



November 17, 2016

10 CFR 50.90

SBK-L-16190

Docket No. 50-443

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Seabrook Station

Response to Request for Supplemental Information Regarding License Amendment Request
16-01, "Request to Extend Containment Leakage Test Frequency"

References:

1. NextEra Energy Seabrook, LLC letter SBK-L-16029, "License Amendment Request 16-01, Request to Extend Containment Leakage Test Frequency," March 31, 2016 (ML16095A278)
2. NRC letter "Seabrook Station, Unit No. 1 - Supplemental Information Needed for Acceptance of Requested Licensing Action Re: Request to Extend Containment Leakage Test Frequency (CAC No. MF7565)," May 19, 2016 (ML16139A181)
3. NextEra Energy Seabrook, LLC letter SBK-L-16082, "Supplement to License Amendment Request 16-01, Request to Extend containment Leakage Test Frequency," May 31, 2016 (ML 16159A 194)
4. NRC letter "Seabrook Station, Unit No. 1 – Request for Additional Information Re: Request to Extend Containment Leakage Test Frequency (CAC No. MF7565)," October 3, 2016 (ML16230A106)
5. NextEra Energy Seabrook, LLC letter SBK-L-16165, "Response to Request for Additional Information Regarding License Amendment Request 16-01, "Request to Extend Containment Leakage Test Frequency", October 27, 2016 (ML16302A397)
6. NRC e-mail "Need for Supplement to ILRT License Amendment" November 10, 2016 (ML16319A422)

In Reference 1 and supplemented by References 3 and 5, NextEra Energy Seabrook, LLC (NextEra) submitted a license amendment request (LAR) to revise Technical Specification (TS)

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6.15, Containment Leakage Rate Testing Program. The proposed amendment would revise the TS to require a containment leakage rate testing program that is in accordance with Nuclear Energy Institute (NEI) topic report NEI 94-01, Revision 3-A, "Industry Guideline for Implementing Performance-Based Option of 10 CFR Part 50, Appendix J. This proposed change will allow extension of the Type A test interval up to one test in 15 years and extension of the Type C test interval up to 75 months, based on acceptable performance history as defined in NEI 94-01, Revision 3-A.

In Reference 6, based on a teleconference held on November 7, 2016 to clarify NextEra's responses in Reference 5, the NRC staff requested that NextEra provide clarifications related to the Probabilistic Risk Assessment Licensing Branch (APLA) review on the docket in a supplemental response. The Enclosure to this letter provides the requested supplemental information.

This supplement to LAR 16-01 does not alter the conclusion in Reference 1 that the changes do not involve a significant hazards consideration pursuant to 10 CFR 50.92, and there are no significant environmental impacts associated with the changes.

No new or revised commitments are included in this letter.

Should you have any questions regarding this letter, please contact Mr. Kenneth Browne, Licensing Manager, at (603) 773-7932.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on November 17, 2016.

Sincerely,



Eric McCartney
Site Vice President
NextEra Energy Seabrook, LLC

Enclosure

cc: NRC Region I Administrator
NRC Project Manager
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Enclosure to SBK-L-16190

Supplement to License Amendment Request 16-01
Request to Extend Containment Leakage Test Frequency

Background

NextEra Energy Seabrook Station letter dated October 27, 2016 (SBK-L-16165) provided responses to the NRC staff's request for additional information (RAI) related to the license amendment request regarding extending containment leakage testing frequency. On November 7, 2016 NRC staff held a phone call with NextEra staff to discuss the responses to RAIs 1 and 4a. NRC has requested that the clarifying information be provided to NRC in a supplemental letter. The information below provides the requested supplemental information as discussed during the November 7, 2016 phone call.

Probabilistic Risk Assessment Licensing Branch (APLA)

APLA-RAI-1 – NRC Follow-up Question:

(a) Page 3 of SBK-L-16165 describes that that difference in CDF is attributable to use of level 1 values for internal events, internal flooding, external flooding and severe weather from the 2014 PRA update vs. the 2011 PRA. The NRC staff would like to clarify if the "modeling changes" made in the 2014 PRA update constitute an "upgrade" (as defined by the PRA Standard as endorsed by RG 1.200, Rev. 2) such that a focused-scope peer review would have been needed.

(b) The staff believes there was a transcribing error in Table 1 from the information that was provided in the application (External floods: 2.09E-8 vs. 2.86E-8).

NextEra Response:

(a) None of the changes made in the 2014 PRA update constitute a PRA "upgrade". The 2014 PRA model changes included items such as: plant-specific data update, procedure review and HEP update, IE frequency update (Rx Trip), model changes to reflect plant changes and as built configuration. The changes made are defined as model "maintenance" and therefore a focused-peer review of these changes was not needed.

(b) NextEra agrees that this is a transcribing error. The correct value for External Floods CDF from 2014 is 2.09E-08 as provided in the original LAR. The corrected Table 1 is shown below. There are no changes in the conclusions or in any wording of the RAI response.

Table 1 - Comparison of 2011 to 2014 CDF Results				
Hazard	CDF 2014	CDF 2011	Delta CDF (2014-2011)	Change Fraction (from 2011)
Internal Events	3.76E-06	4.50E-06	-7.40E-07	-0.16
External Flood	2.68E-08 2.09E-08	2.40E-08	4.60E-09 -3.10E-09	0.19 -0.13
Internal Flood	2.86E-06	2.61E-06	2.50E-07	0.10
severe weather	6.36E-07	6.82E-07	-4.60E-08	-0.07
Total	7.28E-06	7.82E-06	-5.39E-07	-0.07

APLA-RAI-4a – NRC Follow-up Question:

(a) Page 8 of SBK-L-16165 provides the requested sensitivity analysis. It is stated that "... CDF is approximately $2.5E-5$ /yr, an increase of 109%, above the baseline value of $1.20E-5$ /yr." The staff noted that this increase in CDF is significant. Since external events contribute substantially to CDF, the NRC would like to clarify if sensitivity analysis also included external events (e.g. fire). If so, was a floor value of $1E-6$ or $1E-5$ used?

(b) The staff believes there is a typo in Table 5-7.

NextEra Response:

(a) The Seabrook PRA model is a fully integrated model including internal events, internal flood, internal fire and external events (seismic). The HEP floor sensitivity was performed on the integrated model, including internal fire events (all events and all sequences down to a truncation of E-14). The HEP floor value for the sensitivity was $1E-06$ for all events.

In response to this follow-up question, the CDF/LERF was re-calculated assuming that multiple HEPs in the internal fire event sequences are limited to no less than $1E-05$ and that multiple HEPs in all other sequences are limited to no less than $1E-06$. The CDF and total Level 2 increased 113% above the baseline CDF/Level 2 value.

This revised sensitivity evaluation suggests that the ILRT delta-LERF is sensitive to the assumption of the HEP floor values of $1E-06$ and $E-05$ (fire events). The sensitivity ILRT delta-LERF of **$2.21E-07$ /yr** is just above the $1E-07$ /yr acceptance criterion and the total LERF of **$4.41E-07$ /yr** is well below the $1E-05$ /yr acceptance criterion. These changes in LERF would be defined as small per Region II of Regulatory Guide 1.174. The additional ILRT risk metrics of delta-total dose rate at **$8.07E-02$** person-rem/yr and conditional containment failure probability at 0.87% also remain well below the ILRT acceptance criteria of less than 1 person-rem/yr and less than 1.5% respectively.

(b) NextEra agrees that there is a typographical error in Table 5-7 (page 36) of the revised LAR Attachment 4.0. This table was included in SBK-L-16165 and had been revised as part of the Seabrook response to APLA-RAI-2. For Class 8 accidents, the correct Person Rem/yr (50 miles) should be $1.70E+00$ instead of the $1.70E+01$ shown in the table. A corrected Table 5-7 is provided below.

Table 5-7: Seabrook Station Annual Dose as a Function of Accident Class; Characteristic of Conditions for ILRT Required 1/15 Years

Accident Classes (Cnmt Release Type)	Description	Person-Rem (50 miles)	EPRI Methodology		EPRI Methodology Plus Corrosion		Change Due to Corrosion Person-Rem/yr ⁽¹⁾
			Frequency (per Rx-yr)	Person-Rem/yr (50 miles)	Frequency (per Rx-yr)	Person-Rem/yr (50 miles)	
1	No Containment Failure ⁽²⁾	2.77E+03	7.31E-06	2.02E-02	7.31E-06	2.02E-02	-1.46E-06
2	Large Isolation Failures (Failure to Close)	1.44E+06	2.31E-07	3.34E-01	2.31E-07	3.34E-01	0.00E+00
3a	Small Isolation Failures (liner breach)	2.77E+04	5.10E-07	1.41E-02	5.10E-07	1.41E-02	0.00E+00
3b	Large Isolation Failures (liner breach)	2.77E+05	1.28E-07	3.53E-02	1.28E-07	3.55E-02	1.46E-04
4	Small Isolation Failures (Failure to seal-Type B)	N/A	N/A	N/A	N/A	N/A	N/A
5	Small Isolation Failures (Failure to seal-Type C)	N/A	N/A	N/A	N/A	N/A	N/A
6	Other Isolation Failures (e.g., dependent failures)	N/A	N/A	N/A	N/A	N/A	N/A
7	Failures Induced by Phenomena (Early and Late)	9.25E+06 9.83E+06	3.14E-06	2.91E+01 3.09E+01	3.14E-06	2.91E+01 3.09E+01	0.00E+00
8	Bypass (Interfacing System LOCA)	6.46E+05 2.63E+06	6.46E-07	4.18E-01 4.70E+01 1.70E+00	6.46E-07	4.18E-01 4.70E+01 1.70E+00	0.00E+00
CDF	All CET end states	N/A	1.20E-05	2.99E+01 3.30E+01	1.20E-05	2.99E+01 3.30E+01	1.44E-04

1) Only release Classes 1 and 3b are affected by the corrosion analysis.

2) Characterized as 1La release magnitude consistent with the derivation of the ILRT non-detection failure probability for ILRTs. Release classes 3a and 3b include failures of containment to meet the Technical Specification leak rate.

(Note: Table 5-7 appeared on pages 35 and 36 of the original LAR Attachment 4)