50-348

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

MAY 29, 1997

Mr. D. N. Morey
Vice President - Farley Project
Southern Nuclear Operating
Company, Inc.
Post Office Box 1295
Birmingham, Alabama 35201-1295

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2 - SUPPLEMENT TO SAFETY EVALUATION ASSOCIATED WITH AMENDMENT NOS. 123 AND 118 (TAC NOS. M97245 AND M97246)

Dear Mr. Morey:

On February 3, 1997, the U.S. Nuclear Regulatory Commission (NRC) issued Amendment No. 123 to Facility Operating License No. NPF-2 and Amendment No. 118 to Facility Operating License No. NPF-8 for the Joseph M. Farley Nuclear Plant (FNP), Units 1 and 2, and issued the related Safety Evaluation, dated February 3, 1997. The amendments replaced Technical Specification (TS) 3.6.2.2 for the Spray Additive System with a new Emergency Core Cooling System (ECCS) TS 3.5.6 for the ECCS Recirculation Fluid pH Control System.

In its letter dated November 15, 1996, Southern Nuclear Operating Company, Inc. (SNC) stated in the last paragraph on page E1-2 of the Safety Assessment the following: "The components associated with the spray additive system are being either spared in place or removed. The blind flanges installed in the eductor lines will meet ASME Section III Class 3 requirements. The containment spray piping will continue to meet the plant seismic and ASME Section III Class 3 requirements." However, in a letter dated April 1, 1997, you informed the NRC that your November 15, 1996, letter to NRC should have stated that the blind flanges and containment spray system piping will meet ASME Section III Class 2 requirements vice meeting ASME Section III Class 3 requirements. During preparation of the submittal, you did not recognize that the blind flanges were to be installed in ASME Section Class 2 containment spray piping.

As a result, the NRC's February 3 Safety Evaluation is being supplemented to correctly identify the installation location of the blind flanges in the ASME Section III Class 2 section of containment spray system piping. This change to the Safety Evaluation does not change the conclusions reached in the original Safety Evaluation. Enclosed is the corrected page 2 of the Safety Evaluation. The TS pages are correct as issued.

300059

PDR

T-5-C-3

If you have any questions on this safety evaluation supplement, please call me at (301) 415-2426.

Sincerely,

ORIGINAL SIGNED BY:

Jacob I. Zimmerman, Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-348 and 50-364

Enclosure: As stated

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NAME	~~JZIMMERMAN~~:cn		LBERRY		HBERKOW				R. WESSMAN			
DATE	5/19/97		5/15/97		5/28/97		5/30/97		5/28/97		/97	

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These rates are determined by the first-order removal coefficients which, for elemental iodine removal by spray water and deposition on the containment walls, are independent of pH and therefore are not affected by elimination of the pH controlling additive. The same applies to the removal coefficients for particulate iodine, which is controlled by the hydrodynamic characteristics of the spray.

During the recirculation spray phase, coolant from the sump will contain dissolved iodine removed from the containment atmosphere during the injection phase. In a radiation environment this iodine could be desorbed from the water and released to the containment atmosphere if the pH of the sump solution is too low. Since the long-term pH of the ECCS solution should be no less than 7.0, a chemical additive must be utilized to raise the pH of the solution in the containment building sump.

The licensee has proposed to control the pH above a level of 7.5 by the addition of the ECCS recirculation fluid pH control system. This is a passive system that consists of crystalline trisodium phosphate (TSP) stored in three baskets located in the containment sump area with a total minimum TSP loading of approximately 10,000 pounds (185 feet^3). The TSP baskets are designed to Seismic Category 1 standards and would be anchored to the filler slab at an elevation of 105 feet - 6 inches. In accordance with the proposed ECCS recirculation fluid pH control system TS, the licensee has proposed to verify, during each refueling outage, that the three storage baskets (a) are in place, (b) have maintained their integrity, and (c) are filled with TSP compound such that the level is between the indicated fill marks on the baskets.

The licensee plans to selectively leave in place or remove the components associated with the spray additive system. The blind flanges installed in the eductor lines will meet ASME Code, Section III, Class 2 requirements. The containment spray piping will continue to meet the plant seismic and ASME Code, Section III, Class 2 requirements. The level and flow indicators and hand switches associated with these components will be removed from the main control board and replaced with cover plates.

The sump water must also be maintained in the alkaline condition in order to minimize corrosion of metallic surfaces. Chloride-induced stress corrosion cracking of austenitic stainless steel components is considerably reduced if the pH of the solution is maintained above 7. During the injection phase, the TSP will begin to dissolve and the pH of the ECCS sump solution will be raised from 4.5 into the range of 7.5 to 10.5. The surfaces sprayed during the injection will be resprayed during the recirculation phase with a high pH solution.

Control of the sump pH is also required to minimize hydrogen generation by corrosion of aluminum and zinc on galvanized surfaces and in the organic coatings on containment surfaces. The proposed change will affect the pH by introducing an initial pH of 4.5 (borated water spray) followed by a pH range

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