Docket File

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

April 29, 1988

Docket No. 50-302

Mr. W. S. Wilgus
Vice President, Nuclear Operations
Florida Power Corporation
ATTN: Manager, Nuclear Licensing
P.O. Box 219
Crystal River, Florida 32629

Dear Mr. Wilgus:

SUBJECT: CRYSTAL RIVER, UNIT 3 - RESOLUTION OF GI-124, AUXILIARY FEEDWATER (AFW) SYSTEM RELIABILITY

An AFW system review group was formed to prepare an overall reliability assessment for each of the seven plants with a two-train AFW system to resolve Generic Issue (GI)-124, Auxiliary Feedwater System Reliability. This effort included a plant-specific review and an on-site audit of the AFW system, and included calculated estimates of the reliability of the AFW system, given various initiating events. The staff selected this approach for resolving GI-124 rather than a strictly analytical approach because the staff believed that a first-hand audit of the AFW system design and operation more directly addressed the root causes of AFW system unavailability and unreliability.

The resolution approach adopted by the AFW system review team relied on an audit of several parameters that directly or indirectly affect the availability and reliability of the AFW system. These parameters include design configurations; maintenance, surveillance, and testing procedures and practices; operating procedures; personnel training; system layout; operating experience; instrumentation and control; and environment and availability for operator recovery actions following potential malfunctions. The Standard Review Plan (SRP) Section 10.4.9, AFW System Numerical Reliability Criterion (10^{-4} to 10^{-5} per demand) served as the basis for concluding that the AFW system was acceptably reliable in the seven plants of concern. Because the SRP criterion specifies consideration of compensating factors such as other reliable decay heat removal methods to justify a larger AFW system unavailability, the AFW system review team evaluated compensatory features as part of its effort.

The enclosed report documents the results of the staff review of the AFWS for Crystal River, Unit 3. Based on that review, the staff concluded that improvement in the reliability of the AFW system and secondary side decay heat removal capability was warranted. This conclusion was based on the staff's evaluation of the AFW system reliability, which indicated a reliability below the 10^{-4} to 10^{-5} per demand acceptance criterion, and the staff's determination that the uncertainties and disadvantages associated with the use of the feed-and-bleed decay heat removal method cannot justify it as a suitable compensatory feature. The staff concludes that credit for feed-and-bleed as a compensatory measure in the evaluation of AFW system reliability is inappropriate.

You were informed of these conclusions and responded by letter dated March 25, 1988 after meeting with the staff on March 11, 1988 to discuss staff concerns. In your response, you committed to install an additional means of secondary side decay heat removal. In a meeting on March 30, 1988, you described the design bases for an auxiliary feedwater pump to satisfy this commitment. We will review the design of this pump to assure that its installation provides adequate reliability enhancement. Your proposed schedule for submittal of the final design and for implementation should be submitted in May 1988, as discussed at the meeting of March 30. With implementation of this commitment, the staff concludes that the Crystal River, Unit 3 AFW system and secondary side decay heat removal capability will meet the SRP criterion.

The report also identifies other areas where enhancements can be made in AFW system reliability and decay heat removal capability. Please consider these recommendations and inform us within 60 days of your planned disposition of each of these items.

The reporting and recordkeeping requirements contained in this letter affect fewer than 10 respondents; therefore, OMB clearance is not required pursuant to P.L. 96-511.

Sincerely,

Originial Signed By:

Steven A. Varga, Director
Division of Reactor Projects-I/II
Office of Nuclear Reactor Regulation

Enclosure: As stated

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You were informed of these conclusions and responded by letter dated March 25, 1988 after meeting with the staff on March 11, 1988 to discuss staff concerns. In your response, you committed to install an additional means of secondary side decay heat removal. The specific design and schedule for this additional source will be developed in the near future. With implementation of this commitment, the staff concludes that the Crystal River, Unit 3 AFW system and secondary side decay heat removal capability will meet the SRP criterion.

The report also identifies other areas where enhancements can be made in AFW system reliability and decay heat removal capability. Please consider these recommendations and inform us within 60 days of your planned disposition of each of these items.

Based on the above, the staff considers GI-124 to be resolved for Crystal River, Unit 3.

The reporting and recordkeeping requirements contained in this letter affect fewer than 10 respondents; therefore, OMB clearance is not required pursuant to P.L. 96-511.

Sincerely,

Steven A. Varga, Director
Division of Reactor Projects-I/II
Office of Nuclear Reactor Regulation

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Mr. W. S. Wilgus
Florida Power Corporation

Crystal River Unit No. 3 Nuclear
Generating Plant

cc:

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