



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
WASHINGTON, DC 20555 - 0001**

April 17, 2009

The Honorable Dale E. Klein  
Chairman  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**SUBJECT: REPORT ON THE SAFETY ASPECTS OF THE LICENSE RENEWAL APPLICATION FOR THE VOGTLE ELECTRIC GENERATING PLANT, UNITS 1 AND 2**

Dear Chairman Klein:

During the 561<sup>st</sup> meeting of the Advisory Committee on Reactor Safeguards, April 2-4, 2009, we completed our review of the license renewal application for the Vogtle Electric Generating Plant (VEGP), Units 1 and 2, and the final Safety Evaluation Report (SER) prepared by the NRC staff. Our Plant License Renewal Subcommittee also reviewed this matter during its meeting on November 5, 2008. During these reviews, we had the benefit of discussions with representatives of the NRC staff and the applicant, Southern Nuclear Operating Company Inc. (SNC). We also had the benefit of the documents referenced. This report fulfills the requirement of 10 CFR 54.25 that the ACRS review and report on all license renewal applications.

**CONCLUSION AND RECOMMENDATION**

1. The programs established and committed to by the applicant to manage age-related degradation provide reasonable assurance that VEGP, Units 1 and 2 can be operated in accordance with its current licensing basis for the period of extended operation without undue risk to the health and safety of the public.
2. The SNC application for renewal of the operating licenses of VEGP Units 1 and 2 should be approved.

**BACKGROUND AND DISCUSSION**

VEGP consists of two Westinghouse 4-loop pressurized water reactors with large dry ambient containments and is located approximately 26 miles southeast of Augusta, Georgia. The current licensed power rating of each of the VEGP units is 3,625 megawatts thermal with a gross electrical output of approximately 1,250 megawatts. SNC requested renewal of the VEGP operating licenses for 20 years beyond the current license terms, which expire on January 16, 2027, for Unit 1 and February 9, 2029, for Unit 2.

In the final SER, the staff documented its review of the license renewal application and other information submitted by the applicant or obtained from the staff audit and inspection at the

plant site. The staff reviewed the completeness of the applicant's identification of the structures, systems, and components (SCCs) that are within the scope of license renewal; the integrated plant assessment process; the applicant's identification of the plausible aging mechanisms associated with passive, long-lived components; the adequacy of the applicants Aging Management Programs (AMPs); and the identification and assessment of time-limited aging analyses (TLAAs) requiring review.

In the VEGP license renewal application, SNC identified the SSCs that fall within the scope of license renewal. For these SSCs, the applicant performed a comprehensive aging management review. Based on this review, the applicant will implement 38 AMPs for license renewal, including 24 existing programs of which 10 are enhanced and 10 have exceptions, and 14 new programs.

The VEGP application either demonstrates consistency with the Generic Aging Lessons Learned (GALL) Report or documents deviations to the specified approaches in this Report. The VEGP application includes several exceptions to the GALL Report. We reviewed these exceptions and agree with the staff that they are acceptable. The staff conducted a license renewal audit and inspection at VEGP. The audit verified the appropriateness of the scoping and screening methodology, AMPs, aging management review, and TLAAs. The site inspection verified that the license renewal requirements are appropriately implemented. Based on the audit and inspection, the staff concluded in the final SER that the proposed activities will reasonably manage the effects of aging of SSCs identified in the application and that the intended functions of these SSCs will be maintained during the period of extended operation. We agree with this conclusion.

The applicant identified the systems and components requiring TLAAs and reevaluated them for the period of extended operation. The staff concluded that the applicant has provided an adequate list of TLAAs. Further, the staff concluded that the applicant has met the requirements of the License Renewal Rule by demonstrating that the TLAAs will remain valid for the period of extended operation, or that the TLAAs have been projected to the end of the period of extended operation, or that the aging effects will be adequately managed for the period of extended operation.

During its site inspection, the staff observed water in manholes which contain medium voltage cables that are important to safety. We did not see any evidence of environmental qualification of these cables and associated splices for submerged operation. The staff has identified water in manholes as a generic, current operating plant issue in Information Notice 2002-12, "Submerged Safety-Related Electrical Cables," and Generic Letter 2007-01, "Inaccessible or Underground Power Cable Failures that Disable Accident Mitigation Systems or Cause Plant Transients." During the current period of operation, the staff will address the issue of water in manholes through the Reactor Oversight Process.

We agree with the staff that there are no issues related to the matters described in 10 CFR 54.29(a)(1) and (a)(2) that preclude renewal of the operating licenses for VEGP, Units 1 and 2. The programs established and committed to by SNC provide reasonable assurance that the VEGP can be operated in accordance with its current licensing basis for the period of extended operation without undue risk to the health and safety of the public.

The SNC application for renewal of the operating licenses for VEGP, Units 1 and 2 should be approved.

Dr. Said Abdel-Khalik did not participate in the Committee's deliberations regarding this matter.

Sincerely,

*/RA/*

Mario V. Bonaca  
Chairman

References:

1. U.S. Nuclear Regulatory Commission, Safety Evaluation Report Related to the License Renewal of Vogtle Electric Generating Plant Units 1 and 2, March 2009 (ML090710010)
2. Letter from L. M. Stinson, Southern Nuclear Operating Company, Incorporated, to U.S. Nuclear Regulatory Commission, transmitting the Vogtle Electric Generating Plant, Units 1 and 2, Application for License Renewal dated June 27, 2007 (ML071840351)
3. Letter from K. M. Kennedy, U.S. Nuclear Regulatory Commission, to Tom E. Tynan, Southern Nuclear Operating Company, Incorporated, transmitting Vogtle Electric Generating Station, Units 1 and 2; NRC Inspection Report 05000424-08-006 and 05000425-08-006 dated July 18, 2008 (ML082000869)
4. Letter from D. J. Ashley, U.S. Nuclear Regulatory Commission, to Tom E. Tynan, Southern Nuclear Operating Co, Incorporated, transmitting the Audit Summary Report Regarding the License Renewal Application for the Vogtle Electric Generating Plant Units 1 and 2 dated October 1, 2008 (ML082680295)
5. U.S. Nuclear Regulatory Commission, NUREG-1801, Volumes 1 & 2, Revision 1, "Generic Aging Lessons Learned Report," dated September 2005 (ML052700171)
6. U. S. Nuclear Regulatory Commission, Information Notice 2002-12, "Submerged Safety-related Electrical Cables," dated March 21, 2002 (ML020790238)
7. U. S. Nuclear Regulatory Commission, Generic Letter 2007-01, "Inaccessible or Underground Power Cable Failures that Disable Accident Mitigation Systems or Cause Plant Transients," dated February 7, 2007 (ML070360665)

The SNC application for renewal of the operating licenses for VEGP, Units 1 and 2 should be approved.

Dr. Said Abdel-Khalik did not participate in the Committee’s deliberations regarding this matter.

Sincerely,

*/RA/*

Mario V. Bonaca  
Chairman

References:

1. U.S. Nuclear Regulatory Commission, Safety Evaluation Report Related to the License Renewal of Vogtle Electric Generating Plant Units 1 and 2, March 2009 (ML090710010)
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Letter to the Honorable Dale E. Klein, Chairman, NRC, from Mario V. Bonaca, Chairman, ACRS, dated April 17, 2009

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