

April 1, 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 (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 2.3.3, Auxiliary Systems; Section 4.5.2, Leak-Before-Break Analysis; and Appendix B.5.1, Reactor Vessel Internals Program.

These RAIs, in a draft format, have been provided to Mr. Jan Fridrichsen of your staff on December 17, 2003, March 5 and 17, 2004. The NRC staff has discussed draft versions of these RAIs, via conference calls, to provide clarifications to the SNC staff on February 18, 2004, and March 25, 29 and 30, 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
REQUEST FOR ADDITIONAL INFORMATION (RAI)**

Section 2.3.3: Auxiliary Systems

2.3.3.16 Demineralized Water

RAI 2.3.3.16-1

LRA Tables 2.3.3.16 and 3.3.2-16 list filter casings as components that are subject to an aging management review (AMR). However, license renewal boundary drawings D-175047L and D-205047L do not show any filter as being within the scope of license renewal. Provide drawings or descriptive information that identifies the filter casings in the demineralized water system that are within scope of license renewal and subject to an AMR in accordance with the requirements of 10 CFR 54.4(a) and 10 CFR 54.21(a)(1), respectively.

2.3.3.19 Liquid Wastes and Drains (LW&D) System

RAI 2.3.3.19-4

Prevention of internal flooding is not listed as an intended function of the waste disposal system. Verify that none of the floor drains, equipment drains and waste disposal system components are credited in the FNP internal flooding analysis.

2.3.4.5 Auxiliary Steam and Condensate Recovery System

RAI 2.3.4.5-4

LRA Table 2.3.4.5 lists “strainers (shell)” as being subject to an AMR. However, after reviewing license renewal boundary drawings D-175033L, sheets 1 and 2, and D-205033L, sheets 1 and 2, the staff is unable to find components of this type on these drawings. The staff is concerned that other drawings (not referenced in the LRA) may contain components of this system that should be included within the scope of license renewal. Identify the drawings that contain the strainers referred to in LRA Table 2.3.4.5. If these drawings have not been provided to the staff previously, provide these drawings to the staff for review.

2.3.4.6 Turbine and Turbine Auxiliaries

RAI 2.3.4.6-1

LRA Section 2.3.4.6 states that, in accordance with 10 CFR 54.4 (a)(2), “The non-safety related structures and components (SCs) of the turbine and turbine auxiliaries that are required to trip the turbine in response to an anticipated transient without scram (ATWS) event and in response to a turbine overspeed event are conservatively included in the scope of license renewal for FNP.” However, there are no mechanical components of the turbine and turbine auxiliaries system that are identified as being subject to an AMR.

Enclosure

Since LRA Section 2.3.4.6 does not provide or reference any boundary drawings associated with the turbine and turbine auxiliaries system, the staff is unable to confirm your determination that this system does not contain mechanical components subject to an AMR. For the staff to complete its review, provide a description or license renewal boundary drawing that identifies the components of the turbine and turbine auxiliaries system, and that shows which SCs are considered to be within the scope of license renewal in accordance with the requirements of 10 CFR 54.4(a). Justify the exclusion of the mechanical components of this system from being subject to an AMR in accordance with the requirements of 10 CFR 54.21(a)(1).

Section 4.5.2: Leak-Before-Break Analysis

RAI 4.5.2-1

Since the V. C. Summer main coolant loop weld cracking event involving Alloy 82/182 weld material, the staff has been addressing the effect of primary water stress corrosion cracking (PWSCC) on Alloy 82/182 piping welds on a generic basis for all currently operating PWR plants. To resolve this current operating issue, the industry is taking the initiative to (1) develop overall inspection and evaluation guidance, (2) assess the current inspection technology, and (3) assess the current repair and mitigation technology. An interim industry report, "PWR Materials Reliability Project Interim Alloy 600 Safety Assessment for US PWR Plants (MRP-44), Part 1: Alloy 82/182 Pipe Butt Welds," was published in April 2001 to justify the continue operation of PWR plants while the industry completes the development of the final report. The staff documented its acceptance of this interim report in a safety evaluation issued on June 14, 2001. The final industry report on this issue has not yet been published. Pending its receipt of the final report and additional UT inspection data from piping involving Alloy 82/182 weld material from the industry, the staff is pursuing resolution of this current operating issue pursuant to 10 CFR Part 50.

The applicant is requested to (1) identify the locations in the FNP RCS piping that contain Alloy 82/182 welds, and (2) describe actions it has taken to address this operating experience.

RAI 4.5.2-2

Section 4.5.2 of the LRA states that for the RCL, Westinghouse revised the WCAP-12825 analysis of the primary loop piping to account for the additional thermal aging of the cast austenitic materials for the period of extended operation and issued Addendum 1 in December, 2002. The applicant is requested to provide Addendum 1 to WCAP-12825 which was reviewed and approved by the staff.

Appendix B.5.1: Reactor Vessel Internals Program

RAI B.5.1-1

(This RAI is intentionally omitted. The numbering scheme was used for the draft RAI).

RAI B.5.1-2

In Section B.5.1 of Appendix B to the Farley LRA, SNC states that the following components are within the scope of the Reactor Vessel Internals Program: (1) baffle and former assemblies,

(2) bottom mounted instrumentation cruciforms, (3) core barrel, (4) lower core plate and fuel alignment pins, (5) lower support forging, and (6) lower support column bases. However, in the aging management reviews (AMRs) of Table 3.1.2-2 of the Farley LRA, SNC indicates that the Reactor Vessel Internals Program is credited for aging management of the following RV internal components:

- baffle and former plates
- baffle bolts
- bottom mounted instrumentation (BMI) column cruciforms
- BMI columns with fasteners
- clevis inserts and fasteners
- control rod drive guide tube assemblies with associated fasteners
- core barrel and core barrel flange
- core barrel outlet nozzles
- control rod drive guide tube (CRGT) support pins
- flux thimble tubes
- reactor pressure vessel / head alignment pins with associated fasteners
- head cooling spray nozzles
- HJTC probe holder, probe holder extension, and probe holder shroud assemblies with associated fasteners
- lower core plate and fuel alignment pins
- lower support columns with associated fasteners
- lower support forging
- neutron panels
- radial keys and fasteners
- secondary core support assembly with associated fasteners
- upper core alignment pins with associated fasteners
- upper core plate and fuel alignment pins with associated fasteners
- upper instrumentation conduit and supports with associated fasteners
- upper support assembly with associated fasteners
- upper support column bases
- upper support column with associated fasteners

The components that are within the scope of the Reactor Vessel Internals Program, as described in Section B.5.1 of Appendix B to the Farley LRA, need to be consistent with the list of RV internal components in LRA Table 3.1.2-2 that the AMP is credited for. The staff requests that the scope of Reactor Vessel Internal Program be supplemented to make the list of components within the scope of the AMP consistent with those listed in Table 3.1.2-2 for which the AMP is credited.

RAI B.5.1-3

In a teleconference held on March 10, 2004 (documented in a teleconference summary dated March 30, 2004), SNC stated that it would amend its program description for the Reactor Vessel Internal Program to indicate that the applicant would use its participation in the industry initiatives on RV internals (i.e., industry research studies and activities) as a basis for implementing the Reactor Vessel Internals Program and that the AMP would include a commitment that incorporates the following elements:

- a) A commitment to participate in the industry's initiatives of aging of PWR RV internal components.
- b) A commitment to implement the recommendations for component locations inspected, aging effects monitored for, inspection methods, inspection qualifications, frequency of examinations, number of components inspected, acceptance criteria, and corrective actions, that result from the industry's initiatives on aging degradation of PWR RV internal components.
- c) A commitment to submit the inspection plan for the PWR Vessel Internals to the staff for review and approval two years prior to entering the periods of extended operation for the Farley units.

The staff seeks confirmation that the commitment made on the Reactor Vessel Internals Program will incorporate the three elements discussed above and that the commitment will be docketed for the Farley units prior to staff's issuance of the Safety Evaluation Report with Open Items for the Farley LRA. This RAI includes a request for confirmation that the FSAR supplement summary description for the Reactor Vessel Internals Program (Chapter A.2.13 of Appendix A to the LRA) will be amended to incorporate the changes to the program that the applicant stated will be made.

RAI B.5.1-4

SNC has taken an exception on the number of inspection cycles set forth in Section XI of the ASME Boiler and Pressure Vessel Code, Subsection IWB, for required inspections of RV internal components. This exception must be submitted by the applicant for review and approval in accordance with 10 CFR 50.55a. The staff therefore requests that the applicant withdraw this exception from the application and commit to following the ASME Code until and unless specific relief is granted under the relief request or alternative program provisions of 10 CFR 50.55a.

Joseph M. Farley Nuclear Plant

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