

August 29, 1997

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

SUBJECT: CRYSTAL RIVER UNIT 3 - ISSUANCE OF A ONE-TIME AMENDMENT RE: 31-DAY  
EMERGENCY DIESEL GENERATOR SURVEILLANCE (TAC NO. M99327)

Dear Mr. Anderson:

The Commission has issued the enclosed Amendment No.157 to Facility Operating License No. DPR-72 for the Crystal River Unit 3. The amendment is in response to your letter dated August 4, 1997 as supplemented August 16, 1997 and consists of temporary changes to the existing Technical Specifications Surveillance Requirement (SR) 3.3.8.1, Channel Functional Test of Emergency Diesel Generator (EDG) Loss of Power Start. This amendment allows you to temporarily extend the frequency of SR 3.3.8.1 from 31 days to 60 days.

Your August 16, 1997 letter which withdrew the request to temporarily change the frequency of SR 3.8.1.3, EDG Operation, did not alter the staff's initial proposed no significant hazards consideration determination.

A copy of the Safety Evaluation is enclosed. Also enclosed is the Notice of Issuance which has been 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

*DF011/*

Docket No. 50-302

Enclosures:

- 1. Amendment No.157 to DPR-72
- 2. Safety Evaluation

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cc w/enclosures: See next page

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*subject to the changes in the Safety Evaluation. GEM 8/28/97*

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

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Sincerely,

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

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1. Amendment No.157 to DPR-72
2. Safety Evaluation

cc w/enclosures: See next page

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CRYSTAL RIVER UNIT NO. 3

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
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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.  
CITY OF TALLAHASSEE

DOCKET NO. 50-302

CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 157  
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 August 4, 1997, as supplemented August 16, 1997, 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.

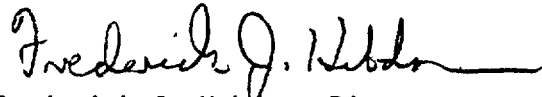
2. Accordingly, the license is amended to allow a temporary change to the Technical Specification Surveillance Requirement 3.3.8.1 frequency as indicated in the attachment to this license amendment.

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 157, 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 5 days.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: August 29, 1997

ATTACHMENT TO LICENSE AMENDMENT NO.157

FACILITY OPERATING LICENSE NO. DPR-72

DOCKET NO. 50-302

Replace the following pages of the Appendix "A" Technical Specifications with the attached pages. The revised pages are identified by amendment number and contain vertical lines indicating the area of change. The corresponding \*spillover page is also provided to maintain document completeness.

Remove

3.3-21

B 3.3-71

B 3.3-72

Insert

3.3-21

B 3.3-71

B 3.3-72\*

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.3.8.1 -----NOTE-----            When EDG LOPS instrumentation is placed in an inoperable status solely for performance of this Surveillance, entry into associated Conditions and Required Actions may be delayed as follows: (a) up to 4 hours for the degraded voltage Function, and (b) up to 4 hours for the loss of voltage Function, provided the two channels monitoring the Function for the bus are OPERABLE or tripped.            -----</p> <p>Perform CHANNEL FUNCTIONAL TEST.</p>	<p>31 days</p> <p><u>OR</u></p> <p>-----NOTE-----            Not effective after November 23, 1997.            -----</p> <p>60 days</p>
<p>SR 3.3.8.2 -----NOTE-----            Voltage sensors may be excluded from CHANNEL CALIBRATION.            -----</p> <p>Perform CHANNEL CALIBRATION with setpoint Allowable Value as follows:</p> <p>a. Degraded voltage <math>\geq 3933</math> and <math>\leq 3970</math> V with a time delay of 5.0 seconds <math>\pm 0.5</math> seconds; and</p> <p>b. Sudden loss of voltage from full voltage to 0.0 V with a time delay of 7.8 seconds <math>\pm 0.55</math> seconds at 0.0 V.</p>	<p>18 months</p>

BASES

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ACTIONS  
(continued)

C.1

Condition C is the default Condition should Required Action A.1 or B.1 not be met within the associated Completion Time.

Required Action C.1 ensures that Required Actions for affected diesel generator inoperabilities are initiated. Depending on MODE, the Actions specified in LCO 3.8.1, "AC Sources—Operating," or LCO 3.8.2, are required to be entered immediately.

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SURVEILLANCE  
REQUIREMENTS

SR 3.3.8.1

A CHANNEL FUNCTIONAL TEST is performed on each required EDG LOPS channel to ensure the entire channel will perform the intended function. This test ensures functionality of each channel to output relays.

The Frequency of 31 days is considered reasonable based on the reliability of the components and on operating experience.

A temporary extension of the frequency has been made to indicate "31 days or 60 days" as the frequency. This temporary condition applies to a one-time performance of the surveillance on each diesel generator and will not be effective after November 23, 1997. The need for this temporary extension of the frequency became evident during replacement of the radiator on the EDGs. This activity had a minimum duration of 42 days, which was in excess of the 31 day frequency. Performance of the surveillance on one EDG with the other EDG inoperable because of the radiator replacement was considered as not the safest and most prudent course of action. A note has been added to the frequency to indicate that the 60-day frequency is not effective after November 23, 1997.

A Note has been added to allow performance of the SR without taking the ACTIONS for an inoperable instrumentation channel although during this time period the relay instrumentation cannot initiate a diesel start. This allowance is based on the assumption that 4 hours is the average time required to perform channel Surveillance. The 4 hour testing allowance does not significantly reduce the availability of the EDG.

(continued)

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BASES

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SURVEILLANCE  
REQUIREMENTS

SR 3.3.8.2

A CHANNEL CALIBRATION is a complete check of the instrument channel, including the sensor. The setpoints and the response to a loss of voltage and a degraded voltage test shall include a single point verification that the trip occurs within the required delay time, as shown in Reference 2.

The 18 month Frequency is based on operating experience and industry-accepted practice.

A Note has been added indicating the voltage sensing device (bus potential transformer) may be excluded from testing since these transformers are passive, inherently stable devices which cannot be calibrated. In the event of transformer failure, the corresponding degraded voltage or loss of voltage relays would trip on low voltage, actuating the associated channel (i.e., the channels fail in the safe condition). In addition, annunciation of failure of a single transformer or associated circuits would be provided via the channel monitor relay, identifying to the operator a failure within the loss of voltage or degraded voltage channels.

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REFERENCES

1. FSAR, Chapter 14.
  2. FSAR, Section 8.3.
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 157 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 August 4, 1997, Florida Power Corporation (FPC or the licensee), the licensee for the Crystal River Nuclear Generating Unit 3 (CR3) submitted a request to revise the CR3 technical specifications (TS) to extend the frequency for certain surveillances related to the emergency diesel generators (EDGs). Specifically, TS Surveillance Requirements (SR) 3.3.8.1, and SR 3.8.1.3, would be revised to extend the channel functional test surveillance frequency and the EDG operation, respectively, from 31 days to 60 days. The proposed TS amendment would be a one-time change and applicable until November 23, 1997. Pursuant to 10 CFR 50.91(a)(6)(vi), the licensee requested the Nuclear Regulatory Commission (NRC) staff to approve its proposed TS change on an exigent basis.

By letter dated August 16, 1997, the licensee modified its August 4, 1997 request and withdrew the proposed change to the SR 3.8.1.3. Accordingly, this safety evaluation addresses only the proposed change to the SR 3.3.8.1. The licensee's August 16, 1997, letter did not alter the staff's initial proposed no significant hazards consideration determination.

2.0 BACKGROUND

FPC is replacing the radiators of "A" and "B" EDGs at CR3 during the present outage as part of an upgrade to the ratings of both EDGs. This modification is being implemented on one EDG at a time, which makes the EDG inoperable. The performance of this work is scheduled for a minimum of 42 days. Because CR3 improved TS (ITS) surveillance requirements of 3.3.8.1, Channel Functional Test of EDG Loss of Power Start have a frequency of 31 days, the surveillance will be required during the replacement time of the radiator. During the performance of the surveillances, the EDG would be declared inoperable. The licensee considers that performing the SRs on one EDG while the other EDG is inoperable would reduce the overall defense in-depth, potentially reducing the safety margins. FPC's request is to change the frequency of the surveillance requirements from the current 31 days to 60 days. This request is for a one-time temporary change to be effective until November 23, 1997. After this date, the specifications will revert back to the current 31 days frequency.

### 3.0 EVALUATION

For the upgrade of the existing EDGs, the radiators are being replaced during the present outage. Thus, the EDG is in an out-of-service condition. A minimum of 42 days is needed to complete the replacement which may extend to an estimated 55 days if any one of several contingencies arises. The time to perform the replacement exceeds the TS surveillance interval of 31 days.

The surveillance with one EDG inoperable are possible, however, this is not desirable as both EDG "A" and EDG "B" will be inoperable. With both EDGs inoperable, a loss of the normal power could render the decay heat removal unavailable.

In addition, Surveillance Procedures SP-907A/B, "The Monthly Functional Test of 4160V ES 3.3.8.1 Undervoltage and Degraded Grid Relaying," which are used to perform SR 3.3.8.1 can lead to an increased potential for equipment malfunction or personnel error causing a loss of Decay Heat Removal capability. In fact, on February 7, 1995, the performance of the surveillance procedure SP-907A on 4160V ES Bus "A" resulted in an inadvertent EDG loss of power start signal and stripping of all loads from the bus.

Presently, CR3 is in a cold shutdown condition and extending the channel functional test from 31 to 60 days on a one-time basis is not expected to result in increased risk to the health and safety of the public. Also, given the potential detrimental effects on the heat removal function of performing this test with one EDG inoperable, the staff agrees that it is appropriate to extend the surveillance.

### 4.0 STATEMENT OF EXIGENT CIRCUMSTANCES

The licensee, in its August 4, 1997 application, requested that its proposed TS change be approved on an exigent basis.

The Commission's regulation as stated in 10 CFR 50.91, provides special exceptions for the issuance of amendments when the usual 30-day public notice cannot be met. One type of special exception is an exigency. An exigency is a case in which the staff and the licensee need to act quickly and time does not permit the Commission to allow 30 days for prior public comment. The NRC staff must also determine that the amendment request involves no significant hazards consideration, and the appropriateness of the conditions which resulted in the need for the exigent request.

Pursuant to 10 CFR 50.91(a)(6)(vi), the licensee provided an explanation of the conditions which resulted in the need for the exigent request and why it could not have been avoided. The discussion demonstrated the licensee's best efforts to make a timely application after becoming aware of the need for a license amendment.

Currently, CR3 is in Mode 5. As part of its EDG upgrade program, the licensee originally planned to replace the EDG radiator during its scheduled refuel outage in 1998. The licensee has now determined that a potential exists for the EDGs to exceed the design basis ambient temperature and as a result,

decided to implement the radiator replacement during the current outage. As the modification was finalized, the licensee discovered that the effort involved more extensive fabrication than originally anticipated.

FPC considered alternatives to resolve the problem of the radiator replacement work conflicting with the required surveillance intervals. The licensee also determined that the radiator replacement work is in a critical path activity and any delay would cause an extension of the outage. When it became evident that the most desirable action was to postpone performance of the EDG surveillances, the licensee promptly informed the NRC staff of the situation.

On the basis of the above discussion, the staff finds that (1) exigent circumstances exist, as provided for in 10 CFR 50.91(a)(6), in that the licensee and the Commission must act quickly and time does not permit the Commission to publish a Federal Register notice allowing 30 days for prior public comment, and (2) the licensee did not deliberately or negligently cause the exigent situation. The Commission noticed the licensee's application for amendments in the Federal Register on August 12, 1997 (62 FR 43189), at which time the Commission made a proposed finding that the amendments involved no significant hazards consideration and there has been no public comment in response to that notice.

#### 5.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

The Commission's regulations in 10 CFR 50.92 provide that the Commission may make a final determination that a license amendment involves no significant hazards considerations if operation of the facility in accordance with the amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

1. The proposed change will not significantly increase the probability or consequences of an accident previously evaluated.

An increase in the surveillance interval from 31 days to 60 days does not significantly decrease the reliability of the EDGs nor degrade their ability to perform their intended safety function when required. Based on data obtained over time the EDGs at CR-3 have an excellent record of availability. This extension of the interval will be applied to only one surveillance interval on each EDG and will not be in effect after November 23, 1997.

CR-3 obtains data from surveillance testing and operational experience and maintains records of the unavailability of the EDGs and the relays. CR-3 monitors a parameter referred to as Unavailability Performance Indicator, defined as the sum of known and estimated unavailable hours divided by hours system required. As a limited scope effort the records for 1994 through June, 1997 were reviewed. This data indicates very low values of the performance indicator, with the average value for the 14 quarters being 0.005. The yearly goal for this performance indicator was

met in the years reviewed. In total these records reflect low unavailability; i.e., high availability.

The EDG that is to remain operable during radiator replacement on the other diesel will be surveilled in accordance with SR 3.3.8.1 and SR 3.8.1.3 just prior to initiation of the EDG outage. This test will ensure its operability.

Based on the high availability of the EDGs at CR-3 and the fact that this is a one-time extension of the interval for each EDG, it is concluded that this requested extension of the surveillance interval will not result in a significant increased probability or consequences of previously evaluated accidents.

2. The proposed changes will not create the possibility of a new or different kind of accident from any accident previously evaluated.

This request for technical specification changes addresses the interval for performance of the surveillances on a one-time basis for each diesel generator. This requested change to the license by itself does not involve a modification to the EDG. The modifications of the EDGs to replace the radiator have been evaluated pursuant to 10 CFR 50.59. The conclusion of that evaluation is that the radiator replacement does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Based on the above FPC concludes that changing the surveillance frequency will not create the possibility of a new or different kind of accident.

3. The proposed change will not involve a significant reduction to the margin of safety.

As discussed above in item number one, the EDGs at CR-3 have a record of high availability. The high availability reflected in those records provides reasonable assurance that the operable EDGs will remain operable during the extended interval between surveillances. By not being required to perform the tests FPC will maintain a higher level of safety than would be possible if the tests were performed. Based on the high availability of the EDGs and the fact that this extension of the surveillance frequency is for one interval only FPC concludes that changing the surveillance interval does not result in a significant reduction to the margin of safety.

Based on its review, the staff concurs with the licensee's analysis and concludes that the three standards of 10 CFR 50.92(c) are satisfied. Based on the above, the commission has made a final determination that the proposed amendments involve no significant hazards consideration.

## 6.0 SUMMARY

On the basis of the above, the staff concludes that the proposed TS Change to 3.3.8.1 (Channel Functional Test) is acceptable.

## 6.0 STATE CONSULTATION

Based upon written notice of the proposed amendment, the Florida State official had no comments.

## 6.0 ENVIRONMENTAL CONSIDERATIONS

The amendment changes requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes the surveillance requirements. The NRC staff has determined that the amendments involve 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 amendments involve no significant hazards consideration, and there has been no public comment on such finding (62 FR 30632). Accordingly, the amendments meet 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 amendments.

## 7.0 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: Saba Saba, and L. Raghavan, NRR

Date: **August 29, 1997**