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*Energy to Serve Your World*

September 09, 2009

Docket Nos.: 50-425

NL-09-1410

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

Vogtle Electric Generating Plant – Unit 2  
VEGP-ISI-RR-01, Version 1.0, Relief Request in Accordance With  
10 CFR 50.55a(g)(5)(iii)

Ladies and Gentlemen:

On April 23, 2009, Southern Nuclear Company (SNC) submitted relief request VEGP-ISI-RR-01 which requests relief from performing strand testing on Vogtle Unit 2 containment tendons, applicable for the 3rd inservice inspection interval.

On July 29, 2009, SNC received a request for additional information (RAI) letter, which contained three (3) questions. Per teleconference on July 24, 2009, the NRC staff acknowledged RR-L-2 submitted by SNC on April 5, 1999 and approved by the NRC on June 16, 2000 which approved SNC request to align containment tendon schedules for Unit 1 and Unit 2 for the second inspection interval. The staff requested SNC submit a similar request for the third inspection interval.

Enclosure 1 contains the SNC responses to the request for additional information.

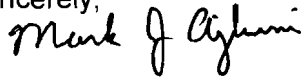
Enclosure 2 contains the revised relief request VEGP-ISI-RR-01.

Enclosure 3 contains VEGP-ISI-ALT-04, proposed alternative in accordance with 10 CFR 50.55a. VEGP-ISI-ALT-04 requests approval to align Unit 1 and 2 Class CC testing schedules.

SNC requests approval by May 1, 2010 to support testing scheduled for summer 2010.

This letter contains no NRC commitments. If you have any questions, please advise.

Sincerely,



M. J. Ajluni  
Manager, Nuclear Licensing

MJA/TAH/lac

- Enclosures:
1. Response to Request for Additional Information
  2. VEGP-ISI-RR-01, Version 1.0, Relief Request in Accordance With 10 CFR 50.55a(g)(5)(iii)
  3. VEGP-ISI-ALT-04, Version 1.0, Proposed Alternative in Accordance With 10 CFR 50.55a(a)(3)(i)

cc: Southern Nuclear Operating Company  
Mr. J. T. Gasser, Executive Vice President  
Mr. T. E. Tynan, Vice President – Vogtle  
Ms. P. M. Marino, Vice President – Engineering  
RType: CVC7000

U. S. Nuclear Regulatory Commission  
Mr. L. A. Reyes, Regional Administrator  
Ms. D. N. Wright, NRR Project Manager – Vogtle  
Mr. M. Cain, Senior Resident Inspector – Vogtle

State of Georgia  
Mr. C. Clark, Commissioner – Department of Natural Resources

Vogtle Electric Generating Plant – Unit 2  
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Enclosure 1

Response to Request for Additional Information

Enclosure 1  
Vogtle Electric Generating Plant – Unit 2  
VEGP-ISI-RR-01, Version 1.0, Relief Request in Accordance With  
10 CFR 50.55a(g)(5)(iii)

RAI

The licensee is requested to:

1. "Provide a detailed explanation and justification of how the "Proposed Alternative and Basis for Use" stated in RR VEGP-ISI-RR-01 ensures that the Unit 1 strand testing that is credited for Unit 2 is representative of the material condition of the Unit 2 tendons at the time of Unit 2 lift-off testing."
2. "The NRC staff requests the licensee to provide the dates of the most recent tendon lift-off testing performed for Unit 1 and Unit 2;"
3. "The NRC staff requests the licensee to provide the approximate schedule for tendon lift-off testing for Unit 1 and Unit 2 for the duration of the third 10-year ISI interval (5/31/2007 -5/30/2017), for which the relief is requested."

RAI Response

The following is SNC's response to the RAI:

1. VEGP-ISI-RR-01 has been modified to include that Unit 1 and Unit 2 liftoff testing is performed at the same time as modified by VEGP-ISI-ALT-04. In addition, information has been included to justify the basis for utilizing IWL-2421.
2. Liftoff testing was last performed on Unit 2 during 2005, including one vertical tendon detensioned on Unit 1 for testing in accordance with RR-L-3. Liftoff testing on Unit 1 was last performed during 2000, including one horizontal and one vertical tendon detensioned on Unit 1 for testing in accordance with RR-L-3. Although approval was obtained to align liftoff testing for both units through RR-L-2 and Technical Specifications, lift off testing was not performed at the same time during the last interval.
3. See Table 1 of VEGP-ISI-ALT-04.

Vogle Electric Generating Plant – Unit 2  
VEGP-ISI-RR-01, Version 1.0, Relief Request in Accordance With  
10 CFR 50.55a(g)(5)(iii)

Enclosure 2

VEGP-ISI-RR-01, Version 1.0, Relief Request in  
Accordance With 10 CFR 50.55a(g)(5)(iii)

Enclosure 2  
Vogle Electric Generating Plant – Unit 2  
VEGP-ISI-RR-01, Version 1.0, Relief Request in Accordance With  
10 CFR 50.55a(g)(5)(iii)

**Plant Site - Unit:** Vogle Electric Generating Plant (VEGP) - Unit 2.

**Interval-  
Interval Dates:** 3rd ISI Interval, May 31, 2007 through May 30, 2017.

**Requested Date  
for Approval:** Approval is requested by May 1, 2010, to support examinations scheduled during the summer of 2010.

**ASME Code  
Components  
Affected:** VEGP-2 tendon strands.

**Applicable  
Code Edition  
and Addenda:** ASME Section XI, 2001 Edition through the 2003 Addenda.

**Applicable Code  
Requirement:** IWL-2523 requires that a strand sample be examined and tested.

IWL-2523.1 requires that one sample tendon, from each type, be detensioned completely and a single strand removed from each detensioned tendon.

IWL-2523.2 requires that the strands selected in IWL-2523.1 are tension tested and examined for corrosion and mechanical damage.

**Impracticality of  
Compliance:** The VEGP Unit 2 post-tensioning system was designed so that no tendons can be detensioned without creating voids in the sheathing filler material. Without the capability to completely detension a tendon, strand samples cannot be removed and tested. VEGP was originally licensed so that tendon lift-off and strand testing would be performed on Unit 1 only. Only the Unit 1 containment structure is equipped with the provision for tendon removal with detensionable anchorage assemblies as stated in VEGP UFSAR section 3.8.1.7.2.

Therefore, relief from the Code requirements should be granted under 10 CFR 50.55a(g)(6)(i) based on impracticality. The Unit 2 containment post tensioning system can not be modified to allow for compliance with the code requirements. The proposed alternative, which is based on testing that was approved by the NRC for the 2<sup>nd</sup>

Enclosure 2  
Vogtle Electric Generating Plant – Unit 2  
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ISI interval, ensures that the structural integrity of the containment is being maintained.

**Burden Caused  
by Compliance:**

The current Unit 2 containment configuration does not provide for compliance with the code requirements and the post tensioning configuration can not be modified to allow for compliance.

**Proposed  
Alternative and  
Basis for Use:**

1. VEGP will perform lift-off testing on the Unit 2 tendons in accordance with IWL-2520.
2. The strands selected during lift-off testing of Unit 1 will be credited for Unit 2.

Both Unit 1 and Unit 2 containments utilize the same prestressing system, are essentially identical in design (with the exception that Unit 2 tendons were not designed to allow detensioning), and are similarly exposed to the same environment. The post tensioning operations for VEGP-1 were completed April, 1986 and VEGP-2 in December, 1986. Therefore, the VEGP units meet the criteria of IWL-2421(a) allowing for examinations per IWL-2421(b). Based on the above, Vogtle 1 and 2 meet the requirements of IWL-2421(a) for a relaxed examination schedule. Therefore, performance of IWL-2520 exams on Unit 2 while crediting Unit 1 strand testing for Unit 2 provides reasonable assurance of structural integrity of the Unit 2 unbonded post tensioning system.

A full test schedule is outlined in VEGP-ISI-ALT-04, Table 1.

**Duration of  
Proposed  
Alternative:**

3rd ISI Interval, May 31, 2007 through May 30, 2017.

**Precedents:**

An equivalent Relief Request (RR-L-3) was previously approved for Plant Vogtle.

**References:**

NRC Safety Evaluation dated June 16, 2000 – TAC NOS. MA5314 AND MA5315.

**Status:**

Awaiting NRC approval.

Vogtle Electric Generating Plant – Unit 2  
VEGP-ISI-RR-01, Version 1.0, Relief Request in Accordance With  
10 CFR 50.55a(g)(5)(iii)

Enclosure 3

VEGP-ISI-ALT-04, Version 1.0, Proposed Alternative in  
Accordance With 10 CFR 50.55a(a)(3)(i)



**Enclosure 3**  
**Southern Nuclear Operating Company**  
**VEGP-ISI-ALT-04, Version 1.0**  
**Proposed Alternative In Accordance With 10 CFR 50.55a(a)(3)(i)**

<b>Plant Site-Unit:</b>	Vogtle Electric Generating Plant -Units 1 and 2
<b>Interval-Interval Dates:</b>	3 <sup>rd</sup> ISI Interval, May 31, 2007 through May 30, 2017
<b>Requested Date for Approval and Basis:</b>	Approval is requested by May 1, 2010
<b>ASME Code Components Affected:</b>	The exterior portion of the VEGP-1 and 2 Containment Buildings fabricated from concrete and their post-tensioning systems.
<b>Applicable Code Edition and Addenda:</b>	ASME Section XI, 2001 Edition through the 2003 Addenda
<b>Applicable Code Requirements:</b>	IWL-2410(a) states: "Concrete shall be examined in accordance with IWL-2510 at 1, 3, and 5 years following the completion of the containment Structural Integrity Test CC-6000 and every 5 years thereafter."  IWL-2420(a) states: "Unbonded post-tensioning systems shall be examined in accordance with IWL-2520 at 1, 3, and 5 years following the completion of the containment Structural Integrity Test and every 5 years thereafter."
<b>Reason for Request:</b>	Both Unit 1 and Unit 2 containments utilize the same prestressing system, are essentially identical in design (with the exception that Unit 2 tendons were not designed to allow detensioning), and are similarly exposed to the same environment. The post tensioning operations for VEGP-1 were completed April, 1986 and VEGP-2 in December, 1986. Therefore, the VEGP units meet the criteria of IWL-2421(a) allowing for examinations per IWL-2421(b). Based on the above, Vogtle 1 and 2 meet the requirements of IWL-2421(a) for a relaxed examination schedule.  The Unit 1 Structural Integrity Test (SIT) was completed on August 23, 1986 and Unit 2 SIT was completed on November 14, 1988. Based on these dates, IWL-2421(b)(1&2), requires all IWL-2500 exams for Unit 1 be performed during 2016 (30-year exams) and Unit 2 during

**Enclosure 3**  
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**VEGP-ISI-ALT-04, Version 1.0**  
**Proposed Alternative In Accordance With 10 CFR 50.55a(a)(3)(i)**

	<p>2013 (25-year exams). The scheduling of IWL exams do not line up with the schedule approved in previous relief request (2<sup>nd</sup> interval RR-L-2) and Technical Specification amendments for testing concrete containments.</p> <p>At the time of plant construction, it was decided that tendon surveillance for Unit 1 would involve the lift-off and detensioning of tendons, and that Unit 2 would require only visual examination. Since the two units are identical, credit was taken for lift-off testing and detensioning on both units when only one unit received lift-offs and detensioning. Due to the expense of repairing, inspecting, and testing the tendon surveillance platforms, Georgia Power Company, the former operator and licensee of VEGP and sister company to Southern Nuclear Operating Company (SNC), the current operator and licensee, requested a change to the Technical Specifications for VEGP-1 and 2 to allow testing of both containments during the same time period. The requested change was authorized by the NRC in a letter dated September 12, 1989, to Georgia Power Company, and resulted in Amendments 23 and 4 to the Technical Specifications for VEGP-1 and 2, respectively. In addition, lift-off testing was now required on Unit 2 beginning with the three-year inspection, so that lift-off testing would be performed on Unit 2 whenever lift-off testing and detensioning was performed on Unit 1.</p> <p>Subsequently, with the adoption of the improved Standard Technical Specifications, containment tendon testing requirements were relocated to a containment testing program, TS 5.5.6, (Amendments 96 and 74). Amendments 147 and 127, dated December 12, 2006, revised TS 5.5.6 to reference IWL for containment testing.</p>
<p style="text-align: center;"><b>Proposed Alternative and Basis for Use:</b></p>	<p>Prior to the amendment made to the VEGP Technical Specifications via SER dated December 12, 2006, containment tendon lift off testing was approved to be performed on a 10-year frequency with both containment tests being performed during the same period. The 2006 amendment made reference to IWL for testing of the concrete containments; therefore, the schedule is no longer mentioned in Technical Specifications. Continued use of the previously approved Technical Specification change will continue to provide assurance of containment structural integrity.</p> <p>The frequency of proposed testing is equivalent to the requirements of the referenced edition and addenda of the ASME Section XI Code; however, on an alternate schedule</p>

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	<p>using an administrative date for the SIT date which aligns each Unit's testing with the original Technical Specification schedule (see proposed schedule below). The next tendon and concrete examinations will be performed on VEGP-1 and 2 by August 1, 2010 <math>\pm</math> 1 year and every 5 years <math>\pm</math> 1 year thereafter as outlined in Table 1.</p> <p>Based on the lift off schedule being approved by a previous version of Technical Specifications, and these examinations being performed at the same frequency as required by the code, relief should be granted under 10 CFR 50.55a(a)(3)(i) because the proposed alternative provides an acceptable level of quality and safety.</p>
<b>Duration of Proposed Alternative:</b>	The 3 <sup>rd</sup> ISI Interval, beginning May 31, 2007 and all subsequent intervals.
<b>Precedents:</b>	<p>Similar alternative RR-L-2 approved for previous inspection interval by SER dated June 16, 2000 (TAC NOS. MA5314 and MA 5315).</p> <p>A similar inspection schedule was approved for Farley Alternative RR-58 via SER dated March 28, 2006.</p>
<b>References:</b>	VEGP Technical Specifications SR 3.6.1.2 and 5.5.6 previously (prior to approval of Amendments 147 and 127 for Unit 1 and 2, respectively, dated December 12, 2006) implemented the alternative examination schedule for lift off testing.
<b>Status:</b>	Awaiting NRC approval

**Enclosure 3**  
**Southern Nuclear Operating Company**  
**VEGP-ISI-ALT-04, Version 1.0**  
**Proposed Alternative In Accordance With 10 CFR 50.55a(a)(3)(i)**

**Table 1 - Proposed IWL Examination Schedule**

Administrative SIT Date of 8/1/2010 for application of future 5-year tests $\pm$ 1 year <sup>(1)</sup>				
Unit-1	All IWL-2500 Cat. L-A & L-B 08/01/09 – 08/01/11	Only IWL-2524 & IWL-2525 08/01/14 – 08/01/16	All IWL-2500 Cat. L-A & L-B 08/01/19 – 08/01/21	Only IWL-2524 & IWL-2525 08/01/24 – 08/01/26
Unit-2	All IWL-2500 Cat. L-A & L-B as modified by VEGP-ISI-RR-01 08/01/09 – 08/01/11	Only IWL-2524 & IWL-2525 08/01/14 – 08/01/16	All IWL-2500 Cat. L-A & L-B as modified by VEGP-ISI-RR-01 08/01/19 – 08/01/21	Only IWL-2524 & IWL-2525 08/01/24 – 08/01/26

Foot notes:

(1)  $\pm$  1 year means that examinations shall commence no earlier than 1 year prior to the specified date and shall be completed no more than 1 year after specified date (as allowed by IWL-2410(c) and IWL-2420(c)).