

March 21, 2014

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

Before the Commission

In the Matter of	)	
	)	Docket No. 50-443-LR
NextEra Energy Seabrook, LLC	)	
	)	ASLBP No. 10-906-02-LR
(Seabrook Station, Unit 1)	)	

**ANSWER OF NEXTERA ENERGY SEABROOK, LLC  
OPPOSING PETITION TO SUSPEND LICENSING PROCEEDINGS**

**I. INTRODUCTION**

Pursuant to 10 C.F.R. § 2.323(c) and the March 4, 2014 Commission Order (establishing a March 21, 2014 deadline for filing answers), NextEra Energy Seabrook, LLC (“NextEra”) hereby answers and opposes the Petition to Suspend Reactor Licensing Decisions and Reactor Re-Licensing Decisions Pending Completion of Rulemaking Proceeding Regarding Environmental Impacts of High-Density Pool Storage of Spent Fuel and Mitigation Measures (“Suspension Petition”), which was filed in the Seabrook Station license renewal proceeding on March 1, 2014 by Friends of the Coast (“FOTC”) and the New England Coalition (“NEC”). The Suspension Petition, which is being filed in twelve currently pending reactor licensing and license renewal proceedings by a number of organizations,<sup>1</sup> seeks suspension of any licensing or license renewal decisions in these proceedings pending the Commission’s consideration of a

---

<sup>1</sup> The Suspension Petition has been filed jointly by the Friends of the Coast, the New England Coalition, Beyond Nuclear, Blue Ridge Environmental Defense League, Don’t Waste Michigan, Ecology Party of Florida, Friends of the Coast, Hudson River Sloop Clearwater, National Parks Conservation Association, Nuclear Information and Resource Service, Public Citizen, San Obispo Mothers for Peace, SEED Coalition and Southern Alliance for Clean Energy (collectively, “Petitioners”).

rulemaking petition filed with the Secretary on February 18, 2014,<sup>2</sup> which in turn alleges that the Consequence Study<sup>3</sup> and Regulatory Analysis<sup>4</sup> prepared to evaluate expeditious transfer of spent fuel to dry storage constitutes new and significant information.<sup>5</sup> Procedurally, Petitioners have submitted their Suspension Petition pursuant to 10 C.F.R. § 2.802(d).

Petitions to the Commission to suspend proceedings are treated as motions under 10 C.F.R. § 2.323. *Ameren Missouri, et al.* (Callaway Plant, Unit 2, *et al.*), CLI-11-5, 74 N.R.C. 141, 158 & n.65 (2011); *AmerGen Energy Co., LLC et al.* (Oyster Creek Nuclear Generating Station, *et al.*), CLI-08-23, 68 N.R.C. 461, 476 (2008); *Pacific Gas & Electric Co.* (Diablo Canyon Power Plant Independent Spent Fuel Storage Installation), CLI-02-23 56 N.R.C. 230, 237 (2002). While the NRC rules require that motions be addressed to the Presiding Officer when a proceeding is pending, the Commission has previously indicated that suspension motions such as this are best addressed to it. *Callaway*, CLI-11-5, 74 N.R.C. at 158 n.65; *Oyster Creek*, CLI-08-23, 68 N.R.C. at 476; *Diablo Canyon*, CLI-02-23, 56 N.R.C. at 237.

---

<sup>2</sup> Environmental Organizations' Petition to Consider New and Significant Information Regarding Environmental Impacts of High-Density Spent Fuel Storage and Mitigation Alternatives in Licensing Proceedings for New Reactors and License Renewal Proceedings for Existing Reactors and Duly Modify All NRC Regulations Regarding Environmental Impacts of Spent Fuel Storage During Reactor Operation (Feb. 18. 2014) ("Rulemaking Petition").

<sup>3</sup> Consequence Study of a Beyond Design Basis Earthquake Affecting the Spent Fuel Pool for a U.S. Mark I BWR, Oct. 9, 2013 (ADAMS Accession No. ML13256A342) ("Consequence Study"). The Consequence Study is attached to SECY-13-0112, Consequence Study of a Beyond Design Basis Earthquake Affecting the Spent Fuel Pool for a U.S. Mark I BWR, Oct. 9, 2013 (ADAMS Accession No. ML13256A339) ("SECY-13-0112"). The Consequence Study was released in a draft for public comment in June 2013. ADAMS Accession No. ML13133A132. See Press Release 13-053, NRC Seeks Public Comments on Spent Fuel Pool Study (June 24, 2013) (ADAMS Accession No. ML13175A104).

<sup>4</sup> Regulatory Analysis for Japan Lessons-Learned Tier 3 Issue on Expedited Transfer of Spent Fuel, Nov. 12, 2013 (ADAMS Accession No. ML13273A628) ("Regulatory Analysis"). The Regulatory Analysis is an enclosure to COMSECY-13-0030, Staff Evaluation & Recommendation for Japan Lessons Learned Tier 3 Issue on Expedited Transfer of Spent Fuel, Nov. 12, 2013 (ADAMS Accession Number ML13273A601) ("COMSECY-13-0030"). These documents were released in draft form in September 2013. ADAMS Accession No. ML13256A348.

<sup>5</sup> See COMSECY-13-0030.

As discussed below, the Suspension Petition is without merit and should be denied. Petitioners essentially request that the Commission take yet another look at spent fuel pool accident risk, which “ha[s] been considered in studies prepared over the past four decades,” all having “found that the risk of fire was low.” *New York v. NRC*, 589 F.3d 551, 554 (2d Cir. 2009). As the Commission explained, spent fuel pools are “massive, extremely-robust structures designed to safely contain the spent fuel discharged from a nuclear reactor under a variety of normal, off-normal, and hypothetical accident conditions.” *Denial, Petition for Rulemaking*, 73 Fed. Reg. 46,204, 46,206 (Aug. 8, 2008). Further, even if a spent fuel pool leak were to occur resulting in a draindown of water and uncovering of the spent fuel, “there is a significant amount of time between the spent fuel becoming uncovered and the possible onset of a zirconium fire, thereby providing a substantial opportunity for both operator and system event mitigation” for those spent fuel pool loadings where air cooling alone may not be effective in preventing a zirconium fire. *Id.* at 46,208 (citing studies conducted by Sandia National Laboratories). Consequently, the Commission has concluded that “the occurrence of a zirconium fire requires a number of conditions which are *extremely unlikely* to occur together.” *Id.* (emphasis added). In other words, “the probability of such an event is *extremely remote*.” Draft NUREG-2157, *Waste Confidence Generic Environmental Impact Statement* (Sept. 2013) (ADAMS Accession No. ML13224A106) at F-1 (emphasis added).

The Commission’s studies (including the draft Waste Confidence GEIS – *see id.* at F-4, F-6 to F-7) have considered the potentially severe consequences that might result from a spent fuel pool accident. For overall risk, however, “[t]he impact determinations for these accidents . . . are made with consideration of the low probability of these events.” *Id.* at F-7. “This means that a high consequence, low-probability event, like a severe accident, could still result in a small

impact determination, if the risk is sufficiently low.” *Id.* That is precisely what the Commission has consistently concluded – “the overall risks associated with these types of accidents remain low because the spent fuel pool loss-of-cooling event probability is low.” *Id.* at F-3.

The Suspension Petition, along with the underlying Rulemaking Petition, should be denied because they offer nothing that truly challenges the decades-worth of NRC studies and analyses finding that overall spent fuel pool accident risk is very low. As an initial matter, the Suspension Petition should be denied because it is untimely. Further, the information presented by the Petitioners is not new and significant information as that phrase is applied under the National Environmental Policy Act (“NEPA”) and thus does not warrant new environmental analyses, let alone information that would warrant proceeding suspension. Finally, the Commission considers a request to suspend a licensing proceeding, including a request to suspend final licensing decisions, a “drastic” action that is not warranted absent “immediate threats to public health and safety.” *Callaway*, CLI-11-5, 74 N.R.C. at 158, quoting *Oyster Creek*, CLI-08-23, 68 N.R.C. at 484. *See also Vermont Yankee Nuclear Power Corp.* (Vermont Yankee Nuclear Power Station), CLI-00-20, 52 N.R.C. 151, 173-74 (2000). Here, because continuing to conduct the Seabrook license renewal review and the ongoing licensing proceeding pose no immediate threat to the public health and safety, suspension of decision-making is not warranted.

## **II. BACKGROUND**

On May 25, 2010, NextEra submitted its Application requesting renewal of Operating License NPF-86 for Seabrook Station. *See* Letter from Paul O. Freeman, Site Vice President, NextEra Energy Seabrook, LLC, to NRC Document Control Desk (May 25, 2010) (ADAMS Accession No. ML101590099). Seabrook Station’s operating license issued on March 15, 1990

and expires on March 15, 2030. In license renewal proceedings such as this, a number of environmental issues (referred to as Category 1 issues) have been addressed and resolved in a Generic Environmental Impact Statement (“GEIS”),<sup>6</sup> with the generic findings codified in the NRC rules.<sup>7</sup> The impacts of onsite storage of spent fuel during the period of extended operation is a Category 1 issue, based on the determination that such storage can be safely accommodated with small environmental effects.<sup>8</sup>

FOTC/NEC were admitted jointly as a party to the proceeding, based on three admitted contentions, none of which related to the storage of spent fuel.<sup>9</sup> Two of FOTC/NEC’s admitted contentions were subsequently dismissed on appeal,<sup>10</sup> and the third has been settled and will be dismissed following issuance of the Final Supplemental Environmental Impact Statement.<sup>11</sup> One proposed contention regarding the NRC’s Waste Confidence Rule remains pending and in abeyance before the Board.

The NRC issued its draft environmental impact statement (which in license renewal proceedings is issued as a site-specific supplement to the GEIS) on the Seabrook license renewal application in July 2011,<sup>12</sup> and supplemented this draft in April 2013.<sup>13</sup> NRC Staff plans to issue the Final Supplemental Environmental Impact Statement in July 2014. *See* Seabrook Revised

---

<sup>6</sup> NUREG-1437, Rev. 1, “Generic Environmental Impact Statement for License Renewal of Nuclear Plants – Final Report (June 2013).

<sup>7</sup> 10 C.F.R. Part 51, Appendix B, Table B-1.

<sup>8</sup> *Id.*

<sup>9</sup> *NextEra Seabrook, LLC* (Seabrook Station, Unit 1), LBP-11-2, 73 N.R.C. 28 (2011).

<sup>10</sup> *Seabrook*, CLI-12-5, 75 N.R.C. 301 (2012).

<sup>11</sup> Memorandum and Order (Approving Settlement of Contention 4D) (Aug. 12, 2013) (unpublished). A portion of Contention 4 was resolved by summary disposition. Memorandum and Order (Approving Settlement of Contention 4B) (Aug. 12, 2013) (unpublished).

<sup>12</sup> Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 46 Regarding Seabrook Station, Draft Report for Comment (July 21, 2011).

<sup>13</sup> Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 46 Regarding Seabrook Station, Second Draft Report for Comment (Apr. 2013).

Schedule Letter (Dec. 16, 2013) (ADAMS Accession No. ML132989A091). The Safety Evaluation Report (“SER”) was issued with open items in June 2012, but no date has yet been estimated for issuance of the Final SER. *Id.* No date has yet been estimated for issuance of the final license.

### **III. THE SUSPENSION PETITION IS UNTIMELY**

Because a suspension petition is treated as a motion (*Callaway*, CLI-11-5, 74 N.R.C. at 158 & n.65), it is subject to the timeliness requirements of 10 C.F.R. § 2.323(a)(2), which provides that motions must be filed within ten days of the occurrence or circumstances from which the motion arises. Here, the documents which the Petitioners claim contain new and significant information have been available for months. *See supra* notes 3 and 4. Petitioners argue that their Suspension Petition is timely because it is filed within ten days of the Rulemaking Petition (Suspension Petition at 14), but this is just bootstrapping off of Petitioners’ own submittal. Where a petition seeks to suspend a proceeding based on new information, the timeliness of that petition should be determined by the alleged new information itself, and not on a document of the Petitioners own making summarizing that previously available information. A document that merely refers back to and summarizes previously available information does not support timeliness. *See Entergy Nuclear Operations, Inc.* (Vermont Yankee Nuclear Power Station), CLI-11-2, 73 N.R.C. 333, 344 (2011); *Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-10-27, CLI-10-27, 72 N.R.C. 481, 496 (2010).

### **IV. NEITHER THE SUSPENSION PETITION NOR THE RULEMAKING PETITION MAKE ANY REAL SHOWING THAT NEW AND SIGNIFICANT INFORMATION EXISTS OR IS RELEVANT TO THIS APPLICATION**

The Suspension and Rulemaking Petitions do not come close to demonstrating that new and significant information exists requiring supplementation of any environmental analysis. As

previously noted, suspension of decision-making in a proceeding is a drastic action, and therefore a request for such action should not be granted based on mere allegations that such information exists. Otherwise, any opponent of an application could delay merely by making unsupported claims.

**A. Petitioners Make No Showing That The Allegedly New Information Is Applicable To Seabrook Station**

As a threshold matter, neither the Rulemaking Petition nor the Suspension Petition make any attempt to relate the alleged new information to Seabrook Station, or to show how that information may affect the risk of a spent fuel pool accident at this facility. Petitioners' claims of significant new information are based primarily on the Consequence Study, but that Study analyzes a spent fuel pool accident caused by a beyond design basis earthquake at the Peach Bottom Unit 3 nuclear reactor – a 40 year old, boiling water reactor with a Mark I containment in Pennsylvania. The bottom of the SFP in this plant design is usually 50 feet above grade, and the enclosing superstructure above the pool is typically a low-leakage steel, industrial type building. Regulatory Analysis at 58. In contrast, Seabrook Station commenced full power operation in 1990 and is a Westinghouse pressurized water reactor. The Seabrook Station spent fuel pool is housed in a seismic Category I reinforced concrete structure. Seabrook Station UFSAR, Rev. 11, Section 1.2 at 5. Unlike Peach Bottom with its elevated spent fuel pool, the Seabrook spent fuel pool is below grade. *Id.* at Figure 1.2-21.

Further, while the Regulatory Analysis considered spent fuel accident risk for certain plant designs in addition to the Mark I BWR, it excluded from analysis spent fuel pools located below grade, explaining that they are “less susceptible to the formation of small or medium leaks due to the absence of open space around the pool liner and concrete structure.” Regulatory Analysis at 11; *See also id.* at 64 (“Some pools are located below grade, often in bedrock, such

that even if a hole in the pool is formed, it cannot rapidly drain this pool.”) The Seabrook SFP is below grade with the Spent Fuel Building constructed on and largely surrounded by bedrock.

Further, neither the Consequence Study nor the Regulatory Analysis considered the risk reduction provided by the FLEX and other measures that Seabrook Station is in the process of implementing in accordance with the NRC’s Fukushima Task Force recommendations and Commission Order EA-12-049. *See* SBK-L-14041, NextEra Energy Seabrook, LLC’s Second Six-Month Status Report in Response to the March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049) (Feb. 27, 2014) (ADAMS Accession No.).

Petitioners attempt to sidestep any showing of relevance by asserting:

While the scope of the study was narrowly focused on a single reactor and single accident initiator, the NRC Staff claimed that it could be used to make generalizations about spent fuel fire risks at all U.S. reactors.

Rulemaking Petition at 18, citing COMSECY-13-0030 at iii-iv. Petitioners mischaracterize COMSECY-13-0030, which makes no such statement.

**B. Petitioners Make No Showing That Their Claims Are New and Significant**

Even if Petitioners had provided some showing of relevance (beyond the unsupported claim that the alleged new information could be used to make “generalizations”), their Suspension Petition (and Rulemaking Petition) should be denied because the allegations therein do not meet the standard for supplementation under NEPA. To require new environmental analyses, Petitioners’ allegedly new and significant information “must ‘paint[] a dramatically different picture of [environmental] impacts compared to’” those previously understood. *Mass. v. NRC*, 708 F.3d 63, 68-69 (1st Cir. 2013) (citing *Town of Winthrop v. FAA*, 535 F.3d at 1, 12 (1st Cir. 2008) and *Wis. v. Weinberger*, 745 F.2d 412, 418 (7th Cir. 1984)). *See also Private*

*Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-06-03, 63 N.R.C. 19, 28 (2006) (“*PFS*”) (alleged new information must “paint a ‘seriously different picture of the environmental landscape’” to require new environmental analyses). In other words, new environmental analyses are required only when the allegedly new and significant information raises a previously unknown environmental concern, “not necessarily when it amounts to mere additional evidence supporting one side or the other of a disputed environmental effect.” *PFS*, CLI-06-03, 63 N.R.C. at 28.

Petitioners make three claims of new and significant information, but each fails to paint any different picture of the environmental landscape, let alone a seriously or dramatically different one. Petitioners assert that the NRC (1) has newly quantified land interdiction and population displacement consequences resulting from a spent fuel pool accident; (2) has shown that reducing the density of spent nuclear fuel storage may be a cost-beneficial mitigation alternative; and (3) concluded for the first time that the likelihood of spent fuel pool fires could be affected by reactor accidents. Suspension Petition at 4, 5-7. These assertions are not new and significant information warranting new environmental analyses. Petitioners’ claims do not call into question the NRC’s long known and understood determination that spent fuel pool accident risk is very low. This alone requires the Commission to reject Petitioners’ claim for new NEPA analysis. Further still, the NRC Staff analysis shows that, under the base case assumptions, mitigation is not cost beneficial, consistent with the NRC’s longstanding view of spent fuel storage risk. While Petitioners attempt to seize on very conservative sensitivity analyses, mitigation analysis under NEPA is based on best (most realistic) estimates of risk, not worst case estimates of consequences. Finally, the information on which Petitioners rely is not significantly different from that which was previously available.

## **1. The NRC Studies Confirm That Spent Fuel Pool Accident Risk Is Very Low**

Environmental analyses look at total accident risk – the probability that an accident would occur and its potential consequences – not just hypothetical and very unlikely accident consequences. As succinctly stated by the D.C. Circuit in a case cited by Petitioners (Suspension Petition at 12) and in the Rulemaking Petition (at 27), environmental analyses “must examine both the probability of a given harm occurring *and* the consequences of that harm if it does occur.” *New York v. NRC*, 681 F.3d 471, 482 (D.C. Cir. 2012). “[A]fter the agency examines the consequences of the harm in proportion to the likelihood of its occurrence, the overall expected harm could still be insignificant.” *Id.* “Depending on the weighing of the probability and the consequences, an EIS may or may not be required.” *Id.* Discussing consequences without considering risk is meaningless. *Entergy Nuclear Generation Co.* (Pilgrim Nuclear Power Station), CLI-12-15, 75 N.R.C. 704, 720-21 (2012).

Here, the Petitioners have entirely ignored the extremely low probability of the release scenario analyzed in the Consequence Study and Regulatory Analysis. They make no attempt whatsoever to show that probability-weighted consequences are significantly different from past estimates or alter the previous conclusions that spent fuel pool accident risk is extremely remote. In fact, examination of the release frequencies and consequence estimates clearly indicates that the NRC’s conclusions have not changed.

Regarding probabilities, one prior study, NUREG-1353, “predicted the likelihood of liner failure from all potential earthquakes to be between about two and six times in a million years.” Consequence Study at viii. Another earlier study, NUREG-1738, “predicted the likelihood of liner failure from all potential earthquakes to be between two times in a million years and two times in 10 million years.” *Id.* The Consequence Study “considered an earthquake with ground

motion roughly four to eight times stronger than that used in the plant design and predicted a liner failure likelihood of about two times in a million years.” *Id.* Thus, the estimated probability of a liner failure in the Consequence Study is in the range of past estimates.

The Consequence Study then “examined how an accident is expected to proceed if the pool liner is damaged, concluding that pool leaks are *somewhat less likely* to release radioactive material to the environment than previous studies.” *Id.* at viii (emphasis added). More specifically, the Study “shows the likelihood of a radiological release from the spent fuel after the analyzed severe earthquake at the reference plant to be about one time in 10 million years or lower.” *Id.* at vi. And, that likelihood is even lower because the Study “does not consider the post-Fukushima mitigation required by NRC in Orders EA-12-051 and EA-12-049 . . . which should serve to reduce spent fuel pool accident risk by increasing the capability of nuclear power plants to mitigate beyond-design-basis external events.” *Id.* at vii.

Further, as discussed in more detail later in this answer, the consequence estimates for this very remote large release scenario are not in fact significantly different from past estimates. As the Consequence Study states, “if a radiological release were to occur . . . *this study shows public and environmental effects are generally smaller than earlier studies.*” *Id.* at iv (emphasis added).

Because both the probabilities and consequences associated with this very remote large release scenario are not inconsistent with, and in fact are somewhat smaller than, past estimates, it is clear that Consequence Study and Regulatory Analysis do not significantly alter past conclusions regarding risk. As the Consequence Study states:

Past risk studies have shown that storage of spent fuel in a high-density configuration is safe and the risk of a large release due to an accident is very low. This study’s results are consistent with earlier research conclusions that spent fuel

pools are robust structures that are likely to withstand severe earthquakes without leaking.

*Id.* at v. Moreover, in presenting the results of this Study to the Commissioners, the Staff stated, “The risk is low and what they found out in the spent fuel study is that it is consistent with earlier research conclusions.”<sup>14</sup> Similarly, the Regulatory Analysis confirmed that “the risk of beyond-design-basis accidents in SFPs, while not negligible, is sufficiently low, far below the threshold the NRC uses to inform its regulatory decisionmaking, and that the added costs involved with expediting the movement of spent fuel from the pool to achieve low-density fuel pool storage is not warranted.” Regulatory Analysis at 53.

Indeed, when weighted by their frequency of occurrence, the consequences cited by Petitioners (9,100 square miles of land interdicted and 4.1 million people displaced) are only 0.001 square miles of land interdicted per year and 0.5 displaced individuals per year. Consequence Study at x-xi, 162 (Table 33). If the mitigation measures required by 10 C.F.R. § 50.54(hh)(2) are credited, these risk values decrease by nearly three orders of magnitude. *See infra* note 16.

## **2. The Potential Spent Fuel Accident Consequences Cited By Petitioners Do Not Require New Environmental Analyses**

Petitioners claim that new environmental analyses are required because the Consequence Study quantified for the first time certain spent fuel pool accident consequences. Apart from Petitioners’ failure to quantify any effect on *risk* (i.e., the probability-weighted consequences) pertinent to analysis under NEPA, this claim fails for two other independent reasons. First, the hypothetical consequences relied on by Petitioners – “that as many as 9,400 square miles could

---

<sup>14</sup> Briefing on Spent Fuel Pool Safety and Consideration of Expedited Transfer on [sic] Spent Fuel to Dry Casks (Jan. 6, 2014), Tr. at 91 (ADAMS Accession No. ML14008A249).

be rendered uninhabitable by a relatively small spent fuel pool fire, displacing over 4 million people for decades” (Suspension Petition at 4) – represent consequences from spent fuel pool accident under a “worst case scenario” that does not need to be considered in NEPA analyses. In particular, the potential consequences highlighted by Petitioners were based on a scenario that (1) assumes an earthquake stronger than the maximum earthquake reasonably expected to occur for the reference plant and stronger than that which occurred at Fukushima;<sup>15</sup> (2) assumes that 10 C.F.R. § 50.54(hh)(2) mitigation measures have been unsuccessful for three days following the accident;<sup>16</sup> and (3) does not consider post-Fukushima mitigation measures required to be implemented.<sup>17</sup> Second, these potential consequences are consistent with those considered in prior spent fuel pool accident risk studies and thus fail to present any different picture, let alone a *seriously* different picture, of the environmental impacts that could result from a spent fuel pool accident.

---

<sup>15</sup> Because “[p]revious studies have shown that earthquakes present the dominant risk for spent fuel pools . . . this analysis considered a severe earthquake with ground motion stronger than the maximum earthquake reasonably expected for the reference plant.” Consequence Study at vi. This is an earthquake expected to occur once in 60,000 years with a 0.7g peak seismic ground acceleration, *id.* at viii, or several times greater than the peak ground acceleration associated with a design basis, or safe shutdown, earthquake. *Id.* at 35. Further, the “NRC expects that the ground motion used in this study is more challenging for the spent fuel pool structure than that experienced at the Fukushima Daiichi nuclear power plant from the earthquake that occurred off the coast of Japan on March 11, 2011,” which “did not result in any spent fuel pool leaks.” *Id.* at iii.

<sup>16</sup> For both the high and low density loading configurations, the Consequence Study estimates results assuming that 10 C.F.R. § 50.54(hh)(2) mitigation measures are “successfully deployed” and “unsuccessful for 3 days.” Consequence Study at 161. The Consequence Study explains that the “likelihood of successful deployment of 10 CFR 50.54(hh)(2) mitigation has not been quantified” and “is affected by a number of factors that are difficult to quantify,” but that “the likelihood of successful mitigation can in many cases be high.” *Id.* at 161. Successful deployment of the 50.54(hh)(2) mitigation equipment reduces release frequency for the high density large release scenario by a factor of 19, the estimate of the amount of land interdicted by a factor of 40, and the number of long-term displaced individuals by a factor of 36 (thus reducing release-frequency weighted estimates of land interdiction and long-term displaced individual by factors of 780 and 690 respectively). *Id.* at 171 (Table 38).

<sup>17</sup> The Consequence Study “does not consider the post-Fukushima mitigation required by NRC in Orders EA-12-051 and EA-12-049.” Consequence Study at vii. These mitigation measures would “further reduce spent fuel pool accident risk by increasing the capability of nuclear power plants to mitigate beyond-design-basis external events.” *Id.*

The results on which Petitioners rely are worst case, based on very conservative assumptions deliberately chosen to maximize the analyzed benefit of transferring spent fuel to dry storage. In presenting its conclusions on the Consequence Study and Regulatory Analysis to the Advisory Committee on Reactor Safeguards (“ACRS”), the NRC Staff explained

This was a preliminary phase to see, should we go to the second phase, which is an additional study? And so in that regard, that’s why we were very conservative, or we tried to be, to say we will – where there’s a doubt, we’ll maximize the benefits of expediting the transfer.

ACRS Transcript (Oct. 2, 2013) at 26 (ADAMS Accession No. ML13290A497) (“ACRS Tr.”).

MEMBER BANERJEE: So if I understand your point of view, which I don't know if it's correct or not -- correct me -- you are trying to make the strongest possible case for the transfer that you can. Is that correct?

MR. JONES: Yes.

*Id.* at 24. Such worst case results need not be considered in NEPA analyses. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 356 (1989) (NEPA does not require agencies to perform “worst case analysis,” which would “distort[] the decisionmaking process by overemphasizing highly speculative harms”).

Furthermore, even if the potential consequences cited by Petitioners could be considered less than a worst-case scenario, the consequences are not new and significant information requiring further environmental analyses. The Consequence Study finds that, “[o]n land contamination, past results are expected to be broadly consistent with this study.” Consequence Study at 168. While it may be true that “some previous studies did not report land contamination and some reported different metrics for estimating areas” and thus “a direct comparison is not possible,” “it is clear that both this study and past studies have predicted that [spent fuel pool] accidents can lead to significant land contamination.” *Id.* at 168-69. For example, “NUREG/CR-6451 reports values for condemned farmland that includes hundreds of square

miles within a 50-mile radius and *thousands of square miles within a 500 mile radius*, albeit for a full-core offload.” *Id.* at 168 (emphasis added). Table 62 of the Consequence Study – the same Table cited by Petitioners (Suspension Petition at 5 n.10) – further provides that NUREG/CR-6451 found that up to 2,800 square miles of land could be condemned. *Id.* at 232. Indeed, the Consequence study predicts less permanent consequences in finding that “only a small portion of these interdicted areas are expected to be permanently interdicted, as the level of contamination is expected to significantly decrease with time as decontamination, radioactive decay, and weathering occur. *Id.* at 168. Up to 83 square miles is expected to be permanently condemned, *id.* at 232, far less than the 2,800 square miles of permanent condemnation found in NUREG/CR-6451.

Moreover, other reports on the potential hazards presented by a spent fuel pool accident have hypothesized consequences similar, to or greater than, those cited by Petitioners here. One example is the 2003 report “Reducing the Hazards from Stored Spent Power-Reactor Fuel in the United States.”<sup>18</sup> Using information obtained from NUREG/CR-6451, the Alvarez Report hypothesized that “1.6–7.6 million people would be permanently evacuated” from “an evacuated area beyond 50 miles of 1100–19,000 km<sup>2</sup>” following a spent fuel pool accident scenario. Alvarez Report at 10 n.29.

In short, Petitioners claims concerning interdiction and population displacement are not new and do not raise a “previously unknown environmental concern” but rather highlight “mere additional evidence supporting one side or the other of a disputed environmental effect” that the Commission has ruled does not require new NEPA analyses. *PFS*, CLI-06-03, 63 N.R.C. at 28.

---

<sup>18</sup> Robert Alvarez, *et al.*, *Reducing the Hazards from Stored Spent Power-Reactor Fuel in the United States*, Science and Global Security, 11:1-51 (2003) (ADAMS Accession No. ML120960695) (“Alvarez Report”).

### 3. Petitioners' Cost-Benefit Claims Do Not Require New Environmental Analyses

Petitioners claim that the Staff's analysis of the costs and benefits of expedited spent fuel transfer to dry storage constitutes new and significant information because it shows that such transfer is a reasonable alternative to mitigate the risk of spent fuel pool storage. Suspension Petition at 6. This claim mischaracterizes the NRC Staff's analysis and erroneously relies on a sensitivity analysis tantamount to a worst case scenario that need not be considered in NEPA mitigation analysis.

The Regulatory Analysis developed a base case that generally used conservative assumptions for key parameters such as conditional probabilities of pool failures and zirconium fires to increase the calculated net benefits of the expedited transfer of spent fuel alternative for each SFP grouping and to generally bound the parameters that vary among spent fuel pools. Regulatory Analysis at 4.<sup>19</sup> Even under these very conservative base case assumptions, expedited transfer of spent fuel to dry storage was not cost-beneficial. *Id.* at 36. In addition, the NRC Staff also prepared a low estimate and a high estimate, varying key parameters. The high estimate includes additional conservative assumptions regarding seismic fragilities, release fractions, SFP inventories, long-term habitability criteria, and site population densities.<sup>20</sup> The

---

<sup>19</sup> While this is referred to as the "base case" it is still tantamount to a "worst case" scenario under NEPA because it (1) is based on highly improbable seismic events of 0.7 g PGA and 1.2 g PGA (Regulatory Analysis at 17); (2) assumes that AC power, and thus spent fuel pool cooling and makeup, are always unavailable following these seismic events and cask drop events (*id.* at 17, 86); (3) uses more conservative spent fuel pool fragilities than analyses predict (*Id.*); (4) assumes no natural circulation for three out of four of the spent fuel pool groups analyzed, even though this condition occurs during only part of the operating cycle (*id.* at 87-88); and (5) assumes no use of mitigation measures to recover spent fuel pool cooling and makeup (*id.* at 70). As members of the ACRS mused, this "base case" might more properly have been called "a very, very conservative case." ACRS Tr. at 75.

<sup>20</sup> These high estimate scenarios result from piled on conservative assumptions in addition to those already included in the base case. *See supra* note 19. First, the frequencies for the highly improbable seismic events are based on the USGS 2008 model for the site with the highest earthquake frequency. Regulatory Analysis at 17. Second, the high estimate cases assume that the fuel pool liner leaks 25% of the time for a 0.7g earthquake and 100% of the

Staff's analyses found that, "[a]s might be expected for estimates that include a compounding of the most conservative assumptions, all of the SFP group high estimate cases result in calculated benefits that are greater than the estimated costs." *Id.*

The Staff also performed sensitivity studies on the low estimate, base case, and high estimate scenarios "to estimate the effect upon the results of variations in input parameters." Regulatory Analysis at 21. The Staff found that "there are cases using conservative assumptions in each sensitivity study in which the low-density spent fuel storage alternative was cost-justified." *Id.* at 52.

Contrary to Petitioners' claim, the Regulatory Analysis does not constitute significant new information demonstrating that reducing high-density spent fuel pool storage may be a cost-beneficial, reasonable alternative for mitigating the risks of such storage that must be considered in new environmental analyses (Suspension Petition at 6), because consideration of mitigation alternatives under NEPA is based on realistic estimates, not worst case conditions. "NEPA mitigation alternatives analysis need not reflect the most conservative – or worst-case – analysis." *Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station)*, CLI-12-10, 75 N.R.C. 479, 487 (2012) (citing *Robertson*, 490 U.S. at 354-56). For this reason, the Commission has made clear that NEPA mitigation analysis "is not based on either the best-case or the worst-case accident scenarios, but on *mean accident consequence values . . .*" *Pilgrim*, CLI-12-15, 75 N.R.C. at 708 (emphasis added).

No new NEPA analyses are required here because even the base case analysis is "a very, very conservative case" intended to "maximize the benefits." ACRS Tr. at 26, 75. That "a

---

time for a 1.2g earthquake even though prior fragility analyses show that more realistic values are 2% and 16%, respectively. *Id.* at 86. Third, the high estimate cases assume that 90% of the Cesium 137 is released to the atmosphere. *Id.*

combination of high estimates for important parameters assumed in some of the sensitivity cases” (Regulatory Analysis at 54) resulted in some extremely conservative estimates of benefits outweighing costs is simply not the test for determining whether alternatives or mitigation measures are reasonable under NEPA.<sup>21</sup>

#### **4. The Likelihood That A Spent Fuel Pool Fire Could Be Affected By A Reactor Accident Is Not New Information**

Petitioners assert that the Consequence Study presents information showing that the NRC Staff has concluded for the first time that the likelihood of a spent fuel pool fire could be affected by reactor accidents. Suspension Petition at 6 (citing Consequence Study at 29). This claim simply is not true. The possibility of a reactor accident contributing to the very low likelihood of a spent fuel pool fire at certain plants has been long recognized and is not new information.

Over a decade ago in the *Shearon Harris* spent nuclear fuel pool expansion proceeding, the NRC Staff, the applicant, and the intervenor contested whether a spent fuel pool accident scenario was remote and speculative such that an environmental impact statement (“EIS”) need not be prepared for the expansion. *Carolina Power & Light Co.* (Shearon Harris Nuclear Power Plant), LBP-01-9, 53 N.R.C. 239, 244 (2001). The intervenor’s contention that an EIS was required was based in part on a report prepared by Dr. Gordon Thompson entitled “The Potential for a Large, Atmospheric Release of Radioactive Material from Spent Fuel Pools at the Harris Nuclear Power Plant: The Case of a Pool Release Initiated by Severe Reactor Accident.” *Id.* at 246. The intervenor identified a scenario consisting of a seven-step chain of events consisting

---

<sup>21</sup> The Regulatory Analysis was also overly conservative in estimating the costs associated with expedited transfer of spent fuel to dry storage. The Staff’s analysis “conservatively ignored” the “costs and risks associated with the handling and movement of spent fuel casks,” which “would further reduce the overall net benefit in relation to the regulatory baseline.” Regulatory Analysis at 33. The Staff “conservatively ignored” the “additional costs and risk associated with repackaging the spent fuel into canisters that are compatible with final disposal requirements” in order to “calculate the minimum implementation costs for the low-density fuel pool storage alternative.” *Id.*

of: (1) a degraded core accident; (2) containment failure or bypass; (3) loss of all spent fuel cooling and makeup systems; (4) extreme radiation doses precluding personnel access; (5) inability to restart any pool cooling or makeup systems due to extreme radiation doses; (6) loss of most or all pool water through evaporation; and (7) initiation of an exothermic oxidation reaction in two of the four spent fuel pools. *Id.* at 245.

In refuting the intervenor's claim, the NRC Staff addressed the seven-item accident sequence "in terms of the probabilities involved at each step (or related steps) and for the sequence as a whole." *Id.* at 252. Relevant to Petitioners' claims here,

the Staff assessed the probability that the containment failure or containment bypass-related radioactive materials would cause the failure of the component cooling water system, which removes heat from the SFP cooling and cleanup heat exchangers, and failure of the electrical system, thus resulting in a loss of power for SFP cooling and cleanup system pumps . . . . the Staff determined that the overall frequency of events that could lead to an interruption of fuel pool cooling, estimated to be approximately  $6.3E-05$  per reactor year, is dominated by a loss of offsite power that would affect the operation of the facility's normal and emergency ventilation and exhaust systems . . . . *the Staff further concluded that the probability of a degraded core accident that leads to an interruption of the SFP cooling function and a containment failure prior to SFP cooling restoration is bounded by  $6.3E-06$ .* This determination was based on the Staff's conclusion that the containment failure modes of most concern are the early and late containment failures with a combined probability of 0.1 (10%).

*Id.* at 257 (emphasis added). Thus, it is clear from this discussion that the NRC Staff has acknowledged that a reactor accident might contribute to the likelihood of a spent fuel pool fire.<sup>22</sup>

The Commission considered this scenario again in its 2008 Denial of Rulemaking Petition on spent fuel pool accident risk. 73 Fed. Reg. at 46,205. The Commission relied on the

---

<sup>22</sup> The NRC Staff ultimately concluded that the seven step accident scenario hypothesized had a cumulative probability of  $2.0E-07$  per reactor year or less, which the licensing board determined was remote and speculative so as not to warrant preparation of an EIS (LBP-01-9, 53 N.R.C. at 271), and which decision the Commission affirmed. *Harris*, CLI-01-11, 53 N.R.C. 370, 386-89 (2001).

results of the *Shearon Harris* proceeding because of its similar claim “that a severe accident at the adjacent reactor would result in a SFP zirconium fire.” *Id.* at 46,210. The Commission stated that

the NRC Staff estimated a conditional probability of about one percent that a severe reactor accident with containment failure would lead to a SFP accident. The NRC Staff expects that the conditional probability of a SFP zirconium fire, given a severe reactor accident, would be similar to that established in the *Shearon Harris* proceeding. As such, the probability of a SFP zirconium fire due to a severe reactor accident and subsequent containment failure would be well below the Petitioners’ 2E-05 per year estimate.

*Id.*

In light of this information on the *Shearon Harris* spent fuel pool expansion proceeding, Petitioners cannot credibly claim that the NRC Staff has never previously concluded that the likelihood of a spent fuel pool fire could be affected by a reactor accident. Moreover, that information is at least a decade old. Thus, it is not new and cannot require new NEPA analyses.

Finally, Petitioners request that the NRC consider any new information generated to date in the probabilistic risk assessment being performed on the Vogtle Electric Generating Plant Units 1 and 2 concerning whether the likelihood of spent fuel pool fires could be affected by reactor accidents. Suspension Petition at 6; Rulemaking Petition at 3, 6, 30-31. This claim too must be rejected. NEPA does not require the NRC to consider partial or unfinished information, or to defer a licensing decision until sometime in the future when new information may or may not be revealed. *Entergy Nuclear Generation Co. (Pilgrim Nuclear Power Station)*, CLI-12-6, 75 N.R.C. 352, 376 (2012) (“NEPA requires that we conduct our environmental review with the best information available now. It does not, however, require that we wait until inchoate information matures into something that later might affect our review”); *Mass. v. NRC*, 708 F.3d at 82 (“NEPA imposed no obligation on the NRC to withhold the granting of a renewed license

here because of the possibility that currently unavailable information might become available in the future”).

**V. SUSPENSION OF FINAL LICENSING DECISIONS WOULD BE A DRASTIC ACTION THAT IS INAPPROPRIATE IN THE ABSENCE OF ANY IMMEDIATE THREAT TO PUBLIC HEALTH AND SAFETY**

In addition to the many other infirmities identified above, the Suspension Petition falls far short of the Commission’s high standard for suspending a final licensing decision. *Callaway*, CLI-11-5, 74 N.R.C. at 146, 159. The Commission considers such suspension a “drastic” action that is not warranted absent “immediate threats to public health and safety or other compelling reason.” *Id.* at 158, quoting *Oyster Creek*, CLI-08-23, 68 N.R.C. at 484. *See also Vermont Yankee*, CLI-00-20, 52 N.R.C. at 173-74.

In judging whether there is an “immediate threat[] to public health and safety, or other compelling reason” to suspend decision-making, the Commission applies a three-part test: whether going forward (1) “will jeopardize the public health and safety;” (2) “will prove an obstacle to fair and efficient decisionmaking;” and (3) “will prevent appropriate implementation of any pertinent rule or policy changes that might emerge from our...ongoing evaluation.” *Callaway*, CLI-11-5, 74 N.R.C. at 158-59, quoting *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-01-26, 54 N.R.C. 376, 380 (2001) (internal quotations omitted); *Mass. v. NRC*, 708 F.3d at 80 (upholding NRC’s application of its suspension standard).

These factors weigh heavily against suspending decision-making. Petitioners make no credible claim that moving forward with this proceeding will jeopardize public health and safety. The “Petition fails to identify specific problems with [this] license renewal application . . . [and] [t]his lack of a specific link between the relief requested and the particulars of the individual

applications makes it difficult to conclude that moving forward with any individual licensing decision or proceeding will have a negative impact on public health and safety.” *Callaway*, CLI-11-5, 74 N.R.C. at 161. Moreover, Seabrook Station’s “period of extended operation . . . will not begin for [over fifteen] years” and thus poses “no imminent threat to public health and safety that requires suspension of [this] proceeding[] or the associated licensing decision[] now.” *Id.*

With respect to the second factor, moving forward will present no obstacle to fair and efficient decision-making. The Commission has held that it has a responsibility to go forward with pending proceedings. *Private Fuel Storage*, CLI-01-26, 54 N.R.C. at 381.

Permitting unnecessary delays would contravene the Commission’s fundamental duties to the general public, as well as to applicants and licensees. The Commission’s objectives are to provide a fair hearing process, to avoid unnecessary delays in the NRC’s review and hearing processes, and to produce an informed adjudicatory record that supports agency decision making on matters related to the NRC’s responsibilities for protecting public health and safety, the common defense and security, and the environment. Consistent with this policy, the Commission has a history of not delaying adjudications to await extrinsic actions, absent special needs of efficiency or fairness.

*Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), CLI-01-28, 54 N.R.C. 393, 400 (2001) (citations omitted). *See also Duke Energy Corp.* (McGuire Nuclear Station, Units 1 and 2; Catawba Nuclear Station, Units 1 and 2), CLI-01-27, 54 N.R.C. 385, 390 (2001) (“This general reluctance [to suspend proceedings] is firmly grounded in our longstanding commitment to efficient and expeditious decisionmaking. . . .”). “[A]pplicants for a license are . . . entitled to a prompt resolution of disputes concerning their applications.” *Statement of Policy on the Conduct of Adjudicatory Proceedings*, CLI-98-12, 48 N.R.C. 18, 19 (1998).

Finally, regarding the third factor (whether going forward will prevent appropriate implementation of any pertinent rule or policy changes), the Commission has made clear that it

has “well-established processes for imposing any new requirements necessary to protect public health and safety and the common defense and security” and moving forward with a licensing decision in this proceeding “will have no effect on the NRC's ability to implement necessary rule or policy changes that might come out of” the Commission’s review of a petition. *Callaway*, CLI-11-5, 74 N.R.C. at 166.

Petitioners erroneously argue that suspension of licensing decisions is necessary for compliance with NEPA’s requirement that new and significant information be incorporated into reactor licensing decisions before those decisions are finalized. Suspension at 4. First, as previously discussed at length, Petitioners have not demonstrated that any significant new information exists. Further, a mere allegation that such information exists should not be sufficient to suspend or delay licensing proceedings. Otherwise, any opponent of a licensing proceeding could delay it indefinitely simply by filing a succession of petitions asserting that such information exists.<sup>23</sup>

Petitioners are also incorrect in arguing that even if the NRC concludes that the information does not have a significant effect, it must follow NEPA’s procedures for considering the information, including preparation of a supplemental environmental assessment. Suspension Petition at 10 -11. NEPA does not prescribe how an agency is to determine the existence of new and significant information that would require supplementation of an analysis. *N. Idaho Cmty. Action Network v. DOT*, 545 F.3d 1147, 1154 (9th Cir. 2008), citing *Price Rd. Neighborhood*

---

<sup>23</sup> NEPA does not require that the NRC abandon its procedures every time someone alleges new and significant information. *UCS v. NRC*, 920 F.2d 50, 55 (D.C. Cir. 1990) (“it [is] unreasonable to suggest that the NRC must disregard its procedural timetable every time a party realizes based on NRC environmental studies that maybe there was something after all to challenge it either originally opted not to make or which simply did not occur to it at the outset”) (footnote omitted). As the Supreme Court noted in *Marsh v. Or. Natural Res. Council*, 490 U.S. 360 (1989) (cited in the Petition), a requirement to supplement an EIS every time new information comes to light “would render agency decisionmaking intractable, always awaiting updated information only to find the new information outdated by the time a decision is made.” *Marsh*, 490 U.S. at 373.

*Ass'n v. DOT*, 113 F.3d 1505, 1509-10 (9th Cir. 1997). Because NEPA does not prescribe any particular approach, Courts have upheld use of a variety of “non-NEPA procedures ‘for the purpose of determining whether new information or changed circumstances require the preparation of a supplemental EA or EIS.’” *Pennaco Energy, Inc. v. DOI*, 377 F.3d 1147, 1151, 1162 (10th Cir. 2004) and cases cited therein.<sup>24</sup> As reflected in the types of procedures that have been allowed, neither an environmental assessment nor an environmental impact statement with public participation is required.

In *Massachusetts v. NRC*, the Court held that the NRC satisfied its obligation to take a hard look at information alleged to be new and significant by considering those allegations in denying a motion to reopen and motion to submit a new contention. 708 F.3d at 78. The Commission may do the same in denying this Suspension Petition. By considering the Petitioners’ claims in the Suspension Petition and explaining why they are not significant (why they do not paint a dramatically different picture of impacts compared to past studies and thus do not alter the NRC’s conclusions regarding spent fuel pool accident risk), any obligations under NEPA would be fully discharged.

---

<sup>24</sup> See also *Marsh*, 490 U.S. at 383-85 (agency supplemental information report based on agency-requested expert analysis); *N. Id. Cmty. Action Network*, 545 F.3d at 1154 (agency internal reevaluation of projected impacts resulting from new information); *NRDC v. FAA*, 564 F.3d 549, 562 (2d Cir. 2009) (agency review of relevant data and scientific literature); *Airport Impact Relief v. Wykle*, 192 F.3d 197, 199-200, 208 (1st Cir. 1999) (review of the data and conclusions from a state agency analysis to determine that an environmental impact statement need not be supplemented; such review need not be in writing in the administrative record); *Town of Winthrop*, 535 F.3d at 7, 10 (reevaluation of the data underlying the environmental impact statement to confirm its continued validity and, thus, to determine that no supplementation is required). Moreover, it is clear from these and other cases that there is no requirement for public participation under NEPA in an agency's determination of whether a NEPA supplement is required. See, e.g., *Friends of the Clearwater v. Dombeck*, 222 F.3d 552, 559-60 (9th Cir. 2000) (“Although NEPA requires agencies to allow the public to participate in the preparation of an SEIS, there is no such requirement for the decision whether to prepare an SEIS.”). See also *Northwoods Wilderness Recovery, Inc. v. U.S. Dep’t of Agric. Forest Serv.*, 192 F. App’x 369, 377 (6th Cir. 2006) (citing *Dombeck*).

**VI. CONCLUSION**

For all the above reasons, the Suspension Petition should be denied.

Respectfully Submitted,

/Signed electronically by David R. Lewis /

Steven C. Hamrick  
NextEra Energy Seabrook, LLC  
801 Pennsylvania Avenue, NW Suite 220  
Washington, DC 20004  
Telephone: 202-349-3496

---

David R. Lewis  
Pillsbury Winthrop Shaw Pittman LLP  
2300 N St. NW  
Washington, DC 20037  
Telephone: 202-663-8474

Dated: March 21, 2014

Counsel for NextEra Energy Seabrook, LLC

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

Before the Commission

In the Matter of	)	
	)	Docket No. 50-443-LR
NextEra Energy Seabrook, LLC	)	
	)	ASLBP No. 10-906-02-LR
(Seabrook Station, Unit 1)	)	

CERTIFICATE OF SERVICE

I hereby certify that the foregoing Answer of NextEra Energy Seabrook LLC Opposing Petition to Suspend Licensing Proceedings has been served through the E-Filing system on the participants in the above-captioned proceeding, this 21st day of March, 2014.

/Signed electronically by David R. Lewis/

\_\_\_\_\_  
David R. Lewis