

January 12, 1990

Mr. Percy M. Beard, Jr.
Senior Vice President,
Nuclear Operations
Florida Power Corporation
ATTN: Manager, Nuclear Operations
Licensing
P. O. Box 219-NA-2I
Crystal River, Florida 32629

Dear Mr. Beard:

SUBJECT: CRYSTAL RIVER UNIT 3 - EXEMPTION FROM REQUIREMENTS OF 10 CFR PART 50,
APPENDIX A, GENERAL DESIGN CRITERION-2 (TAC NO. 74373)

The Commission has issued the enclosed exemption from the requirements of 10 CFR Part 50, Appendix A, General Design Criterion-2 (GDC-2). This exemption permits temporary removal of tornado missile protection of the emergency diesel generators (EDGs) to allow for the accomplishment of pre-outage work in preparation for modifications to the EDGs. A Safety Evaluation supporting the exemption is also enclosed.

A copy of the exemption is being forwarded to the Office of the Federal Register for publication.

Sincerely,

Original signed by

Harley Silver FOR

Herbert N. Berkow, Director
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Exemption
- 2. Safety Evaluation

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)	
FLORIDA POWER CORPORATION, ET AL.)	Docket No. 50-302
(Crystal River)	
Unit 3))	

EXEMPTION

I.

Florida Power Corporation, et al. (FPC, the licensee) is the holder of Facility Operating License No. DPR-72, which authorizes operation of Crystal River Unit 3 (CR-3, the facility) at steady-state power levels not in excess of 2544 megawatts thermal. The license provides, among other things, that the facility is subject to all the rules, regulations, and orders of the Nuclear Regulatory Commission (the Commission) now or hereafter in effect.

The facility is a pressurized water reactor (PWR) located at the licensee's site in Citrus County, Florida.

II.

10 CFR Part 50, Appendix A, General Design Criterion-2 (GDC-2) requires that structures, systems, and components important to safety be designed to withstand the effects of natural phenomena such astornados,without loss of capability to perform their safety functions.

III.

The two emergency diesel generators (EDGs) provide emergency on-site power to safety-related equipment in the event of loss of offsite power. The EDGs are housed in a Class I structure, one of whose functions is to protect the EDGs and their safety-related appurtenances from tornado-borne missiles. Openings at the south end of the building for each EDG provide access for major equipment and a source of outside ambient air for combustion and ventilation. These openings are normally covered with steel enclosures which provide missile protection and allow satisfaction of functional requirements.

FPC intends to upgrade the EDGs to improve their reliability and capacity margin in performing their safety functions. EDG "A" upgrades will definitely be completed and every effort will be made to complete the EDG "B" upgrades during the next refueling outage, currently scheduled to begin in March 1990. As part of this upgrade, the licensee will install in the EDG building two new tube oil coolers and a new intake air filter for each EDG. Because of the large size of this new equipment, it must be moved into the EDG rooms through the openings discussed above. In order to do this, the steel enclosures must be removed. The licensee has determined that, because of the complexity of the modifications, the work cannot be completed within the scheduled outage duration of 77 days unless significant pre-outage work is accomplished. Therefore, an exemption from the requirements of GDC-2, as they apply to missile protection at the south end of the EDG building, is necessary for the period from January 15, 1990 until the start of the next refueling outage, currently scheduled for March 14, 1990, to permit removal of the steel enclosures prior to the outage, while the plant is still operating.

As discussed in the enclosed Safety Evaluation, even with the steel enclosures removed, an existing concrete wall provides protection against tornado missiles and eliminates any direct missile path to an EDG. Missile protection provided by the EDG building on the roof and other three sides remains unchanged. Objects in the area of the EDG building which could become damaging missiles in a tornado will be removed. The steel enclosures will be removed from only one EDG at a time. In addition, in the event of issuance of a tornado watch for the plant site, reinstallation of the steel enclosures will be initiated. Considering the existing design features and the compensatory measures proposed by the licensee, the likelihood of unacceptable damage to the EDGs due to tornado missiles during the proposed period of about 60 days is low and, therefore, there is reasonable assurance that the proposed exemption will present no undue risk to public health and safety.

This case involves special circumstances as set forth in 10 CFR 50.12(a)(2)(v). This exemption "would provide only temporary relief from the applicable regulations" (GDC-2). The exemption is requested for a specific time period, after which the facility would again be in conformance with all the requirements of GDC-2. FPC has made good faith efforts to provide missile protection for the EDGs in accordance with GDC-2 during the period when the steel enclosures would be removed by utilizing existing design features which provide a significant degree of missile protection, by removing potential missiles from the area near the EDGs, by removing the steel enclosures from only one EDG at a time, and by committing to initiate their replacement upon issuance of a tornado watch.

IV.

Based on the above, and on review of the licensee's submittals as summarized in the enclosed Safety Evaluation, the NRC staff concludes that the likelihood

of unacceptable damage to the EDGs due to tornado-borne missiles during the proposed exemption period is low. Therefore, the NRC staff finds the proposed exemption from the requirements of GDC-2, as they apply to missile protection at the south end of the EDG building, to be acceptable.

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12, this exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. The Commission further determines that special circumstances, as provided in 10 CFR 50.12(a)(2)(v), are present justifying the exemption, namely that the exemption would provide only temporary relief from the applicable regulation and that FPC has made good faith efforts to comply with the regulation.

Therefore, the Commission hereby approves the following exemption: The facility may operate without conforming to the requirements of GDC-2 as they apply to the steel enclosures providing missile protection at the south end of the EDG building, providing that compensatory measures as described herein are continued for the period of the exemption. This exemption shall be in effect from January 15, 1990 and shall expire at the start of Refuel 7 (currently scheduled for March 14, 1990), or by April 1, 1990, whichever is earlier.

Pursuant to 10 CFR 51.32, the Commission has determined that granting this exemption will have no significant effect on the quality of the human environment (January 12, 1989, 55 FR 1298).

For further details with respect to this action, see the licensee's request dated December 12, 1989, as supplemented on December 22, 1989, which is available for public inspection at the Commission's Public Document Room, 2120 L Street, N.W. Washington, D.C. and at the Crystal River Public Library, 668 N.W. First Avenue, Crystal River, Florida 32629.

This exemption is effective from January 15, 1990 until the start of the Refuel 7 outage, or by April 1, 1990, whichever is earlier.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Dated at Rockville, Maryland
this 12 day of January 1990.



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

Enclosure 2

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

TEMPORARY EXEMPTION FROM THE REQUIREMENTS OF GDC-2

FOR TORNADO MISSILE PROTECTION OF THE EMERGENCY

DIESEL GENERATORS

CRYSTAL RIVER UNIT NO. 3 NUCLEAR GENERATING PLANT

DOCKET NO. 50-302

INTRODUCTION

By letter dated December 12, 1989, as supplemented on December 22, 1989, Florida Power Corporation (FPC, or the licensee) requested a temporary exemption from the requirements of General Design Criterion (GDC) 2 with regard to tornado missile protection of the two emergency diesel generators (EDGs) at Crystal River Unit 3. The EDGs provide the source of power to redundant safety-related equipment for safe shutdown of the reactor in the event of an accident accompanied by a loss of offsite power. The licensee plans to implement highly desirable upgrades to the EDGs during the next refueling outage (Refuel 7). The exemption is necessary because the existing missile shields (steel enclosures) which cover the exterior openings at the south end of the emergency diesel generator building must be removed while the plant is still in power operation in order to permit completion of these modifications without extending the duration of Refuel 7 excessively. EDG "A" upgrades will definitely be completed and every effort will be made to complete the EDG "B" upgrades prior to restart from Refuel 7. The EDG modifications include the installation of new large lube oil coolers and air filters which are required as part of the emergency diesel generator load-uprating program for improved onsite emergency AC power reliability, which has been previously reviewed and approved by the staff. The requested temporary exemption is to be effective from January 15, 1990 until the start of Refuel 7, currently scheduled for March 14, 1990. The steel enclosures will be replaced prior to startup from the Refuel 7 outage.

EVALUATION

The planned EDG upgrades are highly desirable and will significantly enhance the overall safety of the plant. The licensee has estimated that without the requested exemption, the complete upgrade of both EDGs would extend the outage from the planned 77 days to about 121 days. Even if only the preparatory work is completed on EDG "B", which would facilitate completion of the upgrade during the next outage opportunity, the Refuel 7 outage would extend from the planned 77 days to 101 days without the requested exemption.

Even with the removal of the steel enclosures, an existing concrete wall behind the opening will provide protection against tornado missiles. Further, no direct path to a diesel generator for missile travel exists even with the enclosures removed. Missile protection provided by the EDG building on the roof and other three sides remains unchanged. The steel enclosures will be removed from only one diesel generator at a time. In addition, replacement of the steel enclosures will be initiated in the event of issuance of a tornado watch for the plant site. As a further compensating measure, the licensee has stated that objects in the immediate area of the EDG building which could become potentially damaging missiles in a tornado will be removed to reduce the missile hazard.

Based on the above considerations and compensatory measures, the staff finds that the likelihood of unacceptable damage to the EDGs due to tornado missiles during the proposed exemption period is acceptable low.

CONCLUSION

Based upon its evaluation of the licensee's application, staff concludes that the small likelihood of any tornado missile damage to the EDGs for the time span in question, coupled with the significant safety benefits attendant to the EDG upgrades, justifies the granting of the requested temporary exemption so as to eliminate the need to significantly extend the Refuel 7 outage. The staff further concludes that there is reasonable assurance that operation of Crystal River Unit 3 under the proposed exemption will present no undue risk to the public health and safety.

Dated: January 12, 1990

Principal Contributors:

J. Wermiel
H. Silver