



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

March 7, 2001

Mr. Dale E. Young, Vice President
Crystal River Nuclear Plant (NA1B)
ATTN: Supervisor, Licensing & Regulatory Programs
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SUBJECT: CRYSTAL RIVER UNIT 3 - ISSUANCE OF AMENDMENT REGARDING THE
EXTENSION OF CONTAINMENT SUMP MONITOR CHANNEL CALIBRATION
(TAC NO. MA9185)

Dear Mr. Young:

The Commission has issued the enclosed Amendment No. 195 to Facility Operating License No. DPR-72 for the Crystal River Unit 3 Nuclear Plant. The amendment consists of changes to the existing Improved Technical Specifications (ITS) in response to Florida Power Corporation's letter dated June 1, 2000. ITS Section 3.4.14, "RCS Leak Detection Instrumentation, Surveillance Requirements" was changed to extend the calibration interval of the containment sump monitor from 18 to 24 months.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* Notice.

Sincerely,

John M. Goshen, Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-302

Enclosures: 1. Amendment No. 195 to DPR-72
2. Safety Evaluation

cc w/encls: See next page

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Mr. Dale E. Young
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CRYSTAL RIVER UNIT NO. 3

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FLORIDA POWER CORPORATION
CITY OF ALACHUA
CITY OF BUSHNELL
CITY OF GAINESVILLE
CITY OF KISSIMMEE
CITY OF LEESBURG
CITY OF NEW SMYRNA BEACH AND UTILITIES COMMISSION,
CITY OF NEW SMYRNA BEACH
CITY OF OCALA
ORLANDO UTILITIES COMMISSION AND CITY OF ORLANDO
SEMINOLE ELECTRIC COOPERATIVE, INC.

DOCKET NO. 50-302

CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 195
License No. DPR-72

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Florida Power Corporation, et al. (the licensees) dated June 1, 2000, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-72 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 195, are hereby incorporated in the license. Florida Power Corporation shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Richard P. Correia, Chief, Section 2
Project Directorate II
Division of Project Licensing Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the
Technical Specifications

Date of Issuance: March 7, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 195

FACILITY OPERATING LICENSE NO. DPR-72

DOCKET NO. 50-302

Replace the following page of the Appendix A Technical Specifications and associated Bases page with the attached revised page. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

3.4.-29

B 3.4-70

Insert

3.4-29

B 3.4-70

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.4.14.3	Perform CHANNEL CALIBRATION of containment sump monitor.	24 months
SR 3.4.14.4	Perform CHANNEL CALIBRATION of required containment atmosphere radioactivity monitor.	18 months

BASES

SURVEILLANCE
REQUIREMENTS
(continued)

SR 3.4.14.3

This SR requires the performance of a CHANNEL CALIBRATION for the required containment sump monitor instrumentation channel. The calibration verifies the accuracy of the instrument string, including the instruments located inside containment. The Frequency of 24 months is a typical refueling cycle and considers channel reliability. The acceptability of the 24-month frequency for the containment sump monitor CHANNEL CALIBRATION is based on the use of the instrumentation to measure trends or changes in the containment sump level rather than an absolute value of sump level.

SR 3.4.14.4

This SR requires the performance of a CHANNEL CALIBRATION for the required containment atmosphere radioactivity monitor instrumentation channel. The calibration verifies the accuracy of the instrument string. The 18-month frequency for the containment atmosphere radioactivity monitor CHANNEL CALIBRATION has been proven acceptable based on operating experience.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 30.
 2. Regulatory Guide 1.45.
 3. 10 CFR 50, Appendix A, GDC 4.
 4. NUREG 1366, December 1992.
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 195 TO FACILITY OPERATING LICENSE NO. DPR-72
FLORIDA POWER CORPORATION, ET. AL.
CRYSTAL RIVER UNIT NO. 3 NUCLEAR GENERATING PLANT
DOCKET NO. 50-302

1.0 INTRODUCTION

By letter dated June 1, 2000, the Florida Power Corporation (licensee) submitted a request to amend the Crystal River Unit 3 (CR-3) Facility Operating License Improved Technical Specifications (ITS). The proposed change to ITS 3.4.14, Reactor Coolant System (RCS) Leakage Detection Instrumentation would revise the interval for calibration of the containment sump level monitor instrumentation from 18 months to 24 months.

The associated ITS Bases Surveillance Requirement (SR) 3.4.14.3 currently cover both the containment sump level monitor and the containment atmosphere radioactivity monitor. The proposed change splits this combination into two sections. SR 3.4.14.3 is revised to address the proposed 24-month interval for the containment sump level channel calibration and the basis for that interval. SR 3.4.14.4 is revised to make this a separate section for current 18-month channel calibration interval for the containment atmosphere radioactivity monitor (no changes are being proposed for this instrument channel calibration).

2.0 BACKGROUND

The containment sump monitor instrumentation is recommended by Regulatory Guide (RG) 1.45, "Reactor Coolant Leak Detection Boundary Leakage Detection Systems." RG 1.45 recommends that leakage detection systems have the capability to detect reactor coolant pressure boundary (RCPB) degradation as soon after occurrence as practical to minimize the potential for a gross boundary failure. It states that "industry practice has shown that water flow rate changes of 0.5 to 1.0 gpm can be readily detected in containment sumps by monitoring the changes in sump level, flow level, or in the operating frequency of the pumps. Sumps and tanks used to collect unidentified leakage and air cooler condensate should be instrumented to alarm for increases from 0.5 gpm to 1.0 gpm in the normal flow rates. This sensitivity would provide an acceptable performance for detecting increases in unidentified liquid leakage by this method." The wide range sump level instrument is used for identifying changes in the containment sump level that occur over short time intervals (e.g., an operating crew shift, rather than measurement of a specific required level).

NUREG 1430 "Standardized Technical Specification Babcock and Wilcox Plants," Rev. 1, has been used by the licensee as guidance for the CR-3 ITS. It contains bracketed information for the calibration frequency which allows the licensee to determine the adequate calibration frequency for the instrument by engineering analysis.

The licensee cited, as a precedent for extending the calibration interval of the containment wide range level instruments from 18 months to 24 months, the previously NRC-approved amendment of the Davis-Besse operating license. The staff considers that the Davis-Besse license amendment and this request for extension of containment sump level instrument calibration interval for CR-3 are sufficiently similar such that the Davis-Besse license amendment can be considered as a suitable precedent. The basis for staff approval of the CR-3 amendment is similar to that provided for Davis Besse.

3.0 EVALUATION

The CR-3 current fuel cycle is a 24-month cycle. Performing the containment sump level instrument calibration with the plant in operation is undesirable because of the radiation dose received by the personnel performing the calibration. The radiation dose to the personnel performing the calibration while CR-3 is shut down during a refueling outage is significantly reduced compared to the dose received if the calibration is performed with CR-3 in operation. The licensee stated that calibrating the containment sump monitor transmitter requires approximately 10 man-hours. Based on the area dose rate near the transmitter (200 to 250 mREM/hr), the dose received by personnel performing the calibration while CR-3 is operating would be approximately 2.0 to 2.5 REM. In contrast, during outages shielding is installed and general area dose rates are reduced to approximately 50 to 80 mREM/hr. At this dose rate, the dose to perform the 10-hour calibration would be approximately 0.5 to 0.8 REM.

The containment sump level monitor is used to provide information for the sump level changes during an operating crew shift. The operator observes the level changes on a trend recorder in the main control room. Any change in sump level is a possible indication of RCS leakage. The RCS leak rate can be calculated based on the containment sump level increase as recorded on a recorder. The trend of level increase on the recorder is used to determine the leak rate into the sump. Any drift associated with the instrument over the trend period (1 hour to 12-hour shift) is negligible, and is eliminated from consideration when the difference between two readings of sump level is calculated. Therefore, the instrument would continue to be consistent with RG 1.45. The level switch in the instrument circuit is used only for automatic pumping of sump fluid using the two reactor building sump pumps. Separate safety-related instrumentation is used to determine post-accident containment sump and containment flood levels for post-accident monitoring function.

The licensee has evaluated the calibration and maintenance history of the containment sump monitor. Each calibration consists of checks at 0, 25, 50, 75, and 100% of span. Since 1987, the containment sump monitor has been calibrated on eight occasions, for a total of 40 possible as-found readings. Of the 40 as-found readings, only 5 were out-of-tolerance readings. The level transmitter was successfully calibrated in all instances. There have been no failures of the level transmitter since 1987.

The containment sump level monitor is used to detect early RCS leakage during normal plant operation and does not have an accident mitigation function. The staff finds that the ability of the instrument to detect small leaks by monitoring trends during a 12 hour period will not be affected by extending the calibration interval. In addition, the proposed changes to TS 3.4.14.3 will allow the calibration to be performed during refueling outages that will reduce the exposure of plant personnel to high radiation without resulting in a significant reduction in the margin of safety. Therefore, the staff concludes the proposed increase in calibration interval is acceptable.

4.0 STATE CONSULTATION

Based upon a letter dated March 8, 1991, from Mary E. Clark of the State of Florida, Department of Health and Rehabilitative Services, to Deborah A. Miller, Licensing Assistant, U.S. Nuclear Regulatory Commission (NRC), the State of Florida does not desire notification of issuance of license amendments.

5.0 ENVIRONMENTAL CONSIDERATIONS

The amendment changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (65 FR 43048). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: Hulbert Li, NRR
John M. Goshen, NRR

Date: March 7, 2001