

January 28, 2008

Mr. Tom E. Tynan  
Vice President - Vogtle  
Southern Nuclear Operating Company, Inc.  
7821 River Road  
Waynesboro, GA 30830

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE  
VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2, LICENSE  
RENEWAL APPLICATION SECTIONS 2.4, 4.2 AND 4.5

Dear Mr. Tynan:

By letter dated June 28, 2007, Southern Nuclear Operating Company, Inc., submitted an application pursuant to 10 CFR Part 54, to renew the operating licenses for Vogtle Electric Generating Plant, Units 1 and 2, for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). The staff is reviewing the information contained in the license renewal application and has identified, in the enclosure, areas where additional information is needed to complete the review. Further requests for additional information may be issued in the future.

Items in the enclosure were discussed with Chalmer Myer, and a mutually agreeable date for the response is within 30 days from the date of this letter. If you have any questions, please contact me at 301-415-3191 or e-mail [dja1@nrc.gov](mailto:dja1@nrc.gov).

Sincerely,

**/RA/**

Donnie J. Ashley, Sr. Project Manager  
Projects Branch 1  
Division of License Renewal  
Office of Nuclear Reactor Regulation

Docket Nos. 50-424 and 50-425

Enclosure:  
As stated

cc w/encl: See next page

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VOGTLE ELECTRIC GENERATING PLANT (VEGP), UNITS 1 AND 2  
LICENSE RENEWAL APPLICATION (LRA)  
REQUEST FOR ADDITIONAL INFORMATION (RAI)

**RAI 2.4.1-1**

Under the title “Containment Building Structure and Foundation” in Section 2.4.1 of the license renewal application (LRA), it is stated that “A tendon access gallery is located beneath the perimeter of the base slab for the installation and inspection of the U-shaped tendons.” Please confirm that the tendon access gallery and its associated vertical access shafts are in scope and subject to an aging management review (AMR). If the tendon access gallery and its associated vertical access shafts are not included in the scope of license renewal, please provide justification for their exclusion.

**RAI 2.4.1-2**

From LRA Table 2.4.1, it is not clear if the following components of the Containment Structures have been screened-in as components subject to an AMR.

- Control rod drive missile shield
- Polar crane support brackets
- Reactor cavity manipulator crane (only containment polar bridge crane, spent fuel cask bridge crane, refueling machine inside the containment building, and the fuel handling machine bridge crane in the fuel building have been addressed in 2.3.3.3.)

Please confirm and explicitly clarify their inclusion in Table 2.4.1 or justify their exclusion. For those that are included in-scope and subject to an AMR, ensure that the appropriate AMR results are identified.

**RAI 2.4.1-3**

Under the title “Steel Containment Liner” in Section 2.4.1, it is stated that “The floor liner plate is installed on top of the foundation slab and is then covered with concrete.” Please confirm that the inaccessible floor liner plate of the base mat including the leak chase system and the concrete fill slab above this liner are included in the components listed in Table 2.4.1 and are subject to an AMR. If they are not included, please provide justification for their exclusion.

**RAI 2.4.1-4**

To clarify the component identified as “Steel Components: All Structural Steel” in various LRA Table in Section 2.4, please confirm that the connection components (gusset plates, welds, bolts, etc.) are in-scope and subject to an AMR.

#### **RAI 2.4.1-5**

As described in Section 3.8.3 of the VEGP FSAR, containment internal structures provide radiation shielding. Please provide justification why radiation shielding should not be identified as an intended function to Item 4 of LRA Table 2.4.1 (Concrete: internal structures).

#### **RAI 2.4.1-6**

LRA Table 2.4.1 lists the Equipment Hatch and Personnel Airlocks as Containment components subject to an AMR. Please confirm that the hatch locks, hinges and closure mechanisms that help prevent loss of sealing/leak-tightness for these listed hatches are included in the scope of license renewal and subject to an AMR (NOTE: Table 2.4.12 does not specifically address these items either). As appropriate, please provide a description of their scoping and aging management review or provide the basis for their exclusion.

#### **RAI 2.4.1-7**

Please confirm if there are any channel/angle shrouds that may have been used at liner welded joints (including those at penetrations). If yes, please state so explicitly and include them as in-scope components and subject to an AMR.

#### **RAI 2.4.1-8**

Please confirm that the isolation valve encapsulation vessel assemblies (noted in Section 3.8.2.1.4 of VEGP FSAR) and their supports/anchorage are screened-in and subject to an AMR. If not, provide justification for their exclusion.

#### **RAI 2.4.1-9**

Please confirm that the insulation and cooling system provided to limit the inside face temperature of primary shield wall and reactor cavity to 150°F (as noted in Section 3.8.3.4.4 of VEGP FSAR) are screened-in and subject to an AMR. Please note that Section 2.3.3.31, "Thermal Insulation", of the LRA mainly focuses on insulation for piping/penetrations to keep the local concrete temperature below 200°F.

#### **RAI 2.4.1-10**

Section 2.4.1 states the equipment hatch concrete external shield door is evaluated as a reactor building concrete element. Please include the equipment hatch concrete external shield door in Table 2.4.1 to ensure appropriate evaluation of this component in Section 3.5.2.1.1 and Table 3.5.2-1.

#### **RAI 2.4.1-11**

The makeup water wells have not been considered in the scope of license renewal as noted in Table 2.2-2. According to VEGP FSAR Section 2.4.12.1.3.1, ground water is the primary source of supply for reactor cooling water makeup, normal makeup to the nuclear service cooling towers, and fire protection. Please provide justification for the exclusion of makeup water wells from the scope of license renewal.

#### **RAI 2.4.1-12**

Please confirm that support anchorages and mechanical components of jib cranes (noted in Section 2.4.1 - containment internal structures) are in-scope and subject to an AMR.

#### **RAI 2.4.2-1**

Please confirm that the leak chase system for the spent fuel pool liner is in-scope and subject to an AMR.

#### **RAI 2.4.4-1**

Section 2.4.4 of the LRA states the turbine building foundation system consists of a mat foundation which also supports the turbine pedestal. This statement indicates that an integral foundation system is provided for both turbine building and turbine pedestal. This section also states that the turbine generator pedestal is isolated from the turbine building structure and is not in the scope of license renewal. These two statements are not consistent. Please clarify and provide justification for excluding the turbine pedestal from the scope of the license renewal. In addition, considering the plant's current licensing basis, please discuss the anticipated transient without scram (ATWS) and SBO systems/components identified in Section 2.4.4 and their spatial interaction with the turbine pedestal.

#### **RAI 2.4.4-2**

In Section 2.4.4 of the LRA, Turbine building and a selected SBO and ATWS SSCs have been considered in-scope of the license renewal. The turbine building bridge crane has not been considered in the scope of license renewal as noted in Table 2.2-2. Considering the plant's current licensing basis, please provide justification for excluding the turbine building bridge crane from the scope of license renewal.

#### **RAI 2.4.9-1**

As shown on Drawing AX1D45L01, the demineralized water storage tank is not considered in the scope of license renewal. Considering the plant's current licensing basis, please provide discussion relative to proximity (spatial interaction) of the demineralized water storage tank and the electrical fire pump house number 1 which is considered in-scope in Section 2.4.9.

#### **RAI 2.4.12-1**

Referring to LRA Table 2.4.12,

Please confirm if the following component types apply to the VEGP LRA and should be screened in and subject to an AMR or justify their exclusion. If they are in-scope, include them in Table 2.4.12 and provide AMR results:

- Grout pads for building structural column base plates
- Vibration isolators
- Floor and wall embedded plates/anchorages for RCS primary equipment

- Fluid containment curbs/walls/dikes
- Waterproofing membrane in general (Item 28 only addresses roof membrane)
- Any other hoists or lifting devices (e.g. Reactor Vessel Head Lifting Device, Reactor Internals Lifting Device)

Item 21, “Miscellaneous cranes including monorails” - It is not clear to the staff which specific crane or monorails have been determined to be within the scope of license renewal and if all relevant sub-components (including bridge and trolley, rails/hardware, girders, etc.) of the cranes and monorails are in-scope items and have been screened in as items requiring an AMR. Please identify the specific crane or monorails that are included within the above component type as in-scope and subject to AMR and those that are excluded with technical bases. Please confirm if there are any bridge and trolley, rails, and girders associated with these miscellaneous cranes and if they are included in-scope and subject to AMR. Also, confirm if fasteners and rail hardware associated with this component type are in-scope and subject to AMR. If not, please provide the technical bases for their exclusion.

#### **RAI 4.2-1**

In Section 4.2.1 the LRA discusses Neutron Fluence. The following information is required to complete the review of this section:

- specify the method used to determine the End of Life (EOL) Pressure Vessel fluence. Has this method been benchmarked? If so, please describe methods used to benchmark results.
- Assuming the method is referenced in the Pressure Temperature Limits Report (PTLR), please make the PTLR available to the staff.
- If plant specific measured values (from the surveillance capsules) are used, please make the capsule report available to the staff.

#### **RAI 4.2-2**

In the LRA on page 4.2-2, Tables 4.2.1-1 and 4.2.1-2 show values for 1/4T and 3/4T. What method was used to calculate the 1/4T and 3/4T values used in these tables?

#### **RAI 4.2-3**

In the LRA on page 4.2.-2, in table 4.2.1-2, please specify the method, azimuthal location and elevation above the beltline region used to determine the extended beltline peak fluence values.

#### **RAI 4.5-1**

In Figure 4.5-4a, “Unit 2 Vertical Baseline Tendon V20-92” and Figure 4.5-5a, “Unit 2 Shell Hoop Baseline Tendon H-99,” the tendon force in the seventh year is larger than that in the third year. Please discuss this anomaly and its effect on the regression analysis and the corresponding trend line.

Letter to T. Tynan from D. Ashley Dated January 28, 2008

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Vogtle Electric Generating Plant  
Units 1 and 2

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