



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

August 5, 2009

Mr. Mark J. Ajluni  
Manager, Nuclear Licensing  
Southern Nuclear Operating Company, Inc.  
40 Inverness Center Parkway  
P.O. Box 1295  
Birmingham, Alabama 35201

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2, REQUEST FOR  
ADDITIONAL INFORMATION REGARDING STEAM GENERATOR PROGRAM  
(TAC NOS. ME1339 AND ME1340)

Dear Mr. Ajluni:

By letter to the U.S. Nuclear Regulatory Commission (NRC) dated May 19, 2009, Southern Nuclear Operating Company, Inc., submitted a license amendment request to revise the technical specifications (TS) for Vogtle Electric Generating Plant, Units 1 and 2. The proposed changes would revise the inspection scope and repair requirements of TS Section 5.5.9, "Steam Generator (SG) Program" and the reporting requirements of TS Section 5.6.10, "Steam Generator Tube Inspection Report." The proposed changes would establish permanent alternate repair criteria for portions of the SG tubes within the tubesheet. The NRC staff requested additional information by letter dated July 10, 2009. On July 30, 2009, the NRC staff held a teleconference with your staff to discuss these issues further. The enclosure provides a list of the topics discussed in that teleconference. The NRC staff understands that you will include your response to these topics in your forthcoming response to the NRC staff's letter dated July 10, 2009.

Sincerely,

A handwritten signature in black ink, appearing to read "Donna Wright".

Donna Wright, Project Manager  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-424 and 50-425

Enclosure:  
RAI

cc w/ encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION  
REGARDING PERMANENT H\* ALTERNATE REPAIR CRITERIA  
FOR STEAM GENERATOR INSPECTIONS  
VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2  
DOCKET NOS. 50-424 AND 50-425

By letter to the U.S. Nuclear Regulatory Commission (NRC), dated May 19, 2009, Southern Nuclear Operating Company, Inc., (the licensee) submitted a license amendment request to revise the technical specifications (TS) for Vogtle Electric Generating Plant (VEGP), Units 1 and 2. The proposed changes would establish permanent alternate repair criteria for portions of the steam generator (SG) tubes within the tubesheet.

The Westinghouse document, WCAP-17071-P, Rev. 0, "H\*", "Alternate Repair Criteria for the Tubesheet Expansion Region in Steam Generators with Hydraulically Expanded Tubes (Model F)" was submitted with the May 19, 2009, letter, in support of the requested license amendment.

The following topics were raised in a teleconference held with the licensee and other parties on July 30, 2009. The NRC staff understands that the response to these topics will be included in your response to the NRC staff's request for additional information (RAI) by letter dated July 10, 2009.

1. Address the following questions as part of the response to RAI 4 for VEGP:
  - a. Clarify the nature of the finite element model ("slice" model versus axisymmetric SG assembly model) used to generate the specific information in Tables 6-1, 2, and 3 (and accompanying graph entitled "Elliptical Hole Factors") of Reference 6-15. What loads were applied? How was the eccentricity produced in the model? (By modeling the eccentricity as part of the geometry? By applying an axisymmetric pressure to the inside of the bore?) Explain why this model is not scalable to lower temperatures.
  - b. Provide a table showing the maximum eccentricities (maximum diameter minus minimum diameter) from the 3 dimensional (3-D) finite element analysis for normal operating and steam line break (SLB), for model F and model D5 SGs.
  - c. In Figure 2 of the White Paper, add a plot for the original relationship between reductions in contact pressure and eccentricity as given in Reference 6-15 in the graph accompanying Table 6-3. Explain why this original relationship remains conservative in light of the new relationship. Explain the reasons for the differences between the curves.

Enclosure

- d. When establishing whether contact pressure increases when going from normal operating to SLB conditions, how can a valid and conservative comparison be made if the normal operating case is based on the original delta contact pressure versus eccentricity curve and the SLB case is based on the new curve?
2. As part of response to RAI 20 for VEGP, include discussion of main steam line break (SLB) and whether it continues to be less limiting, from maximum H\* perspective, than three times normal operating pressure.
  3. The response to RAI 24 for VEGP should address, specifically, the feed line break (FLB) heatup transient in the final safety analysis report as it is part of the licensing bases and needs to be addressed. Please provide a rationale to justify basing the leakage factor on SLB, or commit to a leakage factor based on the FLB heatup transient.
  4. During review of the VEGP amendment request, it was noticed that the regulatory commitment regarding use of the leakage factor (see previous example below) had been stated in the body of the document (page E1-11) but had been omitted from the list of regulatory commitments in Enclosure 4. Since the final leakage factor may change based on the FLB analysis (question 4 above), the proper factor will need to be used in the regulatory commitment. Please include the commitment, with the appropriate leakage factor, in the list of regulatory commitments in Enclosure 4 of the application.

*For the condition monitoring (CM) assessment, the component of leakage from the prior cycle from below the H\* distance will be multiplied by a factor of 2.03 and added to the total leakage from any other source and compared to the allowable accident induced leakage limit. For the operational assessment (OA), the difference in the leakage between the allowable leakage and the accident induced leakage from sources other than the tubesheet expansion region will be divided by 2.03 and compared to the observed operational leakage. An administrative limit will be established to not exceed the calculated value.*

August 5, 2009

Mr. Mark J. Ajluni  
Manager, Nuclear Licensing  
Southern Nuclear Operating Company, Inc.  
40 Inverness Center Parkway  
P.O. Box 1295  
Birmingham, Alabama 35201

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2, REQUEST FOR  
ADDITIONAL INFORMATION REGARDING STEAM GENERATOR PROGRAM  
(TAC NOS. ME1339 AND ME1340)

Dear Mr. Ajluni:

By letter to the U.S. Nuclear Regulatory Commission (NRC) dated May 19, 2009, Southern Nuclear Operating Company, Inc., submitted a license amendment request to revise the technical specifications (TS) for Vogtle Electric Generating Plant, Units 1 and 2. The proposed changes would revise the inspection scope and repair requirements of TS Section 5.5.9, "Steam Generator (SG) Program" and the reporting requirements of TS Section 5.6.10, "Steam Generator Tube Inspection Report." The proposed changes would establish permanent alternate repair criteria for portions of the SG tubes within the tubesheet. The NRC staff requested additional information by letter dated July 10, 2009. On July 30, 2009, the NRC staff held a teleconference with your staff to discuss these issues further. The enclosure provides a list of the topics discussed in that teleconference. The NRC staff understands that you will include your response to these topics in your forthcoming response to the NRC staff's letter dated July 10, 2009.

Sincerely,

/RA/

Donna Wright, Project Manager  
Plant Licensing Branch II-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-424 and 50-425

cc w/ encl: Distribution via Listserv

Enclosure:  
RAI

DISTRIBUTION:

PUBLIC	LPLII-1 R/F	RidsAcrcsAcnw_MailCTR Resource
RidsNrrLASRohrer Resource	RidsNrrPMVogtle Resource	RidsRgn2MailCenter Resource
RidsNrrDorlDpr Resource	RidsNrrDorlLpl2-1 Resource	RidsOgcRp Resource

ADAMS Accession No.: ML092150057

NRR-088

OFFICE	NRR/LPL2-1/PM	NRR/LPL2-1/LA	NRR/CSGB/BC	NRR/LPL2-(A)BC
NAME	DWright	SRohrer	MGavrilas w/comments	UShoop
DATE	8/3/09	8/3/09	07/31/09	8/5/09

OFFICIAL RECORD COPY