



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

May 13, 1997

Southern Nuclear Operating Company, Inc.
ATTN: Mr. D.N. Morey
Vice President
Farley Project
P.O. Box 1295
Birmingham, AL 35201-1295

SUBJECT: DESIGN INSPECTION OF JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2
(NRC INSPECTION REPORT NOS. 50-348/97-201 and 50-364/97-201)

Dear Mr. Morey:

From January 27 through March 14, 1997, the staff of the U.S. Nuclear Regulatory Commission (NRC), Office of Nuclear Reactor Regulation (NRR), performed a design inspection of the Unit 1 auxiliary feedwater (AFW) system, the Unit 2 component cooling water (CCW) system, and their support systems at the Joseph M. Farley Nuclear Plant. The purpose of the inspection was to evaluate the selected systems regarding their capability to perform safety functions required by their design bases, adherence to their design and licensing bases, and consistency of the as-built configuration and system operations with the final safety analysis report (FSAR).

The enclosed report discusses the results of this inspection. Overall, the inspection team determined that the selected systems are capable of performing their intended safety functions and have adequate design margins. Your staff has implemented appropriate measures to resolve the immediate concerns identified by the team, and the team did not have any unresolved operability concerns.

Although we consider the safety system self-assessments performed by your staff to be a positive initiative, the assessments did not identify and correct many of the issues raised by the team. The Farley design and licensing bases have been adequately implemented in all but a few instances. The system design documents adequately support the design, except as identified in the inspection report. Your engineering staff demonstrated adequate knowledge of the systems evaluated and provided excellent support to the inspection team.

The team had concerns with inadequate tornado missile protection of the turbine-driven AFW (TDAFW) pump vent stack and the exposed piping connections, level transmitter, electrical conduits and cables of the condensate storage tank (CST). The as-built plant configuration for these did not conform to the

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Farley design and licensing bases. In addition, the exhaust silencers for the diesel generators (including the station blackout diesels) were not protected against vertical and other non-horizontal missiles. The NRR staff will review this issue associated with the diesel generators to determine whether the tornado missile protection in the Farley Unit 1 and 2 design and licensing bases included missile spectra other than horizontal missiles.

Evaluations of plant modifications, conducted in accordance with 10 CFR 50.59, were generally adequate. However, the team identified certain examples of inadequate safety evaluations. For example, the 10 CFR 50.59 evaluation for an FSAR change deleting the requirement for tornado missile protection for several CST piping connections did not identify a potential unreviewed safety question. Your staff evaluated this issue, notified the NRC in accordance with 10 CFR 50.72, on February 27, 1997, and implemented interim corrective actions to maintain the operability of the system until the issue can be resolved.

The team identified testing and surveillance deficiencies. For example, the TDAFW pump discharge check valves were not tested in the reverse direction. The corrective action for a notice of violation for a similar issue did not thoroughly address the check valve testing deficiency.

The team noted design control issues for calculations, as well as nonconservative assumptions and inputs in calculations. In addition, the team identified discrepancies between the FSAR and other documents, such as procedures, functional system descriptions (FSDs), calculations, and drawings.

Please provide a schedule, within 60 days, detailing your plans to complete the corrective actions for the open items listed in Appendix A to the enclosed report. This schedule will enable the NRC staff to plan for the reinspection and closeout of these items.

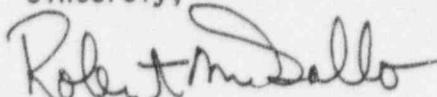
As with all NRC inspections, we expect that you will evaluate the applicability of the results and specific findings of this inspection to other systems and components throughout the plant.

Mr. D. N. Morey

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In accordance with 10 CFR 2.790(a), a copy of this letter and the enclosure will be placed in the NRC Public Document Room. Any enforcement action resulting from this inspection will be handled by NRC Region II via separate correspondence. Should you have any questions concerning the enclosed inspection report, please contact the project manager, Mr. J. I. Zimmerman, at (301) 415-2426, or the inspection team leader, Mr. R.K. Mathew, at (301) 415-2963.

Sincerely,



Robert M. Gallo, Chief
Special Inspection Branch
Division of Inspection and Support Programs
Office of Nuclear Reactor Regulation

Docket Nos.: 50-348 and 50-364

Enclosure: Inspection Report 50-348/97-201
and 50-364, 97-201

cc: see next page

Joseph M. Farley Nuclear Plant
Units 1 and 2

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