F.R. § 2.309(f)(1)(iv)-(vi).

radiation on concrete, it misunderstands the scope of this proceeding. LAR 16-03 is specific to ASR effects; it does not need to include consideration of all potential concrete degradation mechanisms. Thus, Contention D is also out-of-scope, and inadmissible.<sup>216</sup>

Petitioner further makes the baseless assertion that, in the “well-performed set of tests,”<sup>217</sup> MPR/FSEL’s decision to use “wetted absorbent fabric” to simulate the presence of groundwater<sup>218</sup> “completely strains credulity.”<sup>219</sup> This hyperbole by the Petitioner offers no expert support or reasoned explanation, and does not argue a genuine dispute with the application. And more importantly, there is no claim or evidence by Petitioner that such methodology did not, in fact, ensure that ASR developed through the entire thickness of the test specimens, which was the very purpose of the wet fabric. As explained in MPR-4273, “[t]he internal humidity of the concrete [created by the wet fabric] and the atmospheric conditions in the ECF were sufficient to drive progression of ASR uniformly throughout the test specimens.”<sup>220</sup> MPR-4273 further explains that confirmatory petrographic analysis showed ASR was “observed throughout the entire test specimen, not just at the surface,” thus, “the control specimens provided an appropriate baseline for the test programs.”<sup>221</sup> Petitioner does not acknowledge or attack these conclusions; it merely offers its unsupported conclusion that the methodology “strains credulity.” Such empty claims “deprive[] the Board of the ability to make the necessary, reflective assessment of the opinion.”<sup>222</sup> Accordingly, this assertion does not

---

<sup>216</sup> See *Trojan*, ALAB-534, 9 NRC at 289 n.6.

<sup>217</sup> Petition at 11.

<sup>218</sup> MPR-4273 § 4.2.6.

<sup>219</sup> Petition at 10.

<sup>220</sup> MPR-4273 at 4-7.

<sup>221</sup> *Id.* at 4-10.

<sup>222</sup> *USEC*, CLI-06-10, 63 NRC at 472 (emphasis added) (quoting *Private Fuel Storage*, LBP-98-7, 47 NRC at 181).

provide the support demanded by 10 C.F.R. § 2.309(f)(1)(v) for an admissible contention, or demonstrate a genuine dispute, as required by 10 C.F.R. § 2.309(f)(1)(vi).

Finally, Petitioner “proposes that ‘mining’ the necessary concrete beams from the unused Unit 2” would provide the “representative” data it seeks.<sup>223</sup> NextEra explicitly considered this approach; its analysis, and rejection, of this approach is discussed in MPR-4273.<sup>224</sup> As discussed in that document, “NextEra and MPR considered harvesting samples from the canceled Unit 2 at Seabrook Station, but ultimately decided against this approach” due to: (a) damage to the sample that would be incurred during the harvesting process, and (b) the need for accelerated aging, necessary to consider expansion that could occur in the future.<sup>225</sup> But Petitioner does not acknowledge this analysis, much less does Petitioner challenge it, as is required for an admissible contention.<sup>226</sup>

\* \* \* \* \*

In summary, NextEra is conducting core sample testing contrary to Petitioner’s assertions, and the resulting material testing data is integral to the methodology described in the LAR. Petitioner also has not disputed the LAR on the subject of “representativeness”—it does not even acknowledge, much less challenge, the section of MPR-4273 that directly speaks to this issue. And Petitioner’s vague criticisms, alone, do not provide support for its programmatic criticisms of the LSTP. Accordingly, Contention D is inadmissible and should be rejected in its entirety.

---

<sup>223</sup> Petition at 10.

<sup>224</sup> *See, e.g.*, MPR-4273at 2-6.

<sup>225</sup> *Id.*

<sup>226</sup> *See USEC*, CLI-06-10, 63 NRC at 472 (the intervenor must address the specific analysis in the document and explain how it is incorrect using facts that are specific to the facility in question).

**E. Contention E: Proprietary Information**

Petitioner’s fifth proposed contention asserts that certain “data from the FSEL testing” was inappropriately designated as “proprietary.”<sup>227</sup> Petitioner protests that such proprietary designations are “not good science,” create an “air of secrecy” that prevents full review of the LAR, and undermine public trust. Apart from the obvious hyperbole, Contention E is an attack, at a policy level,<sup>228</sup> on the long-standing statutory and regulatory regime used by the NRC and numerous other federal agencies that protects confidential commercial and trade secret information from public disclosure. But this is not the appropriate venue for Petitioner’s grievance; collateral attacks on NRC regulations are expressly forbidden in adjudicatory proceedings.<sup>229</sup> Moreover, Petitioner had a full opportunity to request access to the proprietary documents at issue in this proceeding—it simply did not do so. Thus, Petitioner’s complaints ring hollow. As a result, Petitioner’s generalized complaint does not amount to an admissible contention because it does not raise an issue material to the NRC’s review of the LAR, there is no dispute with the substantive content of the application, its claims are unsupported, and the topic is outside the scope of the proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii).

1. Contention E Is A Policy Challenge Outside the Scope of This Proceeding

Federal law has long recognized the privileged status of certain confidential commercial and trade secret (*i.e.*, proprietary) information.<sup>230</sup> And NRC regulations implement this protection as it relates to NRC records and documents, including correspondence to and from the

---

<sup>227</sup> Petition at 2, 11.

<sup>228</sup> Petitioner does not assert that the withheld information is not, in fact, proprietary.

<sup>229</sup> *See* 10 C.F.R. § 2.335(a).

<sup>230</sup> *See, e.g.*, Act of July 4, 1966, P.L. 89-487, 80 Stat. 250 (July 4, 1966) (section (e)(4) making confidential commercial and trade secret information exempt from public disclosure).

NRC regarding license amendments.<sup>231</sup> As explained in the affidavits accompanying the LAR, portions of the LAR contain such confidential commercial information.<sup>232</sup> Accordingly, NextEra submitted a companion “non-proprietary” (*i.e.*, publicly-available) version of all “proprietary” (*i.e.*, non-publicly available) enclosures when filing the LAR, as the law allows.<sup>233</sup>

Contention E offers a list of grievances with the policy of withholding proprietary information from the public, including that it “is not good science,” “undermines . . . trust,” “hinders . . . awareness,” and “harms the interests of the communities.”<sup>234</sup> Petitioner also offers policy views in favor of releasing proprietary information to the public, suggesting it would “advance the body of knowledge,” “allow the data to be seen and analyzed by the wider scientific and engineering communities,” and “facilitate . . . needed debate.”<sup>235</sup> But the policy flows from Federal statute; if Petitioner disagrees with the policy, its recourse is to petition Congress and the President to do something the ASLB cannot—change the statute.

Furthermore, Petitioner’s suggestion that the LAR has not been subjected to “proper feedback mechanisms for review”<sup>236</sup> ignores reality. The LAR has been submitted to the NRC for precisely that purpose—review. Additionally, the MPR reports were “prepared, reviewed, and approved in accordance with the Quality Assurance requirements of 10CFR50 Appendix B and/or ASME NQA-1, as specified in the MPR Nuclear Quality Assurance Program.”<sup>237</sup>

Moreover, NextEra consulted with various industry experts, including the Electric Power

---

<sup>231</sup> See 10 C.F.R. § 2.390(a)(4).

<sup>232</sup> See Original LAR, Encl. 8 (proprietary affidavit); LAR Supplement, Encl. 4 (proprietary affidavit).

<sup>233</sup> See generally, *e.g.*, Original LAR Cover Letter at 1 (noting enclosures 1, 5, and 6 are proprietary).

<sup>234</sup> Petition at 2.

<sup>235</sup> *Id.* at 11.

<sup>236</sup> *Id.*

<sup>237</sup> See, *e.g.*, MPR-4288 at cover. Petitioner does not assert any deviation from that Quality Assurance Program.

Research Institute (“EPRI”) during development of the LSTP.<sup>238</sup> Petitioner’s arguments on this point are particularly illogical, given that the public had an opportunity to request access to the proprietary information, as discussed below. The public also had an opportunity to provide comments to the NRC on the LAR, which Petitioner did on March 9, 2017.<sup>239</sup>

From a procedural perspective, Petitioner’s arguments challenge 10 C.F.R. § 2.390(a)(4)—the NRC regulation that protects proprietary information from public disclosure. However Commission regulations prescribe that, absent a waiver (which Petitioner did not seek or obtain) “no rule or regulation of the Commission, or any provision thereof . . . is subject to attack . . . in any adjudicatory proceeding.”<sup>240</sup> In general, “the adjudicatory process is not the proper venue to hear any contention that merely addresses petitioner’s own view regarding the direction regulatory policy should take.”<sup>241</sup> Accordingly, Contention E is outside the scope of the proceeding under 10 C.F.R. § 2.309(f)(1)(iii) and, therefore, inadmissible.

2. Petitioner Had An Opportunity To Request Access to Proprietary Information

Petitioner asserts that the proprietary designation of the LAR prevented it from reviewing “data from the FSEL testing.”<sup>242</sup> But this is simply not true. As explained below, the public at large, including Petitioner, had a full opportunity to request access to the proprietary documents at issue in this proceeding—it simply did not do so.

---

<sup>238</sup> See NextEra, Slides, “Impact of Alkali Silica Reaction on Seabrook Concrete Structures” at 19 (Apr. 23, 2012) (ML121160422) (noting that, in addition to MPR and the University of Texas at Austin, NextEra “[e]ngaged subject matter experts” including: EPRI; the University of New Hampshire; Simpson, Gumpertz, and Heger; and Wiss, Janney, Elstner).

<sup>239</sup> See Comment 2 on FR Doc # 2017-01933, Docket No. NRC-2017-0003 (Mar. 9, 2017) (ML17081A015).

<sup>240</sup> See 10 C.F.R. § 2.335(a).

<sup>241</sup> *Millstone*, LBP-08-9, 67 NRC at 431 (citing *Peach Bottom*, ALAB-216, 8 AEC at 21 n.33).

<sup>242</sup> Petition at 2, 11.

On February 7, 2017, in the Hearing Opportunity Notice that gave rise to the instant Petition, the NRC explained that the LAR “contains sensitive unclassified non-safeguards information (SUNSI)”—a type of information that includes proprietary information<sup>243</sup>—and issued an order “contain[ing] instructions regarding how potential parties to this proceeding may request access to documents containing [SUNSI].”<sup>244</sup> Petitioner was obviously aware of the Hearing Opportunity Notice; it submitted both: (a) comments on the *regulations.gov* docket,<sup>245</sup> and (b) this Petition on the adjudicatory docket, in response thereto.

The Hearing Opportunity Notice provided that “[a]ny potential party . . . who believes access to SUNSI is necessary to respond to this notice must request document access by February 17, 2017.”<sup>246</sup> To NextEra’s knowledge, Petitioner—a “potential party”—never requested such access; and Petitioner does not plead otherwise. At the end of the day, the only thing that prevented Petitioner from accessing proprietary documents was Petitioner’s own inaction, which is not a basis for an admissible contention. Further, the LAR has been publicly available on ADAMS since August 12, 2016.<sup>247</sup> Petitioner, therefore, could have sought access from NextEra to referenced proprietary data long before issuance of the February 7, 2017 Hearing Opportunity Notice, but again did not do so.

\* \* \* \* \*

Because Contention E is unsupported, outside the scope of the proceeding, does not raise an issue material to the NRC’s review of the LAR, and does not dispute the substantive content

---

<sup>243</sup> See, e.g., Delegated Authority to Order Use of Procedures for Access to Certain Sensitive Unclassified Information, 73 Fed. Reg. 10,978, 10,979 (Feb. 29, 2008) (explaining SUNSI includes proprietary information).

<sup>244</sup> Hearing Opportunity Notice, 82 Fed. Reg. at 9606.

<sup>245</sup> See Comment 2 on FR Doc # 2017-01933, Docket No. NRC-2017-0003 (Mar. 9, 2017) (ML17081A015).

<sup>246</sup> Hearing Opportunity Notice, 82 Fed. Reg. at 9601.

<sup>247</sup> See Document Properties, “Date Added” for ADAMS Accession No. ML16216A240.

of the LAR, contrary to 10 C.F.R. §§ 2.309(f)(1)(iii)-(vi), and attacks Commission regulations without a waiver to do so, contrary to 10 C.F.R. § 2.335(a), it is not admissible.

**F. Contention F: Rebar**

In Contention F, Petitioner asserts that “[a]ssumptions made by NextEra and MPR . . . concerning the continued robustness of reinforcing steel at the Seabrook reactor are at odds with clear evidence of the in-situ chemistry necessary for corrosion.” Quite the contrary—it is Petitioner’s speculation that is at odds with evidence regarding the condition of Seabrook’s rebar, which Petitioner disregards, rather than disputes. Contention F further suggests that environmental conditions at Seabrook have caused rebar corrosion, and that “[o]nly in-situ monitoring for evidence” of corrosion can ensure against degradation.<sup>248</sup> On this point, NextEra agrees, as evidenced by the fact that rebar integrity is considered in Seabrook’s current licensing basis (“CLB”) via relevant portions of the SMP and ACI-349.3R-96—another fact Petitioner disregards rather than disputes. Moreover, only the LAR, not the entirety of Seabrook’s CLB, is at issue in this proceeding; NextEra is not seeking approval for any changes to its CLB program for addressing rebar integrity. Thus, Contention F also is outside the scope of this proceeding. Because Contention F is out of scope, immaterial, unsupported, and fails to demonstrate a genuine dispute, it is inadmissible.

1. Petitioner’s Assertions Regarding Corrosion Are Speculative and Ignore Relevant Docketed Information

Petitioner, in Contention F, complains that “[t]here is little mention of steel deterioration anywhere in the LAR.”<sup>249</sup> As explained below, Petitioner’s speculation regarding steel deterioration is unsupported and fails to demonstrate a genuine dispute.

---

<sup>248</sup> Petition at 2.

<sup>249</sup> *Id.* at 12.

In docketed correspondence to the NRC in 2010, NextEra explained that “[t]he lack of oxygen and high pH alkali environment of [Seabrook’s] concrete are inhibitors to a corrosive environment,” and noted that this had been “corroborated based on inspections of embedded reinforcing steel in . . . areas of the plant that were in a saturated condition.”<sup>250</sup> As purported support for Contention F, Petitioner cites commentary from Dr. Brown, prepared in March 2012, critiquing this correspondence.<sup>251</sup> Therein, Dr. Brown acknowledged that rebar “does not normally corrode” due to “the elevated pH of concrete,” but suggested that the presence of chloride “adjacent to” rebar “can” induce deterioration and that sulfate also has the “capacity” to do so.<sup>252</sup> Dr. Brown cited the results of groundwater testing and other observations at Seabrook and suggested that additional observation and analysis was necessary to ascertain the condition of the plant’s rebar.<sup>253</sup>

Notwithstanding Dr. Brown’s *speculation* as to the possible condition of Seabrook’s rebar, several subsequent inspections and analyses have confirmed its integrity. For example, in

---

<sup>250</sup> SBK-L-10204, Letter from P. Freeman, NextEra, to NRC Document Control Desk, “Seabrook Station Response to Request for Additional Information; NextEra Energy Seabrook License Renewal Application; Aging Management Programs,” Encl. 1 at 26 (Dec. 17, 2010) (ML103540534). NextEra has docketed a large amount of correspondence with the NRC that provides a rich source of factual information, *e.g.*, regarding NextEra’s SMP and the state of the plant. Although this particular reference was submitted as part of the license renewal proceeding, that proceeding is separate from and outside the scope of the instant LAR proceeding. *See generally* Hearing Opportunity Notice (limiting the scope of this proceeding to the LAR).

<sup>251</sup> *See, e.g.*, Petition at 12 (citing P. Brown, “Commentary on the Alkali-Silica Reaction in Concrete Structures at the Seabrook Nuclear Plant,” at 5-6 (Mar. 14, 2012) (ML12339A268) (“Brown 3/14/12 Commentary”).

<sup>252</sup> Brown 3/14/12 Commentary at 5.

<sup>253</sup> *Id.* Dr. Brown’s citation to the observation of “heavy corrosion” in SBK-L-10204 involves the containment liner, not rebar. *See* SBK-L-10204, Encl. 1 at 28. Regardless, subsequent ultrasonic testing of 87 areas of the containment liner revealed “[t]here was no measurable corrosion degradation of the liner in the accessible areas below the 10% criteria in IWE-3511.3.” *See* SBK-L-16165, Letter from E. McCartney, NextEra, to NRC Document Control Desk, Response to Request for Additional Information Regarding License Amendment Request 16-01, “Request to Extend Containment Leakage Test Frequency,” Encl. 1 at 11 (Oct. 27, 2010) (ML16302A397).

December 2012, several months after Dr. Brown’s commentary, the NRC issued Inspection Report 2012009.<sup>254</sup> In that report, the NRC inspection team noted that it had:

examined information gathered and assessed by NextEra with regards to the condition of rebar and any potential erosion or corrosion due to ASR and water in leakage through below grade reinforced concrete structures. The team observed that NextEra had removed an area of surface concrete in the B electrical tunnel to examine the condition of the rebar. The engineering staff identified *no degradation of the rebar* (no oxidation or signs of distress). The team also learned that in the course of removing core samples, in two instances the sample included minor amounts of rebar. Examination of the rebar sections removed determined the steel to be in *excellent condition* (unaffected by ASR or moisture).<sup>255</sup>

The NRC further evaluated this information in Inspection Report 2012010, which noted NextEra’s conclusion that ample alkali remained in the concrete to maintain rebar passivity and to preclude a corrosive environment.<sup>256</sup> The NRC inspection team:

determined that NextEra’s position was acceptable. Based upon the examination of a limited number of Seabrook rebar, and the review of available industry operating experience associated with concrete degradation mechanisms, the team concluded that at the current level of ASR there is *no evidence* to suggest that the reinforcing steel bars at Seabrook are corroding.<sup>257</sup>

---

<sup>254</sup> Letter from C. Miller, NRC, to K. Walsh, NextEra, “Seabrook Station, Unit No. 1 – Confirmatory Action Letter Follow-up Inspection – NRC Inspection Report 05000443/2012009,” (Dec. 3, 2012) (ML12338A283).

<sup>255</sup> *Id.*, Encl. at 8 (emphasis added).

<sup>256</sup> Letter from R. Lorson, NRC, to K. Walsh, NextEra, “Seabrook Station, Unit No. 1 – Confirmatory Action Letter Follow-up Inspection – NRC Inspection Report 05000443/2012010,” (Aug. 9, 2013) (ML13221A172) (“NRC Inspection Report 05000443/2012010”).

<sup>257</sup> *Id.*, Encl. at 12 (emphasis added). More recently, NextEra performed a “shallow core bore in an area that was continuously wetted from borated water” to “expose rebar to detect any degradation such as loss of material.” SBK-L-16003, Letter from D. Curtland, NextEra, to NRC Document Control Desk, “Seabrook Station; LRA Commitments Update; NextEra Energy Seabrook License Renewal Application,” Encl. 1 at 5 (Jan. 29, 2016) (ML16035A245). There, the rebar showed no evidence of damage. *Id.* Again, although this particular reference was submitted as part of the license renewal proceeding, that proceeding is separate from and outside the scope of the instant LAR proceeding. *See generally* Hearing Opportunity Notice (limiting the scope of this proceeding to the LAR).

Petitioner cites subsequent commentary from Dr. Brown, prepared in 2013, in which he continues to use threadbare conjecture to suggest a “probability of corrosion,” a “basis to anticipate” that some rebar at Seabrook, somewhere, is “likely” to have undergone corrosion.<sup>258</sup> But that commentary disregards rather than disputes the highly-relevant data, inspection results, and NRC analyses of the very topics upon which he speculates. In other words, Petitioner does not dispute this information and offer an opposing view; Petitioner merely ignores it, which is insufficient to demonstrate a genuine dispute.<sup>259</sup> Accordingly, Contention F is inadmissible.

2. NextEra Is Monitoring Seabrook’s Rebar Under the SMP and ACI-349.3R-96

In Contention F, Petitioner claims that Seabrook’s concrete foundations have been subject to “long-term inundation[] from brackish water,” which “has exposed the concrete to elevated levels of salt.”<sup>260</sup> Petitioner further opines that, combined with ASR, “this has likely created the conditions for corrosion of reinforcing steel.” As a remedy, Petitioner argues that “[o]nly in-situ monitoring for evidence of these impacts can ensure corrosion does not further degrade the strength of already impaired concrete.”<sup>261</sup>

NextEra relies on the Seabrook SMP and ACI-349.3R-96 to ensure rebar will continue to perform its intended function. These CLB programs include monitoring and detection methodologies that look for evidence of rebar corrosion—which appears to be what Petitioner seeks. To the extent Contention F could be read to challenge the sufficiency of these programs, Petitioner simply has not explained *how* the existing programs allegedly are deficient. But the NRC has already concluded that they are sufficient; as noted in Inspection Report 2012010:

---

<sup>258</sup> Petition at 12-13 (citing C-10 6/19/13 Document).

<sup>259</sup> See *Millstone*, CLI-01-24, 54 NRC at 358.

<sup>260</sup> Petition at 12.

<sup>261</sup> *Id.* at 2.

In accordance with the Seabrook SMP and the referenced American Concrete Institute 349.3R-96, “Evaluation of Existing Nuclear Safety Related Concrete Structures,” periodic visual inspections (signs of leaching, staining, spalling and pop outs) coupled with soil and groundwater testing for aggressive chemistry conditions (*i.e.*, chlorides, sulfates and pH) provide *appropriate monitoring and industry recommended detection methodology*. Inspections conducted have not identified any iron oxide staining attributed to rebar corrosion on any ASR affected concrete structures at Seabrook. Consequently, the team has concluded that *no additional rebar examinations (i.e., removing the cover concrete to expose rebar for visual inspection) are currently warranted.*<sup>262</sup>

Petitioner does not acknowledge or challenge this conclusion or the existence of programs already in place that consider rebar integrity at Seabrook. Yet again, Petitioner disregards rather than disputes the relevant information, which is insufficient to demonstrate a genuine dispute.<sup>263</sup> Accordingly, Contention F is inadmissible.

### 3. Petitioner’s Arguments Are Outside the Scope of This Proceeding

The scope of an adjudicatory proceeding is defined by and restricted to the Commission’s notice of opportunity for a hearing.<sup>264</sup> The Hearing Opportunity Notice for this proceeding limits its scope to the LAR.<sup>265</sup> LAR 16-03 is specific to ASR effects; it does not need to include consideration of all potential concrete degradation mechanisms. Rebar corrosion, including corrosion related to chlorides, is not within the scope of the LAR because it is addressed through existing CLB processes and methodologies, including relevant portions of the SMP and ACI-349.3R-96. The NRC’s ongoing regulatory oversight process, which includes generic and plant-

---

<sup>262</sup> NRC Inspection Report 05000443/2012010 at 12-13. (emphasis added).

<sup>263</sup> *See Millstone*, CLI-01-24, 54 NRC at 358.

<sup>264</sup> *See Catawba*, ALAB-825, 22 NRC at 790-91.

<sup>265</sup> *See Trojan*, ALAB-534, 9 NRC at 289 n.6 (affirming the board’s rejection of issues raised by intervenors that fell outside the scope of issue identified in the notice of hearing); *see also Yankee*, CLI-98-21, 48 NRC at 204.

specific reviews, inspections, and enforcement actions, continuously assesses the adequacy of and compliance with a facility’s CLB.<sup>266</sup> Ultimately, only the LAR,<sup>267</sup> not the entirety of Seabrook’s CLB, is at issue in this proceeding.<sup>268</sup> Therefore, contentions that challenge the CLB, such as Contention F, are not within the scope of a license amendment proceeding.<sup>269</sup> Accordingly, Contention F is inadmissible.

\* \* \* \* \*

Because Contention F is unsupported, outside the scope of the proceeding, does not raise an issue material to the NRC’s review of the LAR, and does not dispute the substantive content of the LAR, contrary to 10 C.F.R. §§ 2.309(f)(1)(iii)-(vi), it is not admissible.

**G. Contention G: Tipping Point**

In its seventh contention, Petitioner observes that “[o]mitted from the LAR 16-03 is the ‘tipping point’ concept,” which it describes as “all seems to be going well until a certain (unexpected) ‘wall’ is hit and the situation changes abruptly.”<sup>270</sup> In essence, Petitioner criticizes the LSTP for not testing materials to the point of failure. Petitioner’s bottom line is that “[a]ny

---

<sup>266</sup> *Entergy Nuclear Generation Co. and Entergy Nuclear Ops., Inc.* (Pilgrim Nuclear Power Station), CLI-10-14, 71 NRC 449, 454, 463 n.76 (2010).

<sup>267</sup> To the extent Petitioner claims rebar integrity is inherently part of the LAR because the LAR “seems to rely on the notion that ASR-expanded concrete is held ‘in confinement’ by the strength of the imbedded steel,” Petition at 13, NextEra monitors the integrity of rebar through other NRC-approved CLB programs. *See also, e.g.*, MPR-4288 at 5-2 (noting the LAR methodology takes no credit for the prestressing effect).

<sup>268</sup> Contention F also makes various references to other random subjects, including a “Non-Compliance of Construction Procedure” from decades ago, purported whistleblower retaliation, and “steel emplacement at the time of construction,” which it later claims is not part of the contention. Petition at 12-13. All of these are outside the scope of the LAR and therefore inadmissible.

<sup>269</sup> *Cf. Fla. Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), CLI-01-17, 54 NRC 3, 8-9 (2001) (holding challenges to the CLB also are outside the scope of a license renewal proceeding).

<sup>270</sup> Petition at 13.

LAR needs to set out methodology to test materials to and past their limit state/failure/tipping point.<sup>271</sup>

However, with this contention, Petitioner misses the point of the LAR, which is designed to verify that ASR-affected structures never reach the tipping point, much less the point of failure, through multiple levels of monitoring, measurement, trending, and expansion limits. The simplified logic of NextEra's approach is as follows:

- ASR causes expansion;
- the LSTP observed expansion in test specimens with levels of ASR that bound that experienced at Seabrook;
- those test specimens *did not* reach a tipping point;
- *because* the LSTP test specimens did not reach a tipping point, acceptance criteria for expansion below the levels observed in the test specimens have been established in order to demonstrate that structures at Seabrook also will not reach a tipping point.

The LAR methodology describes such acceptance criteria.<sup>272</sup> Petitioner does not explain why, given the use of acceptance criteria *below* the tipping point, the LSTP needed to go further to identify a tipping point or the point of failure that exists somewhere beyond the acceptance criteria. And Petitioner does not challenge the proposed acceptance criteria.<sup>273</sup> As such, Petitioner simply has not identified an issue material to the findings the NRC must make to grant the LAR, contrary to 10 C.F.R. § 2.309(f)(1)(iv), and does not identify a genuine dispute with the application, as required by 10 C.F.R. § 2.309(f)(1)(vi).

---

<sup>271</sup> *Id.* at 15.

<sup>272</sup> LAR Evaluation at tbl.4.

<sup>273</sup> It is unclear what Petitioner would have NextEra do with such tipping point data even if it was available, as it relates to the purpose of the LAR.

Petitioner cites various sources for various propositions,<sup>274</sup> including that, with regard to ASR: “...eventually cracking does occur with an abrupt loss of mechanical properties;”<sup>275</sup> some structures may “degrad[e] to beyond their load-carrying capabilities;”<sup>276</sup> and “cracking of the rebar” may occur.<sup>277</sup> NextEra agrees that, if allowed to progress beyond the tipping point, such results could *eventually* occur. There is no dispute on this point. But, the LAR explains that its purpose is to measure expansion to ensure Seabrook’s structures never get to the tipping point or point of failure:

The specimens used in the large-scale test programs experienced levels of ASR that bound ASR levels currently found in Seabrook structures (i.e., are more severe than at Seabrook), but the number of available test specimens and nature of the testing prohibited testing out to ASR levels where there was a clear change in limit state capacity. Because there is no testing data for these more advanced levels of ASR, periodic monitoring of ASR at Seabrook is necessary to ensure that the conclusions of the large-scale test program remain valid and that the level of ASR does not exceed that considered under the test programs. Proposed UFSAR Table 3.8-18 includes limits to maintain the validity of the test program results for Seabrook structures.<sup>278</sup>

The LAR also makes clear that “[t]he conclusions from NextEra’s evaluation of the effects of ASR on structural limit states and other design considerations is *predicated* on maintaining ASR expansion levels below the [acceptance criteria in the LAR].”<sup>279</sup> The LAR also provides a chart that lists the “ASR Expansion Limit”—*i.e.*, the percentage of through-

---

<sup>274</sup> Petitioner also repeats in Contention G its prestressing arguments from Contention B. Thus, NextEra incorporates here by reference in full its response to Contention B.

<sup>275</sup> Petition at 14 (citing Brown 9/30/16 Commentary at 3).

<sup>276</sup> *Id.* at 14 (citing Email from A. Buford, NRC, to M. Marshall, NRC, “Containment Issues at Seabrook,” (Sept. 26, 2012, 4:11 PM) (commenting on criteria for operability determinations) (available as part of a FOIA response at ML13312A841)).

<sup>277</sup> *Id.* at 15 (citing Transcript of the Advisory Committee on Reactor Safeguards Structural Analysis/Plant License Renewal Subcommittee at 177-78 (Sept. 19, 2014) (ML14282A172)).

<sup>278</sup> LAR Evaluation § 3.2.1.

<sup>279</sup> *Id.* § 3.5.1.

thickness expansion under which Seabrook structures must remain in order to be bound by the LSTP testing—for each of four relevant structural limit states: shear, flexure, reinforcement anchorage, and anchors.<sup>280</sup> “Structural limit state,” as used in the chart, refers to the capacity associated with a specific mode of loading structural members. For these four limit states, maximum acceptable ASR expansion levels are defined based on the LSTP results to which the expansion limits are tied for the purpose of structural assessment.

Petitioner acknowledges these discussions, but claims “[i]t is unclear how the LAR can document the percentages of ASR damages at which failure occurs a few report sections after which it states that no testing was done to the point of limit state/failure.”<sup>281</sup> Petitioner is simply confused. The chart merely contains the acceptance criteria (*i.e.*, the expansion limits based on the bounding LSTP data) selected for the LAR methodology—it does not purport to document the tipping point or point of failure. Petitioner’s misreading of the document is not an appropriate basis for an admissible contention.<sup>282</sup>

Finally, Petitioner suggests that the “tipping point concept needs to be incorporated into this LAR” because, purportedly, “[i]t seems clear that the speed of concrete degradation may be gaining momentum.”<sup>283</sup> But Petitioner offers no explanation or support for this demand. First, the MPR Reports indicate Seabrook’s ASR has a demonstrated “slow rate of change.”<sup>284</sup> In fact, as explained further in Section H.1, below, Seabrook’s slow-reacting aggregate is the *root cause* of its ASR, which likely would have been identified at the time of construction had it not been of

---

<sup>280</sup> *Id.* at tbl.4.

<sup>281</sup> Petition at 14.

<sup>282</sup> *Ga. Tech.*, LBP-95-6, 41 NRC at 300, *aff’d*, CLI-95-12, 42 NRC at 124.

<sup>283</sup> Petition at 14.

<sup>284</sup> *See* MPR-4288 at 1-2; MPR-4153 at 1-2.

the slow-reacting variety.<sup>285</sup> Petitioner simply disregards this information without explanation, which is insufficient to demonstrate a genuine dispute with the application,<sup>286</sup> in favor of its speculation that degradation “may” be gaining momentum—but fails to point to any corresponding support. Moreover, its assertion is irrelevant to the purpose of the LAR. The expansion limits described in the LAR, based on the bounding LSTP data, along with periodic monitoring and trending, ensure the tipping point will not be reached *regardless* of the “speed” of progression. And Petitioner does not explain otherwise. Thus, Petitioner’s speed of progression argument asserts a mere conclusion, but does not otherwise support its demand for testing to the tipping point or point of failure, which is inadequate to satisfy the support requirements of 10 C.F.R. § 2.309(f)(1)(v).<sup>287</sup>

Accordingly, Contention G is immaterial, unsupported, and fails to demonstrate a genuine dispute, contrary to 10 C.F.R. §§ 2.309(f)(1)(iv)-(vi), and is therefore inadmissible.

#### **H. Contention H: Inspection Intervals**

The next proffered contention in the Petition, Contention H, references the inspection intervals for the SMP as described in the LAR (*i.e.*, every six months for Tier 3 locations, and every 30 months for Tier 2 locations)<sup>288</sup> and asserts that these intervals “are too long, and too fixed, to effectively measure the ongoing effects of ASR to structures at the Seabrook Nuclear Power Plant in a timely manner.”<sup>289</sup> Petitioner suggests these intervals are insufficient because “there is no real knowledge of the speed of disintegration” of Seabrook’s concrete. However,

---

<sup>285</sup> NRC Inspection Report 05000443/2012010 at 3.

<sup>286</sup> *See Millstone*, CLI-01-24, 54 NRC at 358 (explaining an intervenor must read all pertinent portions of the document it is challenging and state both the challenged position and the intervenor’s opposing view).

<sup>287</sup> *See USEC*, CLI-06-10, 63 NRC at 472.

<sup>288</sup> Petition at 15 (citing LAR Evaluation at tbl.5).

<sup>289</sup> Petition at 15.

this claim ignores, rather than disputes, relevant factual information, contrary to 10 C.F.R. § 2.309(f)(1)(vi). Also, Petitioner attempts to support Contention H with assertions from Dr. Brown, but those claims relate to tangential topics, not inspection intervals. Petitioner simply inserts these out-of-context excerpts into its contention, without further explanation, and arrives at a conclusion that the LAR is inadequate. The only explanation Petitioner offers in support of its claims that the inspection intervals in the LAR are “too long” and “too fixed” is its generic suggestion that “[a] lot can happen in six months, and even more in 30 months.” But without some reasoned basis or explanation, this conclusion is insufficient to demonstrate support for an admissible contention as required by 10 C.F.R. § 2.309(f)(1)(v). Accordingly, Contention H is inadmissible.<sup>290</sup>

1. Petitioner Disregards Rather Than Disputes Relevant Information Regarding ASR Progression At Seabrook

Petitioner’s claim that “there is no real knowledge of the speed of disintegration” of Seabrook’s concrete is not accurate. As the MPR Reports indicate, Seabrook’s ASR has a “slow rate of change.”<sup>291</sup> The NRC also has remarked on “the slow progression of the ASR expansion” at Seabrook.<sup>292</sup> In fact, its slow-reacting aggregate is the very reason Seabrook is affected by ASR today. Originally, based on testing conducted per American Society for Testing Materials (“ASTM”) standards effective at the time of construction, Seabrook was not predicted to be susceptible to ASR.<sup>293</sup> But the ASTM standards “were subsequently identified as limited in their ability to predict slow reacting aggregate that produced ASR in the long term.”<sup>294</sup> Seabrook’s

---

<sup>290</sup> USEC, CLI-06-10, 63 NRC at 472.

<sup>291</sup> See MPR-4288 at 1-2; MPR-4153 at 1-2.

<sup>292</sup> NRC Inspection Report 05000443/2012010 at 3.

<sup>293</sup> *Id.*

<sup>294</sup> *Id.*

slow-reacting aggregate was identified as the *root cause* of its ASR, which likely would have been identified at the time of construction had it not been of the slow-reacting variety.<sup>295</sup> Here, Petitioner simply disregards this substantial body of knowledge regarding the “speed” of Seabrook’s ASR progression. It neither acknowledges nor addresses these conclusions, much less does it explain how they are somehow deficient. Petitioner also provides no references or other technical support, to bolster its claims.

Furthermore, to the extent Petitioner believes that the inspection intervals are “too long,” it does not acknowledge, discuss, or dispute the U.S. Department of Transportation, Federal Highway Administration guidance cited in the LAR, which “recommends [for ASR-affected structures] inspections from six months to 5 years depending on the age of the damage to the structure and the rate of change in degradation.”<sup>296</sup> And to the extent Petitioner argues that the inspection intervals are “too fixed,” it does not acknowledge, discuss, or dispute the use of trending in the monitoring methodology,<sup>297</sup> or NextEra’s explanation that “[i]n the event ASR monitoring results indicate a need to amend . . . the frequency of monitoring, NextEra will take such action under the Operating Experience element” of the program.<sup>298</sup> In other words, if NextEra determines that the rate of ASR degradation is changing, NextEra will change its monitoring intervals accordingly. In fact, such action is required by the Maintenance Rule.<sup>299</sup>

---

<sup>295</sup> *Id.*

<sup>296</sup> LAR Evaluation § 3.5.2 (citing FHWA Report).

<sup>297</sup> *See, e.g.*, LAR Evaluation at tbl.5.

<sup>298</sup> SBK-L-15202, Letter from D. Curtland, NextEra, to NRC Document Control Desk, “Seabrook Station; Response to Additional Information for the Review of the Seabrook Station License Renewal Application-SET 25 (TAC NO. ME4028) Relating to the Alkali-Silica Reaction (ASR) Monitoring Program,” Encl. 4 at 16 (Dec. 3, 2015) (ML15343A470). This particular reference was submitted as part of the license renewal proceeding; however, that proceeding is separate from and outside the scope of the instant LAR proceeding. *See generally* Hearing Opportunity Notice (limiting the scope of this proceeding to the LAR).

<sup>299</sup> *See* 10 C.F.R. § 10.65(a)(1) (requiring that licensees “shall monitor the performance or condition of structures, systems, or components, against licensee-established goals, in a manner sufficient to provide

Because Petitioner fails to challenge information that is directly relevant to the issue it raises, its arguments must be rejected as unsupported and for failure to demonstrate a genuine dispute.<sup>300</sup>

2. Dr. Brown's Assertions Regarding Homogeneity and Physical Testing Are Unrelated to Inspection Intervals and Do Not Support Contention H

As support for Contention H, Petitioner proffers two assertions from Dr. Brown.<sup>301</sup>

However, those claims address two tangential subjects: homogeneity and physical testing generally. Dr. Brown was not discussing inspection intervals (much less the specific inspection intervals described in the LAR) in either quote. Furthermore, Petitioner makes no effort to explain how these quotes challenge the intervals described in the LAR. Ultimately, Petitioner's unsupported conclusion regarding the rate of ASR, in combination with proffered opinions on tangential subjects, do not form an admissible contention. Conclusions stating an application is deficient, without some reasoned basis or explanation, do not support an admissible contention.<sup>302</sup> Thus, Contention H is not sufficiently supported, as required by 10 C.F.R. § 2.309(f)(1)(v).

Leading up to the first quote, Petitioner: (1) repeats its erroneous claim regarding the speed of Seabrook's ASR, refuted above; (2) says that "the FSEL testing is a snapshot only" (an unclear comment that it does not explain);<sup>303</sup> and (3) asserts that some unspecified testing "which would have at least given a comparison and a base of data upon which future changes could have

---

reasonable assurance that these structures, systems, and components, as defined in paragraph (b) of this section, are capable of fulfilling their intended functions.")

<sup>300</sup> See *Millstone*, CLI-01-24, 54 NRC at 358.

<sup>301</sup> See *Petition* at 15.

<sup>302</sup> *USEC*, CLI-06-10, 63 NRC at 472.

<sup>303</sup> Contrary to Petitioner's assertion, the LSTP included testing at multiple levels of ASR expansion to map out the change in structural capacity as a function of ASR expansion. Hence, the testing was not just a snapshot in time. See, e.g., MPR-4273 at 1-3 (noting that "test data across the range of ASR distress levels were obtained.")

been compared” was not conducted on both the Seabrook and LSTP concretes.<sup>304</sup> Petitioner then quotes Dr. Brown’s claims that “assessments/predictions of the responses of Seabrook structures to ASR, which are made in the absence of direct physical testing of concrete from those structures, are questionable.”<sup>305</sup> But Dr. Brown’s quote was made in the context of an argument asserting non-homogeneity is a relevant consideration in the LSTP design, and is not related to testing intervals.<sup>306</sup> And Petitioner does not explain how the discussion sequence here relates to inspection intervals.

Petitioner then offers a second quote from Dr. Brown suggesting compressive and splitting tensile strength testing, paste microhardness values, and petrographic analyses are necessary to predict the impacts of ASR on structures at Seabrook in the future.<sup>307</sup>

The point of this excerpt, in the context of inspection intervals, is unclear. Neither Dr. Brown nor Petitioner make any reference to or explain any link to the LAR inspection intervals. Petitioner then summarily concludes that the LAR should be denied as inadequately accounting for future ASR.<sup>308</sup>

Despite the above conclusion, the apparently random collection of thoughts, partial quotes, and unsupported conclusions offered in support are far from sufficient for an admissible contention. It is not NextEra’s burden to scour through the various claims and quotes in search

---

<sup>304</sup> Petition at 15.

<sup>305</sup> *Id.* (citing Brown 9/30/16 Commentary at 1).

<sup>306</sup> Brown 9/30/16 Commentary at 1. NextEra notes that Petitioner has not raised the issue of homogeneity in this proceeding. Notwithstanding, the LSTP demonstrated that non-homogeneity is not a relevant consideration because no adverse structural impact was observed—a fact which Dr. Brown does not dispute. *See* MPR-4273 § 4.3.

<sup>307</sup> Petition at 15 (citing Brown 9/30/16 Commentary at 2).

<sup>308</sup> *Id.* at 16.

of a logical or reasoned argument.<sup>309</sup> And it is not the Board’s responsibility to search through pleadings or other materials to uncover arguments and support never advanced by the petitioners themselves.<sup>310</sup> Further, the Commission has explained that it is improper to infer unarticulated bases for contentions.<sup>311</sup> Accordingly, because Petitioner has not adequately explained its arguments, it has deprived the Board of the ability to make the necessary reflective assessment of its position, and Contention H must be rejected.<sup>312</sup>

**I. Contention I: Sea Level Rise**

Contention I asserts that the LAR does not account for “the vital factor of expected sea level rise on the progression of ASR” and “steel reinforcement corrosion.”<sup>313</sup> But apart from these basic assertions Petitioner does not explain how this purportedly makes the LAR deficient. Thus, it has not “demonstrate[d] that the issue raised is material to the findings the NRC must make” to grant the LAR, contrary to 10 C.F.R. § 2.309(f)(1)(iv).

Petitioner merely claims Seabrook is located “in a part of the world where sea levels are rising faster than in most other areas, making it more susceptible to extreme storms and coastal flooding.”<sup>314</sup> It cites no authority for these propositions—nor for its arguments, generally, including that this should “be a part of *any*” license amendment request.<sup>315</sup> NextEra and the Board are simply left to guess as to how such long-term weather-related predictions could impact

---

<sup>309</sup> See *Seabrook*, CLI-89-3, 29 NRC at 240-41 (1989); *Millstone*, CLI-01-24, 54 NRC at 358.

<sup>310</sup> *USEC*, CLI-06-10, 63 NRC at 457.

<sup>311</sup> *Id.*

<sup>312</sup> *Id.* at 472.

<sup>313</sup> Petition at 16.

<sup>314</sup> *Id.*

<sup>315</sup> *Id.* (emphasis added).

ASR, but it is not their burden to do so.<sup>316</sup> As it has offered no support, whatsoever, Petitioner has not fulfilled its obligation under 10 C.F.R. § 2.309(f)(1)(v).<sup>317</sup>

Further, Petitioner does not attempt to explain why it believes the LAR's ASR monitoring and measuring methodology, or the SMP's rebar monitoring provisions (which, in any event, are part of the CLB and thus outside the scope of the instant proceeding, contrary to 10 C.F.R. § 2.309(f)(1)(iii)), would not account for the presumably slow-moving weather phenomenon it describes. As such, it also has not "provided sufficient information to show that a genuine dispute exists with regard to a material issue of law or fact," as required by 10 C.F.R. § 2.309(f)(1)(iv).<sup>318</sup>

As Petitioner has not remotely demonstrated materiality, any support, or a genuine dispute with the LAR, Contention I must be summarily rejected.

#### **J. Contention J: LAR Terminology**

Petitioner's tenth proposed Contention J asserts that the "language used in LAR 16-03 is inappropriate for a document written for the purpose of demonstrating objectivity in the testing," and that its "tone is extremely inappropriate" because the LAR describes its intent in terms of what it attempts to "demonstrate" rather than what it "seeks to LEARN."<sup>319</sup> Petitioner also complains that the LAR uses the terms "represent" or "representative" rather than "replicate" to describe the LSTP test specimens.<sup>320</sup> As an initial matter, NextEra objects to any assertion by Petitioner, through the purported use of certain language or otherwise, that NextEra is somehow

---

<sup>316</sup> See *Seabrook*, CLI-89-3, 29 NRC at 240-41; *Millstone*, CLI-01-24, 54 NRC at 358; *USEC*, CLI-06-10, 63 NRC at 457.

<sup>317</sup> See *USEC*, CLI-06-10, 63 NRC at 472.

<sup>318</sup> See *Millstone*, CLI-01-24, 54 NRC at 358.

<sup>319</sup> Petition at 3, 16 (emphasis in original).

<sup>320</sup> *Id.* at 16. To the extent Petitioner is viewed as challenging the "representativeness" of those specimens in Contention J, NextEra incorporates by reference in full its answer to Contention D.

misrepresenting its data or “pre-suppos[ing]” the outcome of any tests or monitoring. But more importantly, Petitioner does not explain how its objection to the terminology of the LAR renders it legally or technically deficient. Petitioner cites no regulation or other requirement for a license amendment that such language purportedly fails to satisfy—nor is there any. Petitioner simply offers its subjective opinion that it is “inappropriate.” But this does not “demonstrate that the issue raised is material to the findings the NRC must make” to grant the LAR, contrary to 10 C.F.R. § 2.309(f)(1)(iv).

Petitioner claims that language, such as that from LAR Evaluation § 2.1.1 noting the proposed amendment “will adopt a method to incorporate the material effects and loads of ASR into the Seabrook design basis to demonstrate that structures with ASR continue to meet the design codes for original construction” somehow “pre-suppose[s] test outcomes” and “completely remove[s] objectivity.”<sup>321</sup> But Petitioner misconstrues the application. Quite simply, the language refers to the use of a standard or methodology with defined *acceptance criteria*, the satisfaction of which would be considered an affirmative *demonstration of compliance* with the applicable licensing basis standard. Petitioner cites no legal authority, no technical authority, and no expert opinion to support its bare conclusions. Moreover, such language is entirely consistent with decades of agency practice and countless license amendment requests approved by the NRC.<sup>322</sup> Ultimately, Petitioner simply has not fulfilled its obligation to support its proposed contention, as required by 10 C.F.R. § 2.309(f)(1)(v).<sup>323</sup>

---

<sup>321</sup> *Id.*

<sup>322</sup> *See, e.g.*, Letter from F. Saba, NRC, to J. Shea, TVA, “Browns Ferry Nuclear Plant, Units 1, 2, and 3 – Issuance of Amendments Regarding Transition to a Risk-informed, Performance-based Fire Protection Program in Accordance with 10 CFR 50.48(c) (CAC Nos. MF1185, MF1186, and MF1187),” (Oct. 28, 2015) (ML15212A796) (explaining the standard approved by the amendment is used “to demonstrate compliance with nuclear safety performance criteria”).

<sup>323</sup> *See USEC*, CLI-06-10, 63 NRC at 472.

Because Petitioner has not at all demonstrated materiality, any material issue in dispute, or any support for Contention J, it is inadmissible and must be summarily rejected.

**VI. CONCLUSION**

Because Petitioner has neither demonstrated standing, as required by 10 C.F.R. § 2.309(d), nor submitted an admissible contention, as required by 10 C.F.R. § 2.309(f)(1), the Board should deny the Petition.

Respectfully submitted,

Executed in Accord with 10 C.F.R. § 2.304(d)

Steven Hamrick, Esq.  
NextEra Energy Seabrook, LLC  
801 Pennsylvania Ave., NW Suite 220  
Washington, D.C. 20004  
Phone: (202) 349-3496  
Fax: (202) 347-7076  
E-mail: steven.hamrick@fpl.com

Executed in Accord with 10 C.F.R. § 2.304(d)

Paul M. Bessette, Esq.  
Morgan, Lewis & Bockius LLP  
1111 Pennsylvania Avenue, N.W.  
Washington, D.C. 20004  
Phone: (202) 739-5796  
Fax: (202) 739-3001  
E-mail: paul.bessette@morganlewis.com

Executed in Accord with 10 C.F.R. § 2.304(d)

William S. Blair, Esq.  
NextEra Energy Seabrook, LLC  
700 Universe Blvd.  
Juno Beach, FL 33408  
Phone: (561) 304-5238  
Fax: (561) 304-5366  
E-mail: william.blair@fpl.com

Signed (electronically) by Ryan K. Lighty

Ryan K. Lighty, Esq.  
Morgan, Lewis & Bockius LLP  
1111 Pennsylvania Avenue, N.W.  
Washington, D.C. 20004  
Phone: (202) 739-5274  
Fax: (202) 739-3001  
E-mail: ryan.lighty@morganlewis.com

*Counsel for NextEra Energy Seabrook, LLC*

Dated in Washington, DC  
this 5th day of May 2017

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

**BEFORE THE ATOMIC SAFETY AND LICENSING BOARD**

\_\_\_\_\_  
In the Matter of: )

NEXTERA ENERGY SEABROOK, LLC )

(Seabrook Station Unit 1) )  
\_\_\_\_\_ )

) Docket No. 50-443-LA-2

) May 5, 2017

**CERTIFICATE OF SERVICE**

Pursuant to 10 C.F.R. § 2.305, I certify that, on this date, copies of the foregoing “NextEra’s Answer Opposing C-10 Research & Education Foundation’s Petition for Leave to Intervene and Hearing Request on NextEra Energy Seabrook, LLC’s License Amendment Request 16-03” were served upon the Electronic Information Exchange (the NRC’s E-Filing System), in the above-captioned proceeding.

*Signed (electronically) by Ryan K. Lighty*

Ryan K. Lighty, Esq.  
Morgan, Lewis & Bockius LLP  
1111 Pennsylvania Avenue, N.W.  
Washington, D.C. 20004  
Phone: (202) 739-5274  
Fax: (202) 739-3001  
E-mail: ryan.lighty@morganlewis.com

*Counsel for NextEra Energy Seabrook, LLC*