



June 10, 2011

SBK-L-11125

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
Supplement to Response to Request for Additional Information - April 18, 2011
NextEra Energy Seabrook 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. NRC Letter "Schedule Revision and Request for Additional Information for the Review of the Seabrook Station License Renewal Application Environmental Review (TAC Number ME3959) March 4, 2011. (Accession Number ML110590638)
3. NextEra Energy Seabrook, LLC letter SBK-L-11067, "Seabrook Station Response to Request for Additional Information, NextEra Energy Seabrook License Renewal Application," April 18, 2011. (Accession Number ML1122A075)

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.

In Reference 2, the NRC requested additional information in order to complete its review of the License Renewal Application. In Reference 3, NextEra submitted its responses to the staff's RAIs. In a discussion with the Staff, NextEra Energy Seabrook was requested to supplement the previous response for clarity. The requested information is enclosed.

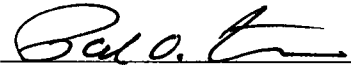
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The License Renewal Application, Appendix E, page F-6 contains a list of acronyms used in these responses. If there are any questions or additional information is needed, please contact Mr. Richard R. Cliche, License Renewal Project Manager, at (603) 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

cc:

W.M. Dean,	NRC Region I Administrator
G. E. Miller,	NRC Project Manager, Project Directorate I-2
W. J. Raymond,	NRC Resident Inspector
R. A. Plasse Jr.,	NRC Project Manager, License Renewal
M. Wentzel,	NRC Project Manager, License Renewal

Mr. Christopher M. Pope
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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

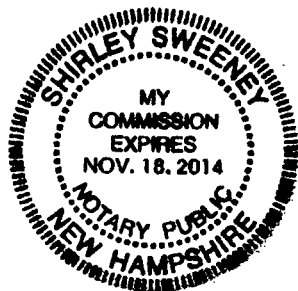
10 day of June, 2011

A handwritten signature in cursive script, appearing to read "Paul O. Freeman".

Paul O. Freeman
Site Vice President

A handwritten signature in cursive script, appearing to read "Shirley Sweeney".

Notary Public



Enclosure to SBK-L-11125

NextEra Energy Seabrook

Supplement to Response to Request for Additional Information - April 18, 2011

Regarding

Severe Accident Mitigation Alternatives Analysis

NextEra Energy Supplement to Response to RAI - April 18, 2011

In a discussion with the Staff regarding the cost estimates for SAMA Cases 25, 26, and 39 provided in NextEra Energy Seabrook response dated April 18, 2011 (Reference 3), it was determined that the evaluation section for these three SAMA Cases in Table X-2 – SAMA Sensitivity Evaluation Using Seismic Risk Multiplier of 2.1 supported an increase in the cost estimates provided in the table. The previous sensitivity evaluation for each SAMA case in Table X-2 provided a determination that the cost estimate was based on a conservative (low) estimate. Enclosed is a revised Table X-2 for SAMA cases 25, 26 and 39 which reflects a revised cost estimate for these SAMAs. The revised cost estimates for these SAMAs are still within the range of previously provided industry cost estimates.

The changes to the previous SAMA Cases are shown in the following Table with the change highlighted by strikethroughs for deleted text and bolded italics for inserted text.

Table X-2 Seabrook Station Sensitivity Evaluation using Seismic Risk Multiplier of 2.1

(SAMA Candidates are from Seabrook ER Table F.8-1)

Seabrook SAMA Number	Potential Improvement	Discussion	PRA Case	Nominal Benefit at 2.1x	Upper Bound Benefit at 2.1x	Cost Estimate	Evaluation
25	Install an independent active or passive high pressure injection system	Improved prevention of core melt sequences	LOCA02	\$978K	\$1.9M	>\$5M >\$2M	<p>Not cost beneficial. PRA case LOCA02 conservatively assumes guaranteed success of all high head and intermediate head injection pumps (charging and SI pumps.) Therefore, the benefit of installing a single, independent, backup injection system is judged conservatively high. Installation of an independent, active or passive injection system is judged not practical and cost is expected to significantly exceed the conservative benefit. Given the seismic ruggedness of the existing injection system(s), any new/additional system would need to be equally rugged to significantly reduce plant risk. Including seismic ruggedness in the design would further increase cost.</p> <p>This improvement was previously estimated at greater than \$2 million dollars in the Pilgrim License Renewal application. In the Duane Arnold License Renewal application, the Pilgrim estimate was judged to be low and used a \$20 million estimate based on similar modification experience. <i>Given these industry estimates and based on the Seabrook plant design, the cost for SAMA implementation would be expected to be in the range of \$5M to \$10M or more. These Both estimates significantly exceed the upper bound sensitivity benefit of \$1.9M, and a no more refined estimate is not warranted.</i></p>
26	Provide an additional high pressure injection pump with independent diesel	Reduced frequency of core melt from small LOCA and SBO sequences	LOCA02	\$978K	\$1.9M	>\$5M >\$2M	<p>Not cost beneficial. PRA case LOCA02 conservatively assumes guaranteed success of all high head and intermediate head injection pumps (charging and SI pumps.) Therefore, the benefit of installing a single, independent, backup injection system is conservatively high. Installation of an additional injection system is judged not practical and cost is expected to significantly exceed the conservative benefit. Given the seismic ruggedness of the existing injection system, any new/additional system would need to be equally rugged to significantly reduce plant risk. Including seismic ruggedness in the design would further increase cost.</p> <p>This modification was assumed to be the equivalent of adding one new high pressure injection pump powered by a diesel rather than an electric motor with a suitable injection path and suction source. In the Duane Arnold License Renewal application, the cost of this was one half the cost of replacing pumps discussed in SAMA 25 above, the cost would be \$10 million. <i>Given the industry estimate and based on the Seabrook plant design, the cost for SAMA implementation would be expected to be in the range of \$5M to \$10M. These This estimates significantly far exceeds the upper bound sensitivity benefit of \$1.9M and a no more refined cost estimate is not warranted.</i></p>
39	Replace two of the four electric safety injection pumps with diesel-powered pumps	Reduced common cause failure of the safety injection system. The intent of this SAMA is to provide diversity within the high- and low-pressure safety injections systems	LOCA02	\$978K	\$1.9M	>\$5M >\$2M	<p>Not cost beneficial. PRA case LOCA02 conservatively assumes guaranteed success of all high head and intermediate head injection pumps (charging and SI pumps.) Therefore, the benefit of replacing two electric motor pumps with diesel-driven pumps is conservatively high. Installation of diesel-driven pumps in place of the existing motor-driven pumps is judged not practical and cost is expected to significantly exceed the conservative benefit. Given the seismic ruggedness of the existing injection system, any new/additional equipment would need to be equally rugged so as to not impact the current seismic design basis. Including seismic ruggedness in the design would further increase cost.</p> <p>Changes to how safety related pumps are powered would require substantial changes to the foot print of the system and re-analysis of safety related piping in addition to the procurement and installation of the diesel power device. Due to complexity of this modification, the Duane Arnold License Renewal application estimates the cost to be similar in nature to replacement of pumps mentioned in SAMA 25 above (\$20 million). <i>Given these industry estimates and based on the Seabrook plant design, the cost for SAMA implementation would be expected to be in the range of \$5M to \$10M. As this cost range value substantially exceeds the upper bound sensitivity benefit of \$1.9M, a no more refined estimate is not warranted.</i></p>