NEXTera ENERGY SEABROOK

April 16, 2012

SBK-L- 12076
Docket No. 50-443

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

Seabrook Station
Confirmation of Information provided to NRC Staff Regarding
Seabrook Station License Renewal Application

References:

1. NextEra Energy Seabrook, LLC letter SBK-L-10077, "Seabrook Station Application for Renewed Operating License," May 25, 2010. (Accession Number ML101590099)
2. Summary Of Telephone Conference Call Held On May 5, 2011, Between The U.S. Nuclear Regulatory Commission And NextEra Energy Seabrook, LLC, Concerning Clarification Of Information Pertaining To The Seabrook Station License Renewal Application (Tac No. ME4028) (Accession Number ML11280A045)
3. Summary Of Telephone Conference Call Held On November 22, 2011, Between The U.S. Nuclear Regulatory Commission And Nextera Energy Seabrook, LLC, Concerning The Response To The Request For Additional Information Pertaining To The Seabrook Station, License Renewal Application (TAC No. ME4028). (Accession Number ML11327A072)
4. NextEra Energy Seabrook, LLC letter SBK-L-11069, "Seabrook Station Response to Request for Additional Information, NextEra Energy Seabrook License Renewal Application – Set 12 April 22, 2011. (Accession Number ML1115A116)
5. NextEra Energy Seabrook, LLC letter SBK-L-11240, Seabrook Station Additional Information NextEra Energy Seabrook License Renewal Application Aging Management Programs December 15, 2011 (Accession Number ML11354A235)

In Reference 1, NextEra Energy Seabrook, LLC (NextEra) submitted an application for a renewed facility operating license for Seabrook Station Unit 1 in accordance with the Code of Federal Regulations, Title 10, Parts 50, 51, and 54.

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In References 2 and 3, the NRC requested clarification of information provided in the LRA in order to complete the review of NextEra's License Renewal Application (LRA). In References 4 and 5, NextEra provided responses to RAIs related to the License Renewal Application.

During the staff review of the responses it was determined that the information supplied by NextEra in the teleconference of May 5, 2011 (Reference 3) is required to be submitted under oath and affirmation as it will be relied upon by the staff for a determination in the Safety Evaluation Report. Enclosure 1 contains NextEra's response to the previous staff information request made in the May 5, 2011 teleconference, as modified by information provided to the staff related to action limits associated with the personnel airlock and equipment hatch (Reference 5).

There are no new or revised regulatory commitments contained in this letter.

If there are any questions or additional information is needed, please contact Mr. Richard R. Cliche, License Renewal Project Manager, at (603) 773-7003.

If you have any questions regarding this correspondence, please contact Mr. Michael O'Keefe, Licensing Manager, at (603) 773-7745.

Sincerely,

NextEra Energy Seabrook, LLC.

Paul O. Freeman
Site Vice President

Enclosure:

Enclosure 1- Response to NRC Staff - Draft Requests for Additional Information Seabrook Station License Renewal Application

cc:

W.M. Dean,	NRC Region I Administrator
J. G. Lamb,	NRC Project Manager, Project Directorate I-2
W. J. Raymond,	NRC Resident Inspector
A.D. Cunanan,	NRC Project Manager, License Renewal
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NEXTera™ ENERGY SEABROOK

I, Paul O. Freeman, Site Vice President of NextEra Energy Seabrook, LLC hereby affirm that the information and statements contained within are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.

Sworn and Subscribed

Before me this

16th day of April, 2012

Paul O. Freeman
Site Vice President

Shirley Sweeney
Notary Public

SHIRLEY SWEENEY
MY COMMISSION EXPIRES
NOV 18 2014
NOTARY PUBLIC
NEW HAMPSHIRE

Enclosure 1 to SBK-L-12076

Confirmation of Information provided to NRC Staff regarding Seabrook Station License Renewal Application

Request 1

LRA Section 4.6.1

In LRA Section 4.6.1, NextEra Energy Seabrook stated the following:

> The Seabrook Station analyses confirmed the 40-year anticipated stress cycles listed below would satisfy the exemption criteria of NE 3221.5(d).
>
> - Atmospheric-to-service pressure cycles (120 cycles)
> - Temperature difference from Startup to Shutdown (120 cycles)
> - Operating Basis Earthquake (500 cycles)
> - LOCA (10 cycles)

However, in the UFSAR Section 3.8.1.3, NextEra Energy Seabrook states the following:

> Cyclic Loading
>
> The various cycles loads were considered in the design. The following design conditions were considered in the fatigue analysis:
>
> 120 cycles start and shutdown
> 500 OBE cycles
> 100 SSE cycles
> 1 accident cycle (LOCA)

The staff asked for the following clarification:

a. What is the difference between the startup and shutdown cycles presented in the LRA and in the UFSAR?

NextEra Energy Seabrook Response:

The 120 cycles for plant startups and shutdowns is cited in the UFSAR Section 3.8.1.3 and was used to determine both the thermal and the pressure cycles of 120 used for the analysis of the containment liner. The pressure cycles referenced in LRA Section 4.6.1 are derived from the thermal cycles resulting from plant startups and shutdowns (also 120 cycles both in the LRA and in the UFSAR). In response to a subsequent question from the Staff NextEra revised LRA Table 4.3.1-2 to independently monitor the startup and shutdown cycles specified in the analysis of the Containment Liner, personnel hatch and equipment hatch.

b. Why did NextEra use 10 accident cycles (LOCA) in the TLAA?

NextEra Energy Seabrook Response:

Ten (10) accident cycles is used in the TLAA for conservatism. As stated in UFSAR Section 3.9(N).1.1 and LRA Table 4.3.1-2 the Seabrook Station design basis load is 1 cycle (LOCA).

Request 2

LRA Section 4.6.2

In LRA Section 4.6.2, NextEra Energy Seabrook stated that, "The design of the containment penetrations did not involve cyclic evaluations and therefore are not considered TLAAs."

For the piping and electrical penetrations the staff reviewed UFSAR 3.8.2.4 titled "Design and Analysis Procedures," parts (d), (e), and (f) titled "High Energy Piping Penetrations," "Moderate Energy Piping Penetrations," and "Electrical Penetrations." The staff asked for clarification regarding no TLAAs for penetrations. Additionally, the staff asked for clarification on whether the mechanical piping that goes through the penetration are TLAAs.

NextEra Energy Seabrook Response:

United Engineers and Constructors, the Architect-Engineer for Seabrook Station, did not perform cyclic analyses for the containment penetrations. However, the mechanical piping that goes through the penetrations was analyzed in a simplified manner in the design process. When the non-Class 1 Seabrook Station piping was designed, the overall number of thermal and pressure cycles expected during the 40-year lifetime of these components was determined. The total number of cycles expected during 40 years was compared to cycle ranges specified in ASME Section III Class 2 and 3 design codes for consideration of allowable stress reduction. If the total number of cycles exceeded 7,000 cycles, a stress range reduction factor was applied to the allowable stress range for secondary stresses (expansion and displacement) to account for thermal cycling. This method is considered to be an implicit fatigue analysis because it is based upon a total number of cycles projected to occur in 40 years, but no explicit Cumulative Usage Factor (CUF) was computed. These TLAAs are addressed in LRA Section 4.3.7. Based on a previous staff question NextEra Energy Seabrook provided a revised LRA section 4.3.7 in response to RAI 4.3.7-1b dated April 22, 2011 (Reference 4).