

April 12, 2004

Mr. L. M. Stinson  
Vice President  
Southern Nuclear Operating Company  
Post Office Box 1295  
Birmingham, Alabama 35201

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FOR THE REVIEW OF THE  
JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2, LICENSE RENEWAL  
APPLICATION

Dear Mr. Stinson:

By letter dated September 12, 2003, Southern Nuclear Operating Company, Inc. (SNC or the applicant) submitted an application pursuant to 10 CFR Part 54, to renew the operating licenses for Joseph M. Farley Nuclear Plant (FNP), Units 1 and 2, for review by the U.S. Nuclear Regulatory Commission's (NRC). The NRC staff is reviewing the information contained in the license renewal application (LRA) and has identified, in the enclosure, areas where additional information is needed to complete the review. Specifically, the enclosed requests for additional information (RAIs) are from Section 2.4, Scoping and Screening Results: Containments, Structures, and Component Supports; and Appendix B.3.4, Reactor Vessel Surveillance Program.

These RAIs, in a draft format, have been provided to Mr. Jan Fridrichsen of your staff on April 1 and 7, 2004. The NRC staff has discussed draft versions of these RAIs, via conference calls, to provide clarifications to the SNC staff on April 7, 8, and 12, 2004. Your responses to these RAIs are requested within 30 days from the date of this letter. Mr. Fridrichsen has agreed to this request. If needed, the NRC staff is willing to meet or discuss with SNC again prior to the submittal of the applicant's responses to provide clarifications to the staff's RAIs.

If you have any questions, please contact me at 301-415-1315 or e-mail ty11@nrc.gov.

Sincerely,

*/RA/*

Tilda Liu, Project Manager  
License Renewal Section A  
License Renewal and Environmental Impacts Program  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

Docket Nos. 50-348 and 50-364

Enclosure: As stated

cc w/encl: See next page

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\*See previous concurrence

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**JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2  
LICENSE RENEWAL APPLICATION (LRA)  
REQUEST FOR ADDITIONAL INFORMATION (RAI)**

**Section 2.4: Scoping and Screening Results: Containments, Structures, and Component Supports**

RAI 2.4-8

The staff requests additional information concerning the possibility that thermal insulation may serve an intended function, in accordance with 10 CFR 54.4(a)(2), to control the maximum temperature of safety-related structures and structural components that meet 10 CFR 54.21(a)(1). Possible examples are maintaining the maximum temperature of steel and/or concrete elements of nuclear steam supply system (NSSS) supports below the levels assumed in the design basis of the supports; and maintaining the maximum temperature of structural concrete below the threshold levels of 150°F for general areas and 200°F for local areas around hot penetrations.

Thermal insulation is typically passive and long-lived. If it also serves an intended function, then it meets the criteria for inclusion within the scope of license renewal, in accordance with 10 CFR 54.4(a)(2). Consequently, the applicant is requested to (1) identify any thermal insulation at FNP, Units 1 and 2, that serves an intended function in accordance with 10 CFR 54.4(a)(2); (2) describe plant-specific operating experience related to degradation of a) thermal insulation in general, and b) thermal insulation that serves an intended function in accordance with 10 CFR 54.4(a)(2); and (3) describe the scoping and screening evaluation for thermal insulation that serves an intended function in accordance with 10 CFR 54.4(a)(2), including the technical basis for either inclusion within or exclusion from the scope of license renewal.

**Appendix B.3.4: Reactor Vessel Surveillance Program**

RAI B.3.4-1

In the [Operating Experience] program attribute for the Reactor Vessel Surveillance Program (RVSP), Southern Nuclear Operating Company (SNC) states that it may use other industry surveillance data (i.e., supplemental or external surveillance data) that are relevant to the neutron irradiation embrittlement assessments (i.e., pressurized thermal shock (PTS), upper-shelf energy (USE), adjusted reference temperature, and P-T limit assessments) for FNP, Units 1 and 2. In Generic Letter 92-01, Revision 1, Supplement 1, "Reactor Vessel Structural Integrity," the staff recommended that U.S. licensees owning light-water power reactors apply all reactor vessel (RV) surveillance data deemed relevant to the neutron irradiation embrittlement assessments for their facilities' RV materials. In Section 2.3 of NRC NUREG-1511, Supplement 2, "Reactor Vessel Integrity Status Report," the staff provided its recommendations on how to apply supplemental, external surveillance data to the neutron irradiation embrittlement assessments for any given RV at a U.S. nuclear power plant.

Enclosure

If SNC is going to apply supplemental, external surveillance data to the neutron irradiation embrittlement assessments for FNP, Units 1 and 2, the staff requests that SNC provide additional clarification on how the supplemental surveillance data will be applied to the assessments and justification as to why the supplemental surveillance data are considered to be valid for incorporation into these assessments. Specifically, clarify whether or not the use of supplemental surveillance data will conform to the NRC's recommendations in GL 92-01, Revision 1, Supplement 1, and with the recommended guidelines in Section 2.3 of NUREG-1511, Supplement 2. Discuss which heats of material in the FNP, Units 1 and 2, RVs will be addressed by the supplemental data and clarify whether or not the use of the supplemental surveillance data will be implemented on a one-to-one equivalent basis with a corresponding heat of material in the RV. In addition, clarify whether the supplemental surveillance data will be adjusted to account for any variances in the irradiation temperatures for the FNP, Units 1 and 2, RVs and those for the external RVs (units other than FNP) from which the data has been taken. If supplemental surveillance data is to be used, clarify how the data will impact the results of the neutron irradiation embrittlement assessments that are evaluated in Section 4.2 of the LRA.

#### RAI B.3.4-2

In the conclusion for the Reactor Vessel Surveillance Program (RVSP), as given in Section B.3.4.15 of LRA aging management program (AMP) B.3.4, SNC creates some ambiguity as to what types of exceptions from 10 CFR Part 50, Appendix H, that the applicant is referring to. 10 CFR 50.60(a) requires licensees of operating U.S. light-water reactors to implement the fracture toughness requirements of 10 CFR Part 50, Appendix G, and the RVSP requirements of 10 CFR Part 50, Appendix H. 10 CFR 50.60(b) permits licensees to use proposed alternatives to the requirements in these appendices if an exemption is requested and granted by the Commission under the exemption provisions of 10 CFR 50.12. The staff does not have an issue with the conclusion section for the RVSP if the exceptions the applicant is referring to are exemptions that have been requested under the provisions of 10 CFR 50.60(b) and granted by the staff under 10 CFR 50.12. However, if SNC is referring to any deviation from the pertinent requirements of 10 CFR Part 50, Appendix H, that has been identified as an exception to GALL AMP XI.M31, 10 CFR 50.60(b) requires that the exception be submitted as an exemption request for staff review and approval. The staff therefore requests confirmation that SNC will modify the conclusion section for the RVSP (LRA AMP B.3.4) to state that "The RVSP will be implemented and maintained in accordance with the requirements of 10 CFR Part 50, Appendix H, unless alternatives to the requirements of the rule have been requested and granted under the exemption provisions of 10 CFR 50.60(b) and 10 CFR 50.12," or else withdraw the statement "with NRC-approved exceptions" from the conclusion section for the AMP.

Joseph M. Farley Nuclear Plant

cc:

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