UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

November 14, 2016

Mr. Eric McCartney
Site Vice President
NextEra Energy Seabrook, LLC
P.O. Box 300, Lafayette Road
Seabrook, NH 03874

SUBJECT: REQUESTS FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE SEABROOK STATION LICENSE RENEWAL APPLICATION (CAC NO. ME4028)

Dear Mr. McCartney:

By letter dated May 25, 2010, NextEra Energy Seabrook, LLC submitted an application pursuant to 10 CFR Part 54, to renew the operating license NPF-86 for Seabrook Station, for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). The staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review.

These requests for additional information were discussed with Edward Carley, and a mutually agreeable date for the response is within 15 days from the date of this letter. If you have any questions, please contact me at (301) 415-3617 or e-mail Tam.Tran@nrc.gov.

Sincerely,

/RA/

Tam Tran, Project Manager
License Renewal Branch RPB1
Division of License Renewal
Office of Nuclear Reactor Regulation

50-443

Enclosure:
Requests for Additional Information

cc w/encl: See next page

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Requests for Additional Information

cc w/encl: Listserv

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SEABROOK STATION
LICENSE RENEWAL APPLICATION (LRA)
REQUESTS FOR ADDITIONAL INFORMATION (RAI)

RAI A.2.1.22-1

Background:
As amended by letter dated October 7, 2016, License Renewal Application (LRA) Section A.2.1.22, "Buried Piping and Tanks Inspection," (Updated Final Safety Analysis Report (UFSAR) summary description for the Buried Piping and Tanks Inspection program) was revised in response to the issuance of LR-ISG-2015-01, "Changes to Buried and Underground Piping and Tank Recommendations." The UFSAR summary description issued in LR-ISG-2015-01 includes the following recommendations:

- The number of inspections is based on the effectiveness of the preventive and mitigative actions.
- Annual cathodic protection surveys are conducted.
- For steel components, where the acceptance criteria for the effectiveness of the cathodic protection is other than -850 mV instant off, loss of material rates are measured.
- Inspections are conducted by qualified individuals.
- Where the coatings, backfill or the condition of exposed piping does not meet acceptance criteria such that the depth or extent of degradation of the base metal could have resulted in a loss of pressure boundary function when the loss of material rate is extrapolated to the end of the period of extended operation, an increase in the sample size is conducted.
- If a reduction in the number of inspections recommended in GALL Report, AMP XI.M41, Table XI.M41-2 is claimed based on a lack of soil corrosivity as determined by soil testing, then soil testing is conducted once in each 10-year period starting 10 years prior to the period of extended operation.

Issue:
The staff noted that aspects of the UFSAR summary description issued in LR-ISG-2015-01 (bulletized above) were not included in the revised LRA Section A.2.1.22. It is unclear to the staff why these aspects of the UFSAR summary description issued in LR-ISG-2015-01 were not included in the revised LRA Section A.2.1.22.

Request:
State the basis for not including aspects of the UFSAR Summary Description issued in LR-ISG-2015-01 (bulletized above) in the revised LRA Section A.2.1.22.

RAI B.2.1.22-1

Background:
The following Request for Additional Information (RAI) addresses three staff identified inconsistencies within the LRA, warranting clarification.

(1) GALL Report AMP XI.M41, Table XI.M41-2, as modified by LR-ISG-2015-01, states that in order to demonstrate that the soil is not corrosive, the applicant must obtain a minimum of ***three*** sets of soil samples in each soil environment in the vicinity in which in-scope components are buried.

As amended by letter dated October 7, 2016, the "detection of aging effects" program element of LRA Section B.2.1.22 states that soil samples will be taken at a minimum of ***two*** locations in the vicinity of in-scope, non-cathodically protected steel piping to obtain representative soil conditions for each system.

As amended by letter dated October 7, 2016, LRA Section B.2.1.22, Table 3, states that Seabrook will obtain a minimum of ***three*** sets of soil samples in each soil environment in the vicinity in which in-scope components are buried.

(2) As amended by letter dated October 7, 2016, the "parameters monitored or inspected" program element of LRA Section B.2.1.22 states that steel will be inspected for loss of material and cracking due to stress corrosion cracking.

As amended by letter dated October 7, 2016, the "detection of aging effects" program element of LRA Section B.2.1.22 states that metallic piping is inspected for loss of material due to all forms of corrosion and, for stainless steel, cracking due to stress corrosion cracking.

GALL Report AMP XI.M41, as modified by LR-ISG-2015-01, states that inspections for cracking due to stress corrosion cracking for steel utilize a method that has been demonstrated to be capable of detecting cracking.

(3) LRA Section A.2.1.22 states that the Buried Piping and Tanks Inspection program manages loss of material from the external surfaces of buried, underground, and inaccessible submerged steel, stainless steel, copper alloy >15% zinc, and polymer piping and components. In addition LRA Section B.2.1.22, Table 2, lists copper alloy >15% zinc.

The LRA Section B.2.1.22, "scope of program" program element states that the program is required to support the aging management activities for buried steel, stainless steel, polymeric piping, and inaccessible submerged steel piping. In addition, the LRA Section B.2.1.22 "monitoring and trending" program element states that results of previous inspections will be evaluated, and used to assess the condition of the external surfaces of other buried or underground steel, stainless steel and polymer components. Furthermore, the LRA Section B.2.1.22 "detection of aging effects" program element states pipe to soil potential and the cathodic protection current are monitored for steel piping.

Issue:

(1) It is unclear to the staff, due to conflicting wording in the LRA, if two or three sets of soil samples will be obtained in each soil environment in the vicinity in which in-scope components are buried.

(2) It is unclear to the staff, due to conflicting wording in the LRA, if steel components will be managed for loss of material and cracking, or loss of material.

(3) It is unclear to the staff if copper alloy >15% zinc is included within the scope of the Buried Piping and Tanks Inspection program due to conflicting wording in the LRA.

Request:
(1) Reconcile the apparent discrepancy between the quantities of soil samples that will be obtained in each soil environment in the vicinity in which in-scope components are buried. If two sets of soil samples in each soil environment in the vicinity in which in scope components are buried will be obtained, justify the adequacy of two sets of soil samples in lieu of three sets as recommended in GALL Report AMP XI.M41, Table XI.M41-2, as modified by LR-ISG-2015-01.

(2) State if steel components will be managed for loss of material and cracking, or loss of material, and revise the LRA as appropriate. If steel components will only be managed for loss of material, justify why cracking will not be managed as recommended in GALL Report AMP XI.M41, as modified by LR-ISG-2015-01.

(3) State if copper alloy >15% zinc is included within the scope of the Buried Piping and Tanks Inspection program and revise the LRA as appropriate.

RAI B.2.1.22-2

Background:
As amended by letter dated October 7, 2016, the "acceptance criteria" program element of LRA Section B.2.1.22 states that cracking or blistering of polymer piping and unexplained changes in jockey pump activity are evaluated under the corrective action program.

GALL Report AMP XI.M41, as modified by LR-ISG-2015-01, states that acceptance criteria associated with this AMP are cracking is absent in rigid polymeric components and changes in jockey pump activity that cannot be attributed to leakage are not occurring.

Issue:
It is unclear to the staff why cracking of polymer piping and unexplained changes in jockey pump activity are evaluated under the corrective action program in lieu of being not acceptable.

Request:
State the basis for why cracking of polymer piping and unexplained changes in jockey pump activity are evaluated under the corrective action program in lieu of being not acceptable as recommended in GALL Report AMP XI.M41, as modified by LR-ISG-2015-01.

RAI B.2.1.22-3

Background:
GALL Report AMP XI.M41, as modified by LR-ISG-2015-01, states that Inspection Category D may be used for those portions of in-scope buried piping where it has been demonstrated, in accordance with the "preventive actions" program element of this Aging Management Program (AMP), that external corrosion control is not required.

As amended by letter dated October 7, 2016, the "detection of aging effects" program element of LRA Section B.2.1.22 cites inspection Category D.

Issue:
While the submittal describes soil conditions, it is unclear to the staff how inspection Category D is applicable given that other key parameters are not described (e.g., pipe to soil potential

measurements) to demonstrate external corrosion control is not required for those portions of in-scope buried piping claiming to meet inspection Category D.

Request:
State the basis for how inspection Category D is applicable for those portions of in-scope buried piping where the applicant claims that external corrosion control is not required.

RAI B.2.1.22-4

Background:
GALL Report AMP XI.M41, as modified by LR-ISG-2015-01, states that when electrical resistance corrosion rate probes will be used, the application identifies:

(1) The qualifications of the individuals that will determine the installation locations of the probes and the methods of use (e.g., NACE CP4, “Cathodic Protection Specialist”).

(2) How the impact of significant site features (e.g., large cathodic protection current collectors, shielding due to large objects located in the vicinity of the protected piping), and local soil conditions will be factored into placement of the probes and use of probe data.

As amended by letter dated October 7, 2016, the “acceptance criteria” program element of LRA Section B.2.1.22 states that soil corrosivity is determined by soil analysis and that if the calculated corrosion index value is greater than 10 points (i.e., corrosive soil) the number of inspection locations for non-cathodically protected steel piping is increased.

Issue:
The staff noted that the submittal did identify how local soil conditions will be factored into placement of the probes and use of probe data; however it did not address:

(1) The qualifications of the individuals that will determine the installation locations of the probes and the methods of use.

(2) How the impact of significant site features will be factored into the placement of the probes and use of probe data.

Request:
Provide additional information to address the two issues noted above regarding the use of electrical resistance corrosion rate probes.

SUBJECT: REQUESTS FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE SEABROOK STATION, LICENSE RENEWAL APPLICATION

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