

August 22, 2002

Mr. Dale E. Young, Vice President
Crystal River Nuclear Plant (NA1B)
ATTN: Supervisor, Licensing and Regulatory Programs
15760 W. Power Line Street
Crystal River, Florida 34428-6708

SUBJECT: CRYSTAL RIVER UNIT 3 - REQUEST FOR ADDITIONAL INFORMATION,
PROPOSED LICENSE AMENDMENT REQUEST, EMERGENCY DIESEL
GENERATOR ALLOWED OUTAGE TIME EXTENSION (TAC NO. MB5616)

Dear Mr. Young:

By letter dated July 3, 2002, you proposed changes to the Crystal River Unit 3 plant Technical Specifications. The proposed changes would allow an outage of up to 14 days for each emergency diesel generator (EDG) in order to perform preventive or corrective maintenance during plant operation. Additionally, you requested that two EDG surveillance requirements (SRs) be modified to allow performance of the SRs (SR 3.8.1.8 and SR 3.8.1.11) at power if the SRs are required to demonstrate EDG operability.

The U.S. Nuclear Regulatory Commission staff is reviewing your submittal and has determined that additional information is required to complete the review. The specific information requested is addressed in the enclosure. We request that the additional information be provided within 30 days of receipt of this letter.

The 30-day response timeframe was discussed with Mr. Paul Infanger of your staff on August 22, 2002. If circumstances result in the need to revise your response date, or if you have any questions, please contact me at (301) 415-2020 or blm@nrc.gov.

Sincerely,

/RA/

Brenda Mozafari, Senior Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-302

Enclosure: Request for Additional Information

cc w/encl: See next page

August 22, 2002

Mr. Dale E. Young, Vice President
Crystal River Nuclear Plant (NA1B)
ATTN: Supervisor, Licensing and Regulatory Programs
15760 W. Power Line Street
Crystal River, Florida 34428-6708

SUBJECT: CRYSTAL RIVER UNIT 3 - REQUEST FOR ADDITIONAL INFORMATION,
PROPOSED LICENSE AMENDMENT REQUEST, EMERGENCY DIESEL
GENERATOR ALLOWED OUTAGE TIME EXTENSION (TAC NO. MB5616)

Dear Mr. Young:

By letter dated July 3, 2002, you proposed changes to the Crystal River Unit 3 plant Technical Specifications. The proposed changes would allow an outage of up to 14 days for each emergency diesel generator (EDG) in order to perform preventive or corrective maintenance during plant operation. Additionally, you requested that two EDG surveillance requirements (SRs) be modified to allow performance of the SRs (SR 3.8.1.8 and SR 3.8.1.11) at power if the SRs are required to demonstrate EDG operability.

The U.S. Nuclear Regulatory Commission staff is reviewing your submittal and has determined that additional information is required to complete the review. The specific information requested is addressed in the enclosure. We request that the additional information be provided within 30 days of receipt of this letter.

The 30-day response timeframe was discussed with Mr. Paul Infanger of your staff on August 22, 2002. If circumstances result in the need to revise your response date, or if you have any questions, please contact me at (301) 415-2020 or blm@nrc.gov.

Sincerely,

/RA/

Brenda Mozafari, Senior Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-302

Enclosure: Request for Additional Information

cc w/encl: See next page

Distribution:

PUBLIC	LWert	KJabbour
PDII-2 R/F	APal	OGC
BMozafari (Hard Copy)	GGrant	ACRS
EDunnington (Hard Copy)	HBerkow	LPlisco

ADAMS ACCESSION NUMBER: ML022330724

OFFICE	PDII-2 PM	PDII-2/LA	PDII-2/SC (A)
NAME	BMozafari:as	EDunnington	KJabbour
DATE	08/22/02	08/22/02	08/22/02

OFFICIAL RECORD COPY

REQUEST FOR ADDITIONAL INFORMATION
EMERGENCY DIESEL GENERATOR ALLOWED OUTAGE TIME
CRYSTAL RIVER UNIT 3

1. By letter dated July 3, 2002, the licensee proposed changes to the plant's Technical Specifications (TS) for extending the allowed outage time (AOT) from 3 days to 14 days for each emergency diesel generator (EDG) in order to perform preventive or corrective maintenance during plant operation. The licensee stated that an EDG AOT extension of 14 days from the existing 3 days may potentially result in a small increase in the "at power" risk.

The staff finds that Crystal River, Unit 3 (CR3) has standard technical specifications (STS - NUREG-1430, Rev. 2) with two EDGs. The STS allow 3 days of EDG AOT. The staff allowed an EDG AOT of 14 days for plants that added an alternate ac (AAC) power source to meet the station blackout (SBO) Rule (10 CFR 50.63) and that provided a temporary ac power source during the extended AOT period (Waterford, Unit 3). System 80+design (NUREG -1462) allows 14 days of EDG AOT; however, it is based on a design with an AAC power source. The review indicated that the licensee did not add an AAC power source to meet the SBO Rule nor did they have a contingency plan to provide an ac power source during the extended EDG AOT.

Risk-Informed Philosophy

In its approval of the policy statement on the use of probabilistic risk assessment (PRA) methods in nuclear regulatory activities, the Commission stated an expectation that "the use of PRA technology should be increased in all regulatory matters ...in a manner that complements the U. S. Nuclear Regulatory Commission (NRC's) deterministic approach and supports the NRC's traditional defense-in-depth philosophy" (USNRC, "Use of Probabilistic Risk Assessment Methods in Nuclear Activities: Final Policy Statement," *Federal Register* (60 FR 42622, August 16, 1995)). The use of risk insights in licensee submittals requesting TS changes will assist the staff in the disposition of such licensee proposals.

The NRC staff has defined an acceptable approach to analyzing and evaluating proposed TS changes. This approach supports the NRC's desire to base its decisions on the results of traditional engineering evaluations, supported by insights (derived from the use of PRA methods) about the risk significance of the proposed changes. Decisions concerning proposed changes are expected to be reached in an integrated fashion, considering traditional engineering and risk information, and may be based on qualitative factors as well as quantitative analyses and information.

In implementing risk-informed decisionmaking, TS changes are expected to meet a set of key principles as described in Regulatory Guide (RG) 1.177, "An Approved for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications." Some of these principles are written in terms typically used in traditional engineering decisions (e.g., defense-in-depth). While written in these terms, it should be understood that risk

Enclosure

analysis techniques can be, and are encouraged to be, used to help ensure and show that these principles are met. These principles are:

- a. The proposed change meets the current regulations unless it is explicitly related to a requested exemption or rule change. Applicable rules and regulations that form the regulatory basis for TS are discussed in Regulatory Position 2.1, "Compliance with Current Regulations."
- b. The proposed change is consistent with the defense-in-depth philosophy. The guidance contained in Regulatory Position 2.2, "Traditional Engineering Considerations," applies the various aspects of maintaining defense-in-depth to the subject of changes in TS.
- c. The proposed change maintains sufficient safety margins. The guidance contained in Regulatory Position 2.2 applies various aspects of maintaining sufficient safety margin to the subject of changes to TS.
- d. When proposed changes result in an increase in core damage frequency or risk, the increases should be small and consistent with the intent of the Commission's Safety Goal Policy Statement. Regulatory Position 2.3, "Evaluation of Risk Impact," provides guidance for meeting this principle.
- e. The impact of the proposed change should be monitored using performance measurement strategies. The three-tiered implementation approach discussed in Regulatory Position 3.1 and Maintenance Rule control discussed in Regulatory Position 3.2 provide guidance in meeting this position.

Additional information regarding the NRC staff's expectations with respect to implementation of these principles can be found in RG 1.174.

Given the principles of risk-informed decisionmaking discussed above, the staff expects that a certain evaluation approach and the acceptance guidelines that follow from those principles will be followed by licensees in implementing these principles, and the staff has identified a four-element approach to evaluating proposed changes to a plant's design, operations, and other activities that require NRC approval.

Provide a discussion addressing principles (specifically b and c) mentioned above and the four elements approach.

2. Discuss and provide information on the reliability and availability of offsite power sources relating to the proposed change. The discussion should include duration, cause, date and time of each loss-of-offsite power (partial or complete) event.
3. As an SBO commitment, the licensee for CR3 committed to maintain an EDG target reliability of 0.975. Address the reliability and unavailability of the EDG in the last few years and when EDG AOT is extended to 14 days. Also, discuss the impact of AOT extension on EDG unavailability per the Maintenance Rule.

4. The staff believes that certain compensatory measures are needed during the extended EDG AOT to assure safe operation of the plant. Provide a discussion of how you would address each condition listed below as related to CR3.
 - a. Voluntary entry into a limiting condition of operation (LCO) action statement to perform preventive maintenance should be contingent upon a determination that the decrease in plant safety is small enough and the level of risk is acceptable for the period and is warranted by operational necessity, and not by convenience.
 - b. Removal from service of safety systems and important non-safety equipment should be minimized during the extended outage of the EDG.
 - c. Component testing or maintenance that increases the likelihood of a plant transient should be avoided. Plant operation should be stable during the extended outage of the EDG.

5. The purpose of the requested amendment is to allow an increased outage time during plant power operation for performing EDG inspection, maintenance, and overhaul, which would include disassembly of the EDG. EDG operability verification after a major maintenance or overhaul may require a full-load rejection test. If a full-load rejection test is performed at power, the following should be addressed:
 - a. Describe the typical and worse-case voltage transients on the 4160-V safety buses as a result of a full-load rejection.
 - b. If a full-load rejection test is used to test the EDG governor after maintenance, provide assurance that an unsafe transient condition on the safety bus (i.e., load swing or voltage transient) due to improperly performed maintenance or repair of a governor would not occur.
 - c. Using maintenance and testing experience on the EDG, identify possible transient conditions caused by improperly performed maintenance on the EDG governor and voltage regulator. Discuss the electrical system response to these transients.
 - d. Provide the tests to be performed after the EDG overhaul to declare the EDG operable and provide justification of performing those tests at power.

6. The licensee stated that CR3 will not initiate an EDG extended preventive maintenance outage if adverse weather, as designated by Emergency Preparedness procedures, is anticipated. Discuss how planning of the extended EDG maintenance considers the time needed to complete the extended EDG maintenance and the ability to accurately forecast weather conditions that are expected to occur during the maintenance. Discuss what, if any, contingency plans should be developed to restore the inoperable EDG in the event of unanticipated adverse weather or degraded grid conditions occurring that can significantly increase the probability of losing offsite electrical power.

7. Discuss whether the licensee's Risk Management Procedures cover a comprehensive walk-down just prior to entering the period of reduced equipment availability (EDG extended maintenance on-line). Provide justification, as applicable, for not having a comprehensive walk-down.
8. Describe the typical and worse-case voltage transients on the 4160-V safety buses as a result of a single largest post-accident load rejection (Surveillance Requirement (SR) 3.8.1.8).
9. Provide details of SR 3.8.1.11, including what is involved when performing this surveillance and why it is safe to perform it in Mode 1 or 2.

Mr. Dale E. Young
Florida Power Corporation

CRYSTAL RIVER UNIT NO. 3

cc:

Mr. R. Alexander Glenn
Associate General Counsel (MAC-BT15A)
Florida Power Corporation
P.O. Box 14042
St. Petersburg, Florida 33733-4042

Chairman
Board of County Commissioners
Citrus County
110 North Apopka Avenue
Inverness, Florida 34450-4245

Mr. Jon A. Franke
Plant General Manager
Crystal River Nuclear Plant (NA2C)
15760 W. Power Line Street
Crystal River, Florida 34428-6708

Ms. Sherry L. Bernhoff
Manager Regulatory Affairs
Crystal River Nuclear Plant (NA2H)
15760 W. Power Line Street
Crystal River, Florida 34428-6708

Mr. Michael A. Schoppman
Framatome ANP
1911 North Ft. Myer Drive, Suite 705
Rosslyn, Virginia 22209

Mr. Daniel L. Roderick
Director Site Operations
Crystal River Nuclear Plant (NA2C)
15760 W. Power Line Street
Crystal River, Florida 34428-6708

Mr. William A. Passetti, Chief
Department of Health
Bureau of Radiation Control
2020 Capital Circle, SE, Bin #C21
Tallahassee, Florida 32399-1741

Senior Resident Inspector
Crystal River Unit 3
U.S. Nuclear Regulatory Commission
6745 N. Tallahassee Road
Crystal River, Florida 34428

Attorney General
Department of Legal Affairs
The Capitol
Tallahassee, Florida 32304

Mr. Richard L. Warden
Manager Nuclear Assessment
Crystal River Nuclear Plant (NA2C)
15760 W. Power Line Street
Crystal River, Florida 34428-6708

Mr. Craig Fugate, Director
Division of Emergency Preparedness
Department of Community Affairs
2740 Centerview Drive
Tallahassee, Florida 32399-2100