UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
NextEra Energy Seabrook, LLC	)	Docket No. 50-443-LR
	)	
(Seabrook Station)	)	
	)	ASLBP No. 0-906-02-LR
(Operating License Renewal)	)	

NextEra Energy Seabrook, LLC's Answer
Opposing the Petition to Intervene and Request for Hearing of
Beyond Nuclear, Seacoast Anti-Pollution League, and New Hampshire Sierra Club

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I. INTRODUCTION

NextEra Energy Seabrook, LLC ("NextEra" or "Applicant") hereby submits this answer ("Answer") opposing the "Request for a Public Hearing and Petition to Intervene" ("Petition") filed by Beyond Nuclear, the Seacoast Anti-Pollution League, and the New Hampshire Sierra Club (collectively the "Petitioners") in this proceeding on October 20, 2010. The Petition should be denied because Petitioners have failed to propose an admissible contention.

The Nuclear Regulatory Commission's ("NRC" or "Commission") regulations and case law clearly set forth the requirements that a petitioner must satisfy in order to propose an admissible contention. As this Answer describes more fully below, the Commission's current pleading standards were designed to raise the threshold for the admission of contentions. The purpose of these intentionally strict admissibility requirements is to ensure that hearings, if required, would focus on concrete issues that

are relevant to the proceeding and that are supported by some factual and legal foundation. Petitioners' sole Contention fails to reach the required threshold, falling short of any number of the applicable pleading standards. Accordingly, the Board should reject that Contention and deny Petitioners' request for hearing.

II. BACKGROUND

NextEra submitted its application requesting renewal of Operating License NPF-86 for Seabrook Station (the "Application" or "LRA") by letter dated May 25, 2010. The NRC Staff conducted a sufficiency review, found the Application acceptable for docketing, and published notice of an opportunity for hearing in the Federal Register. "Notice of Acceptance for Docketing of the Application and Notice of Opportunity for Hearing Regarding Renewal of Facility Operating License No. NPF–86 for an Additional 20-Year Period; Nextera Energy Seabrook, LLC; Seabrook Station, Unit 1," 75 Fed. Reg. 42,462 (July 21, 2010) ("Hearing Notice"). The Hearing Notice permitted any person whose interest may be affected to file a request for hearing and petition for leave to intervene within 60 days. 75 Fed. Reg. at 42,463. On September 17, 2010, the Secretary of the Commission granted the State of New Hampshire, Beyond Nuclear, Friends of the Coast, and the New England Coalition an extension of time to file intervention petitions, until October 20, 2010. On September 20, 2010, the Secretary granted the New Hampshire Sierra Club and the Seacoast Anti-Pollution League an extension of time until October 20, 2010. Petitioners timely filed their Petition on October 20, 2010.

The Hearing Notice directs that any petition shall set forth with particularity the interest of the petitioner and how that interest may be affected, and must also set forth the specific contentions sought to be litigated. 75 Fed. Reg. at 42,463. It also states:

> Each contention must consist of a specific statement of the issue of law or fact to be raised or controverted. In addition, the requestor/petitioner shall provide a brief explanation of the bases of each contention and a concise statement of the alleged facts or the expert opinion that supports the contention on which the requestor/petitioner intends to rely in proving the contention at the hearing. The requestor/petitioner must also provide references to those specific sources and documents of which the requestor/petitioner is aware and on which the requestor/petitioner intends to rely to establish those facts or expert opinion. The requestor/petitioner must provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact. Contentions shall be limited to matters within the scope of the action under consideration. The contention must be one that, if proven, would entitle the requestor/petitioner to relief. A requestor/petitioner who fails to satisfy these requirements with respect to at least one contention will not be permitted to participate as a party.

Id.

III. PETITIONERS HAVE NOT SUBMITTED AN ADMISSIBLE CONTENTION

To be admitted as parties to this proceeding, Petitioners must demonstrate standing and submit at least one admissible contention.[1] 10 C.F.R. § 2.309(a). As discussed below, Petitioners have not proposed an admissible contention. Therefore, the Petition should be denied.

A. Legal Standards for Contention Admissibility

The Commission's contention admissibility rules are "strict by design". *Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 & 3), CLI-01-24, 54 NRC 349, 358 (2001) (citing *Duke Energy Corp*. (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 NRC 328, 334 (1999)). While "federal courts permit considerably less-detailed 'notice pleading', the Commission requires far more to

[1] NextEra does not challenge Petitioners' representational standing.

plead a contention." *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-01-39, 54 NRC 497, 505 (2001); *see also Fansteel, Inc.* (Muskogee, Oklahoma Site) CLI-03-13, 58 NRC 195, 203 (2003). 10 C.F.R. § 2.714 (now § 2.309) was amended in 1989 "to raise the threshold for the admission of contentions." Rules of Practice for Domestic Licensing Proceedings – Procedural Changes in the Hearing Process, 54 Fed. Reg. 33,168 (Aug. 11, 1989) ("Final Rule"). These rules were "toughened . . . because in prior years 'licensing boards had admitted and litigated numerous contentions that appeared to be based on little more than speculation.'" *Millstone,* CLI-01-24, 54 NRC at 358. Under the NRC's Rules of Practice, "a protestant does not become entitled to an evidentiary hearing merely on request, or on a bald or conclusory allegation that such a dispute exists. The protestant must make a minimal showing that material facts are in dispute, thereby demonstrating that an 'inquiry in depth' is appropriate." 54 Fed. Reg. at 33,171 (quoting *Conn. Bankers Ass'n v. Bd. of Governors*, 627 F.2d 245, 251 (D.C. Cir. 1980)).

Accordingly, a petition "must set forth with particularity the contentions sought be raised." 10 C.F.R. § 2.309(f)(1). Petitioners must provide "a clear statement as to the basis for the contentions and [submit] supporting information and references to specific documents and sources that establish the validity of the contention." *USEC, Inc*. (American Centrifuge Plant), CLI-06-9, 63 NRC 433, 437 (2006) (citing *Arizona Public Service Co*. (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155-56 (1991)). Specifically, "for each contention," the petition must:

> (i) Provide a specific statement of the issue of law or fact to be raised or controverted;
> (ii) Provide a brief explanation of the basis for the contention;

> (iii) Demonstrate that the issue raised in the contention is within the scope of the proceeding;
> (iv) Demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding;
> (v) Provide a concise statement of the alleged facts or expert opinions which support the requestor's/petitioner's position on the issue and on which the petitioner intends to rely at hearing, together with references to the specific sources and documents on which the requestor/petitioner intends to rely to support its position on the issue; and
> (vi) [P]rovide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact.

10 C.F.R. § 2.309(f)(1). Contentions that do not satisfy each of these six requirements must be rejected. *Progress Energy Carolinas, Inc.* (Shearon Harris Nuclear Power Plant, Units 2 and 3), CLI-09-8, 69 NRC 317, 324 (2009).

The petitioner bears the burden of proffering contentions that meet the NRC's pleading requirements. *See Baltimore Gas & Electric Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-14, 48 NRC 39, 41 (1998). Licensing boards are not to overlook deficiencies in contentions or to assume the existence of missing information. *Palo Verde*, CLI-91-12, 34 NRC at 155. In other words, "[a] contention's proponent, not the licensing board, is responsible for formulating the contention and providing the necessary information to satisfy the basis requirement for the admission of contentions." Statement of Policy on Conduct of Adjudicatory Proceedings, CLI-98-12, 48 NRC 18, 22 (1998) ("1998 Policy Statement"). The requirements are discussed in detail below.

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

Each contention must provide "a specific statement of the issue of law or fact to be raised or controverted." 10 C.F.R. § 2.309(f)(1)(i). To be admissible, a "contention must explain, with specificity, particular safety or legal reasons requiring rejection of the

contested [application]." *Millstone*, CLI-01-24, 54 NRC at 359-60. Moreover, the Commission has explained that Petitioners "must articulate at the outset the specific issues they wish to litigate as a prerequisite to gaining formal admission as parties." *Oconee*, CLI-99-11, 49 NRC at 338.

2. Petitioner Must Explain the Basis for the Contention

In addition, petitioners must provide "a brief explanation of the basis for the contention." 10 C.F.R. § 2.309(f)(1)(ii). A petitioner must provide the licensing board with "sufficient foundation" to "warrant further exploration." *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 & 2), ALAB-942, 32 NRC 395, 428 (1990) (footnote omitted). In other words, a petitioner must "provide some sort of minimal basis indicating the potential validity of the contention." 54 Fed. Reg. at 33,170. While licensing boards generally admit "contentions" for litigation rather than "bases," the Commission has recognized that "[t]he reach of a contention necessarily hinges upon its terms coupled with its stated bases." *Entergy Nuclear Generation Co. & Entergy Nuclear Operations, Inc.*, (Pilgrim Nuclear Power Station) CLI-10-11, 71 NRC __, __ (slip op. at 28) (2010) (emphasis in original) (citing *Public Service Co. of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-899, 28 NRC 93, 97 (1988), *aff'd sub nom. Mass. v. NRC*, 924 F.2d 311 (D.C. Cir.), *cert. denied*, 502 U.S. 899 (1991)). Therefore, the lack of an adequate basis is sufficient grounds for rejecting a proposed contention.

3. Contentions Must Be Within the Scope of the Proceeding

Petitioners must also demonstrate "that the issue raised in the contention is within the scope of the proceeding." 10 C.F.R. § 2.309(f)(1)(iii). The scope of this proceeding

for which this licensing board has been delegated jurisdiction was set forth in the Commission's Hearing Notice. *See Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), ALAB-825, 22 NRC 785, 790-91 (1985). The Hearing Notice explained that the Licensing Board would consider NextEra's Application for a renewed operating license under Part 54 for Seabrook. 75 Fed. Reg. at 42,462. Licensing boards "are delegates of the Commission" and so may "exercise only those powers which the Commission has given [them]." *Public Service Co. of Indiana* (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-316, 3 NRC 167, 170 (1976) (footnote omitted); *accord Portland General Electric Co.* (Trojan Nuclear Plant), ALAB-534, 9 NRC 287, 289-90 n.6 (1979). Any contention that falls outside the specified scope of this proceeding is inadmissible.

Any contention that challenges an NRC rule is outside the scope of the proceeding because "no rule or regulation of the Commission . . . is subject to attack . . . in any adjudicatory proceeding." *See* 10 C.F.R. § 2.335(a); *see also Entergy Nuclear Vermont Yankee, LLC & Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station); *Entergy Nuclear Generation Company & Entergy Nuclear Operations, Inc*. (Pilgrim Nuclear Power Station), CLI-07-3, 65 NRC 13, 18 n.15 (2007). Petitioners "may not demand an adjudicatory hearing to attack generic NRC requirements or regulations, or to express generalized grievances about NRC policies." *Oconee*, CLI-99-11, 49 NRC at 334.

4. Contentions Must Raise a Material Issue

Petitioners must further demonstrate "that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the

proceeding."[2] 10 C.F.R. § 2.309(f)(1)(iv). Admissible contentions "must explain, with specificity, particular safety or legal reasons requiring rejection of the contested [application]." *Millstone*, CLI-01-24, 54 NRC at 359-60. The Commission has defined a "material" issue as one where "resolution of the dispute *would make a difference in the outcome* of the licensing proceeding." 54 Fed. Reg. at 33,172 (emphasis added).

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

Each contention must also "[p]rovide a concise statement of the alleged facts or expert opinions which support [the petitioner's] position on the issue and on which [the petitioner] intends to rely at hearing, together with references to the specific sources and documents on which [the petitioner] intends to rely to support its position in the issue." 10 C.F.R. § 2.309 (f)(1)(v). The petitioner bears the burden of coming forward with a sufficient factual basis "indicating that a further inquiry is appropriate." *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI-96-7, 43 NRC 235, 249 (1996) (citing Final Rule, 54 Fed. Reg. at 33,171 (requiring "some factual basis" for the contention)).

Under this standard, a petitioner is obligated "to provide the [technical] analyses and expert opinion" or other information "showing why its bases support its contention." *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), LBP-95-6, 41 NRC 281, 305, *vacated in part and remanded on other grounds*, CLI-95-10, 42 NRC 1, *aff'd in part*, CLI-95-12, 42 NRC 111 (1995). Where a petitioner has failed to do so, "the [Licensing] Board may not make factual inferences on [the] petitioner's behalf." *Id.* (citing *Palo Verde*, CLI-91-12, 34 NRC at 149). *See also Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC

[2] The standards defining the findings that the NRC must make to support issuance of a renewed license in this proceeding are set forth in 10 C.F.R. § 54.29.

142, 180 (1998) (a "bald assertion that a matter ought to be considered or that a factual dispute exists . . . is not sufficient;" rather, "a petitioner must provide documents or other factual information or expert opinion" to support a contention's "proffered bases") (citations omitted). A mere reference to documents does not provide an adequate basis for a contention. *Baltimore Gas & Electric Co.* (Calvert Cliffs Nuclear Power Plant, Units 1 and 2), CLI-98-25, 48 NRC 325, 348 (1998). A petitioner's failure to present the factual information or expert opinions necessary to support its contention adequately requires that the contention be rejected. *Yankee*, CLI-96-7, 43 NRC at 262; *Palo Verde*, CLI-91-12, 34 NRC at 155.

The Commission has made clear that conclusory statements, even when provided by an expert, are insufficient to demonstrate that further inquiry is appropriate. *USEC* (American Centrifuge Plant), CLI-06-10, 63 NRC 451, 472 (2006) ("[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 …." (footnote omitted)).

This requirement must be met at the outset. A contention is not to be admitted "where an intervenor has no facts to support its position and where the intervenor contemplates using discovery or cross-examination as a fishing expedition which might produce relevant supporting facts." 54 Fed. Reg. at 33,171. The Rules of Practice bar contentions where petitioners have what amounts only to generalized suspicions, hoping to substantiate them later, or simply a desire for more time and more information in order to identify a genuine material dispute for litigation. *Duke Energy Corp.* (McGuire

Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-03-17, 58 NRC 419, 424 (2003).

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

Finally, each contention must "provide sufficient information to show that a genuine dispute exists with the applicant . . . on a material issue of law or fact." 10 C.F.R. § 2.309 (f)(1)(vi). The NRC's pleading standards require a petitioner to read the pertinent portions of the combined license application and supporting documents, including the safety information required by 10 CFR 54.21 and the Environmental Report ("ER"), state the applicant's position and the petitioner's opposing view, and explain why it has a disagreement with the applicant. 54 Fed. Reg. at 33,171; *Millstone*, CLI-01-24, 54 NRC at 358. Contentions must be based on documents or other information available at the time the petition is filed. 10 C.F.R. § 2.309(f)(2). Indeed, a petitioner

> has an ironclad obligation to examine the publicly available documentary material pertaining to the facility in question with sufficient care to enable the petitioner to uncover any information that could serve as the foundation for a specific contention. Neither Section 189a of the Atomic Energy Act nor [the corresponding Commission regulation] permits the filing of a vague, unparticularized contention, followed by an endeavor to flesh it out through discovery against the applicant or Staff.

54 Fed. Reg. at 33,170 *(*quoting *Duke Power Co.* (Catawba Nuclear Station, Units 1 & 2), ALAB-687, 16 NRC 460, 468 (1982), *vacated in part on other grounds*, CLI-83-19, 17 NRC 1041 (1983)). The obligation to make specific reference to relevant facility documentation applies with special force to an application and ER, and a contention should be rejected if it inaccurately describes an applicant's proposed actions or ignores

or misstates the content of the licensing documents. *See, e.g., Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant, Units 1 and 2), LBP-82-119A, 16 NRC 2069, 2076 (1982); *Duke Power Co.* (Catawba Nuclear Station, Units 1 and 2), LBP-82-107A, 16 NRC 1791, 1804 (1982); *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), LBP-82-43A, 15 NRC 1423, 1504-05 (1982).

If the petitioner does not believe that a licensing request and supporting documentation addresses a relevant issue, the petitioner is "to explain why the application is deficient." 54 Fed. Reg. at 33,170; *Palo Verde*, CLI-91-12, 34 NRC at 156. A contention that does not directly controvert a position taken by the applicant in the license renewal application is subject to dismissal. *See Texas Utilities Electric Co.* (Comanche Peak Steam Electric Station, Unit 2), LBP-92-37, 36 NRC 370, 384 (1992). An allegation that some aspect of a license renewal application is inadequate does not give rise to a genuine dispute unless it is supported by facts and a reasoned statement of why the application is unacceptable in some material respect. *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-90-16, 31 NRC 509, 521 & n.12 (1990).

As set forth below, the Petitioners' Contention fails to comply with the Commission's standards.

B. License Renewal Alternatives Analysis

Consistent with the National Environmental Policy Act ("NEPA"), which requires agencies to include a statement on "alternatives to the proposed action" (42 U.S.C. § 4332(2)(C)(iii)), the NRC's rules require license renewal applicants to discuss the environmental impacts of the proposed action and compare them to impacts of alternatives. 10 C.F.R. § 51.53(c)(2).

> The discussion of alternatives shall be sufficiently complete to aid the Commission in developing and exploring, pursuant to section 102(2)(E) of NEPA, "appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources."

10 C.F.R. § 51.45(b)(3).

The consideration of alternatives in license renewal is only intended to determine whether the impacts of license renewal are so great compared to alternatives that preserving the option of extended operation would be unreasonable. Final Rule, Environmental Review for Renewal of Nuclear Power Plant Operating Licenses, 61 Fed. Reg. 28,467, 28,468, 28,471-73, 28,482-83, 28,484 (June 5, 1996) ("1996 Final Rule"). S*ee also* Supplemental Proposed Rulemaking, Environmental Review for Renewal of Operating Licenses, 59 Fed. Reg. 37,724, 37,726 (July 25, 1994). Under this standard, license renewal would only be denied if the expected environmental effects of license renewal significantly exceed all or almost all alternatives. 1996 Final Rule, 61 Fed. Reg. at 28,472.

As has been long held, NEPA only requires consideration of reasonable alternatives. *NRDC v. Morton*, 458 F.2d 827, 834, 837 (D.C. Cir. 1972).[3] In *Vermont Yankee Nuclear Power Corp. v. NRDC*, the Supreme Court held that NEPA does not require discussion of alternatives deemed only remote and speculative possibilities. 435 U.S. 519, 551 (1978). An EIS cannot be found wanting simply because the agency failed to include every alternative device and thought conceivable to the mind of man. *Id.* Consistent with these cases, the alternatives analysis in the GEIS "is intended to address the reasonably foreseeable impacts of the various alternatives and does not attempt to address impacts that are remote or speculative." GEIS at 8-17. The discussion of alternatives in an applicant's ER may consider the evaluation in the GEIS (1996 Final Rule, 61 Fed. Reg. at 28,484), which the Commission considers to be representative (*id.* at 28,483).

Moreover, the Commission has held that its EISs "need only discuss those alternatives that are reasonable and 'will bring about the ends' of the proposed action." *Hydro Resources Inc.*, (P.O. Box 15910) CLI-01-4, 53 NRC 31, 55 (2001) (quoting *Citizens Against Burlington v. Busey*, 938 F.2d 190, 195 (D.C. Cir) *cert. denied,* 502 U.S. 994 (1991)); *see also Sacramento Municipal Utility District* (Rancho Seco Nuclear Generating Station), CLI-93-3, 37 NRC 135, 144-45 (1993) (the NRC must only consider the range of alternatives "'reasonably related' to the scope and goals of the proposed action"). The NRC has defined the purpose and need for this proposed action, the renewal of a nuclear power plant operating license, as follows:

[3] The rule of reason governs both which alternatives the agency must discuss and the extent it must discuss them. *Citizens Against Burlington,* 938 F.2d at 195.

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

GEIS, Vol. 1, at xxxiv; *see also* ER at 1-1.

Furthermore, where a federal agency is not a project's sponsor, the "consideration of alternatives may accord substantial weight to the preferences of the applicant and/or sponsor." *City of Grapevine v. Dep't of Transp.*, 17 F.3d 1502, 1506 (D.C. Cir. 1994). The Commission follows this practice with its licensing actions. *Hydro Resources*, CLI-01-4, 53 NRC at 55; *see also Private Fuel Storage, LLC* (Independent Spent Fuel Storage Installation), CLI-04-22, 60 NRC 125, 146 (2006); *Nuclear Management Co., LLC* (Monticello Nuclear Generating Plant) LBP-05-31, 62 NRC 735, 753 n. 83 (2005) (*aff'd*, CLI-06-06, 63 NRC 161 (2006)). NextEra's ER identifies the preferences it relied upon to determine the reasonableness of alternatives:

> For the purposes of this environmental report, alternative generating technologies were evaluated to identify candidate technologies that would be capable of replacing Seabrook Station's nominal net base-load capacity of 1,245 MWe. NextEra Energy Seabrook accounted for the fact that Seabrook Station is a base-load generator and that any feasible alternative to Seabrook Station would also need to be able to generate base-load power.

ER at 7-6. The U.S. Court of Appeals for the Seventh Circuit has approved the Commission's adoption of baseload energy generation as the purpose of a reactor licensing action. *Envtl. Law & Policy Ctr. v. NRC*, 470 F.3d 676, 684 (7th Cir. 2006). The Court explained that the baseload power generation "purpose was broad enough to permit consideration of a host of energy generating alternatives." *Id.*

In addition to the fact that the only baseload generation meets the applicant's purpose and need, the GEIS provides additional consideration for determining the reasonableness of alternatives:

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

GEIS at 8-1 (emphasis added). *See also* ER at 7-7.

Alternatives that are not reasonable can be eliminated from further study.[4] For those alternatives, the NRC's Environmental Impact Statement ("EIS") (and by extension an applicant's ER) need only briefly discuss the reasons for their having been eliminated. *See* 40 C.F.R. § 1502.14(a).[5] In its alternatives analysis, the GEIS considers wind technology, explaining that it has a "relatively low capacity, compared with current baseload technologies," a result of the intermittency of wind energy. GEIS at 8-17. It also notes that "[c]urrent energy storage technologies are too expensive to permit wind power plants to serve as large baseload plants." *Id.* Accordingly, the GEIS concludes that wind is an inappropriate choice for baseload power. *Id.*

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[4] Supplement 1 to Regulatory Guide 4.2 ("RG 4.2S1") explains that the "range of alternatives to be considered should be focused by the stated purpose and need for the proposed action," which "focuses on meeting future power system generating needs." RG 4.2S1 at 4.2-S-55. The license renewal applicant "should identify the criteria used in evaluating the reasonableness of the alternatives and explain which alternatives will not be considered further and why." *Id.*

[5] While CEQ regulations are not binding on the NRC, it affords them "substantial deference." *Dominion Nuclear North Anna, LLC* (Early Site Permit for North Anna Site), CLI-07-27, 66 NRC 215, 222 n.21 (2007) (specifically citing 40 C.F.R. § 1502.14(a)).

NextEra's ER also considers wind energy but concludes that it is not a reasonable alternative to the proposed action, relying in part on the GEIS.[6] ER at 7-12 – 7-13. The ER then provides a brief explanation of why wind generation was rejected as a reasonable alternative. Specifically, it updates the GEIS review of wind generation and, citing more recent references, states that while advances in technology have improved wind turbine capacity, average annual capacity factors for wind power systems are still relatively low compared to baseload generator like a nuclear plant. *Id.* at 7-12. The ER acknowledges that wind power might serve as a means of providing baseload power in conjunction with energy storage mechanisms, but that current energy storage technologies are too expensive for such a purpose. *Id.* The ER also describes offshore wind projects, but notes that they remain in the preliminary stages of development. *Id.* Finally, the ER describes the large land area (23,280 acres) that would be required to replace Seabrook Station with wind generation. *Id.* at 7-13.

C. Petitioners' Contention Is Not Admissible

Petitioners proffer a single contention, alleging that NextEra failed to include an adequate discussion in its ER of wind energy as an alternative to license renewal:

> The NextEra Environmental Report fails to evaluate the potential for renewable energy to offset the loss of energy production from the Seabrook nuclear power plant and to make the requested license renewal action for 2030 unnecessary. In violation of the requirements of 10 C.F.R. §51.53(c)(3)(iii) and of the GEIS § 8.1, the NextEra Environmental Report (§ 7.2) treats all of the alternatives to license renewal except for natural gas and coal plants as

[6] The alternatives NextEra determined to be capable of replacing the baseload capacity of Seabrook include a new nuclear plant, a coal-fired plant, or a natural gas-fired plant. *Id.* These alternatives that NextEra determined to be reasonable are evaluated in detail in sections 7.2.1.1 through 7.2.1.3 of the ER. Other alternatives that were not determined to be reasonable for replacing Seabrook's baseload capacity, such as wind, solar, hydropower, geothermal, tidal, wood energy, and solid waste are identified in Section 7.2.1.5, together with the bases for those determinations. ER at 7-12.

> unreasonable and does not provide a substantial analysis of the potential for significant alternatives which are being aggressively planned and developed in the Region of Interest for the requested relicensing period of 2030-2050. The scope of the SEIS is improperly narrow, and the issue of the need for Seabrook as a means of satisfying demand forecasts for the relicensing period must be revisited due to dramatically-changing circumstances in the regional energy mix throughout the two decades preceding the relicensing period.

Pet. at 6.[7]

Specifically, Petitioners argue that the ER failed to adequately address wind energy as an alternative to license renewal because NextEra "too easily dismissed the wind energy alternative," on the ground that it cannot provide baseload power. *Id.* at 20. According to Petitioners, wind energy can provide baseload power, or at least it might be able to do so at some point in the future. To support their challenge, Petitioners present several studies that discuss the potential for wind farms to be used to generate baseload power, either through the use of energy storage systems, or by combining multiple wind farms into an interconnected network. *Id.* at 20-24. Petitioners also argue that the ER is inadequate because it failed to account for technological developments that may occur in the wind industry by 2030, when Seabrook's current operating license will expire. *Id.* at 18. According to Petitioners, NEPA requires the Applicant to extrapolate from current technology to that which might be available by 2030.[8] *Id.* at 18-20.

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[7] While the contention itself appears to have a broad scope that may include other sources of alternative energy, the rest of the petition and all of the accompanying exhibits focus exclusively on wind-powered generation. As "[t]he reach of a contention necessarily hinges upon its terms coupled with its stated bases," Petitioners' contention must be limited to wind generation. *Seabrook*, ALAB-899, 28 NRC at 97 (1988), *aff'd sub nom. Massachusetts v. NRC*, 924 F.2d 311 (D.C. Cir. 1991), *cert. denied*, 502 U.S. 899 (1991).

[8] Petitioners include an extensive discussion of Category 1 issues that the Commission has generically evaluated and Category 2 issues that applicants must address in their ERs on a site-specific basis. Pet. at 8, 10. Petitioners also discuss the standard for providing new and significant information on

Petitioners' contention should be rejected because it fails to meet the standards for admissibility in 10 C.F.R. § 2.309 by: (1) failing to provide a concise statement of alleged facts or expert opinions; (2) failing to provide an adequate basis; (3) failing to demonstrate the materiality of the issue; and (4) failing to establish a genuine dispute with NextEra on a material issue of law or fact. 10 C.F.R. §§ 2.309(f)(1)(ii, iii, iv, and vi). In addition, portions of Petitioners' contention impermissibly challenge an NRC rule in violation of 10 C.F.R. § 2.335(a) and so are beyond the scope of this proceeding.

1. Petitioners Have Not Demonstrated That Baseload Wind Generation Is A Reasonable Alternative

Petitioners do not present a general challenge to the ER's definition of reasonable alternatives as those that can provide baseload power. Instead, they argue that wind generation can provide baseload power, claiming that "the assertion in the Applicant's Environment Report that the alternative of wind power is and always will be 'intermittent' for the projected 2030 relicensing action and unsuitable to replace Seabrook provides an incomplete and inaccurate scientific analysis." Pet. at 30. However, while Petitioners have presented information to show that generation of baseload energy from wind is theoretically possible, they have not provided any information showing that it is technically feasible or commercially viable.

a. Petitioners Have Failed To Show That Baseload Wind Generation Is Technically Feasible And Commercially Viable

Petitioners argue that wind generation can provide baseload power through one of two means. *First*, Petitioners argue that wind energy generation combined with storage

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those issues related to the environmental impacts of the proposed action. Pet. at 9-10. Those issues are not relevant to Petitioners' Contention, which calls for further evaluation of an alternative to the proposed action. The generic evaluation of alternatives in the GEIS was not codified in Part 51 and the NRC conducts a full analysis of the environmental impacts of alternatives for each LRA. *See* GEIS at 8-1.

techniques can "provide a source of power that is functionally equivalent to a conventional baseload electric power plant." Pet. at 21-22 (citing National Renewable Energy Laboratory, *Creating Baseload Wind Power Systems Using Advanced Compressed Air Energy Storage Concepts* (Pet. Ex. 3)). However, as Petitioners acknowledge, the ER discusses the potential to use storage technology to generate baseload power from wind but concludes that current storage technology is too expensive to serve as a baseload generator. *Id.* at 20-21. *See also* ER at 7-12. Petitioners fail to dispute the ER's discussion of the prohibitive cost of storage technology and instead simply provide a one-page exhibit that discusses its potential without addressing its cost. *See* Pet. Ex. 3.

Furthermore, Petitioners' Exhibit 3, which is the only documentation Petitioners cite in support of the feasibility of the wind storage option, specifically declines to pass judgment on the feasibility of baseload wind power using compressed storage. Instead it states:

> Development of the "baseload" wind concept will require a greater understanding of the local geologic compatibility of air storage, and additional work will be required to examine the feasibility of advanced wind/[compressed air energy storage] concepts described here.

Pet. Ex. 3 at 1. In addition to failing to address its technical or commercial viability, Petitioners also fail to offer any evidence of the compatibility of the geology in the region of interest with compressed air storage, which their exhibit explains is necessary for such a system.

Second, Petitioners assert that baseload power can be generated through offshore interconnected wind farms. Pet. at 23. This concept is explained in one of Petitioners' exhibits:

> A solution to improve wind power reliability is interconnected wind power. In other words, by linking multiple wind farms together it is possible to improve substantially the overall performance of the interconnected system (i.e., array) when compared with that of any individual wind farm. The idea is that, while wind speed could be calm at a given location, it will be noncalm somewhere else in the aggregate array.

Cristina L. Archer and Mark Z. Jacobson, *Supplying Baseload Power and Reducing Transmission Requirements by Interconnected Wind Farms*, 46 J. App. Met. & Clim. 1701 (2007) (Pet. Ex. 4 at 2). *See also* William Kempton, *et al.*, *Electric Power From Offshore Wind Via Synoptic Scale Interconnection*, PNAS (2009) (Pet. Ex. 8),

The proposal for offshore interconnected wind farms also faces steep technological hurdles that are ignored by Petitioners, but are highlighted in their exhibits. For instance, Petitioners' Exhibit 14, the Maine Ocean Energy Task Force report, which Petitioners offer to show the potential for offshore wind, explains in its description of the status of deep-water wind technology that:

> The offshore wind technology in depths of up to at least 60 meters, and possibly 90 meters, has been proven commercially viable and is in widespread use in Europe. Such technologies, including monopile support structures and turbines designed for use in the marine environment, are on the market and could be deployed in sufficiently shallow areas of Maine's coastal waters or adjoining federal water to generate electricity.
>
> On the other hand, technologies that would enable the placement of wind turbines on floating platforms or other structures in greater depths needed to tap the world-class deep-water wind resources in Maine's coastal waters or in

> adjoining federal waters *are under development and have not yet been proven ready for commercial utilization. Lack of the requisite technology is an obvious barrier to establishment of the deep-water wind industry in Maine or elsewhere in the near term.*

Final Report of the Maine Ocean Energy Task Force to Governor John E. Baldacci (Dec. 2009) (Pet. Ex. 14) at 27 (emphasis added) ("Maine Report").[9] The technology needed "to economically harness off-shore winds in deep water (greater than 60 meters) does not exist today." *Id*. at iv.

Also, in Petitioners' Exhibit 15, "Creating an Offshore Wind Industry in the United States: A Strategic Work Plan for the United States Department of Energy, Fiscal Years 2011-2015," the Department of Energy ("DOE") explains that "offshore wind energy currently has higher cost of energy (COE) than comparable technologies." Pet. Ex. 15 at 6. This is because:

> Several important offshore technology issues require research and development in order to achieve competitive market pricing in the long term; these issues include reducing installed capital costs, improving reliability, and increasing energy capture. *In the longer term, innovative, comparatively inexpensive foundation designs will be required in order to harness the massive wind resource located in waters deeper than 60 meters*.

Id. (emphasis added).

DOE went on to explain that:

> Significant challenges to offshore wind power deployment related to resource characterization, grid interconnection and operation, and infrastructure will need to be overcome. The offshore wind resource is not well-characterized; this

[9] Petitioners' claims regarding the massive potential for power generation available offshore in the region of interest all involve areas that would require installing wind turbines in waters deeper than 60 meters. *See*, *e.g*., Maine Report at vi, 9, 11; *Deepwater Offshore in Maine: the Plan, the Timeline* (Pet. Ex. 16), *Deepwater Offshore Wind; a National Opportunity* (Pet. Ex. 18) *see also* Pet. at 43) "61% of the offshore wind resource in the United States is in deepwater wind (ten to fifty miles offshore)").

> significantly increases uncertainty related to potential project power production and turbine and array design considerations, which in turn increase financing costs. The implications for adding large amounts of offshore wind generation to the power system need to be better understood in order to ensure reliable integration and evaluate the need for additional grid infrastructure such as an offshore transmission backbone. Finally, with current technology, cost-effective installation of offshore wind turbines requires specialized turbine installation vessels, purpose-built portside infrastructure for installation, operations, and maintenance, and robust undersea electricity transmission lines and grid interconnections. These vessels and this infrastructure do not currently exist in the U.S., and legislation such as the Jones Act limits the ability of foreign-flagged vessels of this kind to operate in U.S. waters.

Id. at 7-8. DOE also notes that permitting obstacles stand in the way of such projects, citing "[c]urrent estimates for project approvals on the Outer Continental Shelf [that] range from 7 to 10 years." *Id.* at 8.

Petitioners' Contention also fails to address the cost (commercial viability) of the interconnection concept. However, several of Petitioners' exhibits show that such an interconnected system would be exorbitantly expensive. Petitioners cite to several news articles that discuss plans for investment in offshore wind transmission in the United States and Europe. *See e.g.*, Petitioners' Exhibits 5-7 (describing plans for investments of $5 billion, $43 billion, and €30 billion).[10] While costs on this order of magnitude may appear reasonable when compared to the cost of a new reactor construction project, in this context they must be compared to the relatively low cost of operating an existing nuclear plant for an additional twenty years. As the Maine Report explains, "offshore

[10] These costs are only for the transmission network, and do not include construction and operation costs of the numerous wind turbines that would be required for a baseload resource.

energy production in the current climate of relatively low fossil fuel prices, particularly natural gas, is not presently cost-competitive." Pet. Ex. 14 at v.

b. NEPA Does Not Require Agencies to Speculate About Alternatives

While Petitioners appear to agree that baseload wind generation is not a feasible alternative source of baseload power today, they argue that NextEra and the NRC must speculate about the prospects for producing baseload power by wind by 2030. However, Petitioners fail to show that such speculation is required by NEPA. In fact, even when a nuclear plant is being licensed for a period to last several decades, agencies need not presuppose future development of alternative technologies. *Carolina Envtl. Study Group v. United States*, 510 F.2d. 796, 800 (D.C. Cir. 1975). *See also Vermont Yankee*, 435 U.S. at 551 (citing *NRDC v. Morton,* 458 F.2d at 837-38).

Recognizing the nascent state of baseload wind technology today, Petitioners argue that the "requested action . .. is to commence approximately twenty (20) years from today." Pet. at 18. Petitioners frame the proposed action in this manner in an attempt to portray the NRC's license renewal review as premature and to justify speculating about the state of wind generation technology twenty years in the future. *See id.* This portrayal misrepresents the NRC's license renewal process. When the NRC approves a license renewal application, it does not take an action that will take effect twenty years in the future, as Petitioners appear to believe. Instead, the NRC issues a new renewed license that is immediately effective and supersedes the existing license. 10 C.F.R. § 54.31(c). The renewed license would last for 20 years plus the remaining number of years on the current license. 10 C.F.R. § 54.31(b). As a result, Petitioners' assertion that NextEra is requesting action that will not take place for another twenty years is incorrect. In

accordance with 10 C.F.R. § 54.17(c), NextEra has requested the NRC to take action at this time.

Given that the NRC will make a decision on the license renewal application in the near term, Petitioners' argument that the NRC is obligated to speculate about the feasibility of baseload wind generation twenty years from now is without merit. As the Supreme Court held in *Vermont Yankee*, NEPA only requires consideration of feasible alternatives. 435 U.S. at 551. Alternatives that are either "remote and speculative" or "uncommon and unknown" need not be addressed. *Id.* The responsibility to address alternatives "is an evolving one, requiring the agency to explore more or fewer alternatives as they become better known and understood." *Id.* at 552-53. However, that responsibility is fixed "at the time of drafting the EIS." *Roosevelt Campobello Int'l Park Comm'n v. EPA*, 684 F.2d 1041, 1047 (1st Cir. 1982). The agency's duty to evaluate potential alternatives must "be judged in light of information *then* available to it." *Seacoast Anti-Pollution League v. NRC*, 598 F.2d 1221, 1229 (1st Cir. 1979) (emphasis added) (citing *Vermont Yankee*, 435 U.S. at 552-53).

Contrary to this established caselaw, Petitioners demand that NextEra engage in wholesale speculation as to the future state of baseload wind generation. Petitioners have provided evidence to show that there may be potential, at some point in the future, to make wind generation more reliable than it is with current technology by linking many wind farms together or by utilizing advanced storage concepts. However, such speculation is beyond the scope of this proceeding and does not a raise an issue that is material to the decisions the NRC must make to support issuance of the renewed license.

Petitioners argue that "NEPA's requirement for forecasting environmental consequences into the future implies the need for predictions based on existing technology and those developments which can be extrapolated from it." Pet. at 19 (citing *NRDC v. NRC*, 547 F.2d 633 (D.C. Cir. 1976)). But that case is inapposite. *NRDC* involved a decision by the NRC not to consider the environmental effects of radioactive waste disposal in a licensing proceeding because those effects were too "contingent and presently indefinable." *NRDC v. NRC*, 547 F.2d at 639. The D.C. Circuit rejected the NRC's position, holding that it could not avoid discussion of the environmental impacts *of the proposed action* simply because future technology improvements may reduce those impacts. *Id.* The Court then made the statement, cited by Petitioners, that "NEPA's requirement for forecasting environmental consequences far into the future implies the need for predictions based on existing technology and those developments which can be extrapolated from it." *Id.* at 639-40. However, contrary to Petitioners' interpretation, the Court did not hold that agencies must speculate about paradigm-shifting technological improvements that may make alternatives feasible in the future. Instead, the Court held nearly the opposite, that agencies should not "rest on a blind faith in technological progress." *Id.* at 640 n. 13. In any event, the Supreme Court overturned *NRDC v. NRC* in *Vermont Yankee*, which clearly states that agencies need not address remote and speculative alternatives and that the appropriate timeframe for making such determinations of feasibility is "at the time the project [is] approved." 435 U.S. at 551.

Based on the NRC's standard 22-month license renewal review schedule, a renewed license for Seabrook could be issued in April 2012 and would authorize operation until March 2050, approximately 38 years later. Petitioners argue that issuing a

license for that length of time without speculating (or extrapolating; s*ee* Pet. at 19) about potential breakthroughs in alternative sources of energy is unreasonable under NEPA.[11] But this type of alternatives analysis is no different than is performed in initial licensing. When the NRC issues a Combined License ("COL") under 10 C.F.R. Part 52, it authorizes 40 years of licensed operation that will not commence until after a number of years of construction and lengthy inspection and testing of the facility. *See* 10 C.F.R. § 52.104. Thus, the issuance of a COL would result in a reactor licensed to operate at least 43 years later and perhaps much longer. The NRC is under no duty to speculate about technological breakthroughs in alternative sources of energy in its environmental review of COL applications, because its duty is fixed "at the time of drafting the EIS" (*Roosevelt Campobello*, 684 F.2d at 1047) and must "be judged in light of information then available to it." *Seacoast Anti-Pollution League*, 598 F.2d at 1229. The same standards apply here.

Accordingly, Petitioners fail to demonstrate the existence of a genuine dispute with the application on a material issue of law or fact, because they fail to present any support showing that it is technically feasible or commercially viable to generate baseload power from wind energy. 10 C.F.R. § 2.309(f)(1)(iv -vi).

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[11] Petitioners would prefer that the NRC make NextEra wait an additional ten years before seeking to renew its license. S*ee* Pet. at 15. Under that scenario, NextEra would be required to provide an updated discussion of the reasonableness of wind generation as an alternative to license renewal because the responsibility to address alternatives "is an evolving one, requiring the agency to explore more or fewer alternatives as they become better known and understood." *Vermont Yankee*, 435 U.S. at 552-53. However, that scenario would require the Commission to first grant Petitioners' rulemaking petition and suspend this proceeding, which it has not done. *See infra*, n.14.

c. Baseload Wind Generation Would Not Be A Single, Discrete Generation Source

As discussed above, the GEIS discussed the alternatives the NRC found to be reasonable for a license renewal applicant to consider in its ER and concluded that:

> NRC has determined that a reasonable set of alternatives should be limited to analysis of *single, discrete electric generation sources* and only electric generation sources that are technically feasible and commercially viable.

GEIS at 8-1 (emphasis added). NextEra's ER also limits its review of reasonable alternatives to single, discrete electric generation sources that are technically feasible and commercially viable. ER at 7-1, 7-7. Petitioners' Contention fails to address this criteria and so fails to show that it would be reasonable for a license renewal applicant to consider a broad network of generation sites, as opposed to a single, discrete source.

The Licensing Board in the *Indian Point* license renewal proceeding recently rejected a contention proposed by the State of New York that sought to require an evaluation of energy conservation measures:

> the Commission has determined that the Applicant, in its ER, need only consider the range of alternatives that are capable of achieving the goals of the proposed action which, in the instant case, is the generation of approximately 2,158 MWe of base-load energy for an additional twenty years. Consistent with GEIS § 8.1, this Board considers the reasonable alternatives for license renewal proceedings to be limited to discrete electric generation sources that are feasible technically and available commercially. *We find that there is no legal requirement* (nor has NYS proffered any) *for the Applicant to analyze in detail options that are not discrete, feasible sources for 2,158 MWe of base-load energy*.

Entergy Nuclear Operations, Inc. (Indian Point Nuclear Generating Units 2 and 3) LBP-08-13, 68 NRC 43, 95-96 (2008) (emphases added) (footnote omitted citing *Hydro Resources*, CLI-01-4, 53 NRC at 55; *Rancho Seco*, CLI-93-3, 37 NRC at 144-45).

Even if Petitioners' speculation turns out to be correct and a series of "interconnected wind farms" (Pet. at 23) or a wind energy system connected to long-distance transmission lines (Pet. at 22) ultimately can achieve a capacity factor comparable to today's baseload power sources, those systems would not be a "single, discrete electric generation source."[12] As Petitioners acknowledge, the interconnected system would work by "linking multiple [individual] wind farms together." Pet. at 23; *see also id.* at 28 ("[c]ombine remote wind farms via electrical transmission"). Such an interconnected system of wind generation by definition would not qualify as a single, discrete generation source and so is not a reasonable alternative to license renewal and need not be evaluated in detail in the LRA.

The Board in *Indian Point* acknowledged evidence offered by the State of New York that "suggests that it would be possible for a comprehensive system, combining the various energy sources offered and incorporating greater energy efficiency, to make up for the loss of 2,158 MWe of electricity that would occur if Indian Point were not relicensed." LBP-08-13, 68 NRC at 96. But the Board concluded that "the Applicant is required to analyze only discrete energy sources as alternatives—a claim that cannot be made for any of the alternatives" proposed by the State. *Id.* Petitioners' claim would require a similarly comprehensive system comprised of many different generation sources and should be rejected for the same reason.

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[12] A network of wind turbines connected to underground compressed air storage facilities would also not be a single, discrete generation source.

Further, like Exelon in the *Clinton* Early Site Permit proceeding, NextEra's business purpose does not align with providing the technological services and infrastructure development needed to provide interconnected baseload wind generation. In *Clinton*, the Commission ruled that Exelon, whose sole business was the generation and sale of electricity and which had "no transmission or distribution system of its own," was not required by NEPA to analyze how some other entity with a direct connection to customers may institute an energy efficiency program. *Exelon Generation Co. LLC,* (Early Site Permit for Clinton ESP Site), CLI-05-29, 62 NRC 801, 806-07 (2005), *aff'd Envtl. Law & Policy Ctr.*, 470 F.3d 676.[13] As was Exelon, NextEra is a merchant generator and does not own or operate substantial transmission assets in the region, so the creation of an offshore wind network capable of generating baseload power is beyond what is reasonable for it to consider as an alternative to license renewal.

In fact, several of Petitioners' exhibits dispute their assertion that it would be reasonable for a licensee to take on a project of this magnitude. For instance, Petitioners' Exhibit 8, which proposes connecting many wind farms together to create baseload power, explains that baseload wind would require institutional changes and would not be a task that a company would undertake on its own:

> This approach to choosing and interconnecting sites has institutional implications. Today, generation of electricity is primarily a state matter, decided by state public utility commissions, whereas the Independent System Operators (ISOs) manage wholesale power markets and plan transmission. An ISO is the type of organization that might plan and operate the electric system we envision, *probably with a mix of owners—private firms, existing electric utilities, and/or public power authorities.* Because of the unique characteristics of building and operating offshore,

[13] The Seventh Circuit also acknowledged the special interest of the applicant as "a private company engaged in generating energy for the wholesale market." *Envtl. Law & Policy Center*, 470 F.3d at 684.

> and because our proposed Atlantic Transmission Grid would exist primarily in federal waters and bridge many jurisdictions on land, it may make sense to create a unique ISO, here dubbed the "Atlantic Independent System Operator." Like existing ISOs, the Atlantic ISO would be responsible for managing and regulating the bulk power market along the offshore transmission cable, but with jurisdiction matched to the synoptic scale of the resource.

Pet. Ex. 8 at 6 (emphasis added).

The National Renewable Energy Laboratory came to a similar conclusion about the need for changes in operating law and the need for ownership pools in its "Eastern Wind Interconnection and Transmission Study" (Pet. Ex. 9), which states that:

> - High penetrations of wind generation—20% to 30% of the electrical energy requirements of the Eastern Interconnection—are technically feasible *with significant expansion of the transmission infrastructure.*
> - *New transmission will be required* for all the future wind scenarios in the Eastern Interconnection, including the Reference Case. Planning for this transmission, then, is imperative because it takes longer to build new transmission capacity than it does to build new wind plants.
> - Without transmission enhancements, substantial curtailment (shutting down) of wind generation would be required for all the 20% scenarios.
> - Interconnection-wide costs for integrating large amounts of wind generation are manageable *with large regional operating pools and significant market, tariff, and operational changes.*

Pet. Ex. 9 at 27.

It is clear that the alternative supported by Petitioners, regardless of the timeframe used for the analysis, is not a discrete alternative that can be reasonably pursued by a single licensee. As described by Petitioners' own exhibits, such a development would require a vast number of companies pooling together and potentially the development of

a new ISO to manage the resources. In any event, there is no need to consider alternatives that could only be implemented after significant changes in governmental policy or legislation or that require similar alterations of existing restrictions. *NRDC v. Callaway*, 524 F.2d 79, 93 (2nd Cir. 1975). Any alternative that would require the creation of a new ISO or multi-generator pool is simply beyond the bounds of NEPA's rule of reason.

2. Petitioners Fail to Show That Preserving the Option of License Renewal Would Be Unreasonable

As stated above, the NRC's environmental decision standard for reactor license renewal is whether the impacts of license renewal are so great compared to alternatives that preserving the option of extended operation would be unreasonable. 1996 Final Rule, 61 Fed. Reg. at 28,468. Petitioners have provided no information to show that the environmental impacts of baseload wind generation would be so small that the option of an additional twenty years of Seabrook operation would be beyond the range of reasonable alternatives. Thus, Petitioners have failed to demonstrate the existence of a genuine, material dispute with the application. 10 C.F.R. § 2.309(f)(1)(vi).

Petitioners argue that wind energy should be considered as an alternative because it "can be demonstrated to have significantly less adverse human environmental impacts." Pet. at 11. But the only discussion Petitioners provide regarding the environmental impacts of either the renewal of the Seabrook operating license or the baseload wind alternative concerns their relative carbon footprints. Pet. at 11-12. On this point, Petitioners argue that "wind has a significantly smaller carbon footprint" than the continued operation of Seabrook, yet they provide no support for such a claim. Petitioners cite to an article from an energy policy journal, "Valuing the Greenhouse Gas

Emissions From Nuclear Power: A Critical Survey," (Pet. Ex. 1) and claim that it shows that "Seabrook therefore has on average of [sic] in excess of seven (7) times more carbon emissions than wind power." Pet. at 12. However, in making this assertion, Petitioners ignore the discussion of the carbon footprint of reactor license renewal that is presented in the ER. *See* ER at 2-72 – 2-73. The ER explains that many of the studies comparing the carbon footprint of nuclear energy to other generation sources actually overestimate the greenhouse gas ("GHG") emissions that would be attributable to license renewal, because in those studies the contribution of GHG emissions from facility construction and decommissioning are not separated from the other lifecycle GHG emissions. *Id*. at 2-73.

Petitioners' cited exhibit suffers from this very flaw as it refers to lifecycle emissions of the nuclear reactor, including the cost of construction and decommissioning. *See* Pet. Ex. 1 at 2,950 Table 8 (presenting "lifecycle estimates"); *but see id*. at 2,941 ("It should be noted that nuclear power is not directly emitting greenhouse gas emissions, but rather that the lifecycle involves emissions occurring elsewhere and indirectly attributable to nuclear plant construction, operation, uranium mining and milling, and plant decommissioning"). As NextEra explained in the ER, emissions from the construction, currently licensed operation, and decommissioning of Seabrook have occurred or will occur regardless of whether the NRC issues a renewed license and so are not properly within the scope of this proceeding. ER at 2-73.

In the ER, NextEra accounted for the inapplicability of these lifecycle studies to license renewal by focusing on the carbon footprint of the nuclear fuel cycle, which it reports to be much smaller than the carbon footprints of fossil fuel alternatives and "on

the same order of magnitude as those for renewable energy sources," including wind. *Id.* at 2-73. Petitioners fail to dispute this discussion or to provide any comparison of the carbon footprint of construction, operation, and decommissioning of new offshore wind resources with the 20 years of extended operation requested in the Seabrook LRA. Instead, Petitioners simply rely on their conception of wind generation as a clean energy alternative while ignoring the fact that NextEra is not seeking construction authorization for a new facility, but instead seeks only a license allowing an additional 20 years of operation.

The ER also describes the large land area (23,280 acres) that would be required to replace the power generation of Seabrook Station with wind generation. ER at 7-13. Petitioners fail to acknowledge this impact, or the potential viewshed impacts of offshore wind. Nor do Petitioners address either the environmental impacts of constructing the offshore transmission network or the construction, operation, and eventual decommissioning of the wind turbines. The GEIS, upon which the ER "relied heavily" (ER at 7-12), also provides a detailed discussion of the environmental impacts of wind generation, including tables describing the environmental impacts of construction (Table 8-1) and operation (Table 8-2) of various alternatives, including wind generation. Petitioners do not dispute any of these impact evaluations.

Petitioners argue that NextEra should not have eliminated wind generation as a reasonable alternative, but instead should have provided a more detailed evaluation of it with the other reasonable alternatives in section 7.2.2 of the ER. But Petitioners do not identify any impacts or benefits of wind generation that the ER has not already addressed.

Thus, Petitioners' Contention fails to demonstrate the existence of a genuine, material dispute with the application.

3. Petitioners' Contention Impermissibly Challenges NRC Regulations

Petitioners acknowledge that "current NRC law provides in 10 CFR 51.17(c) [sic, should be 54.17(c)] that a licensee may make application for license renewal a maximum of twenty (20) years in advance of the expiration of an operating license," and that there are "several examples where the NRC has already accepted and approved license extension applications that were filed nearly twenty years in advance of 40-year operating license expiration date." Pet. at 14-15. However, Petitioners argue that the NRC's license renewal rule results in applicants "submitting premature relicensing applications" with environmental reviews that under-inform and misinform. *Id.* at 16. Petitioners have filed a rulemaking petition asking the NRC to amend Part 54 to preclude licensees from seeking license renewal more than ten years prior to the expiration of the current operating license.[14] *Id.* at 15.

As Petitioners' acknowledged by filing their rulemaking petition, 10 C.F.R. § 54.17(c) allows applicants to file LRAs once only twenty years remain before the expiration of their current operating license. To the extent that Petitioners argue that the NRC cannot perform an adequate environmental review at this time, Petitioners' contention is a challenge to this rule and beyond the scope of this proceeding. *See*

[14] The rulemaking petition also includes a request, pursuant to 10 C.F.R. § 2.802(d), to suspend all currently pending license renewal reviews that would be affected by the rule change. *See* Pet. at 16. NextEra opposes the request, but notes that the request is not currently before this Board. Under section 2.802(d), only the Commission is authorized to grant such requests. Furthermore, under section 2.802(d), only a party to a proceeding may make request to suspend that proceeding. Therefore, the Party must first present at least one admissible contention before the Commission will entertain the suspension request.

10 C.F.R. § 2.335(a); *see also Tennessee Valley Authority* (Bellefonte Nuclear Power Plant, Units 3 and 4), CLI-09-3, 69 NRC 68, 75 n.37 (2009).

Regardless, the NRC's rule permitting license renewal applications to be filed twenty years in advance of the current license's expiration was carefully considered:

> Industry studies estimate that the lead time to build a new electric generation plant is 10 to 12 years for fossil fuels and 12 to 14 years for nuclear or other new technologies. When the staff review is factored into the decision process, the Commission concludes that applications 18 to 20 years before expiration of a license are not unreasonable. For these reasons, the final rule permits the application for a renewed license to be filed 20 years before expiration of an existing operating license.

Final Rule, "Nuclear Power Plant License Renewal," 56 Fed. Reg. 64,943, 64,963 (Dec. 13, 1991).

Given these factors, the NRC's 20-year lead time is hardly unreasonable. In fact, the Commission's provision for this amount of lead time has proven to be wise, given the lengthy reviews and hearings required for recent license renewal applications (for instance, Vermont Yankee and Pilgrim are each approaching five years since the filing of their license renewal applications without an NRC decision). This passage from the 1991 Final Rule also highlights Petitioners' failure to account for the fact that NextEra will not be able to simply wait 20 years, survey the state of offshore wind technology, and immediately put it in place if it is technically feasible and commercially viable. As the Commission explained, it can take a decade or more to replace a large baseload generator. But Petitioners ignore the fact that NextEra would need at least a decade, if not far longer, to plan, license, and construct the transmission lines and wind turbines necessary for such a project. *See, e.g.,* Pet. Ex. 15 at 8. This underscores the conclusion

that the alternatives the NRC is required to evaluate are those that are available now. It would be unreasonable to wait until near the end of Seabrook's current period of licensed operation before considering whether to renew the license of such a large source of electricity generation. Similarly, it would also be unreasonable to consider denying that renewal today on the basis of an alternative that is currently unavailable and whose future viability is highly speculative.

IV. SELECTION OF HEARING PROCEDURES

Commission rules require the Atomic Safety and Licensing Board designated to rule on a petition to intervene to "determine and identify the specific procedures to be used for the proceeding" pursuant to 10 C.F.R. §§ 2.310 (a)-(h). 10 C.F.R. § 2.310. The regulations are explicit that "proceedings for the . . . grant . . . of licenses subject to [10 C.F.R. Part 52] may be conducted under the procedures of subpart L." 10 C.F.R. § 2.310(a). The regulations permit the presiding officer to use the procedures in 10 C.F.R. Part 2, Subpart G ("Subpart G") in certain circumstances. 10 C.F.R. § 2.310(d). It is the proponent of the contentions, however, who has the burden of demonstrating "by reference to the contention and bases provided and the specific procedures in subpart G of this part, that resolution of the contention necessitates resolution of material issues of fact which may be best determined through the use of the identified procedures." 10 C.F.R. § 2.309(g). Petitioners did not address the selection of hearing procedures in their Petition and, therefore, did not satisfy their burden to demonstrate why Subpart G procedures should be used in this proceeding. Accordingly, any hearing arising from the Petition should be governed by the procedures of Subpart L.

V. CONCLUSION

For all of the foregoing reasons, the Petition should be denied.

Respectfully Submitted,

Signed (electronically) by Steven C. Hamrick

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November 15, 2010

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
NextEra Energy Seabrook, LLC	)	Docket No. 50-443-LR
	)	
(Seabrook Station)	)	
	)	ASLBP No. 0-906-02-LR
(Operating License Renewal)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing "NextEra Energy Seabrook LLC's Answer Opposing the Petition to Intervene and Request for Hearing of Beyond Nuclear, Seacoast Anti-Pollution League, and New Hampshire Sierra Club," were provided to the Electronic Information Exchange for service to those individuals listed below and others on the service list in this proceeding, this 15th day of November, 2010.

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Signed (electronically) by Steven C. Hamrick

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