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NL-09-0031

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

**Vogtle Electric Generating Plant
License Renewal – LRA Amendment 4 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. Amendment 1 to the LRA was provided by letter dated March 20, 2008. Amendment 2 to the LRA was provided by letter dated June 26, 2008. Amendment 3 to the LRA was provided by letter dated August 11, 2008.

In response to RAIs and a telecon with NRC Staff on January 8, 2009, regarding aging management of Boral neutron absorber panels, commitment number 37 of the VEGP License Renewal Future Action Commitment List is hereby revised as shown in Enclosure 2 of this letter. Enclosure 1 of this letter provides amendments to the LRA to incorporate this revised commitment into the aging management reviews and the UFSAR Supplement.

Enclosure 2 of this letter is the complete updated VEGP License Renewal Future Action Commitment List.

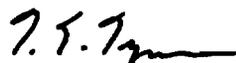
(Affirmation and signature are provided on the following page.)

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.

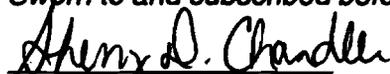
The NRC commitments contained in this letter are provided in Enclosure 2, Updated VEGP License Renewal Future Action Commitment List.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY


T. E. Tynan
Vice President – Vogtle

Sworn to and subscribed before me this 20th day of January, 2009.


Notary Public

Notary Public, Burke County, Georgia
My Commission Expires January 13, 2012

My commission expires: _____

TET/JEH/daj

Enclosures: 1. VEGP License Renewal Application Amendment 4
2. VEGP License Renewal Future Action Commitment List -
Updated

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President w/o Enclosure
Mr. D. H. Jones, Vice President – Engineering w/o Enclosure
Mr. M. J. Ajluni, Manager, Nuclear Licensing w/ Enclosure
Mr. N. J. Stringfellow, Licensing Supervisor, Vogtle w/ Enclosure
RType: CVC7000

U. S. Nuclear Regulatory Commission
Mr. L. A. Reyes, Regional Administrator w/ Enclosure
Mr. R. E. Martin, NRR Project Manager – Vogtle w/ Enclosure
Mr. E. D. Morris, Acting Senior Resident Inspector – Vogtle w/ Enclosure
Mr. D. J. Ashley, License Renewal Project Manager, Vogtle w/ Enclosure

State of Georgia
Mr. N. Holcomb, Commissioner – Department of
Natural Resources w/ Enclosure

NL-09-0031

**Vogtle Electric Generating Plant
License Renewal - LRA Amendment 4**

Enclosure 1

VEGP License Renewal Application Amendment 4

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 4**

Affected sections of the VEGP license renewal application are revised as shown below. Additions are shown in ***bold italics***, deletions in ~~**bold strikethrough**~~.

Section 3.3.2.2.6, page 3.3-45:

3.3.2.2.6 Reduction of Neutron-Absorbing Capacity and Loss of Material due to General Corrosion

NUREG-1800 item 3.3.2.2.6 relates to the reduction of neutron-absorbing capacity and loss of material due to general corrosion in the neutron-absorbing sheets of spent fuel storage racks exposed to treated or borated water. A plant specific aging management program is recommended to manage the effects.

VEGP manages loss of material due to corrosion of the aluminum cladding material with the Water Chemistry Control Program (Appendix B.3.28).

~~**Reduction in neutron-absorbing capacity is not an aging effect requiring management for the Boron-Carbide materials. The presence of the aluminum cladding prevents contact of the Boron-Carbide materials with borated water. Additionally, industry and plant-specific operating experience do not indicate degradation of Boral spent fuel storage racks exposed to borated water. Both Virgil C. Summer Nuclear Plant and Brunswick Steam Electric Plant have been evaluated for the aging effect of "reduction of neutron-absorbing capacity" by the NRC staff. The Safety Evaluation Reports for license renewal (NUREG-1787, for Summer, and NUREG-1856, for Brunswick) determined the aging effect to be insignificant. Therefore, it is concluded that "reduction of neutron-absorbing capacity" for Boral does not require aging management. However, the aging effect of loss of material will continue to be managed by the Water Chemistry Program.**~~

VEGP will manage reduction in neutron-absorbing capacity of the Boral™ neutron absorbing panels in the Unit 1 spent fuel storage racks with the One-Time Inspection Program (Appendix B.3.17).

Vogtle Electric Generating Plant Units 1 and 2
 Application for License Renewal – Amendment 4

Table 3.3.1, page 3.3-56

Table 3.3.1 Summary of Aging Management Evaluations for Auxiliary Systems in Chapter VII of NUREG-1801

Item Number	Component	Aging Effect/Mechanism	Aging Management Programs	Further Evaluation Recommended	Discussion
3.3.1-13	Boral, boron steel spent fuel storage racks neutron-absorbing sheets exposed to treated water or treated borated water	Reduction of neutron-absorbing capacity and loss of material due to general corrosion	Plant specific	Yes, plant specific (See subsection 3.3.2.2.6)	<p>Different than NUREG-1801.</p> <p>Loss of material due to corrosion in the Boral spent fuel racks is managed by the VEGP Water Chemistry Control Program (Appendix B.3.28).</p> <p>Reduction in neutron-absorbing capacity is not an aging effect requiring management for the Boral spent fuel racks. will be managed by the One-Time Inspection Program.</p> <p>See Section 3.3.2.2.6 for further discussion.</p>

**Vogtle Electric Generating Plant Units 1 and 2
 Application for License Renewal – Amendment 4**

Table 3.3.2-1, page 3.3-56

Table 3.3.2-1 Fuel Storage Racks - New And Spent Fuel: Summary of Aging Management Review

ID	Component Type	Intended Function	Material	Environment	Aging Effect Requiring Management	Aging Management Programs	NUREG-1801 Vol. 2 Item	Table 1 Item	Notes
3a	Spent Fuel Storage Racks	Reactivity Control Structural Support	Boral	Borated Water (Exterior)	Loss of Material	Water Chemistry Control Program	VII.A2-5	3.3.1-13	<u>E</u> 313
3b	Spent Fuel Storage Racks	Reactivity Control Structural Support	Boral	Borated Water (Exterior)	Reduction of Neutron-Absorbing Capacity	One-Time Inspection Program	VII.A2-5	3.3.1-13	<u>E</u>
3b 3c	Spent Fuel Storage Racks	Reactivity Control Structural Support	Stainless Steel	Borated Water (Exterior) (T > 140°F)	Cracking	Water Chemistry Control Program One-Time Inspection Program	VII.A2-7	3.3.1-90	<u>A</u> 301
3c 3d	Spent Fuel Storage Racks	Reactivity Control Structural Support	Stainless Steel	Borated Water (Exterior)	Loss of Material	Water Chemistry Control Program	VII.A2-1	3.3.1-91	<u>C</u>

Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 4

Page 3.3-290

Plant Specific Notes for Auxiliary Systems

313. ~~Although NUREG-1801 recommends a "Reduction of neutron absorbing capacity" aging effect for Boral (GALL Item VII.A2-5), the VEGP AMR determined that reduction of neutron absorbing capacity is not an aging effect requiring management. Loss of material is managed by the Water Chemistry Control Program Deleted.~~

Section A.2.17, page A-12

A.2.17 ONE-TIME INSPECTION PROGRAM

The VEGP One-Time Inspection Program provides objective evidence that an aging effect is not occurring, or that the aging effect is occurring slowly enough to not affect the component or structure intended function during the period of extended operation, and therefore will not require additional aging management.

The program uses one-time inspections of plant piping and components to verify the effectiveness of aging management programs or to confirm the insignificance of potential aging effects where:

- a) an aging effect is not expected to occur but there is insufficient data to rule it out with reasonable confidence,
- b) an aging effect is expected to progress very slowly in a specified environment, but localized conditions may be more adverse than specified, or
- c) the characteristics of the aging effect include a long incubation period relative to the operating life of the plant.

The inspections will be performed within a window of ten years immediately preceding the period of extended operation.

The inspections will include baseline and follow-up inspections of the effectiveness of the Boral™ neutron-absorbing panels credited in the criticality analysis for the Unit 1 spent fuel storage racks to provide reasonable assurance that the panels will continue to perform their reactivity control function during the period of extended operation. The baseline inspection will be performed within a window of ten years immediately preceding the period of extended operation. The follow-up inspection will be performed at a date to be determined based on the results of the baseline inspection and relevant industry guidance, not to exceed ten years after the baseline inspection.

**Vogtle Electric Generating Plant Units 1 and 2
 Application for License Renewal – Amendment 4**

Section B.3.17, pages B-69 through B-71.

B.3.17 ONE-TIME INSPECTION PROGRAM

Program Description

The VEGP One-Time Inspection Program is a new program that will be designed to provide objective evidence that an aging effect is not occurring, or that the aging effect is occurring slowly enough to not affect the component or structure intended function during the period of extended operation, and therefore will not require additional aging management.

The new VEGP One-Time Inspection Program will use one-time inspections of plant piping and components to verify the effectiveness of aging management programs or to confirm the insignificance of potential aging effects where: a) an aging effect is not expected to occur but there is insufficient data to rule it out with reasonable confidence, b) an aging effect is expected to progress very slowly in a specified environment, but localized conditions may be more adverse than specified, or c) the characteristics of the aging effect include a long incubation period relative to the operating life of the plant.

The inspections will be performed within a window of ten years immediately preceding the period of extended operation.

The inspections will be performed on in-scope systems and components as described below:

Material/Environment Combination	Aging Effect of Concern
<i>Inspections performed to verify the effectiveness of aging management programs by confirming that unacceptable degradation is not occurring.</i>	
<u>Water Chemistry Control Program</u> Internal surfaces of various components exposed to borated water, steam, or treated water	Loss of Material Cracking Reduction of Heat Transfer
<u>Diesel Fuel Oil Program</u> Internal surfaces of various components exposed to fuel oil; (Includes thickness verification of tank bottom surfaces)	Loss of Material
<u>Oil Analysis Program</u> Internal surfaces of various components exposed to hydraulic fluid or lubricating oil	Loss of Material Reduction of Heat Transfer

**Vogle Electric Generating Plant Units 1 and 2
 Application for License Renewal – Amendment 4**

Material/Environment Combination	Aging Effect of Concern
<i>Inspections performed to confirm that either an aging effect is not occurring, or is occurring so slowly as to not affect the component's intended function(s) during the period of extended operation</i>	
Internal surfaces of carbon steel, cast iron and lead alloy components exposed to indoor air	Loss of Material
Internal surfaces of carbon steel components exposed to miscellaneous gas (gas of uncertain makeup)	Loss of Material
Internal surfaces of stainless steel components exposed to outdoor air when wetted	Loss of Material Cracking
Internal surfaces of aluminum alloy components exposed to outdoor air	Loss of Material
Internal surfaces of carbon steel components exposed to ventilation air	Loss of Material
Internal surfaces of copper alloy components exposed to domestic water	Loss of Material
Internal surfaces of carbon steel and stainless steel components exposed to clean drainage	Loss of Material
Internal surfaces of PVC components exposed to dirty drainage	Change in Material Properties
Internal surfaces of carbon steel components in the RCP Oil Collection System exposed to dirty drainage (Includes thickness verification of tank bottom surfaces)	Loss of Material
Internal surfaces of PVC components exposed to Nuclear Service Cooling Water	Change in Material Properties
Internal surfaces of stainless steel components exposed to treated water where the chemical environment has been shown to accelerate aging of carbon steel	Loss of Material
<i>Boral neutron-absorbing sheets in the spent fuel storage racks (Unit 1 only)</i>	<i>Reduction of Neutron-Absorbing Capacity</i>

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 4**

The One-Time Inspection Program will include: (a) determination of sample size based on an assessment of the materials of fabrication, environment, plausible aging effects, and operating experience, (b) identification of the inspection locations in the system or component based on the aging effect, (c) determination of the examination technique, including acceptance criteria, that would be effective in identifying and quantifying the aging effect for which the component is examined, and (d) evaluation of the need for follow-up examinations to monitor the progression of aging, expansion of the sample size, or other corrective actions as appropriate if age-related degradation is found that could jeopardize an intended function before the end of the period of extended operation.

The inspections will include a baseline and a follow-up inspection of the effectiveness of the Boral™ neutron-absorbing panels credited in the criticality analysis for the Unit 1 spent fuel storage racks to provide reasonable assurance that the panels will continue to perform their reactivity control function during the period of extended operation. The baseline inspection will be performed within a window of ten years immediately preceding the period of extended operation. The follow-up inspection will be performed at a date to be determined based on the results of the baseline inspection and relevant industry guidance, not to exceed ten years after the baseline inspection.

One-time inspections of components potentially susceptible to selective leaching are addressed by the One-Time Inspection Program for Selective Leaching ([Appendix B.3.19](#)). One-time inspections of ASME Class 1 piping less than or equal to NPS 4 are addressed by the One-Time Inspection Program for ASME Class 1 Small Bore Piping ([Appendix B.3.18](#)).

NUREG-1801 Consistency

The VEGP One-Time Inspection Program will be consistent with the program described in NUREG-1801, Section XI.M32, “One-Time Inspection.”

Exceptions to NUREG-1801

None

Enhancements

None

Operating Experience

There is no programmatic operating experience specifically applicable to the new one-time inspections. However, plant and industry operating experience will be considered in the selection of the initial component sample sets.

**Vogtle Electric Generating Plant Units 1 and 2
Application for License Renewal – Amendment 4**

Conclusion

The new One-Time Inspection Program will provide reasonable assurance that either an aging effect is not occurring, or that the aging effect is occurring so slowly that the intended function of the component or structure will not be affected for the duration of the period of extended operation. In either case there would be no need to further manage the aging effect during the period of extended operation.

NL-09-0031

**Vogtle Electric Generating Plant
License Renewal – LRA Amendment 4**

Enclosure 2

VEGP License Renewal Future Action Commitment List - Updated

VEGP License Renewal Future Action Commitment List - Updated

The following table identifies those actions committed by Southern Nuclear Operating Company in this document for Vogtle Electric Generating Plant.

Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments.

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 - Updated

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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

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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

VEGP License Renewal Future Action Commitment List - Updated

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ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
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
11	Implement the following enhancements to the Generic Letter 89-13 Program: <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

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ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
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> <ul 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
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> <ul style="list-style-type: none"> (1) NRC Orders, Bulletins, and Generic Letters, and; (2) Staff-accepted industry guidelines. 	A.2.15	Ongoing	B.3.15

VEGP License Renewal Future Action Commitment List - Updated

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ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
14	Implement the following enhancements to the Oil Analysis Program: <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

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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 preceding 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 preceding the period of extended operation.	B.3.18

VEGP License Renewal Future Action Commitment List - Updated

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ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
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 preceding the period of extended operation.	B.3.19
18	Enhance the Periodic Surveillance and Preventive Maintenance Activities to include the following: <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 - Updated

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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> <ul 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

VEGP License Renewal Future Action Commitment List - Updated

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ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
21	Implement the following enhancements to the Reactor Vessel Surveillance Program: (1) Prior to completion of testing of the last surveillance capsule in each unit, action will be taken to ensure 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 - Updated

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ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
23	Implement the following enhancements to the Structural Monitoring Program: <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 - Updated

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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

VEGP License Renewal Future Action Commitment List - Updated

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ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
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 preceding the period of extended operation.	B.3.36

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ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
28	Implement the following enhancements to the Fatigue Monitoring Program: <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. • 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. 	A.2.38	No later than two years prior to the period of extended operation	B.3.38

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ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
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
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	<p>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.</p>	A.3.1.5 A.3.6.4	Prior to the unit entering the period of extended operation	4.2.5 4.7.4

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ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
32	Implement a replacement schedule for the small diameter (\leq 2-inch) flexible hoses described below: <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	2.3.3.25 2.3.3.20 2.3.3.6 2.3.3.20 2.3.4.1 2.3.3.23 2.3.3.19

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ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
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

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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

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ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
35	This is a new commitment in response to Audit Question 4.3-14. SNC will revise the FatiguePro software to calculate a minimum projected value of 1 for any events that may potentially occur.	A.2.28	No later than two years prior to the period of extended operation	A.2.28
36	This is a new commitment in response to Audit Question 4.7-01. Once the NRC has accepted a process for addressing PWSCC of Alloy 82/182 welds in LBB evaluations, 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.	A.3.6.1	No later than two years prior to the period of extended operation	A.3.6.1

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ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
38	<p>This is a new commitment in response to RAI 4.3-2.</p> <p>SNC commits to revise the FatiguePro initial CUF values for the Unit 1 and Unit 2 hot leg surge nozzles, pressurizer surge nozzles, and pressurizer heater penetrations to double the current values and recalculate the current and projected CUFs.</p>	A.2.28	No later than two years prior to entering the period of extended operation.	A.2.28
39	<p>This is a new commitment in response to RAI 4.3-04.</p> <p>SNC commits to implement a fatigue management software program that uses six stress components in the stress based fatigue calculation. The software will be appropriately benchmarked against an ASME NB-3200 fatigue analysis and the stress based fatigue monitoring locations will be modeled with the as-built configuration. The new software will be used to re-project 60-year CUF values for the monitored locations. When those locations were evaluated for environmental effects on fatigue, the new software will also be used to demonstrate the environmental effects on fatigue will be adequately managed for those locations during the period of extended operation. This software will be put in service at least two years prior to the period of extended operation.</p>	A.2.28	No later than two years prior to entering the period of extended operation.	A.2.28

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ITEM NO.	COMMITMENT	UFSAR SUPPLEMENT LOCATION	SCHEDULE	RELATED LRA SECTIONS/ REFS
40	<p>This is a new commitment in response to a question raised during the IP-71002 inspection.</p> <p>The following changes will be made to the Structural Monitoring Program in order to enhance evaluation and trending of findings:</p> <ol style="list-style-type: none"> 1) Guidance will be given regarding proper documentation of condition adverse to quality and its probable causes for any CR written against a finding during structural monitoring program walkdown. 2) For any finding (e.g., crack, leakage, etc.) guidance will be given for data to be collected and evaluated. 3) More explicit direction will be given for trending of the problems. 	A.2.32	No later than two years prior to the period of extended operation	A.2.32
41	<p>This is a new commitment in response to a question raised during the IP-71002 inspection.</p> <p>The following changes will be made to the IWE and IWL programs in order to enhance evaluation and trending of findings:</p> <ol style="list-style-type: none"> 1) More explicit direction will be given to the Registered Professional Engineer for trending and evaluating conditions (including evidence of tendon grease leakage) identified during concrete visual examinations. 	A.2.30 A.2.31	No later than two years prior to the period of extended operation	A.2.30 A.2.31