

October 22, 1997

Mr. Roy A. Anderson
Senior Vice President,
Nuclear Operations
Florida Power Corporation
ATTN: Manager, Nuclear Licensing
Crystal River Energy Complex (SA2A)
15760 W Power Line Street
Crystal River, Florida 34428-6708

SUBJECT: CRYSTAL RIVER 3 - ENVIRONMENTAL ASSESSMENT OF REQUEST FOR EXEMPTION
FROM CERTAIN REQUIREMENTS OF 10 CFR PART 50, APPENDIX R, FIRE
PROTECTION PROGRAM FOR NUCLEAR POWER FACILITIES (TAC NO. M95817)

Dear Mr. Anderson:

Enclosed is a copy of an "Environmental Assessment and Finding of No Significant Impact" for your information. This assessment relates to your letter dated June 21, 1996 as supplemented November 22, 1996, which requested an exemption from certain requirements of 10 CFR Part 50, Appendix R to allow use of automatic fire detection and enhanced sprinkler protection in certain areas instead of fire barrier upgrades.

This environmental assessment does not address your request relating to the requirements for battery powered lighting in areas for the operation of safe shutdown equipment.

This notice is being forwarded to the Office of the Federal Register for publication.

Sincerely,

ORIGINAL SIGNED BY:

L. Raghavan, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-302

Enclosure: Environmental Assessment

cc w/enclosure: See next page

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

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Nuclear Operations
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A handwritten signature in black ink, appearing to read "L. Raghavan", with a long horizontal line extending to the right.

L. Raghavan, Project Manager
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-302

Enclosure: Environmental Assessment

cc w/enclosure: See next page

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UNITED STATES NUCLEAR REGULATORY COMMISSIONFLORIDA POWER CORPORATIONDOCKET NO. 50-302ENVIRONMENTAL ASSESSMENT AND FINDING OFNO SIGNIFICANT IMPACT

The U. S. Nuclear Regulatory Commission (the Commission or NRC) is considering issuance of an exemption from certain requirements of its regulations to Florida Power Corporation (the licensee), holder of Facility Operating License No. DPR-72 for operation of the Crystal River Unit 3 Nuclear Generating Plant (CR3) located in Citrus County, Florida.

ENVIRONMENTAL ASSESSMENTIdentification of Proposed Action:

The proposed action is in accordance with the licensee's application dated June 21, 1996 as supplemented November 22, 1996, for exemption from certain requirements of Section III, Paragraph G, "Fire protection of safe shutdown capability," of Appendix R, "Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979," to Title 10 of the Code of Federal Regulations Part 50 (10 CFR Part 50). Specifically, the licensee requests an exemption from the requirements of Section III.G.2.c of Appendix R, to allow the use of the existing fire barrier material, Thermo-Lag, with less than 1-hour fire rating, for protecting one train of certain redundant safe shutdown cables located in the auxiliary building elevations 95 and 119, and intermediate building elevation 119.

This environmental assessment does not address the licensee's request relating to the requirements for battery powered lighting in areas for the operation of safe shutdown equipment.

The Need for the Proposed Action:

10 CFR Part 50, Appendix A, "General Design Criteria for Nuclear Power Plants," Criterion 3 "Fire Protection," specifies that "Structures, systems, and components important to safety shall be designed and located to minimize, consistent with other safety requirements, the probability and effect of fires and explosions." 10 CFR Part 50, Appendix R, sets forth the fire protection features required to satisfy the General Design Criterion 3 of the Commission's regulations. Pursuant to 10 CFR Part 50, Appendix R, Section III, Paragraph G, design features shall be established that are capable of limiting fire damage so that one train of systems necessary to achieve and maintain hot shutdown conditions is free of fire damage. Specifically, 10 CFR Part 50, Appendix R, Paragraph III. G.2.c, in part, requires (if Paragraphs III.G.2.a or b are not applicable) enclosure of cable and equipment and associated non-safety circuits of one redundant train in a fire barrier having a 1-hour rating; in addition, fire detectors and an automatic fire suppression system shall be installed in the fire area.

The current CR3 design includes Thermo-Lag fire barriers which do not provide the level of fire endurance required by NRC regulations. As part of its program for resolving Thermo-Lag issues, the licensee has determined that the Thermo-Lag material used as a fire barrier for the protection of certain safe shutdown cables located in certain elevations of the auxiliary and intermediate buildings does not qualify as 1-hour fire rated barriers. In lieu of upgrading the existing Thermo-Lag fire barriers to satisfy the 1-hour fire rating requirement, the licensee proposed to implement an enhanced automatic fire suppression system coverage for these specific fire zones. The licensee indicates that its proposed enhanced automatic fire suppression

system coverage coupled with the existing Thermo-Lag barriers and other defense-in-depth features will ensure that one train of equipment necessary to achieve hot shutdown remains free of fire damage. An exemption from 10 CFR Part 50, Appendix R, Section III, Paragraph G. 2. c. is required to allow the use of existing Thermo-Lag material that has less than a 1-hour fire rating, for the specific cables and equipment located in certain elevations of the auxiliary and intermediate buildings. By letter dated June 21, as supplemented November 22, 1996, the licensee submitted the exemption request.

Environmental Impacts of the Proposed Action:

The Commission has completed its evaluation of the licensee's application.

The exemption request is for the following fire zones: auxiliary building elevations 95 and 119 (fire area AB-95-3B and G, AB-119-6A) and the intermediate building elevation 119 (fire area IB-119-201A). A fire in the 95 or 119 elevations of the auxiliary building could cause the loss of the redundant divisions of the makeup system, heating ventilation and air conditioning (HVAC), instrumentation, battery charging or essential power supplies. A fire on the 119 elevation of the intermediate building could cause the loss of redundant divisions of instrumentation needed to achieve and maintain safe shutdown following a fire.

These four fire zones contain fire detectors and an automatic fire suppression system. To enhance the sprinkler coverage in these zones, the licensee proposes to upgrade the existing sprinkler protection in the vicinity of the Thermo-Lag fire barriers. The additional sprinkler protection, coupled with the existing automatic detection, manual fire suppression capability and the administrative controls provided in these fire zones, would provide

reasonable assurance that an exposure fire from in-situ or transient combustible materials in the vicinity of the existing Thermo-Lag fire barriers will not challenge the barriers, such that damage to redundant divisions of systems and instrumentation needed to achieve and maintain safe shutdown following a fire will not occur. Based on data obtained from industry sponsored fire test programs, the staff estimates that the existing Thermo-Lag barriers would provide a minimum of 20 minutes of fire resistance. The licensee is also committed to maintain the Thermo-Lag fire barriers that are the subject of this request in place. Automatic wet pipe sprinkler protection that is designed, installed and maintained in accordance with NFPA 13, "Installation of Sprinkler Systems," have historically demonstrated a high reliability in controlling fires during the incipient stage, thereby limiting fire damage and propagation until extinguishment can be achieved through manual actions. Further, the licensee has administrative controls that are designed to control the type, amount, use and location of combustibles. Proper control of combustibles minimizes the possibility of starting, spreading, or contributing to a fire.

4.0 CONCLUSION

On the basis of this evaluation, the NRC staff concluded that protection provided for the fire zones, auxiliary building elevations 95 and 119 (fire area AB-95-3B and G, AB-119-6A) and the intermediate building elevation 119 (fire area IB-119-201A) would provide reasonable assurance that a level of safety equivalent to that specified by the regulation would be met, and, therefore, is acceptable.

The change will not increase the probability or consequences of accidents, no changes are being made in the types of any effluents that may be released offsite, and there is no significant increase in the allowable individual or cumulative occupational radiation exposure. Accordingly, the Commission concludes that there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential nonradiological impacts, the proposed action does involve features located entirely within the restricted area as defined in 10 CFR Part 20. It does not affect nonradiological plant effluents and has no other environmental impact. Accordingly, the Commission concludes that there are no significant nonradiological environmental impacts associated with the proposed action.

Alternative to the Proposed Action:

As an alternative to the proposed action, the staff considered denial of the proposed action. Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the alternative action are similar.

Alternative Use of Resources:

This action did not involve the use of any resources not previously considered in the Final Environmental Statements related to operation of CR3, dated May 1973.

Agencies and Persons Consulted:

In accordance with its stated policy, on October , 1997 the staff consulted with the Florida State Official, Mr. Bill Passeti of the Florida Department of Health and Rehabilitative Services, regarding the environmental impact of the proposed action. The State official had no comments.

FINDING OF NO SIGNIFICANT IMPACT

The Commission has determined not to prepare an environmental impact statement for the proposed exemption. Based upon the foregoing environmental assessment, the Commission concludes that the proposed action will not have a significant effect on the quality of the human environment.

For further details with respect to this action, see the request for exemption dated June 21, as supplemented November 22, 1996, which are available for public inspection at the Commission's Public Document Room, 2120 L Street, NW., Washington, DC and at the local public document room located at Coastal Region Library, 8619 W. Crystal Street, Crystal River, Florida.

Dated at Rockville, Maryland, this 22nd day of October 1997.

FOR THE NUCLEAR REGULATORY COMMISSION



Frederick J. Hebdon, Director
Project Directorate II-3
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation