

Tom Tynan
Vice President - Vogtle

**Southern Nuclear
Operating Company, Inc.**
7821 River Road
Waynesboro, Georgia 30830
Tel 706.826.3151
Fax 706.826.3321

March 20, 2008



Docket Nos.: 50-424
50-425

NL-08-0195

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

**Vogtle Electric Generating Plant
License Renewal – LRA Amendment 1 and
Updated Future Action Commitment List**

Ladies and Gentlemen:

By letter dated June 27, 2007, Southern Nuclear Operating Company (SNC) submitted a License Renewal Application (LRA) for Vogtle Electric Generating Plant (VEGP) Units 1 and 2, seeking to extend the terms of the operating licenses an additional 20 years beyond the current expiration dates.

From October 15-19, 2007, and from December 10-14, 2007, the NRC conducted audits of the aging management reviews, aging management programs, and time-limited aging analyses described in the LRA. Approximately 193 audit questions were submitted to SNC in the course of these audits. By letters dated January 22, 2008 and January 28, 2008, the NRC submitted to SNC approximately 82 Requests for Additional Information on various sections of the LRA. As a result of SNC's responses to these questions and RAIs, submitted previously to the NRC Staff, required changes to the VEGP LRA have been identified. These changes are described in Enclosure 1.

SNC has also self-identified a number corrections and additions to the LRA. These corrections and additions are also included in Enclosure 1.

SNC's responses to the audit questions and RAIs also result in required changes to the VEGP License Renewal Commitment List. Enclosure 2 is the updated License Renewal Future Action Commitment List.

Finally, Enclosure 3 is a revised response for RAI 4.3-4, as previously discussed with the Staff.

A129
NRC

Mr. T. E. Tynan states he is a Vice President of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and to the best of his knowledge and belief, the facts set forth in this letter are true.

The NRC commitments contained in this letter are listed in the Updated License Renewal Future Action Commitment List, Enclosure 2.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY

T. E. Tynan

T. E. Tynan
Vice President – Vogtle

Sworn to and subscribed before me this 20 day of March, 2008.

Amy D. Chandler
Notary Public

My commission expires: Notary Public, Burke County, Georgia.
My Commission Expires January 13, 2012

TET/JAM/dj

Enclosures:

1. VEGP License Renewal Application Amendment 1
2. Updated VEGP License Renewal Future Action Commitment List
3. Revised Response to RAI 4.3-4

cc: Southern Nuclear Operating Company

Mr. J. T. Gasser, Executive Vice President	w/o Enclosures
Mr. T. E. Tynan, Vice President – Vogtle	w/o Enclosures
Mr. D. H. Jones, Vice President – Engineering	w/o Enclosures
Mr. N. J. Stringfellow, Licensing Supervisor, Vogtle	w/ Enclosures
RType: CVC7000	

U. S. Nuclear Regulatory Commission

Mr. V. M. McCree, Acting Regional Administrator	w/ Enclosures
Mr. S. P. Lingam, NRR Project Manager – Vogtle	w/ Enclosures
Mr. G. J. McCoy, Senior Resident Inspector – Vogtle	w/ Enclosures
Mr. D. J. Ashley, License Renewal Project Manager, Vogtle	w/ Enclosures

State of Georgia

Mr. N. Holcomb, Commissioner – Department of Natural

Enclosure 1

**Vogtle Electric Generating Plant License Renewal Application
Amendment 1**

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Self-Identified Changes

Source	Description of Amendment
Self-Identified	Section 1.1.4, page 1.1-4 Add J. B. Beasley to the list of Directors for Southern Nuclear Operating Company.
Self-Identified	Section 2.4-12, Page 2.4-45 In the Scope Determination summary table, un-check the EQ box and check the ATWS box.
Self-Identified	Section 2.4.4, page 2.4-19 In the <i>Scope Determination Summary</i> , third paragraph, first sentence, change "Equipment Building" to "Turbine Building."
Self-Identified	Table 3.1.2-5, page 3.1-121 For Item 28a, change NUREG-1801 Vol. 2 Item from IV.D1-15 to IV.D1-14.
Self-Identified	Table 3.3.2-4, page 3.3-97 For Item 1h, Change the Note from A to B.
Self-Identified	Table 3.3.2-11, page 3.3-154 For Item 6b, change the Table 1 Item from "None" to "3.3.1-48."
Self-Identified	Table 3.3.2-12, page 3.3-159 For Item 3b, change the Table 1 Item from "None" to "3.3.1-48."
Self-Identified	Table 3.3.2-14, page 3.3-172 For Item 2b, change the Table 1 Item from "None" to "3.3.1-48."
Self-Identified	Table 3.3.2-19, page 3.3-187 For Item 6a, change the Aging Effect Requiring Management from "Loss of Material" to "None"
Self-Identified	Table 3.3.2-20, page 3.3-208 For each ID listed below, change the NUREG-1801 Item to the given item number: 6c – VII.H2-20 17c – VII.H2-10 18a – VII.H2-10 20h – VII.H2-20 20m – VII.H1-9 26a – VII.H2-20 27a – VII.H2-20 30b – VII.H2-20 35f – VII.H2-20
Self-Identified	LRA page 3.3-290, Note 313 Change the Note as follows: "Although NUREG 1801 recommends a"

Vogle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Self-Identified Changes

Source	Description of Amendment
Self-Identified	LRA page 3.3-291, Note 319 Change the Note as follows: "This item represents bolting for the NSCW pump ..."
Self-Identified	Table 3.5.1, page 3.5-31 For Item 3.5.1-12, in the Discussion column, delete the sentence "This item is not applicable to VEGP."
Self-Identified	Section 3.5.2.1.12, page 3.5-15 Under Aging Effects Requiring Management , change "Separation" to "Separation (Loss of Sealing)."
Self-Identified	Table 3.5.2-1, page 3.5-65 For ID 16, in the Notes column delete 511.
Self-Identified	Table 3.5.2-6, page 3.5-77 For ID 6, last row – change III.A3-9 to III.A3-4; and change 3.5.1-23 to 3.5.1-31.
Self-Identified	Table 3.5.2-6, page 3.5-78 For ID 7, first row – change the Table 1 Item from "N/A" to "None."
Self-Identified	Table 3.5.2-7, page 3.5-80 For ID 1 – change Environment "Air-Outdoor" for both rows to "Air-Outdoor" for the first row and "Water Standing" for the second row.
Self-Identified	Table 3.5.2-12, page 3.5-96 For ID 21 – change Aging Effect "Loss of Materials" to "Loss of Material."
Self-Identified	LRA page 3.5-103, Standard Notes for Containments, Structures, and Component Supports Standard Notes A, B, and E – change to begin with upper case letters.
Self-Identified	Section 4.3.1, page 4.3-2 Insert the following sentence between the first and second sentence of Section 4.3.1: The code of record for ASME Class 1 components is the ASME Boiler and Pressure Vessel Code, Section III, Nuclear Power Plant Components, 1974 edition including Addenda through Summer 1975. Replace the term "lower pressurizer head" with the term "pressurizer lower head" in the second paragraph and the title for Section 4.3.1.4.
Self-Identified	Section 4.3.1.1, page 4.3-3 Replace the term "lower pressurizer head" with the term "pressurizer lower head" in the fourth paragraph.
Self-Identified	Table 4.3.1-1, page 4.3-11 Change the "Reason Not Counted" for "Loop out of service" as follows: VEGP does not operate with a loop out of service; therefore, this event is not expected.

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Self-Identified Changes

Source	Description of Amendment
Self-Identified	<p>Table 4.3.1-1, page 4.3-12</p> <p>Change the “Reason Not Counted” for “Turbine roll test” as follows: No longer performed^(D).</p> <p>Change the “Reason Not Counted” for “Inadvertent Startup of an inactive loop” as follows: VEGP does not operate with a loop out of service; therefore, this event is not expected.</p>
Self-Identified	<p>Table 4.3.1-1, page 4.3-13</p> <p>Change the “Reason Not Counted” for “Small LOCA,” Small steam line break,” and “Complete Loss of flow” as follows: Not required – Emergency Condition^(C).</p>
Self-Identified	<p>Table 4.3.1-1, page 4.3-14</p> <p>Change the “Reason Not Counted” for “Primary side hydrostatic test” as follows: No longer performed^(D).</p> <p>In Note A, replace “allowed” with “analyzed.”</p> <p>Change Note E as follows: Temperature and pressure variations due to this event are very small and/or occur slowly, causing stresses below the endurance limit per the code of record or insignificant fatigue contribution; therefore it is not....</p>
Self-Identified	<p>Table 4.3.1-2, page 4.3-18</p> <p>Change Note A as follows: Corrective actions are required any time the 60-year projected value exceeds the design cycle or CUF limit.</p>
Self-Identified	<p>Table 4.3.1-3, page 4.3-19</p> <p>Add Superscript (E) after “U1/U2 60-Year projected CUF”.</p> <p>Add the following note: E. Piping locations are committed to using the Fatigue Monitoring Program to show this aging effect adequately managed.</p>
Self-Identified	<p>Section 4.3.1.4, page 4.3-5</p> <p>Replace the term “lower pressurizer head” with the term “pressurizer lower head” in the section title and two places in the first paragraph.</p>
Self-Identified	<p>Section 4.3.1.5.1, page 4.3-6</p> <p>Change the second sentence of the first paragraph as follows: Since the design cycles are not expected to be exceeded...</p>
Self-Identified	<p>Section 4.3.1.5.2, page 4.3-6</p> <p>Change the second sentence of the first paragraph as follows: Since the design cycles are not expected to be exceeded...</p>

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Self-Identified Changes

Source	Description of Amendment
Self-Identified	Section 4.3.1.5.3, page 4.3-7 In the last paragraph replace “has been demonstrated to be acceptable” with “will be managed by the Fatigue Monitoring Program.”
Self-Identified	Section 4.3.1.5.4, page 4.3-7 Replace “average” with “integrated strain rate (ISR)” in the fourth line of the second paragraph. In the last paragraph replace “has been demonstrated to be acceptable” with “will be managed by the Fatigue Monitoring Program.”
Self-Identified	Section 4.3.1.5.5, page 4.3-7 Replace “average” with “ISR” in the second line of the second paragraph.
Self-Identified	Section 4.3.1.5.5, page 4.3-8 In the last paragraph replace “has been demonstrated to be acceptable” with “will be managed by the Fatigue Monitoring Program.”
Self-Identified	Section 4.3.1.5.6, page 4.3-8 In the last paragraph replace “has been demonstrated to be acceptable” with “will be managed by the Fatigue Monitoring Program.”
Self-Identified	Section 4.3.1.6, page 4.3-9 Add “(Ref.40)” at the end of the section title. Insert “(Ref. 12)” after “0.00004” in the last sentence of the third paragraph.
Self-Identified	Section 4.3.2, page 4.3-20 In the first sentence, delete “are considered to.” In the third sentence, replace “ASME B31.1” with “ANSI B31.1.”
Self-Identified	Section 4.3.6, page 4.3-22 Change the last sentence as follows: The design cycles for the transients applicable to the reactor vessel internals are bounded by the RCS design cycles , therefore the reactor vessel internals fatigue analysis remains valid for the period of extended operation (demonstration in accordance with 10 CFR 54.21 (c)(1)(i)).
Self-Identified	Section 4.4, page 4.4-1 Change the last sentence of the third paragraph as follows: This program will be continued through the period of extended operation (Appendix B.3.37), hence the TLAA’s will be managed by the EQ Aging Management Program in accordance with 10 CFR 54.21(c)(1)(iii).
Self-Identified	Section 4.8, page 4.8-1 Change Reference 12 to be Revision 1, dated June 2007. Change Reference 13 to be Revision 1, dated March 2007.

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Self-Identified Changes

Source	Description of Amendment
Self-Identified	<p>Section 4.8, page 4.8-2</p> <p>Change References 20 and 21 as follows:</p> <ul style="list-style-type: none"> 20. 1X6AA10-00168, "WCAP-11583 Technical Bases for Eliminating Accumulator Line Rupture as the Structural Design Basis for Vogtle Unit 2," October 1987 (WCAP-11584 (1X6AA10-00167) is the non-Proprietary Version of this report). 21. 2X6AA10-00171, "WCAP-11599 Technical Bases for Eliminating RHR Line Rupture from the Structural Design Basis for Vogtle Unit 2," October 1987 (WCAP-11600 (2X6AA10-00172) is the non-Proprietary version of this report).
Self-Identified	<p>Section 4.8, page 4.8-3</p> <p>Add the three references shown below:</p> <ul style="list-style-type: none"> 41. WCAP-15338-A, "A Review of Cracking Associated with Weld Deposited Cladding in Operating PWR Plants," October 2002. 42. WCAP-14574-A, "License Renewal Evaluation: Aging Management Evaluation for Pressurizers," December 2000. 43. NUREG-1801, "Generic Aging Lessons Learned Report," Volumes 1 and 2, NRC, Revision 1, September 2005.
Self-Identified	<p>Section A.2.11, page A-8</p> <p>Change "Flux Detector Thimble Inspection Program" to "Flux Thimble Tube Inspection Program."</p>
Self-Identified	<p>Section A.2.38, page A-23</p> <p>In the 5th line of the 1st paragraph, change "cyclic or transient occurrences" to "transient cycles."</p>
Self-Identified	<p>Section A.3.2.1, page A-26</p> <p>Replace the term "lower pressurizer head" with the term "pressurizer lower head" in the second sentence of the third paragraph and the last sentence of the fourth paragraph of this section.</p>
Self-Identified	<p>Section A.3.2.1, page A-26</p> <p>In the last sentence of the 1st paragraph, change "cyclic or transient occurrences" to "transient cycles."</p> <p>Section A.3.2.1, page A-27</p> <p>In the first sentence of the 1st paragraph, change "cycle occurrences" to "cycles."</p>
Self-Identified	<p>Section A.3.2.1, page A-28</p> <p>In the second sentence of the 1st paragraph, delete "stress-based."</p> <p>In the last sentence, change "cyclic and transient occurrences" to "transient cycles."</p>
Self-Identified	<p>Section A.3.2.2, page A-29</p> <p>In the second sentence, replace "ASME B31.1" with "ANSI B31.1."</p>

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Self-Identified Changes

Source	Description of Amendment
Self-Identified	<p>Section A.3.2.6, page A-30</p> <p>Change the last two sentences as follows:</p> <p>The design cycles for the transients applicable to the reactor vessel internals are bounded by the RCS design cycles, therefore the reactor vessel internals fatigue analysis remains valid for the period of extended operation. This TLAA is demonstrated in accordance with 10 CFR 54.21 (c)(1)(i).</p>
Self-Identified	<p>Table B2-1, page B-8</p> <p>Change the third column entry on the second line (for NUREG-1801 Number XI.M16) as follows: "See the plant specific Reactor Vessel Internals Program."</p>
Self-Identified	<p>Section B.3.7, page B-32</p> <p>In the first bulleted line, and also in the paragraph following, change "D4167" to "D4176."</p>
Self-Identified	<p>Section B.3.7, page B-34</p> <p>Under Acceptance Criteria in first bulleted line, change "D4167" to "D4176."</p> <p>In the fourth bulleted line, change "ASTM test methods D1796" to "ASTM test methods D1796 or D2709."</p> <p>Delete the fifth bulleted line.</p> <p>In the seventh bulleted line, change "D4167" to "D4176."</p>
Self-Identified	<p>Section B.3.9, page B-42</p> <p>In the Enhancement column, first paragraph, change NUREG-1808 to NUREG-1801 and remove the extra period.</p>
Self-Identified	<p>Section B.3.17, page B-70</p> <p>In the last table line change "show to accelerate..." to "shown to accelerate...."</p>
Self-Identified	<p>Section B.3.19, page B-75</p> <p>In the table under the Elements Affected column, change "1. Detection of Aging Effects" to "4. Detection of Aging Effects."</p> <p>Under the Exception column, second sentence, change "The VEGP Selective Leaching Program..." to "The VEGP One-time Inspection Program for Selective Leaching...."</p>
Self-Identified	<p>Section B.3.21, page B-83</p> <p>In the table under Elements Affected, change "2. Parameters Monitored and Inspected" to "3. Parameters Monitored and Inspected."</p>
Self-Identified	<p>Section B.3.22, page B-85</p> <p>In the first line of the Program Description, and in the second row of the Exception column (for 3. Parameters Monitored / Inspected on page B-86), change "The VEGP Piping and Duct Inspection Program" to "The VEGP Piping and Duct Internal Inspection Program."</p>

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Self-Identified Changes

Source	Description of Amendment
Self-Identified	<p>Section B.3.38, page B-133</p> <p>In the 5th line of the 1st paragraph, change “cyclic or transient occurrences” to “transient cycles.”</p> <p>In the second sentence under Stress-based Fatigue (SBF) Monitoring, change “stress ranges” to “stress intensity ranges.”</p>
Self-Identified	<p>Section B.3.38, page B-135</p> <p>Change the last sentence under “<u>Thermal Fatigue In Normally Stagnant Non-Isolable RCS Branch Lines (IEB 88-08)</u>” as follows:</p> <p style="padding-left: 40px;">This monitoring is currently performed using equipment that is not part of the FatiguePro monitoring software.</p> <p>In the third line under “<u>Thermal Stratification of the Surge Line and Lower Pressurizer (IEB 88-11)</u>”, change “lower pressurizer” to “pressurizer lower head.”</p>
Self-Identified	<p>Section B.3.38, page B-136</p> <p>Delete the last sentence under “<u>Pressurizer Nozzles Full Structural Weld Overlays.</u>”</p> <p>Delete the second paragraph under “<u>Impact of Planned Measurement Uncertainty Recapture Power Uprate.</u>”</p>
Self-Identified	<p>Section B.3.38, page B-137</p> <p>Under <i>Enhancements</i>, change the Corrective Actions discussion as follows:</p> <p style="padding-left: 40px;">The implementing procedure for the Fatigue Monitoring Program will be enhanced to explicitly require that the corrective action initiated for exceeding the acceptance criteria of a CUF less than or equal to 1.0 includes a review to identify and assess any additional affected reactor coolant pressure boundary locations.</p>

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses**

Source	Description of Amendment
<p>Audit Question 3.0-01</p>	<p>Multiple Sections are amended in response to this question, which asks SNC to “provide details on the component/structure, material, environment, and aging effect combinations that are evaluated by TLAA. Also, clearly identify those line-items that credit an aging management program in addition to/instead of a TLAA.”</p> <p>In response to this request SNC will (where necessary) amend the LRA to specify which Table 2 line items apply when an aging management program is used to disposition a TLAA (TLAA disposition by the method prescribed in 10 CFR 54.21(c)(1)(iii)). The corresponding Table 1 and NUREG 1801 Vol. 2 items will also be identified.</p> <p>Specific LRA changes are as follows:</p> <p>Table 3.1.1 Item 62, page 3.1-41</p> <p>Replace the discussion column with the following text:</p> <p style="padding-left: 40px;">This item is not used by VEGP. VEGP has no components with an aging effect requiring management of Cracking due to Cyclic Loading associated with this item.</p> <p>Table 3.1.1 Item 67, page 3.1-44</p> <p>Replace the discussion column with the following text:</p> <p style="padding-left: 40px;">This item is not used by VEGP. VEGP has no components with an aging effect requiring management of Cracking due to Cyclic Loading associated with this item.</p> <p>Table 3.1.1 Item 70, page 3.1-47</p> <p>Replace the second paragraph in the discussion column with the following text:</p> <p style="padding-left: 40px;">VEGP manages cracking due to thermal loading in ASME Class 1 piping components less than 4 NPS with the One-Time Inspection Program for ASME Class 1 Small Bore Piping (Appendix B.3.18) and the ISI Program (Appendix B.3.13). VEGP clarifies that management of thermal loading in small bore lines associated with swirl penetration effects is managed by screening in accordance with MRP-146 (or later updated industry guidance). This screening is implemented as a part of the One-Time Inspection Program for Small Bore Piping. Any inspections required by MRP-146 are performed as part of the ISI program. See Sections B.3.13 and B.3.18.</p> <p>Section 3.1.2.2.1, page 3.1-10</p> <p>Beginning with the third paragraph, amend this section as follows:</p> <p style="padding-left: 40px;">The Fatigue Monitoring Program (Appendix B.3.38) is credited to disposition the fatigue TLAA for the charging nozzles, the safety injection nozzles, the accumulator/RHR nozzles, the hot leg surge nozzle, the pressurizer surge nozzle, and the pressurizer lower head (Table 1 item 3.1.1-8). The Fatigue Monitoring Program also manages the fatigue TLAA for the main and auxiliary feedwater nozzles (Table 1 item 3.1.1-7).</p> <p style="padding-left: 40px;">Periodic replacement of steam generator secondary side manway and handhole bolts is managed as a part of the Bolting Integrity Program (Appendix B.3.2). This approach ensures the number of transient cycles remains conservative with respect to the current fatigue analyses. See Section 4.3.5 for additional discussion (Table 1 item 3.1.1-7).</p>

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses**

Source	Description of Amendment
	<p>There are no Table 2 items relating back to Table 1 Items 3.1.1-1, 3.1.1-5, 3.1.1-6, 3.1.1-9, or 3.1.1-10 because existing fatigue calculations for the reactor vessel supports, reactor vessel, reactor vessel internals, the steam generator tubes, and the steam generator (other than the main and auxiliary feedwater nozzles that are related back to Table 1 Item 3.1.1-7) have been shown to remain valid for the period of extended operation and there are no aging effects requiring management.</p> <p>See Sections 4.3.1 and 4.3-6.</p> <p>Table 3.1.2-3 page 3.1-95</p> <p>For ID 8a, change the Aging Effect Requiring Management from "Cracking - Cyclic Loading" to "Cracking - Thermal Loading." Delete the Fatigue Monitoring Program from the Aging Management Programs.</p> <p>Add new ID 8e as shown in Appendix A.</p> <p>For ID 9a, change the Aging Effect Requiring Management from "Cracking - Cyclic Loading" to "Cracking - Thermal Fatigue", delete Inservice Inspection Program from the Aging Management Program column, change the NUREG-1801 Vol. 2 Item to IV.C2-25 and change the Table 1 Item to 3.1.1-8.</p> <p>Table 3.1.2.4 page 3.1-103</p> <p>For ID 2b, 3b, 4b, 6b, 7b, 10a, and 11a, change the Aging Effect Requiring Management from "Cracking - Cyclic Loading" to "Cracking - Thermal Fatigue", make the Fatigue Monitoring Program the only aging management program credited, change the NUREG-1801 Vol. 2 Item to IV.C2-25, and change the Table 1 Item to 3.1.1-8.</p> <p>Delete the entire line for ID 9a.</p> <p>Table 3.1.2-5, pages 3.1-110 and 3.1-112</p> <p>For ID 2a and 8a, change the Aging Effect Requiring Management from "Cracking - Cyclic Loading" to "Cracking - Thermal Fatigue", make the Fatigue Monitoring Program the only aging management program credited, change the NUREG-1801 Vol. 2 Item to IV.D1-11, change the Table 1 Item to 3.1.1-7, and change the Note from H to E.</p> <p>For ID 6a, change the Aging Effect Requiring Management from "Cracking - Cyclic Loading" to "Cracking - Thermal Fatigue".</p> <p>Section 3.1.2.2.3 (1), page 3.1-11</p> <p>Add the following sentence as a fourth paragraph:</p> <p style="padding-left: 40px;">No Table 2 items reference Table 1 Item 3.1.1-17.</p> <p>Section 3.1.2.2.5, page 3.1-12</p> <p>See the LRA Amendment in response to question 3.1-03 for the complete change to this section.</p> <p>Section 3.2.2.2.1, page 3.2-5</p> <p>Add the following to this paragraph:</p> <p style="padding-left: 40px;">Existing non-Class 1 fatigue analyses have been shown to remain valid for the period of extended operation. Since there are no aging effects requiring management and SNC does not rely on an aging management program to disposition the TLAA, no Table 2 items reference Table 1 Item 3.2.1-1.</p>

**Vogle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses**

Source	Description of Amendment
	<p>Section 3.3.2.2.1, page 3.3-42 Change the last sentence of the first paragraph as follows: Therefore, no TLAA exists for fatigue of these components and no Table 2 items reference Table 1 Item 3.3.1-1.</p> <p>Add the following to the second paragraph: Existing non-Class 1 fatigue analyses have been shown to remain valid for the period of extended operation. Since there are no aging effects requiring management and SNC does not rely on an aging management program to disposition the TLAA, no Table 2 items reference Table 1 Item 3.3.1-2.</p> <p>Section 3.4.2.2.1, page 3.4-9 Add the following to this paragraph: Existing non-Class 1 fatigue analyses have been shown to remain valid for the period of extended operation. Since there are no aging effects requiring management and SNC does not rely on an aging management program to disposition the TLAA, no Table 2 items reference Table 1 Item 3.4.1-1.</p> <p>Section 3.5.2.2.1.5, page 3.5-19 Add the following to the second paragraph: As described in Section 4.5, the Tendon Prestress Analyses have been extended to cover the period of extended operation and the results demonstrate that prestress in both vertical and horizontal tendon groups should remain above the applicable minimum required value for at least 60 years of operation. Since SNC does not rely on an aging management program to disposition the TLAA, no Table 2 items reference Table 1 Item 3.5.1-7.</p> <p>Section 3.5.2.2.1.6, page 3.5-20 Change the second paragraph as follows: Fatigue analyses were identified for VEGP containment penetrations that experience significant cyclic loading. The evaluation of this TLAA for VEGP is addressed separately in Section 4.6, "Penetration Load Cycles," which indicates the existing analyses remain valid for the extended period of operation. Since SNC does not rely on an aging management program to disposition the TLAA, no Table 2 items reference Table 1 Item 3.5.1-9.</p> <p>Section 3.5.2.2.2.7, page 3.5-27 Add the following sentence to the second paragraph: Therefore, no TLAA exists for fatigue of these components and no Table 2 items reference Table 1 Item 3.5.1-42.</p> <p>Section 3.6.2.2.1, page 3.6-10 Add the following sentence to this paragraph: Components covered by the Environmental Qualification Program have a qualified service life, do not require aging management, and therefore no Table 2 items reference Table 1 Item 3.6.1-1</p>

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses

Source	Description of Amendment
Audit Question 3.1-01	<p>Table 3.1.1-1, , page 3.1-19</p> <p>Replace the last sentence under Discussion with the following:</p> <p style="padding-left: 40px;">However, the VEGP reactor vessel is supported by four seats under two hot leg and two cold leg nozzles, which are spaced approximately 90° apart. SNC will consider those supports as being this component. Cumulative fatigue damage is addressed as a TLAA. See Section 3.1.2.2.1 for further discussion.</p> <p>Section 3.1.2.2.1, page 3.1-10</p> <p>The changes to this page due to this question are included in the changes shown for Question 3.0-01.</p>
Audit Question 3.1-02	<p>Section 3.1, page 3.1-126; Section 3.2, page 3.2-55; Section 3.3, page 3.3-288; Section 3.4, page 3.4-74; Section 3.5, page 3.5-103, and Section 3.6, page 3.6-26.</p> <p>Change Standard Note E as follows:</p> <p style="padding-left: 40px;">Consistent with NUREG-1801 item for material, environment, and aging effect, but a different aging management program is credited or NUREG-1801 identifies a plant-specific aging management program.</p>
Audit Question 3.1-03	<p>Section 3.1.2.2.5, page 3.1-12</p> <p>Replace this section with the following:</p> <p style="padding-left: 40px;">NUREG-1800 Section 3.1.2.2.5 indicates that crack growth due to cyclic loading could occur in reactor vessel SA 508 Class 2 forgings clad with stainless steel using a high heat input welding process.</p> <p style="padding-left: 40px;">There are SA-508 Class 2 forgings clad using high heat input welding processes in the VEGP reactor pressure vessel. However, welding process controls were implemented at VEGP to prevent under-clad cracking and no such cracks have been identified at VEGP. Further, there is no plant specific evaluation of under-clad cracking at VEGP.</p> <p style="padding-left: 40px;">Regardless, SNC conservatively includes under-clad cracking of reactor vessel SA-508 Class 2 forgings clad using high heat input processes as a TLAA. This TLAA is managed by a generic under-clad cracking evaluation applicable to all Westinghouse units. See Section 4.7.5 for additional discussion.</p> <p style="padding-left: 40px;">No Table 2 items reference Table 1 Item 3.1.1-21.</p> <p>Table 3.1.1, page 3.1-24</p> <p>Replace the discussion column of Item 3.1.1-21 with the following:</p> <p style="padding-left: 40px;">Under-clad cracking of SA-508 Class 2 forgings clad using high heat input welding processes is addressed as a TLAA.</p> <p style="padding-left: 40px;">See Section 3.1.2.2.5 for further discussion.</p> <p>Table 4.1.2-1, page 4.1-4</p> <p>Add an item under Category 6 for Underclad cracking of the Reactor Pressure Vessel dispositioned by 10 CFR 54.21(c)(1)(i) and discussed in Section 4.7.5</p> <p>Table 4.1.2-21, page 4.1-5</p> <p>Change the Applicability to VEGP to “Yes” for “Intergranular separation in the heat-affected zone (HAZ) of reactor vessel low-alloy steel under austenitic SS cladding “ and show “4.7.5” as the Section for this TLAA.</p>

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses

Source	Description of Amendment
	<p>Section 4.7, page 4.7-4 Add new section 4.7.5 as follows:</p> <p>4.7.5 UNDERCLAD CRACKING OF THE REACTOR PRESSURE VESSEL There is no plant specific evaluation of underclad cracking at VEGP and no such cracks have been identified. The VEGP UFSAR states in Sections 1.9.43.1 and 5.3.1.2.G that freedom from underclad cracking is ensured by special evaluation of the procedure qualification for cladding applied on low-alloy steel (SA-508, Class 2) in accordance with Reg. Guide 1.43. However, SNC conservatively includes underclad cracking as a TLAA. Analyses performed by Westinghouse in WCAP-15338 demonstrate that growth of under-clad cracks in Westinghouse reactor pressure vessels (RPVs) does not represent a significant challenge to reactor vessel integrity for an operating term of 60 years. The assumptions used as inputs to WCAP-15338 are applicable to VEGP. The results of these analyses demonstrate that under-clad cracking of reactor vessel components is not an aging effect requiring management for VEGP. TLAA disposition is in accordance with 10 CFR 54.21(c)(1)(i).</p> <p>Section A.3.6, page A-34 Add new section A.3.6.5 as follows:</p> <p>A.3.6.5 Underclad Cracking of the Reactor Pressure Vessel There is no plant specific evaluation of underclad cracking at VEGP and no such cracks have been identified. Freedom from underclad cracking is ensured by special evaluation of the procedure qualification for cladding applied on low-alloy steel (SA-508, Class 2) in accordance with Reg. Guide 1.43. However, SNC conservatively includes underclad cracking as a TLAA. Analyses performed by Westinghouse in WCAP-15338 demonstrate that growth of under-clad cracks in Westinghouse reactor pressure vessels (RPVs) does not represent a significant challenge to reactor vessel integrity for an operating term of 60 years. The assumptions used as inputs to WCAP-15338 are applicable to VEGP. The results of these analyses demonstrate that under-clad cracking of reactor vessel components is not an aging effect requiring management for VEGP. TLAA disposition is in accordance with 10 CFR 54.21(c)(1)(i)."</p>
Audit Question 3.1-07	<p>Table 3.1.2-3, page 3.1-101 For ID 20g, change the Table 1 Item to 3.3.1-58</p>
Audit Question 3.1-14	<p>Table 3.1.2-5, page 3.1-121 For ID 28a, change the NUREG 1801 Vol.2 Item to IV.D1-14</p>
Audit Question 3.1-26	<p>See the amendment for Audit Question 3.0-01, Table 3.1.2-5 changes.</p>

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses**

Source	Description of Amendment
Audit Question 3.2-04	<p>Table 3.2.1, page 3.2-26 For Item 3.2.1-50, change the Discussion as follows: The VEGP AMR results for ESF systems do not include aluminum piping components. However, this item is used for aluminum alloy components included in Auxiliary systems (Ref. Tables 3.3.2-19 and 3.3.2-31).</p>
Audit Question 3.2-05	<p>Table 3.2.1, page 3.2-27 For Item 3.2.1-57, change the Discussion as follows: The VEGP AMR methodology results are consistent with NUREG-1801 in that no aging effects requiring management exist for stainless steel and copper alloy < 15% Zn components exposed to air with borated water leakage; however, the VEGP AMR results for ESF systems do not use this item.</p>
Audit Question 3.2-07	<p>Table 3.2.1, page 3.2-22 For Item 3.2.1-39, change the Discussion as follows: Consistent with NUREG-1801 with aging management program exception for the raw water - NSCW environment. VEGP manages the aging effect of loss of material in the raw water - NSCW environment with the Generic Letter 89-13 Program (Appendix B.3.12). Different than NUREG-1801 for components exposed to the raw water - well water environment. VEGP manages loss of material in the Steam Generator Blowdown Sample Bath (Shells) exposed to raw water - well water with the Periodic Surveillance and Preventive Maintenance Activities (Appendix B.3.21).</p>
Audit Question 3.3-02	<p>Table 3.3.2-5, page 3.3-106. Delete ID 1e – entire row. Table 3.3.2-6, page 3.3-114. Delete ID 1g – entire row.</p>
Audit Question 3.3-04	<p>Table 3.3.2-10, page 3.3-147 For ID 30b, change the NUREG-1801 Vol. 2 Item to V.D1-4, and change the Table 1 Item to 3.2.1-28.</p>
Audit Question 3.3-06	<p>Table 3.3.2-2, page 3.3-92 Add ID 6c to this table as shown in Appendix A.</p>
Audit Question 3.3-07	<p>Table 3.3.1, page 3.3-71 For Items 3.3.1-57, 3.3.1-58, and 3.3.1-59, in the Discussion column, delete the last paragraph (beginning with “However, SNC considers...”).</p>
Audit Question 3.3-10	<p>Table 3.3.2-11, page 3.3-154 For ID 5c, change the Note from B to E.</p>
Audit Question 3.3-11	<p>Table 3.3.2-11, page 3.3-155 For ID 6c, change the Note from B to E.</p>

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses**

Source	Description of Amendment
Audit Question 3.3-12	Table 3.3.2-12, page 3.3-159 For ID 2d, change the Note from B to E.
Audit Question 3.3-13	Table 3.3.2-12, page 3.3-160 For ID 4d, change the Note from B to E.
Audit Question 3.3-14	Table 3.3.2-12, page 3.3-159 For ID 3c, change the Note from B to E.
Audit Question 3.3-15	Table 3.3.2-14, page 3.3-172 For ID 2c, change the Note from B to E.
Audit Question 3.4-04	<p>Table 3.4.2-1, page 3.4-34 For ID's 7b and 12b, add 402 in the Notes column.</p> <p>Table 3.5.1, page 3.5-51 For item 3.5.1-50, delete "only" from the second paragraph in the Discussion column, and add the following paragraph in the Discussion column:</p> <p style="padding-left: 40px;">Other components aligned to this line item include aluminum alloy mechanical components, including</p> <ul style="list-style-type: none"> (i) flame arrestor elements and housings subjected to an air-outdoor (exterior) environment (ii) insulation – jacketing and supports exposed to weather (exterior) environment (iii) filter housings – ARV local (manual) actuators subjected to air-outdoor (exterior) environment (iv) oil reservoirs filler/breather caps – ARV local (manual) actuators exposed to air – outdoor (exterior) environment (v) valve bodies subjected to air – outdoor (exterior) environment. <p>The VEGP AMR results for these mechanical components indicate loss of material due to corrosion is an aging effect requiring management, which will be managed by the external surfaces monitoring program.</p>
Audit Question 3.4-05	Table 3.4.2-1, page 3.4-31 For ID's 3a and 3b, in the Aging Management Programs column change "One-Time Inspection Program" to "Inservice Inspection Program;" and change the Note for both items from F to G.
Audit Question 3.5-01	Table 3.5.1, page 3.5-28 In the Discussion column of ID 3.5.1-1, change "Inservice Inspection Program – IWE (Appendix B.3.30)" to "Inservice Inspection Program, IWL (Appendix B.3.31)."

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses**

Source	Description of Amendment
Audit Question 3.5-02	Table 3.5.2-1, page 3.5-59 See Appendix A for revised ID's 2 and 3.
Audit Question 3.5-03	Table 3.5.1, page 3.5-33 For Item 3.5.1-15, in the Discussion column, delete the following sentence: See Section 3.5.2.2.1.10 for further discussion.
Audit Question 3.5-04	Section 3.5.2.2.2.2(4), page 3.5-24 Change the last sentence of section 3.5.2.2.2.2(4) as follows: However, inspections performed in accordance with the Structural Monitoring Program are conservatively credited to detect any visible corrosion. Section 3.5.2.2.2.2 (1), page 3.5-23 Change the first paragraph under "(1) Loss of material due to freeze-thaw" as follows: NUREG-1800 item 3.5.2.2.2.2 (1) relates to loss of material and cracking due to freeze-thaw in below-grade inaccessible concrete areas of Groups 1-3, 5, and 7-9 structures. Further evaluation of this aging effect is recommended only for structure / aging effect combinations that are not within the structural monitoring program.
Audit Question 3.5-06	Table 3.5.2-6, page 3.5-77 For Item 6, change the NUREG 1801 Vol. 2 Item from III.A3-9 to III.A3-4, and change Table 1 Item from 3.5.1-23 to 3.5.1-31.
Audit Question 3.5-07	Table 3.5.2-12, page 3.5-93 For Item 13, change the Note from F to C (both rows).
Audit Question 3.5-08	Table 3.5.2-7, page 3.5-80 See Appendix A for revised ID 1.
Audit Question 3.5-09	Table 3.5.2-7, page 3.5-80 For ID 2, in the Raw Water row, change the Note from C to A.
Audit Question 3.5-10	Table 3.5.2-12, page 3.5-92 See Appendix A for revised ID 10. Table 3.5.1, page 3.5-51 For Item Number 3.5.1-50, change the Discussion column as follows: Consistent with NUREG-1801.
Audit Question 4.3-02	Table 4.3.1-2, page 4.3-16 For the Inadvertent Safety Injection transient, change the entry for the U1 / U2 Projected 60-year count from 0 / 2 to 1 / 2.
Audit Question 4.3-07	Section A.3.2.5, page A-30 Change the first sentence of the second paragraph as follows: ...unless a less restrictive replacement schedule is developed and documented

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses

Source	Description of Amendment
	<p>based on potential updated analyses...</p> <p>Section B.3.2, page B-18</p> <p>Under <i>Preventive Actions</i>, change the fourth sentence of the fifth paragraph as follows:</p> <p style="padding-left: 40px;">The replacement schedule may be adjusted based on potential updated analyses initiated by the program.</p>
<p>Audit Question 4.3-08</p>	<p>Section 4.3.4, page 4.3-21</p> <p>Replace this section with the following:</p> <p style="padding-left: 40px;">The Westinghouse Generic Technical Report WCAP 14422, Revision 2a, identifies fatigue of reactor vessel supports as a potential TLAA if the supports of the reactor vessel were constructed in accordance with the 1963 version of the AISC Code.</p> <p style="padding-left: 40px;">The VEGP RPV is supported by four seats under two hot leg and two cold leg nozzles which are spaced approximately 90° apart. The vertical loads are carried by the support seats to the embedded steel weldments under each support, while the radial and tangential loads are carried by the embedded steel weldments in the primary shield wall. Per UFSAR Section 3.8.3.4.1, The reactor pressure vessel supports embedded within the primary shield wall are procured in accordance with ASME Code, Section III, Division 1, Subsection NF; however, since they are outside the ASME Jurisdictional boundary, their design follows AISC specifications. Per UFSAR Section 3.8.3.2.1, both the 1969 version of the AISC Code and ASME Code, Section III, Division 1, Subsection NF apply to the supports.</p> <p style="padding-left: 40px;">In the SER for WCAP 14422, the NRC has indicated that licensees must ensure that a version of the AISC Code later than 1963 was used. Since the design used the 1969 version of the AISC Code, the existing analysis is demonstrated to be valid for the extended term of operation in accordance with 10 CFR 54.21(c)(1)(i).</p> <p style="padding-left: 40px;">A review of the applicant action items in the SER for WCAP-14422 identified only items 2 and 6 as applicable to fatigue of the reactor vessel supports. A review of the UFSAR Section 3.8.3.1.1 and Figure 5.4.14-1 verified that the VEGP RPV support system is the Configuration 1 support system shown in Figure 2-1 of WCAP-14422 (Applicant action Item 2). The above discussion of the codes applicable to the VEGP reactor vessel supports satisfies applicant action item 6. Therefore the generic study in WCAP-14422 is applicable to VEGP, for the purpose of applying statements concerning fatigue of the reactor vessel supports being a TLAA that is dispositioned by the WCAP.</p> <p>Section A.3.2.4, page A-29</p> <p>Replace this section with the following:</p> <p style="padding-left: 40px;">The Westinghouse Generic Technical Report WCAP 14422, Revision 2a, (Ref 15) identifies fatigue of reactor vessel supports as a potential TLAA if the supports of the reactor vessel were constructed in accordance with the 1963 version of the AISC Code.</p> <p style="padding-left: 40px;">The reactor pressure vessel supports embedded within the primary shield wall are procured in accordance with ASME Code, Section III, Division 1, Subsection NF; however, since they are outside the ASME Jurisdictional boundary, their design follows AISC specifications. Therefore, both the 1969 version of the AISC Code and ASME Code, Section III, Division 1, Subsection NF apply to the supports.</p> <p style="padding-left: 40px;">In the SER for WCAP 14422, the NRC has indicated that licensees must ensure that a version of the AISC Code later than 1963 was used. Since the design used the</p>

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses

Source	Description of Amendment
	1969 version of the AISC Code, the existing analysis is demonstrated to be valid for the extended term of operation in accordance with 10 CFR 54.21(c)(1)(i).
Audit Question 4.3-10	<p>Section 4.3.2, page 4.3-20</p> <p>This section is amended to include a discussion of the fatigue analysis related to the letdown heat exchanger, containment cooler coils, and main steam isolation valves. Add the following paragraphs to the end of Section 4.3.2:</p> <p style="padding-left: 40px;">There are non-Class 1 fatigue evaluations that use a different method of analysis than the 7000 cycles described above. In general, those evaluations use the same cycles, or a subset of the cycles, used for the Class 1 piping and therefore the existing analysis remains valid for 60 years because the cycles assumed will not be exceeded in 60 years.</p> <p style="padding-left: 40px;">One case is the analysis that addresses fatigue of the letdown heat exchangers. That analysis utilizes some of the primary piping transient events. The calculation demonstrates that a fatigue exemption applies to the heat exchanger and shows the damage factor for the heat exchanger bolting to be satisfactory with the ring spacer. The cycles assumed for both the heat exchanger and the bolting are bounded by the Class 1 piping cycles. Therefore, this analysis is determined to be a TLAA, but the analysis is already valid for the period of extended operation in accordance with 10 CFR 54.21(c)(1)(i).</p> <p style="padding-left: 40px;">Another case is the fatigue test report for containment cooler Copper-Nickel Alloy Cooling Coils. This test report evaluates, by experiment, the stress placed upon Cu-Ni coils due to 1500 thermal cycles over a 40-year design life. The transient cycles that most apply to the cooling coils are those of plant start-up and shutdown (when the containment experiences the greatest temperature change). The limits for RCS start-up and Shutdown (200 of both) will limit the cycles that the coolers see to much less than 1500 for 60 years. Therefore, this analysis is determined to be a TLAA, but the analysis is already valid for the period of extended operation in accordance with 10 CFR 54.21(c)(1)(i).</p> <p style="padding-left: 40px;">Another case is the fatigue analysis of the main steam isolation valves that uses the maximum number of cycles in specification AX4AR17 (2000 for 40 years). The calculation shows that for the maximum yoke stress as calculated, 10000 cycles are allowed. This is 5 times the minimum acceptable per the spec. The component fatigue is bounded by the piping fatigue, which is assured through limits on the number of piping cycles in the Fatigue Monitoring Program. Therefore, this analysis is determined to be a TLAA, but the analysis is already valid for the period of extended operation in accordance with 10 CFR 54.21(c)(1)(i).</p> <p>Section A.3.2.2, page A-29</p> <p>This section is amended to include a discussion of the fatigue analyses not related to 7000 cycles. Add the following paragraph to the end of Section A.3.2.2:</p> <p style="padding-left: 40px;">There are non-Class 1 fatigue evaluations that use a different method of analysis than the 7000 cycles described above. In general, those evaluations use the same cycles, or a subset of the cycles, used for the Class 1 piping. These analyses include the letdown heat exchangers, containment cooler cooling coils, and the main steam isolation valves. In each case, the analysis was determined to remain valid for the period of extended operation in accordance with 10 CFR 54.21(c)(1)(i).</p>

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses

Source	Description of Amendment
<p>Audit Question 4.3-12</p>	<p>Sections 4.3.1.6 and 4.3.1.7, page 4.3-9</p> <p>These sections are amended to include a discussion of the Full Structural Weld Overlays on Pressurizer Spray Nozzles, Safety and Relief Nozzles, and Surge Nozzle and High Energy Line Break analyses, respectively, including a discussion of the demonstration methods for both TLAAAs.</p> <p>Add the following paragraph to Section 4.3.1.6:</p> <p style="padding-left: 40px;">In summary, the reconciliation of the existing fatigue evaluation that was performed for the limiting locations outside the FSWOL is a TLAA that remains valid for the period of extended operation because the cycles assumed will not be exceeded during 60 years of operation. Therefore, this TLAA has been demonstrated to be acceptable for the period of extended operation in accordance with 10 CFR 54.21(c)(1)(i).</p> <p>Replace the last two paragraphs of Section 4.3.1.7 with the following:</p> <p style="padding-left: 40px;">The normal and alternate charging nozzle design usage factors are 0.995. The maximum usage factors in the piping are 0.90 in Section 1, and 0.40 in Section 2. Based on the system design and operation, the actual operating transients in the piping and nozzles will be similar, consistent with the design transients. Therefore, it is reasonable to conclude that fatigue usage factors calculated for the RCL charging nozzles based on operating transients are bounding for the locations in the adjacent class 1 auxiliary piping. It is also reasonable to conclude that the magnitudes of fatigue usage of the various components will be related in a manner similar to those reported in the design reports.</p> <p style="padding-left: 40px;">Therefore, if the usage factor calculated for the nozzle subjected to operating transients is less than the design usage factor, it may be concluded that the adjacent class 1 auxiliary piping components' usage factors would be less than their design usage factors if evaluated for the same operating transients. Since the allowable CUF for the charging nozzle is being reduced to 0.1316 for the period of extended operation to accommodate environmental fatigue effects (see Section 4.3.1.5.4), the existing HELB analyses for CVCS piping remain valid.</p> <p style="padding-left: 40px;">In summary, the existing VEGP HELB analyses have been shown to remain valid for the period of extended operation. Therefore, this TLAA has been demonstrated to be acceptable for the period of extended operation in accordance with 10 CFR 54.21(c)(1)(i).</p> <p>Section A.3.2.1, page A-28</p> <p>Replace the next to last paragraph with the following:</p> <p style="padding-left: 40px;">The existing VEGP HELB analyses have been shown to remain valid for the period of extended operation. Therefore, this TLAA has been demonstrated to be acceptable for the period of extended operation in accordance with 10 CFR 54.21(c)(1)(i).</p> <p style="padding-left: 40px;">Full structural weld overlays have been installed on the pressurizer spray nozzles, pressurizer safety and relief nozzles, and the pressurizer surge nozzles. Fatigue crack growth analyses using ASME Code Section XI methodology were performed to demonstrate the fatigue qualification at the structural weld overlay regions. Reconciliation of the existing fatigue evaluation was performed for the limiting locations outside the FSWOL and it was demonstrated that the pressurizer nozzles would still meet the applicable ASME Code Section III requirements. In summary, the reconciliation of the existing fatigue evaluation that was performed for the limiting</p>

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses**

Source	Description of Amendment
	<p>locations outside the FSWOL is a TLAA that remains valid for the period of extended operation because the cycles assumed will not be exceeded during 60 years of operation. Therefore, this TLAA has been demonstrated to be acceptable for the period of extended operation in accordance with 10 CFR 54.21(c)(1)(i).</p>
<p>Audit Question 4.3-13</p>	<p>Section 4.3.2, page 4.3-20</p> <p>Change the second sentence of the second paragraph as follows:</p> <p style="padding-left: 40px;">The assumption of 7000 cycles was conservative and the actual temperature changes experienced by most systems were determined to be much less severe than the design full-temperature cycles.</p> <p>Delete the following text from the third sentence of the second paragraph:</p> <p style="padding-left: 40px;">(or conversely, convert the full-temperature cycles to an allowable number of partial-temperature cycles).</p>
<p>Audit Question 4.7.2-2</p>	<p>Section 4.7.2, page 4.7-2</p> <p>Replace this section with the following:</p> <p style="padding-left: 40px;">The VEGP Diesel Fuel Oil Storage Tanks and associated piping are not provided with cathodic protection; therefore, a liberal corrosion allowance was included. A calculation performed to evaluate the corrosion allowance included a 40-year assumption and has been determined to be a TLAA.</p> <p style="padding-left: 40px;">The depths of penetration due to corrosion over the life of Plant Vogtle for a wide range of exposed bare metal areas on the surface of carbon-steel fuel oil storage tanks and associated piping in Category-1 backfill were conservatively determined by a series of tests. These depths of penetration were then compared with the excess wall thickness provided on the storage tanks and piping for corrosion to evaluate the adequacy of the corrosion protection measure.</p> <p style="padding-left: 40px;">The calculation determined the depth of penetration for a hole of approximately 1/32" diameter (0.001 in²) in the coating of the pipe to be 0.03 in. This depth of penetration is 50% of the 1/16" corrosion allowance provided on the pipes for protection against corrosion. Due to larger wall thickness for the fuel oil storage tanks, more margin exists. For a hole of 1/32" diameter in the coating of the tank, the depth of penetration is 25% of the 1/8" corrosion allowance.</p> <p style="padding-left: 40px;">The calculation was reviewed for license renewal, and it was determined that depth of penetration due to corrosion would not exceed the corrosion allowance during a 60-year operating life. Specifically, consideration of 60 years instead of 40 years in the calculation increases the depth of penetration due to corrosion from 25% to 51% of the corrosion allowance for the tanks and from 50% to 76% of the corrosion allowance for the pipes.</p> <p style="padding-left: 40px;">Therefore, demonstration is in accordance with 10 CFR 54.21(c)(1)(ii).</p> <p>Section A.3.6.2, page A-32</p> <p>Replace this section with the following:</p> <p style="padding-left: 40px;">The VEGP Diesel Fuel Oil Storage Tanks and associated piping are not provided with cathodic protection; therefore, a liberal corrosion allowance was included. A calculation performed to evaluate the corrosion allowance included a 40-year assumption and has been determined to be a TLAA.</p> <p style="padding-left: 40px;">The calculation determined the depth of penetration for a hole of approximately 1/32" diameter (0.001 in²) in the coating. The calculation was reviewed for license</p>

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses**

Source	Description of Amendment
	<p>renewal, and it was determined that depth of penetration due to corrosion would not exceed the corrosion allowance during a 60-year operating life. Specifically, consideration of 60 years instead of 40 years in the calculation increases the depth of penetration due to corrosion from 25% to 51% of the corrosion allowance for the tanks and from 50% to 76% of the corrosion allowance for the pipes.</p> <p>Therefore, demonstration is in accordance with 10 CFR 54.21(c)(1)(ii).</p>
<p>Audit Question B.3.0-01</p>	<p>Section B.3.5, page B-26: Change the <i>Exceptions to NUREG-1801</i> section of B.3.5 to read "None." Add the following paragraph to the end of the <i>Program Description</i>. NUREG-1801, Section XI.M12 describes the program as conforming to the requirements of the ASME Code, Section XI, 2001 Edition including the 2002 and 2003 Addenda for flaw tolerance evaluation. Flaw tolerance evaluations will be performed in accordance with the current VEGP ISI Program Code of Record at the time of evaluation as defined by the Code specified in 10 CFR 50.55a one year before the beginning of the inservice inspection interval. Alternatively, flaw tolerance evaluations may use a different, NRC approved, method.</p> <p>Section B.3.18, page B-72: Change the <i>Exceptions to NUREG-1801</i> section of B.3.18 to delete the second item in the exception table (associated with "6. Acceptance Criteria"). Add the following paragraph to the end of the <i>Program Description</i>: NUREG-1801, Section XI.M35 describes the program as conforming to the requirements of the ASME Code, Section XI, 2001 Edition including the 2002 and 2003 Addenda. However, 10 CFR 50.55a governs the application of Codes and Standards. While the VEGP ISI Program for the 3rd inspection interval will use the 2001 Edition including the 2002 and 2003 Addenda, program criteria will be updated in conformance with 10 CFR 50.55a in future inspection intervals.</p> <p>Section B.3.23, page B-89: Add the following paragraph to the end of the <i>Program Description</i>: NUREG-1801, Section XI.M3 describes the program as conforming to the requirements of the ASME Code, Section XI, 2001 Edition including the 2002 and 2003 Addenda. However, 10 CFR 50.55a governs the application of Codes and Standards. While the VEGP ISI Program for the 3rd inspection interval will use the 2001 Edition including the 2002 and 2003 Addenda, the program will be updated in conformance with 10 CFR 50.55a for future inspection intervals.</p>

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses**

Source	Description of Amendment		
	<p>Change the Exceptions to NUREG-1801 section of B.3.23 to revise the first table line item as follows:</p> <table border="1" data-bbox="442 405 1442 709"> <tr> <td data-bbox="442 405 938 709"> 3. Parameters Monitored/Inspected 4. Detection of Aging Effects 5. Monitoring and Trending 6. Acceptance Criteria </td><td data-bbox="938 405 1442 709"> Volumetric examinations are in compliance with the performance demonstration initiative. This initiative program is currently based on Appendix VIII, 2001 Edition of Section XI as mandated by 10 CFR 50.55a. This difference is considered to be an exception to NUREG-1801 Rev.1 Section XI.M3. </td></tr> </table>	3. Parameters Monitored/Inspected 4. Detection of Aging Effects 5. Monitoring and Trending 6. Acceptance Criteria	Volumetric examinations are in compliance with the performance demonstration initiative. This initiative program is currently based on Appendix VIII, 2001 Edition of Section XI as mandated by 10 CFR 50.55a. This difference is considered to be an exception to NUREG-1801 Rev.1 Section XI.M3.
3. Parameters Monitored/Inspected 4. Detection of Aging Effects 5. Monitoring and Trending 6. Acceptance Criteria	Volumetric examinations are in compliance with the performance demonstration initiative. This initiative program is currently based on Appendix VIII, 2001 Edition of Section XI as mandated by 10 CFR 50.55a. This difference is considered to be an exception to NUREG-1801 Rev.1 Section XI.M3.		
<p>Audit Question B.3.6-03</p>	<p>Section A.2.6, page A-5 Add the following to the end of the third paragraph: This qualitative assessment will be based on an understanding of corrosion principles associated with closed cooling water chemistries and on review of system, plant, and industry operating experience. Parameters considered in the review will include system flow parameters (focusing on identification of stagnant regions and on intermittently operated systems), normal operating temperatures, and component geometries (e.g. creviced areas).</p> <p>Section B.3.6, page B-29 Add the following to the Enhancement: This qualitative assessment will be based on an understanding of corrosion principles associated with closed cooling water chemistries and on review of system, plant, and industry operating experience. Parameters considered in the review will include system flow parameters (focusing on identification of stagnant regions and on intermittently operated systems), normal operating temperatures, and component geometries (e.g. creviced areas).</p>		
<p>Audit Question B.3.13-01</p>	<p>Section B.3.13, page B-56: Change the last two sentences of the third paragraph (before Program Scope) as follows: The 2nd inspection interval for VEGP ended May 2007. For the VEGP 3rd inspection interval, the VEGP ISI Program uses ASME Section XI, 2001 Edition including the 2002 and 2003 Addenda.</p> <p>Replace the Program Scope with the following: The ISI program scope is defined by ASME Section XI Subsections IWB-1000, IWC-1000, IWD-1000, and IWF-1000 for Class 1, 2, and 3 components and supports, and includes all pressure-retaining components and their integral attachments.</p>		
<p>Audit Question B.3.13-02</p>	<p>Section B.3.13, page B-57 Under Monitoring and Trending, second paragraph, revise the next to last sentence as follows: Examinations that reveal indications that exceed the acceptance standards are extended to include additional examinations in accordance with ASME Section XI.</p>		

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses

Source	Description of Amendment	
Audit Question B.3.16-01 and 02	Section B.3.16, page B-66 Add the following entry to the <i>Exceptions to NUREG-1801</i>	
	3. Parameters Monitored/Inspected 6. Acceptance Criteria	The VEGP Oil Analysis Program screens all lubricating oil samples for wear metal content. This wear metal content screening constitutes an exception to GALL in that the screening does not provide a particle count as described in ISO 4406. VEGP's experience with this wear metal content screening process indicates that the process is very sensitive to the presence of particulate contaminants and therefore is a reliable method to monitor and trend particulate contamination.
	Section B.3.16, page B-67 Revise the second and third entries in the <i>Enhancements</i> as follows:	
	3. Parameters Monitored/Inspected	For the components in the scope of license renewal determination of the viscosity, relative level of oxidation, and flash point of lubricating oil samples will be required for components where the lubricating oil is changed based on its analyzed condition instead of being changed on a regular schedule regardless of condition. The relative level of oxidation of the lubricating oil will be monitored by analysis of the neutralization number or other appropriate parameter(s). Flash point monitoring will be performed for those components which have the potential for contamination of the lubricating oil with a light hydrocarbon such as fuel oil.
	3. Parameters Monitored/Inspected	Detailed particle counting, analytical ferrography or elemental analysis will be performed as necessary to validate the initial screening results and to diagnose the source of the particulates when a lubricating oil sample's wear metal content screening results exceed established limits or action levels for the components in the scope of license renewal.

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses**

Source	Description of Amendment
	<p>Section A.2.16, page A-11</p> <p>Replace the second bulleted paragraph with the following:</p> <p style="padding-left: 40px;">Viscosity, relative level of oxidation, and flash point of lubricating oil samples will be determined for components where the lubricating oil is changed based on its analyzed condition (instead of being changed on a regular schedule regardless of condition). The relative level of oxidation of the lubricating oil will be monitored by analysis of the neutralization number or other appropriate parameters(s). Flash point monitoring will be performed for those components which have the potential for contamination of the lubricating oil with a light hydrocarbon such as fuel oil.</p> <p>Replace the third bulleted paragraph with the following:</p> <p style="padding-left: 40px;">When a lubricating oil sample's wear metal content screening results exceed the limits established for the wear metal content screening, the lubricating oil from that component will be subjected to additional testing. The additional testing may include detailed particle counting, elemental analysis, or analytical ferrography as necessary to validate the initial screening results and to diagnose the source of the particulates.</p>
<p>Audit Question B.3.20- 01</p>	<p>Section B.3.20, page B-77</p> <p>Change the paragraph under NUREG-1801 Consistency as follows:</p> <p style="padding-left: 40px;">The VEGP Overhead and Refueling Crane Inspection Program is consistent with the program described in NUREG-1801, Rev. 1, Section XI.M23, "Inspection of Overhead Heavy Load and Light Load (Related to Refueling) Handling Systems," with enhancements.</p> <p>Change the Enhancements section from "None" to the following:</p> <p style="padding-left: 40px;">The cranes within the scope of the Overhead and Refueling Crane Inspection Program are routinely inspected; however the existing procedures do not explicitly identify inspection of structural components for excessive wear, corrosion, and misalignment in all cases. As a result, SNC will enhance applicable plant procedures to explicitly identify inspection of crane rails and crane structural components for loss of material due to corrosion and wear, and for indication of rail misalignment:</p> <ul style="list-style-type: none"> a) Procedure 93246-C "Polar Crane" will be enhanced to include inspection of crane rails and crane structural components (e.g., bridge) for loss of material due to corrosion; inspection of crane rails for loss of material due to wear, and for indication of rail misalignment. b) Procedure 27315-C "Spent Fuel Cask Crane" will be enhanced to include inspection of crane rails for loss of material due to corrosion. c) Procedure 27340-C "Refueling Machine" will be enhanced to include inspection of crane rails and crane structural components (e.g., bridge) for loss of material due to corrosion, and for indication of rail misalignment. d) Procedure 27342-C "Fuel Handling Machine Bridge Crane" will be enhanced to include inspection of crane rails and crane structural components (e.g., bridge) for loss of material due to corrosion; inspection of crane rails for loss of material due to wear, and for indication of rail misalignment. <p>Change the Conclusion as follows:</p> <p style="padding-left: 40px;">Continued implementation of the VEGP Overhead and Refueling Crane Inspection Program together with the enhancements of the program prior to the period of extended operation, will provide reasonable assurance that the effects of general</p>

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses**

Source	Description of Amendment			
	<p>corrosion....</p> <p>Section A.2.20, page A-13</p> <p>Add the following paragraph to this section:</p> <p>Prior to the period of extended operation, VEGP will enhance applicable plant procedures to explicitly identify inspection of crane rails and crane structural components for loss of material due to corrosion and wear, and for indication of rail misalignment.</p>			
Audit Question B.3.23-04	<p>Table 3.1.2-1, page 3.1-60</p> <p>Add new ID 6d to this table as shown in Appendix A.</p>			
Audit Question B.3.24-04	<p>Section A.2.24, page A-16.</p> <p>Add the following to the end of the third commitment:</p> <p>This inspection plan will address the bases, inspection methods, and acceptance criteria associated with aging management of the reactor vessel thermal sleeves and the core support lugs (along with the associated support pads and attachment welds).</p> <p>Section B.3.24, page B-91</p> <p>Under Program Description, add the following to the end of the third paragraph:</p> <p>This inspection plan will address the bases, inspection methods, and acceptance criteria associated with aging management of the reactor vessel thermal sleeves and the core support lugs (along with the associated support pads and attachment welds).</p>			
Audit Question B.3.27-01	<p>Table B2-1, page B-11</p> <p>Add the following line to the bottom of this table:</p> <table><tr><td>N/A</td><td>Plant Specific Program</td><td>Steam Generator Program for Upper Internals</td></tr></table>	N/A	Plant Specific Program	Steam Generator Program for Upper Internals
N/A	Plant Specific Program	Steam Generator Program for Upper Internals		
Audit Question B.3.31-02	<p>Tables 4.5-2 and 4.5-4, pages 4.5-4 and 4.5-7.</p> <p>In Table 4.5-2, for Calendar Year 2005, in the Predicted Average Tendon Force (Kips) column, change the entries for tendons V20-92, V21-91 and V56-130 to 1463 kips.</p> <p>In Table 4.5-4, for Calendar year 2005, in the Predicted Average Tendon Force (Kips) column, change the entries for tendons H-66, H-99, and H-111 to 1427 kips.</p>			
Audit Question B.3.35-01	<p>Section B.3.35, page B-126</p> <p>Under Operating Experience, change the first sentences as follows:</p> <p>This is a new program. Accordingly, there is no programmatic history. Industry and plant-specific operating experience will be considered when implementing this program. However, as noted in NUREG-1801, industry operating experience has shown....</p>			

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses**

Source	Description of Amendment
Audit Question B.3.36-01	<p>Section B.3.36, pages B-127 and B-128</p> <p>In the Program Description, third paragraph, first sentence, delete the following phrase: ...for the first unit (Unit 1).</p> <p>In the fifth paragraph, change ten years to five years.</p> <p>Under Detection of Aging Effects, first sentence, delete the following phrase: ...of the first unit (VEGP Unit 1)....</p>
Audit Question B.3.36-02	<p>Section B.3.36, pages B-127 and B-128</p> <p>In the Program Description, third sentence, delete the following phrase: ...including visual inspection.</p> <p>Under Detection of Aging Effects, second paragraph, first sentence, delete the following phrase: ...including visual inspection.</p>
Audit Question B.3.38-04	<p>Section B.3.38, page B-136</p> <p>Insert the following before the discussion of "<u>Pressurizer Nozzles Full Structural Weld Overlays</u>"</p> <p><u>Components that Require SBF Monitoring During the Period of Extended Operation</u></p> <p>The following is a list of those components that require SBF monitoring during the period of extended operation because the disposition of the fatigue TLAA for those components credits the Fatigue Monitoring Program for aging management. Those components are:</p> <ul style="list-style-type: none"> • Main and auxiliary feedwater nozzles • Normal and alternate charging nozzles on the cold legs • Hot leg surge nozzles • Pressurizer lower heads (Heater Penetration is the bounding location) • Pressurizer surge nozzles • Accumulator/RHR nozzles on the cold legs
Audit Question B.3.38-05	<p>Section B.3.38, page B-135</p> <p>Insert the following between the second and third sentence in the first paragraph of the discussion of <u>Fatigue Monitoring Requirements Due to Environmentally Assisted Fatigue (NUREG/CR-6260)</u>:</p> <p>The reactor vessel lower head to shell juncture and reactor vessel inlet and outlet nozzles were shown to be acceptable for 60 years by multiplying the maximum applicable F_{en} of 2.45 times the design CUF for each component and determining that value to be less than 0.5 which allows margin for 60 years.</p> <p>The surge line hot leg nozzles and the RHR line inlet transition nozzles (Accumulator/RHR nozzle at VEGP) were shown to be acceptable for 60 years by multiplying the maximum applicable F_{en} of 15.35 times the 60-year projected CUF from the fatigue management software and determining that value to be less than 1.0. These locations will be managed under the Fatigue Management Program to ensure that the projected CUF times maximum F_{en} remains below 1.0.</p> <p>The normal and alternate charging nozzles and the safety injection nozzles were</p>

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from Audit Question Responses**

Source	Description of Amendment
	<p>shown to be acceptable for 60 years by calculating an integrated strain rate F_{en} for each location, multiplying that F_{en} value times the 60-year projected CUF from the fatigue management software for each nozzle and determining the result to be less than 1.0. These locations will be managed under the Fatigue Management Program to ensure that the projected CUF times integrated strain rate F_{en} remains below 1.0.</p>
<p>Audit Question B.3.38-06</p>	<p>Section 4.3.1.6, page 4.3-9 Change the third sentence of the third paragraph as follows: As an enhancement to the program, no later than two years prior to the period of extended operation, SNC will evaluate the impact of the FSWOLs on the stress-based fatigue modules for the pressurizer nozzles and, if the existing module is not conservative, revise it so that it continues to provide valid results.</p> <p>Section A.2.38, page A-23 Change the first sentence of the second paragraph as follows: At least two years prior to the period of extended operation, the Fatigue Monitoring Program will be enhanced as follows:</p> <p>Section B.3.38, page B-135 Under <u>Fatigue monitoring Requirements Due To Environmentally Assisted Fatigue (NUREG/CR 6260)</u> change the last sentence as follows: To manage environmental fatigue effects during the period of extended operation, the UFSAR will be changed no later than two years prior to the period of extended operation to indicate that fatigue monitoring is required for two locations not currently in the UFSAR - the Accumulator/RHR nozzle and the pressurizer heater penetration.</p> <p>Change the first sentence under Enhancements as follows: The following enhancements will be implemented no later than two years prior to the period of extended operation.</p>

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from RAI responses

Source	Description of Amendment																																	
RAI 2.1-2	<p>Section 2.4.4, page 2.4-19</p> <p>In the <i>Scope Determination Summary</i>, second paragraph, first sentence, delete "...and engineered safety features actuation systems..."</p>																																	
RAI 2.3.3.12-1	<p>Section 2.3.3.12, page 2.3-70</p> <p>Under <i>Scope Determination Summary</i>, change the second paragraph as follows:</p> <p style="padding-left: 40px;">Certain nonsafety-related fan housings...</p>																																	
RAI 2.3.3.13-1	<p>Table 2.2-1, page 2.2-5</p> <p>Insert the following line into this table after CTB Post LOCA Purge Exhaust, System No. 1508:</p> <table><tr><td>CTB CRDM Cooling</td><td>1509</td></tr></table> <p>Table 2.2-2, page 2.2-14</p> <p>Delete the following line from this table:</p> <table><tr><td>Containment Building CRDM Cooling System</td><td>1509</td><td>VEGP UFSAR Section 9.4.6</td></tr></table> <p>Section 2.3.3.13, page 2.3-76</p> <p>Add the following to the bulleted list of VEGP systems, after system 1508:</p> <ul style="list-style-type: none">• Containment Building CRDM Cooling System (1509) <p>Section 2.3.3.13, page 2.3-80</p> <p>Add the following system description, scope determination summary, and scoping criteria table after <u>Containment Building Post-LOCA Purge Exhaust System</u>:</p> <p><u>Containment Building CRDM Cooling System</u></p> <p>System Description</p> <p>The Containment Building Control Rod Drive Mechanism (CRDM) Cooling System is designed to maintain the temperature within operating limits of the magnetic jacking CRDM coil windings and associated insulation during normal reactor operation to assure that these components will function properly for their expected design lifetime.</p> <p>Scope Determination Summary</p> <p>The Containment Building CRDM fan housings provide a missile barrier function for the fan element. Therefore, these housings meet the 10 CFR 54.4(a)(2) criterion.</p> <table><tr><td colspan="7">The following 10 CFR 54.4 criteria are met by the Containment Building CRDM Cooling System</td></tr><tr><td>(a)(1)</td><td>(a)(2)</td><td colspan="5">(a)(3)</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td></tr></table>	CTB CRDM Cooling	1509	Containment Building CRDM Cooling System	1509	VEGP UFSAR Section 9.4.6	The following 10 CFR 54.4 criteria are met by the Containment Building CRDM Cooling System							(a)(1)	(a)(2)	(a)(3)													X					
CTB CRDM Cooling	1509																																	
Containment Building CRDM Cooling System	1509	VEGP UFSAR Section 9.4.6																																
The following 10 CFR 54.4 criteria are met by the Containment Building CRDM Cooling System																																		
(a)(1)	(a)(2)	(a)(3)																																
	X																																	
RAI 2.3.3.14-1	<p>Section 2.3.3.14, page 2.3-86</p> <p>Under <i>Scope Determination Summary</i>, change the second paragraph as follows:</p> <p style="padding-left: 40px;">Certain nonsafety-related fan housings...</p>																																	

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from RAI Responses

Source	Description of Amendment						
RAI 2.3.3.15- 1	<p>Section 2.3.3.15, page 2.3-89</p> <p>Under <i>Scope Determination Summary</i>, insert the following paragraph after the first paragraph:</p> <p style="padding-left: 40px;">Nonsafety-related fan and unit heater housings are relied upon as missile barriers (for the fan element). This system therefore meets the 10 CFR 54.4(a)(2) criterion.</p> <p>In the scoping criteria table, place an “X” in the (a)(2) box.</p> <p>Table 2.3.3.15, page 2.3-90</p> <p>For ID 4, add “Missile Barrier” as an Intended Function.</p> <p>Add the following line to this table:</p> <table><tr><th>ID</th><th>Component Type</th><th>Intended Function</th></tr><tr><td>7</td><td>Heater Housings</td><td>Missile Barrier</td></tr></table> <p>Table 3.3.2-15, page 3.3-178</p> <p>For ID’s 4a and 4b, add “Missile Barrier” as an intended function.</p> <p>Add the line items to this table as shown in Appendix A.</p>	ID	Component Type	Intended Function	7	Heater Housings	Missile Barrier
ID	Component Type	Intended Function					
7	Heater Housings	Missile Barrier					
RAI 2.3.3.16- 1	<p>Section 2.3.3.16, page 2.3-91</p> <p>Under <i>Scope Determination Summary</i>, insert the following paragraph after the first paragraph:</p> <p style="padding-left: 40px;">Nonsafety-related fan and unit heater housings are relied upon as missile barriers (for the fan element). This system therefore meets the 10 CFR 54.4(a)(2) criterion.</p> <p>In the scoping criteria table, place an “X” in the (a)(2) box.</p> <p>Table 2.3.3.16, page 2.3-92</p> <p>For ID 4, add “Missile Barrier” as an Intended Function.</p> <p>Add the following line to this table:</p> <table><tr><th>ID</th><th>Component Type</th><th>Intended Function</th></tr><tr><td>5</td><td>Heater Housings</td><td>Missile Barrier</td></tr></table> <p>Table 3.3.2-16, page 3.3-180</p> <p>For IDs 4a and 4b, add “Missile Barrier” as an Intended Function.</p> <p>Add the line items to this table as shown in Appendix A.</p>	ID	Component Type	Intended Function	5	Heater Housings	Missile Barrier
ID	Component Type	Intended Function					
5	Heater Housings	Missile Barrier					

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from RAI Responses

Source	Description of Amendment												
RAI 2.3.3.17- 1 and 2	<p>Section 2.3.3.17, page 2.3-93</p> <p>Under Scope Determination Summary, insert the following paragraph after the first paragraph:</p> <p style="padding-left: 40px;">Certain nonsafety-related filter and damper housings are required to provide a flowpath for safety-related ventilation for the electrical tunnels, and are therefore within the scope of license renewal based on the 10 CFR 54.4(a)(2) criterion.</p> <p>In the scoping criteria table, place an "X" in the (a)(2) box.</p> <p>Table 2.4.5, page 2.4-23</p> <p>For ID's 1, 2, 3, and 4, add Pressure Boundary as an Intended Function.</p> <p>Table 3.5.2-5, page 3.5-73</p> <p>For ID's 1, 2, 3, and 4, add Pressure Boundary as an Intended Function.</p>												
RAI 2.3.3.29- 2	<p>Table 2.3.3.29, page 2.3-138</p> <p>Add the following line items to this table:</p> <table><tr><td>25</td><td>Compressor Casings - Chiller Compressors</td><td>Pressure Boundary</td></tr><tr><td>26</td><td>Filter Housings</td><td>Pressure Boundary</td></tr><tr><td>27</td><td>Refrigerant Filter Dryer Housings</td><td>Pressure Boundary</td></tr><tr><td>28</td><td>Tanks - Chiller Compressor Purge Tanks</td><td>Pressure Boundary</td></tr></table> <p>Table 3.3.2-29, page 3.3-268</p> <p>Add the line items to this table shown in Appendix A.</p>	25	Compressor Casings - Chiller Compressors	Pressure Boundary	26	Filter Housings	Pressure Boundary	27	Refrigerant Filter Dryer Housings	Pressure Boundary	28	Tanks - Chiller Compressor Purge Tanks	Pressure Boundary
25	Compressor Casings - Chiller Compressors	Pressure Boundary											
26	Filter Housings	Pressure Boundary											
27	Refrigerant Filter Dryer Housings	Pressure Boundary											
28	Tanks - Chiller Compressor Purge Tanks	Pressure Boundary											
RAI 2.4.1-5	<p>Table 2.4.1, page 2.4-7</p> <p>For ID 4, add Radiation Shielding as an Intended Function.</p> <p>Table 3.5.2-1, page 3.5-60</p> <p>For ID 4, add Radiation Shielding as an Intended Function.</p>												
RAI 2.4.1-6	<p>LRA Table 3.5.1, page 3.5-34</p> <p>For Item Number 3.5-17, replace the Discussion with the following:</p> <p style="padding-left: 40px;">Consistent with NUREG-1801.</p> <p style="padding-left: 40px;">Locks, hinges and closure mechanisms are evaluated with the host component. The VEGP 10 CFR 50 Appendix J Program (Appendix B.3.29) manages any loss of leak tightness in closed position. Plant Technical Specifications ensures Primary Containment is operable and that access airlocks maintain leak tightness in the closed position</p>												
RAI 2.4.1-9	<p>Section 2.3.3.13, page 2.3-81</p> <p>For the Containment Building Cavity Cooling System, under Scope Determination Summary, revise the second paragraph as follows:</p> <p style="padding-left: 40px;">Nonsafety-related fan housings associated with this system are relied upon as missile barriers (for the fan element). All system components are relied upon to provide cooling to the reactor cavity such that the temperature of the inside concrete face of the primary shield wall and reactor cavity is limited to 150 °F. This system therefore meets the 10 CFR 54.4(a)(2) criterion.</p>												

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from RAI Responses

Source	Description of Amendment
	<p>For the Containment Building Reactor Support Cooling System, revise the Scope Determination Summary as follows:</p> <p style="padding-left: 40px;">Nonsafety-related fan housings associated with this system are relied upon as missile barriers (for the fan element). In addition, this system is relied upon to limit concrete temperature around the reactor supports to 200 °F. This system therefore meets the 10 CFR 54.4(a)(2) criterion.</p> <p>Section 2.3.3.31, page 2.3-146</p> <p>Under Scope Determination Summary, first paragraph, insert the following after the third sentence:</p> <p style="padding-left: 40px;">Reactor Vessel and RCS piping insulation is credited to limit the temperature of the inside concrete face of the primary shield wall and reactor cavity to 150 °F.</p>
<p>RAI 2.4.1-10</p>	<p>Table 2.4.1, page 2.4-7</p> <p>For ID 8, change the Component Type to the following: "Personnel Airlocks and Equipment hatches (including concrete external shield door)."</p> <p>Table 3.5.2-1, page 3.5-62</p> <p>For ID 8, add Concrete External Shield Door to the component type description. The revised line item is shown in Appendix A.</p>
<p>RAI 2.4.12-1</p>	<p>Section 2.4.12, page 2.4-43</p> <p>Under <u>Supports – General Discussion</u>, last sentence, delete "vibration isolators."</p> <p>Under <u>Supports for Emergency Diesel Generator (EDG), HVAC System Components, and Other Miscellaneous Equipment</u>, delete the following sentence:</p> <p style="padding-left: 40px;">Vibration isolation components are evaluated in this group due to the nature of the supported equipment.</p> <p>Table 2.4.12, page 2.4-48</p> <p>For ID 28, change the Component Type from "Roof Membrane" to "Waterproofing Membrane."</p> <p>Table 3.5.2-12, page 3.5-97</p> <p>For ID 8, change the Component Type from "Roof Membrane" to "Waterproofing Membrane."</p>
<p>RAI 4.2.3-1</p>	<p>Table 4.2.3-1, page 4.3-10</p> <p>Change the RT_{PTS} value for the Inlet Nozzle to Nozzle Shell Course Weld 105-121D from "-226" to "-22".</p> <p>Change Note B to read "FF = fluence factor = $f^{(0.28 - 0.1 \log(f))}$" (the same as Note B on page 4.3-12).</p> <p>Change Note E to read "$M = 2 * (\sigma_i^2 + \sigma_\Delta^2)^{1/2}$" (the same as Note E on page 4.3-12).</p>

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Changes Resulting from RAI Responses

Source	Description of Amendment
RAI 4.3-2	<p>Section 4.3.1.4, page 4.3-5 Change “0.06” to “0.007” in the 4th sentence (or 9th line).</p> <p>Section 4.3.1.5.3, page 4.3-6 Make the following changes in the 2nd paragraph:</p> <ul style="list-style-type: none"> • Change “0.00534” to “0.00721” in the second sentence (or 4th line). • Change “0.00628” to “0.00739” in the second sentence (or 4th line). • Change “0.09642” to “0.12127” in the last sentence. <p>Table 4.3.1-3, page 4.3-19 Make the following changes in the line for the “Surge line hot leg nozzle” in the “Final Analysis Using Projected CUF Calculated by FatiguePro” portion of the table:</p> <ul style="list-style-type: none"> • Change “0.00534” to “0.00721” under U1/U2 60-year projected CUF. • Change “0.00628” to “0.00739” under U1/U2 60-year projected CUF. • Change “0.08202” to “0.11067” under Calculated EAF. • Change “0.09642” to “0.12127” under Calculated EAF.
RAI B.3.14-1	<p>Section A.2.14, page A-10 Add the following sentence to the end of implementation commitment 3: The inspection plan will include assessments of each of the ten aging management program elements defined in Section A.1.2.3 of NUREG-1800, Revision 1.</p> <p>Section B.3.14, page B-60 Add the following sentence to the end of implementation commitment 3: The inspection plan will include assessments of each of the ten aging management program elements defined in Section A.1.2.3 of NUREG-1800, Revision 1.</p>

Enclosure 1

**Vogtle Electric Generating Plant License Renewal Application
Amendment 1**

Appendix A – Table 2 Changes

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Appendix A – Table 2 Line Item Additions and Changes**

Audit Question 3.0-01

LRA Table 3.1.2-3, page 3.1-95

Add the following line item to this table:

ID	Comp. Type	Intended Function	Material	Environment	AERM	AMP(s)	NUREG-1801 V.2 Item	Table 1 Item	Note
8e	Piping Components -Class 1 <NPS 4	Pressure Boundary	Stainless Steel	Borated Water (Interior)	Cracking-Thermal Fatigue	Fatigue Monitoring Program	IV.C2-25	3.1.1-8	E

Audit Question 3.3-06

LRA Table 3.3.2-2, page 3.3-92

Add the following line item to this table:

ID	Comp. Type	Intended Function	Material	Environment	AERM	AMP(s)	NUREG-1801 V.2 Item	Table 1 Item	Note
6c	Heat Exchangers-SFP HXs (Tubes)	Exchange Heat Pressure Boundary	Stainless Steel	Closed-Cycle Cooling Water (Exterior)	Loss of Material	Closed Cooling Water Program	V.A-07	3.2.1-28	B

Audit Question 3.5-02

LRA Table 3.5.2-1, pages 3.5-59 and 3.5-60

Change IDs 2 and 3 as shown below:

ID	Comp. Type	Intended Function	Material	Environ.	AERM	AMP(s)	NUREG-1801 V.2 Item	Table 1 Item	Note
2	Concrete : Below Grade - wall; buttresses	Heat Sink	Concrete	Air - Indoor	Cracking	Inservice Inspection Program-IWL	II.A1-7	3.5.1-1	E 509
		Missile Barrier		Air - Outdoor	Loss of Material				
		Pressure Boundary Radiation Shielding		Soil	Change in Material Properties	Inservice Inspection Program-IWL	II.A1-6	3.5.1-15	E 510
		Shelter / Protection			Cracking	Inservice Inspection Program-IWL	II.A1-7	3.5.1-1	E 509
		Structural Support			Loss of Material	Structural Monitoring Program	III.A3-4	3.5.1-31	A 509

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Appendix A – Table 2 Line Item Additions and Changes**

ID	Comp. Type	Intended Function	Material	Environ.	AERM	AMP(s)	NUREG-1801 V.2 Item	Table 1 Item	Note
3	Concrete : Foundation; Subfounda- tion	Heat Sink	Concrete	Air - Indoor	Cracking	Inservice Inspection Program- IWL	II.A1-7	3.5.1-1	E 509
		Missile Barrier		Soil	Loss of Material				
		Pressure Boundary			Change in Material Properties	Inservice Inspection Program- IWL	II.A1-6	3.5.1-15	E 510
		Radiation Shielding			Cracking	Inservice Inspection Program- IWL	II.A1-7	3.5.1-1	E 509
		Shelter/ Protection			Loss of Material	Structural Monitoring Program	III.A3-4	3.5.1-31	A 509
		Structural Support							

Audit Question 3.5-08

LRA Table 3.5.2-7, page 3.5-80

Change ID 1 as shown below:

ID	Comp. Type	Intended Function	Material	Environ.	AERM	AMP(s)	NUREG-1801 V.2 Item	Table 1 Item	Note
1	Concrete: Exterior above grade	Flood Barrier	Concrete	Air - Outdoor	Cracking	Structural Monitoring Program	III.A7-8	3.5.1-23	A 509
		Shelter / Protection		Water Standing	Loss of Material				
		Structural Support			Change in Material Properties	Structural Monitoring Program	III.A7-6	3.5.1-32	A 510
		Missile Barrier							

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Appendix A – Table 2 Line Item Additions and Changes**

Audit Question 3.5-10

LRA Table 3.5.2-12, page 3.5-92

Change ID 10 as shown below.

ID	Comp. Type	Intended Function	Material	Environ.	AERM	AMP(s)	NUREG 1801 V.2 Item	Table 1 Item	Note
10	Conduits	Shelter / Protection	Aluminum	Air-Indoor	None	None required	III.B2-4	3.5.1-58	C
				Air-Outdoor	Loss of material	Structural Monitoring Program	III.B2-7	3.5.1-50	C
			Steel	Air-Indoor Air-Outdoor	Loss of material	Structural Monitoring Program	III.B2-10	3.5.1-39	C

Audit Question B.3.23-04

LRA Table 3.1.2-1, page 3.1-60

Add the following line item to this table:

ID	Comp. Type	Intended Function	Material	Environment	AERM	AMP(s)	NUREG-1801 V.2 Item	Table 1 Item	Note
6d	Closure Studs, Nuts, and Washers	Pressure Boundary	Alloy Steel	Air – Indoor (Exterior)	Loss of Material	Reactor Vessel Closure Head Stud Program	None	None	H

RAI 2.3.3.15-1

LRA Table 3.3.2-15, page 3.3-178

Add the following line items to this table:

ID	Comp. Type	Intended Function	Material	Environment	AERM	AMP(s)	NUREG-1801 V.2 Item	Table 1 Item	Note
7a	Heater Housings	Missile Barrier	Carbon Steel	Air – Indoor (Exterior)	Loss of Material	External Surfaces Monitoring Program	VII.F4-1	3.3.1-56	B
7b	Heater Housings	Missile Barrier	Carbon Steel	Air – Indoor (Interior)	Loss of Material	One Time Inspection Program	V.A-19	3.2.1-32	E

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Appendix A – Table 2 Line Item Additions and Changes**

RAI 2.3.3.16-1

LRA Table 3.3.2-16, page 3.3-180

Add the following line items to this table:

ID	Comp. Type	Intended Function	Material	Environment	AERM	AMP(s)	NUREG-1801 V.2 Item	Table 1 Item	Note
5a	Heater Housings	Missile Barrier	Carbon Steel	Air – Indoor (Exterior)	Loss of Material	External Surfaces Monitoring Program	VII.F4-1	3.3.1-56	B
5b	Heater Housings	Missile Barrier	Carbon Steel	Air – Indoor (Interior)	Loss of Material	One Time Inspection Program	V.A-19	3.2.1-32	E

RAI 2.3.3.29-2

LRA Table 3.3.2-29, page 3.3-268

Add the following line items to this table:

ID	Comp. Type	Intended Function	Material	Environment	AERM	AMP(s)	NUREG-1801 V.2 Item	Table 1 Item	Note
2d	Closure Bolting	Pressure Boundary	Copper Alloy	Air – Indoor (Exterior)	Loss of Preload	Bolting Integrity Program	None	None	F
12c	Flow Orifice / Elements	Flow Restriction Pressure Boundary	Stainless Steel	Freon (Interior)	None	None Required	None	None	G
14d	Piping Components	Pressure Boundary	Carbon Steel	Freon (Interior)	None	None Required	None	None	G
14e	Piping Components	Pressure Boundary	Carbon Steel	Lube Oil (Interior)	Loss of Material	Oil Analysis Program One-Time Inspection Program	VII.F1-19	3.3.1-14	B
14f	Piping Components	Pressure Boundary	Copper Alloy	Air – Indoor (Exterior) (Condensation)	Loss of Material	External Surfaces Monitoring Program	VII.F1-16	3.3.1-25	E
14g	Piping Components	Pressure Boundary	Copper Alloy	Freon (Interior)	None	None Required	None	None	G
18c	Sight Glasses	Pressure Boundary	Glass	Freon (Interior)	None	None Required	None	None	G
18d	Sight Glasses	Pressure Boundary	Glass	Lube Oil (Interior)	None	None Required	VII.J-10	3.3.1-93	A
19a	Strainer Elements	Debris Protection	Stainless Steel	Closed-Cycle Cooling Water (Exterior)	Loss of Material	Closed Cooling Water Program	VII.C2-10	3.3.1-50	B

Vogle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Appendix A – Table 2 Line Item Additions and Changes

ID	Comp. Type	Intended Function	Material	Environment	AERM	AMP(s)	NUREG-1801 V.2 Item	Table 1 Item	Note
19b	Strainer Elements	Debris Protection	Stainless Steel	Freon (Exterior)	None	None Required	None	None	G
20d	Strainer Housings	Pressure Boundary	Carbon Steel	Freon (Interior)	None	None Required	None	None	G
24f	Valve Bodies	Pressure Boundary	Carbon Steel	Freon (Interior)	None	None Required	None	None	G
24g	Valve Bodies	Pressure Boundary	Carbon Steel	Lube Oil (Interior)	Loss of Material	Oil Analysis Program One-Time Inspection Program	VII.F1-19	3.3.1-14	B
24h	Valve Bodies	Pressure Boundary	Copper Alloy	Air – Indoor (Exterior) (Condensation)	Loss of Material	External Surfaces Monitoring Program	VII.F1-16	3.3.1-25	E
24i	Valve Bodies	Pressure Boundary	Copper Alloy	Air – Indoor (Exterior) (Condensation and Zn > 15%)	Loss of Material - Leaching	One-Time Inspection Program for Selective Leaching	None	None	H
24j	Valve Bodies	Pressure Boundary	Copper Alloy	Freon (Interior)	None	None Required	None	None	G
25a	Compressor Casings – Chiller Compressors	Pressure Boundary	Carbon Steel	Air – Indoor (Exterior)	Loss of Material	External Surfaces Monitoring Program	VII.I-8	3.3.1-58	B
25b	Compressor Casings – Chiller Compressors	Pressure Boundary	Carbon Steel	Freon (Interior)	None	None Required	None	None	G
26a	Filter Housings	Pressure Boundary	Carbon Steel	Air – Indoor (Exterior)	Loss of Material	External Surfaces Monitoring Program	VII.I-8	3.3.1-58	B
26b	Filter Housings	Pressure Boundary	Carbon Steel	Lube Oil (Interior)	Loss of Material	Oil Analysis Program One-Time Inspection Program	VII.F1-19	3.3.1-14	B
27a	Refrigerant Filter Dryer Housings	Pressure Boundary	Carbon Steel	Air – Indoor (Exterior)	Loss of Material	External Surfaces Monitoring Program	VII.I-8	3.3.1-58	B
27b	Refrigerant Filter Dryer Housings	Pressure Boundary	Carbon Steel	Freon (Interior)	None	None Required	None	None	G
28a	Tanks – Chiller Compressor Purge Tanks	Pressure Boundary	Carbon Steel	Air – Indoor (Exterior)	Loss of Material	External Surfaces Monitoring Program	VII.I-8	3.3.1-58	B

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 1
Appendix A – Table 2 Line Item Additions and Changes**

ID	Comp. Type	Intended Function	Material	Environment	AERM	AMP(s)	NUREG-1801 V.2 Item	Table 1 Item	Note
28b	Tanks – Chiller Compressor Purge Tanks	Pressure Boundary	Carbon Steel	Freon (Interior)	None	None Required	None	None	G

RAI 2.4.1-10

LRA Table 3.5.2-1, page 3.5-62

Change ID 8 as shown below:

ID	Comp. Type	Intended Function	Material	Environment	AERM	AMP(s)	NUREG-1801 V.2 Item	Table 1 Item	Note
8	Personnel Airlock and Equipment Hatches (including concrete external shield door)	Missile Barrier Pressure Boundary Radiation Shielding	Steel	Air-Indoor	Loss of Material	10 CFR 50 App. J Program	II.A3-6	3.5.1-18	A
						Inservice Inspection Program - IWE	II.A3-6	3.5.1-18	E
			Concrete	Air-Indoor	Cracking Loss of Material	Inservice Inspection Program - IWL	II.A1-7	3.5.1-1	E 509

Enclosure 2

Vogtle Electric Generating Plant License Renewal Application

Updated Future Action Commitment List

VEGP License Renewal Future Action Commitment List				
ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
1	Implement the ACCW System Carbon Steel Components Program as described in VEGP LRA Section B.3.1.	A.2.1	Prior to the period of extended operation	B.3.1
2	Implement the Bolting Integrity Program as described in VEGP LRA Section B.3.2.	A.2.2	Prior to the period of extended operation	B.3.2
3	Enhance Boric Acid Corrosion Control Program documents to address the effects of borated water leakage onto materials other than steels, including electrical components (e.g., electrical connectors), that are susceptible to boric acid corrosion.	A.2.3	Prior to the period of extended operation	B.3.3
4	Implement the Buried Piping and Tanks Inspection Program as described in VEGP LRA Section B.3.4.	A.2.4	Prior to the period of extended operation	B.3.4
5	Implement the CASS RCS Fitting Evaluation Program as described in VEGP LRA Section B.3.5.	A.2.5	Prior to the period of extended operation	B.3.5

VEGP License Renewal Future Action Commitment List				
ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
6	Enhance Closed Cooling Water Program documents to indicate the components in each system that are most susceptible to various corrosion mechanisms and to ensure that corrosion monitoring is appropriately accomplished. This qualitative assessment will be based on an understanding of corrosion principles associated with closed cooling water chemistries and on review of system, plant, and industry operating experience. Parameters considered in the review will include system flow parameters (focusing on identification of stagnant regions and on intermittently operated systems), normal operating temperatures, and component geometries (e.g. creviced areas).	A.2.6	Prior to the period of extended operation	B.3.6
7	Implement the External Surfaces Monitoring Program as described in VEGP LRA Section B.3.8.	A.2.8	Prior to the period of extended operation	B.3.8

VEGP License Renewal Future Action Commitment List				
ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
8	<p>Implement the following enhancements to the Fire Protection Program:</p> <ul style="list-style-type: none"> Wall thickness evaluations will be performed on water suppression piping systems using non-intrusive volumetric testing or visual inspections to ensure that wall thicknesses are within acceptable limits. Initial wall thickness evaluations will be performed before the end of the current operating term. Subsequent evaluations will be performed at plant specific intervals during the period of extended operation. The plant specific inspection intervals will be determined based on previous evaluations and site operating experience. A sample of sprinkler heads will be inspected using the guidance of NFPA 25 "Inspection, Testing and Maintenance of Water-Based Fire Protection Systems" (1998 Edition), Section 2-3.1.1, or NFPA 25 (2002 Edition), Section 5.3.1.1.1. Where sprinkler heads have been in service for 50 years, they will be replaced or representative samples from one or more sample areas will be submitted to a recognized testing laboratory for field service testing. This sampling will be performed every 10 years after the initial field service testing. The 50 years of time in service begins when the system was placed in service, not when the plant became operational. Fire Protection Program procedures will be revised to provide more detailed instructions for visual inspection of Fire Pump Diesel fuel supply lines for leakage, corrosion, and general degradation while the engine is running during fire suppression system pump tests. 	A.2.9	<p>Prior to the period of extended operation, except for sprinkler head replacement or testing;</p> <p>Sprinkler head replacement or testing will be implemented prior to 50 years from time system was placed in service.</p>	B.3.9
9	Enhance the Flux Thimble Tube Inspection Program by preparing an overall program procedure documenting the Flux Thimble Tube Inspection Program administration and implementing activities credited for license renewal.	A.2.11	Prior to the period of extended operation	B.3.11

VEGP License Renewal Future Action Commitment List				
ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
11	<p>Implement the following enhancements to the Generic Letter 89-13 Program:</p> <ul style="list-style-type: none"> Develop an overall program procedure for the Generic Letter 89-13 Program to describe the various program activities that comprise Generic Letter 89-13 Program and their implementing controls such as chemistry procedures, maintenance activities, scheduled surveillances, or other mechanisms. Add inspection of the NSCW Transfer Pumps' casings and bolting. Add the NSCW Cooling Tower spray nozzles as a specific item to be inspected during the cooling tower inspection. 	A.2.12	Prior to the period of extended operation	B.3.12
12	<p>Implement the Nickel Alloy Management Program for Non-Reactor Vessel Closure Head Penetration Locations as described in VEGP LRA Section B.3.14.</p> <p>The program will be based on the following commitments:</p> <ol style="list-style-type: none"> (1) SNC will continue to participate in industry initiatives directed at resolving PWSCC issues, such as owner's group programs and the Electric Power Research Institute Materials Reliability Program. This is an ongoing commitment. (2) SNC will comply with applicable NRC Orders. This is an ongoing commitment. (3) SNC will submit a program inspection plan for VEGP that includes implementation of applicable Bulletins, Generic Letters, and staff accepted industry guidance. The inspection plan will also include assessments of each of the ten aging management program elements defined in Section A.1.2.3 of NUREG-1800 Revision 1. The inspection plan will be submitted to the staff for review and approval not less than 24 months prior to entering the period of extended operation for VEGP Units 1 and 2. 	A.2.14	<p>Program implementation to be completed prior to the period of extended operation</p> <p>Numbered items are implemented as noted in the item.</p>	B.3.14

VEGP License Renewal Future Action Commitment List				
ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
13	<p>The Nickel Alloy Management Program for Reactor Vessel Closure Head Penetrations will implement commitments for reactor vessel closure head penetrations associated with nickel alloys from:</p> <p>(1) NRC Orders, Bulletins, and Generic Letters, and;</p> <p>(2) Staff-accepted industry guidelines.</p>	A.2.15	Ongoing	B.3.15
14	<p>Implement the following enhancements to the Oil Analysis Program:</p> <ul style="list-style-type: none"> An overall program procedure or guideline will be prepared to formalize the sampling and analysis activities performed. Viscosity, relative level of oxidation, and flash point of lubricating oil samples will be determined for components where the lubricating oil is changed based on its analyzed condition (instead of being changed on a regular schedule regardless of condition). The relative level of oxidation of the lubricating oil will be monitored by analysis of the neutralization number or other appropriate parameter(s). Flash point monitoring will be performed for those components which have the potential for contamination of the lubricating oil with a light hydrocarbon such as fuel oil. For both components with periodic lubricating oil changes and components where the lubricating oil is changed based on analyzed condition, if a lubricating oil sample exceeds the limits established for the wear metal content screening, the lubricating oil from that component will be subjected to additional testing. The additional testing may include detailed particle counting, elemental analysis, or analytical ferrography as necessary to validate the initial screening results and to diagnose the source of the particulates. 	A.2.16	Prior to the period of extended operation	B.3.16

VEGP License Renewal Future Action Commitment List				
ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
15	Implement the One-Time Inspection Program as described in VEGP LRA Section B.3.17.	A.2.17	Inspections will be performed within a window of ten years immediately proceeding the period of extended operation.	B.3.17
16	Implement the One-Time Inspection Program for ASME Class 1 Small Bore Piping as described in VEGP LRA Section B.3.18.	A.2.18	Inspections will be performed within a window of ten years immediately proceeding the period of extended operation.	B.3.18
17	Implement the One-Time Inspection Program for Selective Leaching as described in VEGP LRA Section B.3.19.	A.2.19	Inspections will be performed within a window of ten years immediately proceeding the period of extended operation.	B.3.19

VEGP License Renewal Future Action Commitment List				
ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
18	<p>Enhance the Periodic Surveillance and Preventive Maintenance Activities to include the following:</p> <ul style="list-style-type: none"> • Steam Generator Blowdown Secondary Sample Bath Shell inspections • Steam Generator Blowdown Corrosion Product Monitor cooler shell inspections • Potable Water System water heater housing inspections (for the in-scope water heaters) 	A.2.21	Prior to the period of extended operation	B.3.21
19	Implement the Piping and Duct Inspection Program as described in LRA Section B.3.22.	A.2.22	Prior to the period of extended operation	B.3.22

VEGP License Renewal Future Action Commitment List				
ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
20	<p>Implement the Reactor Vessel Internals Program as described in LRA Section B.3.24.</p> <p>The program will be based on the following commitments:</p> <ol style="list-style-type: none"> (1) SNC will participate in the industry program for investigating and managing aging effects on reactor internals. This is an ongoing commitment. (2) SNC will evaluate and implement the results of the industry programs, such as the Electric Power Research Institute Material Reliability Program, as applicable to the VEGP reactor internals. This commitment will be fully implemented prior to the period of extended operation. (3) SNC will submit an inspection plan for the VEGP reactor internals to the NRC for review and approval not less than 24 months before entering the period of extended operation for VEGP Units 1 and 2. This inspection plan will address the bases, inspection methods, and acceptance criteria associated with aging management of the reactor vessel thermal sleeves and the core support lugs (along with the associated support pads and attachment welds). 	A.2.24	<p>Program implementation to be completed prior to the period of extended operation;</p> <p>Numbered items are implemented as noted in the item.</p>	B.3.24
21	<p>Implement the following enhancements to the Reactor Vessel Surveillance Program:</p> <ol style="list-style-type: none"> (1) Prior to removal of the last surveillance capsule in each unit, program documents will be revised to require that tested and untested specimens from all capsules removed from the VEGP reactor vessels remain in storage. (2) Alternate dosimetry will be installed to monitor neutron fluence on the reactor vessel after removal of the last surveillance capsule in that unit. This enhancement will be implemented prior to removal of the last surveillance capsule in each unit. 	A.2.25	As noted in the numbered items	B.3.25

VEGP License Renewal Future Action Commitment List				
ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
23	<p>Implement the following enhancements to the Structural Monitoring Program:</p> <ul style="list-style-type: none"> • The scope of the Structural Monitoring Program will be expanded to include the additional structures that require monitoring for license renewal. • The scope of inspection for structures that require monitoring for license renewal will be clarified. An area-based inspection will be performed unless a detailed inspection scope is provided. • The Structural Monitoring Program scope for hangers and supports will be clarified. • Program requirements will be revised to include periodic ground water monitoring to confirm that groundwater chemistry remains non-aggressive as defined in NUREG 1801. • Underwater inspection of the NSCW cooling tower basins, including appropriate inspection and acceptance criteria, will be added to the Structural Monitoring Program. 	A.2.32	Prior to the period of extended operation	B.3.32
24	Enhance the Structural Monitoring Program - Masonry Walls to include monitoring of masonry walls in the structures that are in scope for license renewal, but are not currently monitored under the program.	A.2.33	Prior to the period of extended operation	B.3.33

VEGP License Renewal Future Action Commitment List				
ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
25	Implement the Non-EQ Cables and Connections Program as described in LRA Section B.3.34.	A.2.34	Implement program and complete first inspection prior to the period of extended operation	B.3.34
26	Implement the Non-EQ Inaccessible Medium-Voltage Cables Program as described in LRA Section B.3.35.	A.2.35	Implement program and complete first inspection prior to the period of extended operation	B.3.35
27	Implement the Non-EQ Cable Connections One-Time Inspection Program as described in LRA Section B.3.36.	A.2.36	Inspections will be performed within a window of five years immediately proceeding the period of extended operation.	B.3.36

VEGP License Renewal Future Action Commitment List				
ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
28	<p>Implement the following enhancements to the Fatigue Monitoring Program:</p> <ul style="list-style-type: none"> Implementing documents will be revised to address the effect of the full structural weld overlays applied to the pressurizer spray and surge nozzles on the stress-based module calculation of CUF. The VEGP UFSAR will be revised to require fatigue monitoring of the Accumulator/RHR nozzles and pressurizer heater penetrations. Implementing documents will be revised to reduce acceptable CUF values to account for environmental fatigue effects for those NUREG-6260 locations monitored for fatigue. Implementing documents will be revised to explicitly require that the corrective actions initiated for exceeding an acceptance criterion include a review to identify and assess any additional affected reactor coolant pressure boundary locations. 	A.2.38	No later than two years prior to the period of extended operation	B.3.38
29	<p>To ensure that the fatigue cycle limits are not exceeded, SNC will replace the steam generator secondary side handhole bolts after 30 years of service. The handhole bolts have been previously replaced and are scheduled to be replaced again during the spring outages in 2026 and 2028 for Units 1 and 2, respectively.</p> <p>Alternatively, a less restrictive replacement schedule may be developed and documented based on potential updated analyses initiated by the Bolting Integrity Program.</p>	A.3.2.5	As stated in the commitment	4.3.5 B.3.2

VEGP License Renewal Future Action Commitment List				
ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
30	<p>To ensure that the fatigue cycle limits are not exceeded, SNC will replace the steam generator secondary side manway bolts after 30 years of service. The manway bolts have never been replaced and are scheduled for replacement during the spring outages in 2017 and 2019 for Units 1 and 2, respectively.</p> <p>Alternatively, a less restrictive replacement schedule may be developed and documented based on potential updated analyses initiated by the Bolting Integrity Program.</p>	A.3.2.5	As stated in the commitment	4.3.5 B.3.2
31	The VEGP Pressure-Temperature Limits Report (for each unit) will be updated to address neutron embrittlement for a 60-year operating life, including any changes to the cold-overpressure mitigation system setpoints.	A.3.1.5 A.3.6.4	Prior to the unit entering the period of extended operation	4.2.5 4.7.4

VEGP License Renewal Future Action Commitment List				
ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
32	<p>Implement a replacement schedule for the small diameter (≤ 2-inch) flexible hoses described below:</p> <ul style="list-style-type: none"> • Radiation Monitoring System flexible hoses associated with the vent stack radiation monitor sample line. • Emergency Diesel Generator System flexible hoses associated with the fuel oil supply lines from the fuel oil headers to the fuel injector pumps. • ACCW System flexible hoses associated with the normal charging pump motor coolers. • Hydrogen Recombiner and Monitoring System flexible hoses associated with the calibration gas and oxygen bottles. • Main Steam System flexible hoses between the ARV hydraulic actuator and the hand pump unit. • Drain System flexible hoses installed on the Containment Bldg Tendon Gallery Sump Pump discharge lines. • Fire Protection System flexible hoses associated with the fire pump diesel fuel oil system. 	None	Prior to the period of extended operation	<p>2.3.3.25</p> <p>2.3.3.20</p> <p>2.3.3.6</p> <p>2.3.3.20</p> <p>2.3.4.1</p> <p>2.3.3.23</p> <p>2.3.3.19</p>
33	Ensure the fatigue monitoring limits implemented as part of the Fatigue Monitoring Program are adequate to ensure that charging and letdown intermediate break location CUF values remain less than 0.1 for 60 years of operation.	A.3.2.1	No later than two years prior to the period of extended operation	4.3.1.7

VEGP License Renewal Future Action Commitment List				
ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
34	<p>The cranes within the scope of the Overhead and Refueling Crane Inspection Program are routinely inspected; however the existing procedures do not explicitly identify inspection of structural components for excessive wear, corrosion, and misalignment in all cases. As a result, SNC will enhance applicable plant procedures to explicitly identify inspection of crane rails and crane structural components for loss of material due to corrosion and wear, and for indication of rail misalignment:</p> <ul style="list-style-type: none"> a) Procedure 93246-C "Polar Crane" will be enhanced to include inspection of crane rails and crane structural components (e.g., bridge) for loss of material due to corrosion; inspection of crane rails for loss of material due to wear, and for indication of rail misalignment. b) Procedure 27315-C "Spent Fuel Cask Crane" will be enhanced to include inspection of crane rails for loss of material due to corrosion. c) Procedure 27340-C "Refueling Machine" will be enhanced to include inspection of crane rails and crane structural components (e.g., bridge) for loss of material due to corrosion, and for indication of rail misalignment. d) Procedure 27342-C "Fuel Handling Machine Bridge Crane" will be enhanced to include inspection of crane rails and crane structural components (e.g., bridge) for loss of material due to corrosion; inspection of crane rails for loss of material due to wear, and for indication of rail misalignment. 	A.2.20	Prior to the period of extended operation	B.3.20
35	<p>This is a new commitment in response to Audit Question 4.3-14.</p> <p>SNC will revise the FatiguePro software to calculate a minimum projected value of 1 for any events that may potentially occur,</p>	New Commitment	No later than two years prior to the period of extended operation	

VEGP License Renewal Future Action Commitment List				
ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
36	This is a new commitment in response to Audit Question 4.7-01. SNC will verify the LBB evaluation in WCAP-10551-P, Addendum 1 meets the conditions of that process or have it re-performed using the acceptable process.	New Commitment	No later than two years prior to the period of extended operation	4.7.1
37	This is a new commitment in response to Audit Question B.3.28-04. To ensure the Boral spent fuel racks will continue to perform their intended function during the period of extended operation, VEGP will monitor spent fuel pool aluminum concentrations and implement corrective actions if adverse trends are identified. Additionally, SNC will monitor industry experience related to Boral and will take appropriate actions if significant degradation of Boral is identified.	New Commitment	Prior to the period of extended operation	B.3.28

Enclosure 3

Vogtle Electric Generating Plant Units 1 and 2

Application for License Renewal – Corrected Response to RAI 4.3-4

Correction to Response to RAI 4.3-4

The previous response to RAI 4.3-4 is revised to correct the two tables in the response. The correct tables are shown below.

Fast Transient				Slow Transient		
Transient	Loss of Letdown with Delayed Return to Service			Letdown Flow 50% Decrease and Return to Normal		
Analysis Tool	FatiguePro	NB-3200	Percentage	FatiguePro	NB-3200	Percentage
Max S _{alt}	296.8	261.2	88%	9.37	8.96	96%
Max S _n	111.3	107.8	97%	11.71	13.3	114%
Max K _e	3.333	3.333	100%	1.0	1.0	100%
CUF	0.0138	0.0102	74%	0.00E+00	0.00E+00	N/A

RCS Surge Line Hot Leg Nozzle						
Transient	Cooldown and Heatup			MOP Heatup with Local Stratification		
Analysis Tool	FatiguePro	NB-3200	Percentage	FatiguePro	NB-3200	Percentage
Max S _{alt}	14.465	8.8	61%	66.9	29.2	44%
Max S _n	23.5	10.5	45%	61.6	47.1	76%
Max K _e	1.0	1.0	100%	1.767	1.0	57%
CUF	2.38E-08	0.00E+00	0%	0.00012	1.50E-06	1%