Enclosure 3 to this Letter Contains Proprietary Information
Withhold Enclosure 3 from Public Disclosure in Accordance with 10 CFR 2.390

NEXTera® ENERGY SEABROOK

June 20, 2017

10 CFR 54
Docket No. 50-443
SBK-L-17102

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

Seabrook Station

Clarification to Supplement 53 - Response to Request for Additional Information for the Review of the Seabrook Station License Renewal Application – LR-ISG-2016-01 – Changes to Aging Management Guidance for Various Steam Generator Components

References:

1. NextEra Energy Seabrook LLC, letter SBK-L-10077, "Seabrook Station Application for Renewed Operating License," May 25, 2010 (Accession Number ML101590099).

2. License Renewal Interim Staff Guidance, LR-ISG-2016-01 "Changes to Aging Management Guidance for Various Steam Generator Components," November 30, 2016 (Accession Number ML16237A383)

3. NRC, "Request for Additional Information for the Review of the Seabrook Station License Renewal Application (CAC NO. ME4028), RAI B.2.1.10-3 – LR-ISG-2016-01, Changes to Aging Management Guidance for Various Steam Generator Components," March 16, 2017 (Accession Number ML17066A488).

4. NextEra Energy Seabrook LLC, letter SBK-L-17087, "Supplement 53 - Response to Request for Additional Information for the Review of the Seabrook Station License Renewal Application – LR-ISG-2016-01 – Changes to Aging Management Guidance for Various Steam Generator Components," May 25, 2017.

In Reference 1, NextEra Energy Seabrook, LLC (NextEra Energy Seabrook) 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 issued License Renewal Interim Staff Guidance, LR-ISG-2016-01 – Changes to Aging Management Guidance for Various Steam Generator Components.

In Reference 3, the NRC requested additional information related to the issuance of LR-ISG-2016-01 – Changes to Aging Management Guidance for Various Steam Generator Components.

In Reference 4, NextEra Energy Seabrook submitted letter SBK-L-17087 and provided additional information requested in Reference 3. Based on conversation with the staff, supporting documentation related to the steam generator divider plate bounding analysis was requested, and is enclosed with this letter.

Enclosure 1 provides NextEra Energy Seabrook's revision of tables 3.1.1 and 3.1.2-4 of Chapter 3 - Aging Management Review Results, within the License Renewal Application (LRA).

Enclosure 2 provides the Westinghouse Electric Company non-proprietary bounding analysis evaluation for NextEra Energy Seabrook's steam generator divider plate assemblies.

Enclosure 3 provides the Westinghouse Electric Company proprietary bounding analysis evaluation for NextEra Energy Seabrook's steam generator divider plate assemblies.

This letter is supported by an affidavit signed by Westinghouse Electric Company (Enclosure 4), setting forth the basis on which the information in Enclosure 3 may be withheld from public disclosure by the Commission and addressing the considerations listed in 10 CFR 2.390(b)(4). Accordingly, it is respectfully requested that the information which is proprietary be withheld from public disclosure in accordance with 10 CFR 2.390.

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. Edward J. Carley, Engineering Supervisor - License Renewal, at (603) 773-7957.

If you have any questions regarding this correspondence, 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 June 20 , 2017.

Sincerely,

NextEra Energy Seabrook, LLC

Eric McCartney
Regional Vice President – Northern Region

Enclosure 1: Changes to License Renewal Application Chapter 3 - Aging Management Review Results Tables

Enclosure 2: Westinghouse Electric Company - License Renewal Bounding Analysis Evaluation for the Seabrook Station Steam Generator Divider Plate Assemblies (Non-Proprietary)

Enclosure 3: Westinghouse Electric Company - License Renewal Bounding Analysis Evaluation for the Seabrook Station Steam Generator Divider Plate Assemblies (Proprietary)

Enclosure 4: Westinghouse Electric Company - Application for Withholding Proprietary Information from the Public Disclosure

cc:

D. H. Dorman	NRC Region I Administrator
J. C. Poole	NRC Project Manager
P. C. Cataldo	NRC Senior Resident Inspector
L. M. James	NRC Project Manager, License Renewal

Mr. Perry Plummer
Director Homeland Security and Emergency Management
New Hampshire Department of Safety
Division of Homeland Security and Emergency Management
Bureau of Emergency Management
33 Hazen Drive
Concord, NH 03305
perry.plummer@dos.nh.gov

Mr. John Giarrusso, Jr., Nuclear Preparedness Manager
The Commonwealth of Massachusetts
Emergency Management Agency
400 Worcester Road
Framingham, MA 01702-5399
John.Giarrusso@massmail.state.ma.us

Enclosure 1 to SBK-L-17102

Changes to License Renewal Application Chapter 3 - Aging Management Review Results Tables

In addition to changes identified in SBK-L-17087 (Reference 4), the following additions are provided to reflect changes with the issuance of LR-ISG-2016-01.

Aging management associated with License Renewal Application (LRA) Table 3.1.1 Summary of Aging Management Evaluations for the Reactor Vessel, Internals, and Reactor Coolant System, and Table 3.1.2-4, Steam Generator Summary of Aging Management Evaluation, have been revised to include GALL Rev. 2 Item IV.D1.R-436a. Table 3.1.1 and Table 3.1.2-4 changes are provided below.

Table 3.1.1

Summary of Aging Management Evaluations for the Reactor Vessel, Internals, and Reactor Coolant System

Item Number	Component	Aging Effect/Mechanism	Aging Management Programs	Further Evaluation Recommended	Discussion
3.1.1-88	Steel (with stainless steel or nickel alloy cladding) steam generator heads and tubesheets exposed to reactor coolant	Loss of material due to boric acid corrosion	Water Chemistry and Steam Generator Tube Integrity	No	Added from LR-ISG-2016-01 - "Changes to Aging Management Guidance for Various Steam Generator Components." Addresses loss of material due to boric acid corrosion on steam generator heads and tubesheets.

Table 3.1.2-4

STEAM GENERATOR

Summary of Aging Management Evaluation

Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Program	NUREG 1801 Vol. 2 Item	Table 3.X.1 Item	Note
Steam Generator Channel Heads and Tubesheets	Pressure Boundary	Steel (with stainless steel or nickel alloy cladding)	Reactor Coolant (External)	Loss of Material due to boric acid corrosion	Water Chemistry Program and Steam Generator Tube Integrity Program	IV.D1.R-436a	3.1.1-88	A

Enclosure 2 to SBK-L-17102

Westinghouse Electric Company - License Renewal Bounding Analysis Evaluation for the Seabrook Station Steam Generator Divider Plate Assemblies

(Non-Proprietary)

Westinghouse Electric Company

License Renewal Bounding Analysis Evaluation for the Seabrook Station Steam Generator Divider Plate Assemblies

May 23, 2017

Author:
Electronically Approved*
Gary W. Whiteman
Product and Plant Licensing

Verifier:
Electronically Approved*
William R. LaMantia
Steam Generator Management Programs

Approved:
Electronically Approved*
David P. Lytle, Manager
Steam Generator Management Programs

Electronically approved records are authenticated in the Electronic Document Management System.

INTRODUCTION/BACKGROUND

NextEra Energy Seabrook, LLC is currently applying for a License Renewal. As a result of the License Renewal process, the United States Nuclear Regulatory Commission Staff (NRC) has requested additional information (RAI) (Reference 1). NextEra Energy Seabrook, LLC has contracted Westinghouse to assist them with one of the RAIs. The RAI in question is as follows:

> "Given the divider plate assemblies are made with Alloy 600 type material susceptible to primary water stress corrosion cracking, provide information to confirm that the industry analyses in Electric Power and Research Institute (EPRI) Report 3002002850 assessing the significance of divider plate cracking are applicable and bounding for the conditions at the applicant's unit. If not, identify a plant-specific program that will be used to manage cracking for the divide plate assemblies."

LR-ISG-2016-01 (Reference 2), describes changes to the aging management guidance for steam generator components in NUREG-1801 (GALL Report), Revision 2, and NUREG-1800 (SRP-LR), Revision 2, including guidance for managing cracking due to PWSCC in steam generator divider plate assemblies and tube-to-tubesheet welds. Specifically, it revises GALL Report aging management program (AMP) XI.M19, "Steam Generators," and SRP-LR Sections 3.1.2.2.11 and 3.1.3.2.11, "Cracking Due to Primary Water Stress Corrosion Cracking." The revised guidance reflects the Staff's acceptance of the technical conclusions resulting from the EPRI Steam Generator Management Program (SGMP) investigation into the initiation and propagation of cracking in the steam generator channel head components, as documented in several EPRI reports, principally including EPRI 3002002850 (Reference 3).

In parallel with the NRC Staff's finalization of LR-ISG-2016-01, EPRI prepared, and issued, Information Letter SGMP-IL-16-02, "Changes to Aging Management Guidance for Steam Generator Channel Head Components" (Reference 4). The purpose of SGMP-IL-16-02 is to inform the industry that the NRC LR-ISG-2016-01 accepts the conclusions of the SGMP investigation into the initiation and propagation of cracking in the steam generator channel head components. SGMP-IL-16-02 states that the EPRI 2014 Report and LR-ISG-2016-01 may be used as a basis for updating aging management programs for license renewal for plants with susceptible materials. Attachment 1 to SGMP-IL-16-02 is a checklist entitled "Guidance for Addressing Aging Management Plans for Steam Generator Channel Head Components" (EPRI Checklist) that reflects the bounding conditions considered in the EPRI 2014 Report (Reference 3) and other related EPRI technical reports, and which licensees can use to document that the EPRI 2014 report analysis bounds their plants' steam generators.

The EPRI Checklist states that if Alloy 600 or Alloy 600 variations were used in fabricating a plant's steam generator divider plate assemblies or weld materials, then the reviewer should use the checklist to verify that there is an adequate technical basis for concluding that the plant is bounded by the analyses performed in EPRI Technical Reports 3002002850, 1014982 (Reference 5), 1020988 (Reference 6). If all responses to the EPRI Checklist are "Yes" or other

appropriate technical justification is provided, then the plant is bounded by the above referenced EPRI technical reports and can appropriately rely on the aging management guidance in LR-ISG-2016-01.

The Seabrook Station steam generators have divider plate assemblies fabricated with [ ]^{a,c,e} materials. Therefore, the EPRI Checklist is used to show that the pertinent plant-specific attributes are bounded by the EPRI SGMP analyses.

EVALUATION

EPRI Checklist Evaluation of the Seabrook Station Divider Plate Assemblies:

1. Divider plate thickness is greater than or equal to 1.9 inches?

   Response:

   Yes. The Seabrook Station steam generators have a divider plate thickness that is greater than or equal to 1.9 inches. The thickness is [ ]^{a,c,e} (References 8 and 13).

2. Channel head wall thickness at the triple point location is greater than or equal to 5.20 inches?

   Response:

   The Seabrook Station steam generators have a channel head thickness at the triple point location that is comparable to the thickness used in the Reference 3 analysis. The channel head thickness varies from [ ]^{a,c,e} (Reference 9). As stated in Reference 5, the most limiting steam generator for the analysis of divider plate cracking is the Model 51 steam generator. The Model 51 steam generator is the limiting case because it has the thinnest as-designed divider plate section under minimum material conditions and the greatest vertical and radial displacements at the center line of the tubesheet under normal, accident and faulted conditions. Based on a review of Table 3-10 from Reference 5, the vertical displacement near the center line of the tubesheet for the Model 51 steam generator bounds the Model F steam generator. Based on a review of Figures 3-3 and 3-4 from Reference 5, the radial displacements of the channel head and tubesheet near the center line of the tubesheet for the Model D5/D3 steam generators (which are similar to the Model 51 steam generator) bound the Model F steam generator with a minimum triple point thickness of [ ]^{a,c,e}. Therefore, the Reference 5 crack propagation analysis remains bounding for the Seabrook Station SGs.

3. Tubesheet is greater than or equal to 21 inches thick?

Response:

Yes. The Seabrook Station steam generators have a tube sheet thickness that is greater than or equal to 21 inches thick. The thickness is [ ]^{a,c,e} (Reference 10).

4. The steam generator that was modeled included a stub runner. The stub runner is a feature important to divider plate alignment during manufacturing. The stub runner facilitates being able to adjust the divider plate position and still make the weld without creating excessive distortion of the divider plate. A stub runner plate 3 inches tall is typical and was used in the analysis. Other designs may or may not use a stub runner. Provide justification that the plant's steam generator design would be bounded by the analysis.

Response:

The Seabrook Station steam generators utilize a stub runner design. The stub runner is [ ]^{a,c,e} tall (References 8 and 9). Similar to the Reference 3 analysis results, a review of the stress contour plots included in Reference 16 for the Seabrook Station steam generators divider plate analysis, shows compressive stresses are calculated at the triple point location in the X and Z directions. Therefore, the Reference 3 analysis results apply to the Seabrook Station steam generators.

5. The bottom head is a carbon steel casting SA-216 WCC or material of similar chemical composition and mechanical properties. Material Specification SA-508 Grade 3, Class 1 (formerly SA-508 Class 3) forging is one material that has been evaluated as similar and the analysis is bound by the properties of the casting.

Response:

The Seabrook Station steam generator channel heads are fabricated from ([ ]^{a,c,e}) forgings (References 11 and 15). SA-533, Grade A, Class 1 material has the same Young's Modulus (26.4 E-6 psi) and Poisson's Ratio (0.3) as SA-508, Class 2 material (Table 3-2 from Reference 5). All types and classes specified in SA-533 are considered similar. Also, SA-508 Grade 2, Class 2 (formerly SA-508 Class 2a) and SA-508 Grade 3, Class 1 (formerly SA-508 Class 3) are considered similar.

Therefore, the use of SA-533, Grade B, Class 1 material, which is similar to SA-508 Grade 3, Class 1 forging, is also bounded by the properties of the carbon steel casting SA-216 WCC.

6. The upper vessel wall is SA-533 Type A Class 1 carbon steel or a material having similar properties. All Types and Classes specified in SA-533 are considered similar as the analysis is bound by the properties of the SA -533 Type A Class 1 material.

Response:

The Seabrook Station steam generator upper vessel walls are fabricated from [ ]^{a,c,e} low alloy plate (Reference 12).

7. The tubesheet is SA-508 Grade 2 Class 1 (formerly SA-508 Class 2) or a low alloy steel material having similar properties. SA-508 Grade 2, Class 2 (formerly SA-508 Class 2a) and SA-508 Grade 3, Class1 (formerly SA-508 Class 3) are considered similar as the analysis is bound by the properties of the SA-508 Grade 2 Class 1 (formerly SA-508 Class 2) material.

Response:

The Seabrook Station steam generator tubesheets are [ ]^{a,c,e} forgings (Reference 12).

8. The channel head is clad with stainless steel weld material having properties similar to Type 304 stainless steel.

Response:

Yes. All internal surfaces of the Seabrook Station steam generator channel heads are clad with austenitic stainless steel [ ]^{a,c,e} (Reference 11).

9. Both the stub runner and the divider plate are Alloy 600 plate materials and the welds are nickel-based Inconel ERNiCr-3 or ENiCrFe-3 (commonly referred to as FM82 or FM182, respectively).

Response:

The Seabrook Station steam generator channel heads are partitioned into inlet and outlet chambers by a permanent [ ]^{a,c,e} (Reference 11).

The Seabrook Station steam generators stub runner and divider plate welds are [ ]^{a,c,e} material (References 11 and 13).

10. The design and transient loads used in the report bound the similar loads in the plant SG.

Response:

A comparison of the Seabrook Station steam generators against the parameters/transients used as the basis for the EPRI report (Reference 5) must look at both the operating conditions for the plant and those transients that are relevant to the Seabrook Station SG design basis to determine if the EPRI report applies.

Stress levels in the primary chamber of the Seabrook Station Model F SGs result primarily due to pressure differences across the component surfaces. Thermal considerations play a much smaller role in defining the primary side stress levels, and in the case of the divider plate, induce a bending stress in the divider plate due to the approximate 70°F temperature difference between the SG inlet and outlet temperature (69.1°F for the EPRI report and [ ]^{a,c,e} for Seabrook, Reference 14, at 100% power) and a compressive stress in the divider plate resulting from the differential thermal growth between the divider plate [ ]^{a,c,e} material and the SG carbon steel primary chamber (enveloped in the EPRI analysis for Models 51, F and 44F steam generators). The thermal transients between plants will differ due to power levels and SG design, however, the temperature difference across the divider plate would not differ significantly and would, therefore, not be significant. Since the EPRI report uses a higher temperature difference across the divider plate, the Seabrook analysis would be enveloped for these conditions.

Primary side (RCL) pressure at 100% power for all Westinghouse plants is 2,250 psia. Differences in design parameters affecting the qualification of the divider plate are due to the pressure differential across the tubesheet. The EPRI report, Table 3-12 of Reference 5, considered a Design, Upset and Faulted pressure differential of 1,515 psi, 1,836 psi, and 2,650 psi, respectively. Review of the pressure differentials for the Seabrook Station SG transients show that the pressure differentials in the EPRI Report envelope those for the Seabrook plant. The Design, Upset and Faulted pressure differentials for the Seabrook Station steam generators are [ ]^{a,c,e}, respectively. Note: Pressure differentials are based on a secondary side pressure at the main steam nozzle. Consideration of the column of fluid above the tubesheet would increase the actual secondary side pressure thereby reducing the pressure differential. Therefore, the values listed include this conservatism in arriving at the pressure differential across the tubesheet.

The Seabrook Station SG transients are defined in the Design Specification, Reference 14. Significant differences between the transients defined for Seabrook Station and those listed in the EPRI report, Table 4-6 of Reference 5, relate to reactor coolant pump (RCP) startup and shutdown ([ ]^{a,c,e}), Boron Concentration

Equalization, ([ ]^{a,c,e}), Plant Loading and Unloading ([ ]^{a,c,e} each rather than 18,300 in the EPRI report), Loop Out of Service ([ ]^{a,c,e}), and Turbine Roll Test ([ ]^{a,c,e} rather than the 10 cycles considered by EPRI). There are some additional Upset transients defined; however, the cycles identified are not significant and are included in the discussion that follows.

- RCP startup/shutdown only contributes to the reactor coolant system (RCS) flow effects and does not contribute to the pressure differential across the tubesheet. The pressure differential across the divider plate considers a bounding value in the analysis and this is not impacted by this transient. The impact is, therefore, not significant.
- The Boron Concentration Equalization transient cycles are equal to the sum of the number of loading and unloading transient cycles, and are based on daily load follow. The net effect is to increase the primary side pressure by approximately [ ]^{a,c,e} during the plant loading and unloading transients with a return to the normal operating pressure. This transient is covered by the Loading and Unloading transient for temperature, and the effect of the pressure differential is not significant. Any increase is enveloped by the pressure differential considered in the EPRI report. The cycles can be considered to be the same as those specified for plant loading and unloading transient cycles and do not have to be added to the total cycle count as reported in the EPRI document, Table 4-6 of Reference 5.
- The Loop Out of Service transients were part of the original Seabrook Station design basis. Since the plant is not licensed for this transient (Reference 14), they do not need to be considered in the fatigue analysis.
- Seabrook Station considered a total of [ ]^{a,c,e} fewer cycles for the Loading and Unloading transients than the number of cycles included in the EPRI report.
- The Turbine Roll transient cycles are higher than considered in the EPRI report. The increase of [ ]^{a,c,e} is not significant and the pressure differential is enveloped by what is used to define the Normal Operating pressure differential. Therefore, the change is not significant.

The total number of cycles considered in the EPRI report, Table 4-6 of Reference 5, is 60,111 cycles for a yearly frequency over a 40-year plant life of 1,503 events. Consideration of the Normal and Upset conditions for Seabrook Station, minus those transients discussed above, produces a total transient count of [ ]^{a,c,e} for a yearly frequency of approximately [ ]^{a,c,e} (Reference 7).

CONCLUSION

As demonstrated above, the industry analyses documented in the EPRI Technical Reports 3002002850, 1014982, 1020988 are bounding for the Seabrook Station SG divider plate assemblies. Therefore, NextEra Energy Seabrook may manage the aging effect of primary water stress corrosion cracking (PWSCC) in those steam generator components in accordance with the guidance contained in LR-ISG-2016-01 which follows. The primary water chemistry program is supplemented with a general visual inspection of the SG channel head. The purpose of the visual inspection is to identify rust stains or other abnormal conditions which could indicate the presence of cracking (e.g., distortion of the divider plates). The general visual inspection is performed on each SG at least every 72 effective full power months or every three (3) refueling outages, whichever results in more frequent inspections.

REFERENCES

1. NRC Letter to NextEra Energy Seabrook, LLC, Seabrook Station, "Request for Additional Information for the Review of the Seabrook Station License Renewal Application (CAC No. ME4028)," March 16, 2017, NRC ADAMS Accession No. ML17066A488.
2. NRC Report LR-ISG-2016-01, "Changes to Aging Management Guidance for Various Steam Generator Components," December 2016.
3. EPRI 3002002850, "Steam Generator Management Program: Investigation of Crack Initiation and Propagation in the Steam Generator Channel Head Assembly," October 2014.
4. EPRI Information Letter SGMP-IL-16-02, "Changes to Aging Management Guidance for Steam Generator Channel Head Components," October 2016.
5. EPRI 1014982, "Divider Plate Cracking in Steam Generators Results of Phase 1: Analysis of Primary Water Stress Corrosion Cracking and Mechanical Fatigue in the Alloy 600 Stub Runner to Divider Plate Weld Material," June 2007.
6. EPRI 1020988, "Steam Generator Management Program: Phase 2 Divider Plate Cracking Engineering Study," November 2010.
7. Westinghouse Letter LTR-CDA-17-23, Revision 0, "License Renewal Bounding Analysis Evaluation for the Seabrook Station Steam Generator Divider Plate Assemblies – RAI Question Item 10 Response," May 2017.
8. Westinghouse Drawing No. 650B029, Revision 15, "Vertical Steam Generator Partition Plate."
9. Westinghouse Drawing No. 1106J67, Revision 4, "Steam Generator Model "F" Channel Head Clad & Machine."
10. Westinghouse Drawing No. 1106J07, Revision 6, "Tube Plate Machining – Steam Generator – Model "F."
11. Westinghouse Report WNEP-8241, Revision 3, "Model F Steam Generator Stress Report for Public Service Company of New Hampshire Seabrook Unit 1," November 1991.
12. Westinghouse Drawing No. 1182J39, Revision 5, "General Arrangement – Steam Generator Model "F."
13. Westinghouse Drawing Number 2656A89, Revision 4, "Material: Nickel-Chrome-Iron Alloy Plate (Inconel 600)."
14. Westinghouse Design Specification 953398, Revision 7, "Seabrook Unit 1 Model F Steam Generator," August 2015.
15. Westinghouse Drawing Number 6522D04, Revision 7, "Steam Generator Channel Head Fab."
16. Westinghouse Report WNEP-8426, Volume 6, "Optimized Model F Steam Generator Stress Report Divider Plate Analysis," March 1983 (Westinghouse Proprietary).

Enclosure 4 to SBK-L-17102

Westinghouse - Application for Withholding Proprietary Information from the Public Disclosure

Westinghouse Electric Company
1000 Westinghouse Drive
Cranberry Township, Pennsylvania 16066
USA

U.S. Nuclear Regulatory Commission
Document Control Desk
11555 Rockville Pike
Rockville, MD 20852

Direct tel: (412) 374-4643
Direct fax: (724) 940-8560
e-mail: greshaja@westinghouse.com

CAW-17-4591

May 24, 2017

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE

Subject: License Renewal Bounding Analysis Evaluation for the Seabrook Station Steam Generator Divider Plate Assemblies (Proprietary)

The Application for Withholding Proprietary Information from Public Disclosure is submitted by Westinghouse Electric Company LLC ("Westinghouse"), pursuant to the provisions of paragraph (b)(1) of Section 2.390 of the Nuclear Regulatory Commission's ("Commission's") regulations. It contains commercial strategic information proprietary to Westinghouse and customarily held in confidence.

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-17-4591 signed by the owner of the proprietary information, Westinghouse. The Affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

Accordingly, this letter authorizes the utilization of the accompanying Affidavit by NextEra Energy Seabrook.

Correspondence with respect to the proprietary aspects of the Application for Withholding or the Westinghouse Affidavit should reference CAW-17-4591, and should be addressed to James A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company, 1000 Westinghouse Drive, Building 3 Suite 310, Cranberry Township, Pennsylvania 16066.

James A. Gresham, Manager
Regulatory Compliance

CAW-17-4591

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

COUNTY OF BUTLER:

I, James A. Gresham, am authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC ("Westinghouse") and declare that the averments of fact set forth in this Affidavit are true and correct to the best of my knowledge, information, and belief.

Executed on: 5/24/17

James A. Gresham, Manager
Regulatory Compliance

(1) I am Manager, Regulatory Compliance, Westinghouse Electric Company LLC ("Westinghouse"), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.

(2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Nuclear Regulatory Commission's ("Commission's") regulations and in conjunction with the Westinghouse Application for Withholding Proprietary Information from Public Disclosure accompanying this Affidavit.

(3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged or as confidential commercial or financial information.

(4) Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.

(i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.

(ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitute Westinghouse policy and provide the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

(a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of

Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

(b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, (e.g., by optimization or improved marketability).

(c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.

(d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.

(e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.

(f) It contains patentable ideas, for which patent protection may be desirable.

(iii) There are sound policy reasons behind the Westinghouse system which include the following:

(a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.

(b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.

(c) Use by our competitor would put Westinghouse at a competitive disadvantage by reducing his expenditure of resources at our expense.

(d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.

(e) Unrestricted disclosure would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.

(f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.

(iv) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, is to be received in confidence by the Commission.

(v) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.

(vi) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in LTR-SGMP-17-39 P-Attachment, "License Renewal Bounding Analysis Evaluation for the Seabrook Station Steam Generator Divider Plate Assemblies" (Proprietary), for submittal to the Commission, being transmitted by NextEra Energy Seabrook letter. The proprietary information as submitted by Westinghouse is that associated with design information regarding the Seabrook Station steam generator divider plates, channel head, tubesheet, and divider plate welds including information about the steam generator design transients. The information is provided in response to a request for additional information from the Nuclear Regulatory Commission concerning Seabrook Station license renewal, and may be used only for that purpose.

(a) This information is part of that which will enable Westinghouse to provide sufficient detail of manufacturing information and technology in order to

conclude that the Seabrook Station steam generator divider plate assemblies are bounded by the analyses included in Electric Power Research Institute (EPRI) Reports 3002002850, 1014982 and 1020988.

(b) Further, this information has substantial commercial value as follows:

(i) Westinghouse plans to sell the use of similar information to its customers for the purpose of providing as-built steam generator design documentation and evaluating the applicability of the aforementioned EPRI reports.

(ii) Westinghouse can sell support and defense of industry guidelines and acceptance criteria for plant-specific applications.

(iii) The information requested to be withheld reveals the distinguishing aspects of a methodology which was developed by Westinghouse.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar technical evaluation justifications and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.

PROPRIETARY INFORMATION NOTICE

Transmitted herewith are proprietary and non-proprietary versions of a document, furnished to the NRC in response to a request for additional information concerning Seabrook Station license renewal, and may be used only for that purpose.

In order to conform to the requirements of 10 CFR 2.390 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, the information which is proprietary in the proprietary versions is contained within brackets, and where the proprietary information has been deleted in the non-proprietary versions, only the brackets remain (the information that was contained within the brackets in the proprietary versions having been deleted). The justification for claiming the information so designated as proprietary is indicated in both versions by means of lower case letters (a) through (f) located as a superscript immediately following the brackets enclosing each item of information being identified as proprietary or in the margin opposite such information. These lower case letters refer to the types of information Westinghouse customarily holds in confidence identified in Sections (4)(ii)(a) through (4)(ii)(f) of the Affidavit accompanying this transmittal pursuant to 10 CFR 2.390(b)(1).

COPYRIGHT NOTICE