



December 13, 2012

SBK-L-12257
Docket No. 50-443

Mr. William Dean, Administrator
U.S. Nuclear Regulatory Commission
Region I
2100 Renaissance Boulevard
Renaissance Park
King of Prussia, PA 19406

Seabrook Station
Response to Confirmatory Action Letter

References:

1. NRC letter to NextEra Energy Seabrook, CAL No. 1-2012-002, Confirmatory Action Letter (CAL), Seabrook Station, Unit 1 – Information Related to Concrete Degradation Issues, dated May 16, 2012. (ML121254172)
2. NextEra Energy Seabrook Letter to NRC, SBK-L-12122, Response to Confirmatory Action Letter, dated June 8, 2012. (ML12171A277)

In Reference 1, the NRC-issued Confirmatory Action Letter (CAL) No. 1-2012-002 which confirmed commitments NextEra Energy Seabrook, LLC (NextEra Energy Seabrook) made regarding planned actions to address alkali silica reaction (ASR) in certain structures at Seabrook Station, and required NextEra Energy Seabrook to notify the NRC Region 1 Administrator if, for any reason, NextEra Energy Seabrook cannot complete any of the actions or commitments within the specified schedule and to advise the Administrator in writing of the modified schedule. In Reference 2, NextEra Energy Seabrook submitted its integrated corrective action plan which provided details related to some of the CAL required actions associated with the implications of ASR on structures at Seabrook Station. NextEra Energy Seabrook has completed nine of the eleven CAL actions within the committed dates.

The purpose of this letter is to notify the Administrator of revisions to two of the remaining commitments, actions 7 and 11, related to planned actions in Reference 2. These revisions are based on additional information discovered as part of NextEra Energy Seabrook's ongoing actions to assess the impact of ASR on structures at Seabrook Station. These changes and the basis for the changes have been discussed with the NRC Working Group on ASR during NRC inspection activities.

CAL action 7 states that NextEra will, "Complete long term aggregate expansion testing (ASTM C 1293 Concrete Prism Test) by June 30, 2013." This action along with CAL action 6 was intended to evaluate the potential for additional ASR expansions to occur in plant structures that exhibit ASR and to determine if the ASR reaction is self limiting at some future date. Action 6 stated; "Complete short term aggregate expansion testing (ASTM C 1260 Mortar Bar Expansion Test) by June 30, 2012." This action has been completed and the test results and conclusions have been discussed with and reviewed by NRC staff. The Mortar Bar Expansion testing conducted by Simpson, Gumpertz & Heger (SG&H) for NextEra Energy Seabrook exceeded the expansion limits specified in the ASTM C 1260 test method. The testing was conducted with coarse aggregates removed from onsite plant structures that exhibited ASR expansion (i.e., reacted aggregates) as well as similar coarse aggregates which did not have features of ASR expansion (previously un-reacted aggregates). The test was extended several months beyond the specified 14-day test period in order to gain additional insight into the future reaction and expansion potential of the aggregates. The results of these tests showed that there was minimal difference in the expansion rate of the reacted and un-reacted aggregate samples and that the aggregates remained reactive even when the test was extended several months. From this test data, NextEra Energy Seabrook and our independent engineering consultants (SG&H) concluded that the coarse aggregates contain sufficient reactive silica for the ASR reaction and expansion to continue long-term under existing environmental conditions. Since the ASTM C 1260 Mortar Bar Expansion test results demonstrated that the ASR reaction would continue long-term without reaching a plateau or exhaustion of reactive silica, the results of the ASTM C 1293 Concrete Prism test, required by action 7, would not provide any useful expansion rate data or additional insights. Additionally, NextEra Energy Seabrook will complete the second, 6-month inspection campaign of Combined Crack Index (CCI) monitoring in December 2012. The first campaign evaluated the CCI after six months and demonstrated that the reaction rate is slow and there has been negligible change in expansion. The additional planned CCI monitoring will provide a direct indication of any progression of ASR that the ASTM test method cannot provide. Thus, NextEra Energy Seabrook requests that the commitment to perform the ASTM C 1293 Concrete Prism test be deleted.

CAL action 11 states that NextEra Energy Seabrook will, "Complete anchor test program by December 31, 2012." The concrete anchor testing program is currently in progress at the Ferguson Structural Engineering Laboratory (FSEL) at the University of Texas at Austin. The concrete test beams for the anchor testing have been fabricated and are undergoing accelerated ASR aging. To be consistent with the approach taken with CAL action 8, NextEra Energy Seabrook is requesting that the commitment be changed to read, "Submit technical details of the anchor test program planned at the contracted research and development facility by February 28, 2013."

If you have any questions of a technical nature, please contact Mr. Richard Noble, ASR Project Manager at (603) 773-7308.

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Should you have any questions regarding this letter, please contact Mr. Michael O'Keefe,
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Sincerely,

NextEra Energy Seabrook, LLC



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cc:

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