NEXTera® ENERGY
SEABROOK

April 24, 2015
SBK-L-15082
Docket No. 50-443

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

Seabrook Station

Response to Request for Additional Information
For the Spring 2014 Steam Generator Tube Inspections

References:

1. NextEra Energy Seabrook letter SBK-L-14190, Steam Generator Tube Inspection Report, dated October 14, 2014 (ML 14297 A090).
2. NRC letter, Request for Additional Information for the Spring 2014 Steam Generator Tube Inspections (TAC NO. MF5075)(ML15043A221).

In Reference 1, NextEra Energy Seabrook, LLC (NextEra Energy Seabrook) submitted its Steam Generator Tube Inspection Report for the spring 2014 refueling outage. In Reference 2, the NRC advised it had determined additional information is necessary for it to complete its review.

The enclosure to this letter contains NextEra Energy Seabrook's response to the request for additional information.

This letter contains no new regulatory commitments.

If you have any questions regarding this submittal, please contact me at (603) 773-7512.

Sincerely,

NextEra Energy Seabrook, LLC.

FOR MJO

Michael Ossing
Licensing Manager

A001
NRR

Enclosure

cc: NRC Region I Administrator
J. G. Lamb, NRC Project Manager
NRC Senior Resident Inspector

Enclosure to SBK-L-15082

Response to Request for Additional Information
For the Spring 2014 Steam Generator Tube Inspections

Enclosure to SBK-L-15082

Response to Request for Additional Information (RAI)

RAI-1
Please confirm that no inspections were performed in the U-bend region of the row 1 and 2 tubes except those that may have been performed as a result of the inspection of dents and dings.

NextEra Energy Seabrook Response:
No inspections were performed in the U-bend region of the row 1 and 2 tubes except those that may have been performed as a result of the inspection of dents and dings.

RAI-2
In Table 2, please confirm that the number of indications includes pre-existing and new indications. Since only a sampling inspection was performed in SGs A, C, and D, please discuss whether the number of indications is a fair representation of the total population of tube wear (i.e., were all tubes with previously detected wear indications inspected during this outage).

NextEra Energy Seabrook Response:
The number of indications in Table 2 of the OR16 report includes pre-existing and new AVB wear indications. The bobbin coil sampling of SGs A, C, and D during OR16 was selected to include all tubes with previous AVB wear indications. In SG-B, 100% of the tubes were examined full length with the bobbin coil (except for the U-bends of Rows 1 and 2). Therefore, the number of AVB wear indications provided in Table 2 of the OR16 report reflects a fair representation of the total population of tube wear at AVB locations in all four SGs.

RAI-3
Please discuss the cause of the indication in row 1, column 11 in SG A. Is this degradation a result of the sludge lance rail equipment? Does the location 1C-1.68-inches equate to approximately 18-inches above the tubesheet?

NextEra Energy Seabrook Response:
Yes, the indication in row 1, column 11 in SG-A was caused by sludge lance rail equipment used in the past. The system has been redesigned to prevent this type of tube damage. The location 01C-1.68 inches equates to approximately 18-inches above the top of the cold leg tubesheet.

RAI-4
Please clarify which indications have wear as a result of pressure pulse cleaning. If not provided, please provide the location, orientation (if linear), and measured sizes (if available) of these service-induced indications.

NextEra Energy Seabrook Response:
The tubes/locations listed below had indications initially reported in OR8 that were attributed (at that time) to wear caused from pressure pulse cleaning (PPC) operations.

SG-A: Row 1 Column 91 @ 01C-0.28"

SG-D: Row 1 Column 32 @ 01H+0.25"

The indication in SG-A was sized with the +Point™ coil during the OR8 inspection, and had an estimated depth of 18% wear at that time. The indication in SG-D was sized with the +Point™ coil during the OR8 inspection, and had an estimated depth of 25% wear at that time.

To be conservative, the two indications discussed above were originally attributed to wear, and were assigned depth measurements using approved EPRI sizing techniques. In OR11, the indication in SG-A was reclassified as a Distorted Support Signal (DSS) - attributable to geometrical distortions in the tube as a result of PPC (not "wear" as a result of PPC as previously reported). Similarly, the indication in SG-D was reclassified as DSS in OR15 for the same reason.

The locations have been monitored during numerous inspections subsequent to OR8, and are not exhibiting growth or change. The two indications listed in this RAI response were each reported as a DSS the last time the tubes were examined with the bobbin coil (OR15). Both locations will continue to be monitored during future examinations. Therefore, there are currently no wear indications attributed to PPC in the Seabrook Steam Generators.

RAI-5
Please clarify the SG in which the bulge is located in row 5, column 89 (refer to Table 5). In comparing this report to prior reports, it looks like several new bulges were reported when compared to the prior report (ADAMS Accession No. ML13008A160). Please discuss the nature of these new bulges. Also, several bulges were reported in RFO 15, but were not reported in RFO 16. Please discuss why these bulges were no longer reported.

NextEra Energy Seabrook Response:
The bulge in Row 5, Column 89 from Table 5 is in SG-A.

There were two tubes listed in Table 5 of the OR16 report (ADAMS Accession No. ML14297A090) that did not have corresponding entries in Table 5 of the OR15 report (ADAMS Accession No. ML13008A160). Those two entries are:

SG-A R5 C89: BLG @ TEC + 12.69"

SG-B R32 C76: BLG @ TEC + 19".

These two indications should not have been included in Table 5 of the OR16 report as they are not "new" bulges. The bulges were recorded during both the OR15 and OR16 inspections. This was confirmed by a review of eddy current results from OR15. As indicated by the title of Table 5 of the OR15 and OR16 Reports, the tables were meant to contain a listing of bulge (BLG) indications that are located *above* the top of tubesheet. The two BLG indications listed above are actually within the tubesheet.

There were two tubes having three BLG indications reported in OR15 that were not reported in OR16. This was due to the fact that they were not part of the OR16 inspection scope and were therefore not tested. The 2 tubes are as follows:

SG-D R34 C42: BLG @ TSC + 0.84"

SG-D R22 C75: BLG @ TSC + 2.82" and TSC + 1.65".

RAI-6

In the inspection report regarding RFO 14 (ADAMS Accession No. ML11266A008), an indication was reported in the tube located in row 55, column 70 in SG A. This indication was not reported in RFO 15 and 16. Please discuss why this indication was no longer recorded/reported.

NextEra Energy Seabrook Response:

During the OR14 inspection in 2011, a volumetric indication (reported as "VOL") was reported at TSH+0.14" in SG-A, in row 55 column 70. The indication was sized as 19%TW with EPRI +Point™ (rotating coil) Technique 21998.1. The same location was inspected with the +Point™ coil during OR15 in 2012, and no degradation was reported at that location. Based on a review of the OR14 and OR15 +Point™ data, this indication that was reported as "VOL" in OR14 was actually a non-degradation signal caused from foreign material (for example, deposit or sludge) on the secondary side of the tube. The OR15 data for that location showed no foreign material or degradation response. The foreign material that caused the signal (reported as VOL in OR14) was likely removed from the SGs during operation or subsequent sludge lancing. The tube was not tested during OR16 in 2014.

RAI-7

During RFO 15, reference was made to tube supports 6 and 7. Are these two tube supports the uppermost 2 tube support plates (since your naming convention appears to have changed since prior reports)?

NextEra Energy Seabrook Response:

In section 10.0 (Secondary Side Inspections) of the OR15 SG Tube Inspection Report (ML13008A160), reference was made to tube supports 6 and 7:

> "The inspection was mainly focused on tube support plates (TSP) 6 and 7. The seventh support plate is the upper most quatrefoil TSP."

These two TSPs are the uppermost 2 TSPs. There are 8 horizontal structures in the straight length portion of the SG tubes above the top of tubesheet (TTS). The first horizontal structure above the TTS is a flow distribution baffle (FDB) or baffle plate. The FDB does not have quatrefoil broached holes where the tubes pass through it.

From an Eddy Current (EC) inspection perspective, the FDB location is referred to as 01H or 01C for hot or cold leg, respectively. The remaining 7 horizontal structures are quatrefoil broached TSPs. From an EC inspection perspective, these locations are referred to as 02H through 08H or 02C through 08C for hot or cold leg, respectively.

For secondary side inspections (SSI), these remaining 7 horizontal structures are referred to as TSPs 1 through 7. The first structure above the TTS is referred to as the flow distribution baffle (FDB) during secondary side inspections (SSI).

To illustrate, tube support plate 7 (based on SSI) is the same structure as 08H or 08C (based on EC inspection). The Table below shows the difference in the naming convention used for the horizontal structures within the SG from a primary (EC) or secondary side inspection (SSI) perspective.

			Quatrefoil TSPs						
SSI	Tube Support	FDB	1	2	3	4	5	6	7
EC	Hot Leg	01H	02H	03H	04H	05H	06H	07H	08H
EC	Cold Leg	01C	02C	03C	04C	05C	06C	07C	08C

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

NEXTera® ENERGY
SEABROOK

April 23, 2015

10 CFR 50.90

SBK-L-15088
Docket No. 50-443

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

Seabrook Station

Re-Submittal of Response to Request for Additional Information for
License Amendment Request 14-04 Revised Reactor Coolant System Pressure –
Temperature Limits Applicable for 55 Effective Full Power Years

References:

1. Seabrook Station License Amendment Request 14-04, "Revised Reactor Coolant System Pressure - Temperature Limits Applicable for 55 Effective Full Power Years," SBK-L-14102, July 24, 2014 (ML14216A404).
2. NRC letter to Seabrook Station, "Seabrook Station, Unit No. 1 – Request for Additional Information Regarding License Amendment Request to Revise the Technical Specification Pressure-Temperature Limits and Request for Exemption from 10 CFR Part 50, Appendix G Minimum Temperature requirements (TAC Nos. MF4576 and MF4577)," dated January 9, 2015 (ML14363A367).
3. NextEra letter SBK-L-15040, Response to Request for Additional Information for License Amendment Request 14-04, Revised Reactor Coolant System Pressure-Temperature Limits Applicable for 55 Effective Full Power Yeats, dated March 9, 2015 (ML15072A036)
4. NRC letter, Request for Withholding Information from Public Disclosure Regarding License Amendment Request 14-04 for Seabrook Station (TAC NOS. MF4576 and 4577) (ML15084A375)

In Reference 1, NextEra Energy Seabrook, LLC (NextEra) submitted License Amendment Request (LAR) 14-04 to the Technical Specifications (TS) for Seabrook Station and requested an exemption from the requirements of 10 CFR 50 Appendix G. The proposed change revises the pressure-temperature (P/T) limits in TS 3.4.9.1, Reactor Coolant System Pressure-Temperature Limits, to be applicable to 55 effective full power years. The change also revises TS 3.4.9.3, Overpressure Protection Systems, by providing new overpressure protection setpoints and lowering the RCS temperature at which the TS is applicable.

In Reference 2, the NRC requested additional information to complete its review of LAR 14-04.

NextEra submitted its response to the request for additional information in Reference 3.

In Reference 4, the NRC stated it had concluded that some of the information contained in Reference 3 should not be exempt from mandatory public disclosure. The NRC requested that NextEra resubmit a proprietary and a non-proprietary version of its responses.

The responses to RAIs 2.1.1, 2.1.2, 2.1.3 and 2.1.4 are provided in Enclosure 1 of this letter. Enclosure 1 provides the non-proprietary, redacted responses to the RAIs. Enclosure 3 provides the responses to RAI 2.1.4 as it contains information proprietary to Westinghouse Electric Company LLC, and is supported by an affidavit in Enclosure 2 signed by Westinghouse, the owner of the information. The affidavit sets forth the basis on which the information may be withheld from public disclosure and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR 2.390. Accordingly, NextEra requests that the information that is proprietary to Westinghouse (Enclosure 3) be withheld from public disclosure in accordance with 10 CFR 2.390. Correspondence with respect to the copyright or proprietary aspects of the items listed above or the supporting Westinghouse affidavit should reference CAW-15-4115 and should be addressed to J.A. Gresham, Manager, Regulatory Compliance, Westinghouse Electric Company, Suite 428, 1000 Westinghouse Drive, Cranberry Township, Pennsylvania 16066.

The response to RAI 2.2.1 will be provided by separate correspondence by June 30, 2015.

This response does not modify the changes to the TS as previously proposed and does not alter the conclusion in Reference 1 that the changes do not present a significant hazards consideration.

This letter contains no regulatory commitments.

Should you have any questions regarding this letter, please contact Mr. Michael Ossing, Licensing Manager, at (603) 773-7512.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on April 23, 2015.

Sincerely,

NextEra Energy Seabrook, LLC

Dean Curtland
Site Vice President

Enclosure

cc: D. Dorman, NRC Region I Administrator
J. Lamb, NRC Project Manager, Project Directorate I-2
P. Cataldo, NRC Senior Resident Inspector

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Director Homeland Security and Emergency Management
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ENCLOSURE 1

Re-Submittal of Response to Request for Additional Information for
License Amendment Request 14-04 Revised Reactor Coolant System Pressure –
Temperature Limits Applicable for 55 Effective Full Power Years

(Non-proprietary)

Re-Submittal of Response to Request for Additional Information for
License Amendment Request 14-04 Revised Reactor Coolant System Pressure –
Temperature Limits Applicable for 55 Effective Full Power Years

Portions of this report contain proprietary information. Proprietary information is identified and bracketed. For each of the bracketed sections, the reasons for the proprietary classification are provided using superscripted letters "a", "c", and "e". These letter designations are:

a. The information reveals the distinguishing aspects of a process or component, structure, tool, method, etc. The prevention of its use by Westinghouse's competitors, without license from Westinghouse, gives Westinghouse a competitive economic advantage.

c. The information, if used by a competitor, would reduce the competitor's expenditure of resources or improve the competitor's advantage in the design, manufacture, shipment, installation, assurance of quality, or licensing of a similar product.

e. The information reveals aspects of past, present, or future Westinghouse- or customer-funded development plans and programs of potential commercial value to Westinghouse.

***NRC RAI-2.1.1**: Table 4-2 of WCAP-17444-P (the WCAP) lists values for the reference nil-ductility temperature (RT_{NDT}) for the Seabrook closure head region. Please indicate whether the RT_{NDT} values for the base metal components (closure head dome, closure head ring (torus) segments), closure head flange, and vessel flange) are measured heat-specific values from certified material test reports that were obtained in accordance with ASME Code, Section III, NB-2331 requirements. If not, identify whether NUREG-0800 Branch Technical Position (BTP) 5-3 was used to establish the RT_{NDT} values listed in Table 4-2 for these base metal components. If BTP 5-3 was used, identify the specific position of that document that was used, and provide the calculations used to determine the RT_{NDT} for each of these materials.*

Response to RAI-2.1.1: Table 4-2 contains proprietary information. The values for the reference nil-ductility temperature (RT_{NDT}) for the Seabrook reactor vessel (RV) closure head region base metal component (closure head dome, closure head ring (torus) segments, closure head flange, and vessel flange) are measured heat specific values reported on Certified Material Test Reports (CMTRs). The Seabrook reactor vessel was designed in accordance with ASME Section III, 1971 Edition through Winter 1972 addenda and incorporated the changes to the requirements included in the Summer 1972 Addenda to ASME Section III, NB-2300 including testing of Charpy specimens in the transverse (weak) direction.

***NRC RAI-2.1.2**: There is a discrepancy between the axial stress distribution for the end of heatup provided in the last column of Table 6-1 of the WCAP, and the axial stress distribution for the corresponding time in Appendix C, Page C-4 of the WCAP. Please provide additional information to resolve this discrepancy (or point to the location in the submittal that addresses it).*

Response to RAI-2.1.2: As mentioned in Notes (a) and (b) of Table 6-1, the axial stresses shown include boltup stresses and residual stresses. The stresses shown in Appendix C include boltup stress, but exclude residual stress. Therefore the difference between the stress values in Table 6-1 and Appendix C is the inclusion of residual stresses in Table 6-1.

***NRC RAI-2.1.3**: Section 4 of the WCAP indicates that the stress analysis of the flange region was carried out with both temperature and pressure varying with time, for heatup and cooldown transients of 100°F per hour. Additionally, the proposed TS P-T limits for 55 EFPY were developed based on a maximum allowable heatup and cooldown rate of 100°F per hour.*

The staff noted that the heatup and pressurization of the RPV from the minimum boltup temperature to the temperature specified in the third column of Table 6-1, within the specified time identified in Table 6-1, corresponds to a heatup rate that is less than 100^0F per hour. Please address how the flange integrity analysis in the WCAP is applicable to a 100^0F per hour heatup rate or revise the analysis to address an actual 100^0F per hour heatup rate.

Response to RAI-2.1.3: For the fracture mechanics evaluation, the heatup process begins at a temperature of 120°F and a time of 82 minutes and ends at a temperature of 557°F and a time of 344.2 minutes, which represents standard design plant heatup conditions. Per Seabrook UFSAR (Section 3.9), the heatup design transient begins at an assumed 120°F (ambient condition) and proceeds on uniform rate of 100°F/hour. In actual practice, the rates of heatup are much lower especially at initial conditions.

The heatup rate used in the evaluation is therefore: (557°F - 120°F)/(344.2 minutes – 82 minutes) ≈ 1.67°F/minute, or 100°F/hour. To account for the heatup transient beginning at a temperature of 120°F, a conservative fracture toughness (K_{IC}) based on a temperature of 60°F was compared to the stress intensity factor based on the stresses at time = 82 minutes. The comparison ($2K_I < K_{IC}$) yielded acceptable results at time = 82 minutes.

***NRC RAI-2.1.4**: Table 6-2 of the WCAP indicates the minimum ratio of the fracture toughness (K_{IC}) divided by 2 times the applied stress intensity factor (K_I) occurs at boltup at Cut 3. The NRC staff's calculations show that the fracture toughness increases as heatup progresses, reaching the upper shelf value of 200 ksi$\sqrt{in}$ by 82 minutes. However, the staff is concerned that the applied K_I values could peak at some time between boltup and 82 minutes due to a combination of boltup stress plus pressure and thermal stresses while the toughness is still relatively low, resulting in a more limiting ratio of K_{IC} to 2 times K_I.*

For the 100°F per hour heatup transient, please confirm that the most limiting ratio of K_{IC} to 2 times the applied K_I for the outside flaw with depth a/t = 0.10 in the closure head torus-to-flange weld (i.e., Cut 3) occurs at boltup (time=0). Provide the values of K_{IC} and K_I at several intermediate times between boltup and 82 minutes for the same location. If the most limiting ratio does not occur at boltup, provide the limiting K_{IC} to 2 times K_I ratio, the corresponding time, and the values of K_I and K_{IC} at that time.

Response to RAI-2.1.4: The design transient for heatup as specified in Seabrook UFSAR, Section 3.9(N) starts at 120°F and ramps up to no-load temperature of 557°F at a rate of 100°F/hr. [
]^{a,c,e} This design transient specification is used in the evaluation for WCAP-17444, where the heatup process begins at time = 82 minutes (T = 120°F, [ ]^{a,c,e}) and reaches the no-load condition at 344.2 minutes (T= 557°F, [ ]^{a,c,e}).

Below 120°F, during the cold shutdown condition, the reactor coolant system is depressurized and at a uniform temperature somewhere between 70°F and 120°F. Per the Seabrook UFSAR, Section 3.9(N), for the temperature range between 70°F and 120°F, the temperature changes very slowly without causing any significant thermal transient effects, especially in the closure head region. Per NextEra Energy, this is consistent with plant operation standards, where Technical Specifications Table 1.2 defines that 200°F or below with the reactor vessel head tensioned is Mode 5 (Cold Shutdown). Evolutions in Mode 5 such as reactor coolant system evacuation and fill or pressurizer bubble formation do not produce rapid temperature changes below 120°F. In addition, heatup from ambient conditions is inherently limited as reactor heat is not available until Mode 2 (i.e., sole source of heatup is reactor coolant pump heat and decay heat). For example (based on the most recent plant startup from refueling in April 2014, readings from the wide range cold leg A0344V_RCLP2 indicator provided by NextEra Energy), the initial heatup from ambient conditions occurred from 88.5°F to 155.7°F over 11 hours (i.e., approximately 6.1°F/hr heatup) which was followed by a second heatup from 187.3°F to 332.2°F over 5.3 hours (i.e., approximately 27.3°F/hr heatup). Both heatups occurred far below the 100°F/hr heatup limit described in the Seabrook UFSAR, Section 3.9(N). Furthermore, the residual decay heat from the core can place the temperature around 120°F within the reactor vessel, therefore, the ambient condition is assumed to be 120°F for the beginning of the heatup transient. As a result, for temperatures below 120°F, there are no significant thermal transient stresses that should be considered in the fracture mechanics evaluation.

Furthermore, in the fracture mechanics evaluation for WCAP-17444, the fracture toughness (K_{Ic}) at the initial heatup time step (t = 82 min) is calculated based on a conservative wall temperature of 60°F, this minimum temperature value is used to cover the temperature range between 60°F (boltup) and 120°F (start of heatup). Therefore, the K_{Ic} value of 70.98 ksi-in$^{1/2}$ is applied to both the boltup and initial heatup time step, based on RTNDT of 30°F and wall temperature of 60°F.

As mentioned above, the applied stress intensity factor between the boltup condition of 60°F and the start of heatup at 120°F will be negligible since there are no significant thermal transient stresses in that temperature range. Therefore, along with the limiting time step at the boltup, another limiting fracture mechanics time step (based on K_I/K_{Ic}) from the heatup transient is at time = 82 minutes, since the wall temperature is set to 60°F for the K_{Ic} calculations.

Given below are the $2K_I$ and K_{Ic} values for the boltup condition and the start of heatup (t = 82 min) for the postulated outside surface circumferential flaw (a/t = 0.10) at Cut 3. All other time steps are less limiting.

Boltup (temperature = 60°F)

$$2K_I = 61.504 \text{ ksi-in}^{1/2} < K_{Ic} = 70.98 \text{ ksi-in}^{1/2}$$

Heatup (t = 82 min, design transient temperature = 120°F, however 60°F is used in K_{Ic} calculation)

$$2K_I = 66.408 \text{ ksi-in}^{1/2} < K_{Ic} = 70.98 \text{ ksi-in}^{1/2}$$

Based on the comparison between K_I and K_{Ic} for the two limiting time steps for the entire heatup and cooldown transient, it is demonstrated that the Section XI Appendix G criteria are satisfied and it is concluded that the integrity of the closure head/vessel flange region is not a concern for Seabrook.

References:

1. [

]^{a,c,e}

Enclosure 2

Application for Withholding Proprietary Information from Public Disclosure
and
Affidavit

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Proj letter: NEXT-15-27 Rev. 1

CAW-15-4160

April 15, 2015

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE

Subject: LTR-PAFM-15-17, Rev. 1, Attachment A, "Responses to NRC RAIs Pertaining to Pressure-Temperature Limit Curves at Seabrook" (Proprietary)

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-15-4160 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. 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, LLC.

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse Affidavit should reference CAW-15-4160, 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.

Very truly yours,

James A. Gresham, Manager
Regulatory Compliance

Enclosures

CAW-15-4160

April 15, 2015

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 that the averments of fact set forth in this Affidavit are true and correct to the best of my knowledge, information, and belief.

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 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, it 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-PAFM-15-17, Rev. 1, Attachment A, "Responses to NRC RAIs Pertaining to Pressure-Temperature Limit Curves at Seabrook" (Proprietary) for submittal to the Commission, being transmitted by NextEra Energy Seabrook, LLC letter and Application for Withholding Proprietary Information from Public Disclosure, to the Document Control Desk. The proprietary information as submitted by Westinghouse is that associated with NRC letter Seabrook Station, Unit 1- Request for Additional Information Regarding License Amendment Request to Revise the Technical Specification Pressure-Temperature Limits and Request for Exemption from 10 CFR Part 50, Appendix G Minimum Temperature Requirements (TAC NOS. MF4576 and MF4577), and may be used only for that purpose.

(a) This information is part of that which will enable Westinghouse to:

(i) Generate Pressure-Temperature Limit Curves

(ii) Address low-temperature operation

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

(i) Westinghouse plans to sell the capability to generate Pressure-Temperature Limit curves.

(ii) The information requested to be withheld reveals Seabrook-specific information that was used 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 environmental fatigue screening 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/or non-proprietary versions of documents furnished to the NRC in connection with NRC letter Seabrook Station, Unit 1- Request for Additional Information Regarding License Amendment Request to Revise the Technical Specification Pressure-Temperature Limits and Request for Exemption from 10 CFR Part 50, Appendix G Minimum Temperature Requirements (TAC NOS. MF4576 and MF4577), 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).

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