

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 31, 2008



Docket Nos.: 50-424
50-425

NL-08-0482

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

Vogtle Electric Generating Plant
License Renewal – Responses to 02/27/2008 Requests for Additional Information

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.

By letter dated February 27, 2008 the Nuclear regulatory Commission (NRC) submitted three Requests for Additional Information (RAIs) to SNC resulting from the NRC staff review of the LRA. The SNC responses to these RAIs are provided in the enclosure to this letter.

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

A129
NRR

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.

New License Renewal commitments contained in this letter will be listed on the License Renewal Future Action Commitment List. If you have any questions, please advise.

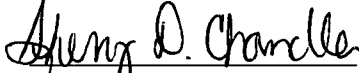
Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY



T. E. Tynan
Vice President – Vogtle

Sworn to and subscribed before me this 31 day of March, 2008.


Notary Public

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

My commission expires: _____

TET/JAM/dj

Enclosure: Responses to 02/27/2008 License Renewal RAIs

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

U. S. Nuclear Regulatory Commission
Mr. V. M. McCree, Acting Regional Administrator w/ Enclosure
Mr. S. P. Lingam, NRR Project Manager – Vogtle w/ Enclosure
Mr. G. J. McCoy, 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/o Enclosure

Enclosure

Vogtle Electric Generating Plant License Renewal Application

Responses to 02/27/08 Requests for Additional Information

Vogtle License Renewal RAI Responses - 02/27/2008

RAI - 4.2.1-04

We have reviewed the information in Table 4.2.1-1 "Summary of EOL Beltline Calculated Neutron Fluence Projections" on page 4.2-2 of the Application for License Renewal (LRA) and have compared it with the information shown on pages 6-12 and 6-14 of "Westinghouse Energy Systems, Report WCAP-16736-P, Revision 1, Vogtle Electric Generating Plant Measurement Uncertainty Recapture Power Uprate Program Licensing Report, dated May 2007 (WCAP-16736) and have noted some inconsistencies. Table 4.2.1-1 of the LRA shows a surface fluence of 3.20×10^{19} n/cm² (E>1.0 MeV) for VEGP, Unit 1 and 3.02×10^{19} n/cm² (E>1.0 MeV) for VEGP, Unit 2, whereas Table 6.1.2-5 on page 6-12 of WCAP-16736 shows a surface fluence of 3.24×10^{19} n/cm² (E>1.0 MeV) for VEGP, Unit 1 and Table 6.1.2-7 on page 6-14 of WCAP-16736 shows a surface fluence of 3.06×10^{19} n/cm² (E>1.0 MeV) for VEGP, Unit 2.

Do the fluences of Table 4.2.1-1 of the LRA which show surface fluences of 3.20×10^{19} n/cm² (E>1.0 MeV) for VEGP, Unit 1 and 3.02×10^{19} n/cm² (E>1.0 MeV) for VEGP, Unit 2 include the 1.7% power uprate? If not? Why not? This power uprate should be considered for the license renewal period.

VEGP Response:

As stated on Page 4.2-1 of the LRA, the End-Of-Life (EOL) basis for the Reactor Vessel Neutron Embrittlement analyses results is 57 EFPY at the current VEGP licensed power level. This means that the values in the various tables in Section 4.2 of the LRA were calculated for 57 EFPY before MUR Uprate. The pre-MUR Uprate power level was used because the MUR Uprate application had not been submitted at the time the VEGP LRA was submitted. The impact of the MUR Uprate on the Reactor Vessel Neutron Embrittlement analyses results in the LRA is that the VEGP EOL basis becomes 56.3 EFPY at the MUR Uprate power level. With MUR Uprate approved, the values in the Section 4.2 tables remain valid for 56.3 EFPY at the higher power level. Tables 6.1.2-5 and 6.1.2-7 in WCAP-16736-P, Revision 1, were calculated for 57 EFPY at the uprated power level.

Please note that since the MUR uprate has been approved for VEGP, the VEGP License Renewal annual update will revise Section 4.2 of the LRA to reflect the MUR Uprate. This will include revising the tables in Section 4.2 to use 57 EFPY values consistent with the 57 EFPY values in WCAP-16736-P.

Vogtle License Renewal RAI Responses - 02/27/2008

RAI - 4.2.1-05

The third paragraph on page 4.2-1 of the LRA, which starts, "For VEGP, 56 EFPY, is a..." appears to address the 1.7% MUR power uprate, however; it is unclear if this paragraph applies to Unit 1, Unit 2, or both units. Please clarify this paragraph as to which units it applies to and provide data for the MUR power uprate for both units.

VEGP Response:

The paragraph in question applies to both units. Since the MUR Uprate application had not yet been submitted when the License Renewal application was submitted, SNC believed the LRA should reflect fluence values for 57 EFPY at the currently licensed power level. However, knowing the MUR Uprate application would be submitted while the LRA was still under review, SNC determined that fluence and other related values in Section 4.2 of the LRA would remain valid for 56.3 EFPY at the higher power level and that 56 EFPY was sufficient for a 60-year license.

The VEGP License Renewal annual update will revise Section 4.2 of the LRA to reflect the MUR Uprate. This will include revising the tables in Section 4.2 to use 57 EFPY values consistent with the 57 EFPY values in WCAP-16736-P.

Vogtle License Renewal RAI Responses - 02/27/2008

RAI - B.3.25

Table 5.3.1-9 of the VEGP-FSAR-5, Rev 13, dated April 2006, shows an approximate capsule fluence of 2.98×10^{19} n/cm² (E>1.0 MeV) for Capsule W of VEGP, Unit 2. This fluence value is less than the value shown in Table 6.1.2-7 on page 6-14 of WCAP-16736 which shows a surface fluence of 3.06×10^{19} n/cm² (E>1.0 MeV) for VEGP, Unit 2. Please clarify this since the license renewal capsule is to be withdrawn at a fluence that is not less than once nor greater than twice the peak EOL fluence of the license renewal term (60 years).

VEGP Response:

Capsule W of VEGP Unit 2 was expected to have a fluence sufficient for 60 years when it was pulled. As stated in Note "d" for Table 5.3.1-9 in the VEGP UFSAR, this capsule was withdrawn at a fluence not less than once nor greater than twice the peak EOL fluence for an additional 20-year license renewal term to 60 years (54 EFPY). At that time, it was thought that 54 EFPY would be sufficient for 60 years operation, especially since a future uprate was not considered. When preparing the LRA, a very conservative evaluation was performed to determine an appropriate EFPY value to use for VEGP license renewal. That evaluation determined that 57 EFPY could not be exceeded by either unit in 60 years of operation. Once a decision was made to submit the request for an MUR Uprate, Westinghouse determined that the 57 EFPY calculations performed for VEGP license renewal remained valid after the uprate, except the results represented fluence equivalent to 56.3 EFPY instead of 57. It was determined that 56 EFPY is conservative for both units under optimal plant performance, and therefore the license renewal application fluence numbers were not recalculated.

As noted in the RAI, the Capsule W fluence is less than the uprated 57 EFPY fluence (as well as the uprated 56.3 EFPY fluence). SNC has again reviewed the evaluation of EFPY for 60 and 80 years. The 2.98×10^{19} n/cm² (E>1.0MeV) fluence value for Capsule W is equivalent to 55.5 EFPY. The previous version of that evaluation assumed 99% capacity between 20 day outages since 5/17/2004. The Unit 2 outage in 2007 was 49 days. The current outage schedule for VEGP Unit 2 assumes 26 days for all future outages, except for 1 outage of 28 days in 2008 and 1 outage of 30 days in 2011. Revising the EFPY evaluation to assume 99% capacity between 26 day outages results in 55.3 EFPY for 60 years, which is less than the 55.5 EFPY that represents a fluence of 2.98×10^{19} n/cm² (E>1.0MeV). Therefore, it is extremely unlikely the VEGP unit 2 will reach a fluence of 2.98×10^{19} n/cm² (E>1.0MeV) in 60 years of operation. Our current evaluations bound our expected fluences through the period of extended operation.

The remaining capsules are scheduled to be removed from Unit 2 and Capsule Z will be tested. Capsule Z is projected to have a fluence equivalent to almost 72 EFPY, if removed this fall and at least 77 EFPY, if removed during the 2010 outage. Either outage will result in a capsule which will have been subjected to more than enough fluence to justify continued operation of VEGP Unit 2 beyond 55.5 EFPY, should that become necessary during Vogtle's 60 year period of extended operation. SNC will restrict the applicability of the resultant Unit 2 curves and analyses to the limiting EFPY for the capsule data. Note that operation above that fluence would require an update of

Vogtle License Renewal RAI Responses - 02/27/2008

the evaluation in accordance with Appendix G rules.

SNC will revise the LRA to specify that the End-of-Life fluence for Unit 2 is 2.98×10^{19} n/cm² (E>1.0MeV), but the Unit 2 values in Tables 4.2.1-1, 4.2.1-2, 4.2.2-2, 4.2.3-2, and in Section 4.2.4 were calculated using an even more conservative value. References to 56 EFPY in Section 4.2 of the LRA will be revised to 55.5 EFPY. A note will be added to Tables 4.2.1-2 and 4.2.3-2 that they are only applicable up to 55.5 EFPY. A similar statement will be added in Section 4.2.4 concerning the ART value for Unit 2.