



Crystal River Nuclear Plant
Docket No. 50-302
Operating License No. DPR-72

Ref: 10 CFR 50.90

June 13, 2002
3F0602-01

Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Crystal River Unit 3 - License Amendment Request #273, Revision 0
Emergency Diesel Generator (EDG) Loss of Power Start (LOPS)

- References:
1. FPC to NRC letter, 3F0201-04, dated February 21, 2001, "License Amendment Request #265, Revision 0, Emergency Diesel Generator Loss of Power Start"
 2. NRC to FPC letter, 3N0202-02, dated January 29, 2002, "Crystal River Unit 3 - Issuance of Amendment to Revise the Emergency Diesel Generator Loss of Power Start Limiting Condition for Operation (TAC No. MB1222)"

Dear Sir:

Florida Power Corporation (FPC) hereby submits License Amendment Request (LAR) #273, Revision 0, requesting a change to the Crystal River Unit 3 (CR-3) Facility Operating License No. DPR-72 in accordance with 10 CFR 50.90. LAR #273 revises Improved Technical Specifications (ITS) 3.3.8, "Emergency Diesel Generator (EDG) Loss of Power Start (LOPS)."

By Reference 1, FPC submitted LAR #265, which proposed changes to ITS 3.3.8 to clarify the actions to be taken in the event that one or more channels of loss of voltage or degraded voltage EDG start functions become inoperable. LAR #265 was approved by the NRC and issued as License Amendment No. 202 to the CR-3 ITS in January 2002 (Reference 2).

FPC has subsequently discovered that LAR #265 specified an incorrect Completion Time for Required Action D.2 of ITS 3.3.8. This incorrect Completion Time is also specified in License Amendment No. 202. The changes proposed by LAR #273 will address this situation by replacing the incorrect Completion Time with a Completion Time that is consistent with that specified for similar Required Actions in other sections of the CR-3 ITS, as well as NUREG-1430, "Standard Technical Specifications: Babcock and Wilcox Plants." LAR #273 also corrects a typographical error in the Section Number for ITS 3.3.8 and clarifies the discussion in Bases Section B 3.3.8 for Actions D.1 and D.2 to recognize the applicability of ITS 3.3.8 in MODES 5 and 6.

No specific approval date for LAR #273 is requested. However, an implementation period of 30 days is requested following the date of issuance of the amendment.

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The CR-3 Plant Nuclear Safety Committee has reviewed this request and recommended it for approval.

This letter establishes no new regulatory commitments.

If you have any questions regarding this submittal, please contact Mr. Sid Powell, Supervisor, Licensing and Regulatory Programs at (352) 563-4883.

Sincerely,



Dale E. Young
Vice President, Crystal River Nuclear Plant

DEY/jal

Attachments:

- A. Description of Proposed Changes, Background and Reason for Request, and Evaluation of Request
- B. No Significant Hazards Consideration Determination
- C. Environmental Impact Evaluation
- D. Proposed Revised Improved Technical Specifications and Bases Change Pages - Strikeout / Shadow Format
- E. Proposed Revised Improved Technical Specifications and Bases Change Pages - Revision Bar Format

xc: Regional Administrator, Region II
Senior Resident Inspector
NRR Project Manager

STATE OF FLORIDA

COUNTY OF CITRUS

Dale E. Young states that he is the Vice President, Crystal River Nuclear Plant for Progress Energy; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information, and belief.

Dale E Young
Dale E. Young
Vice President
Crystal River Nuclear Plant

The foregoing document was acknowledged before me this 13th day of June, 2002, by Dale E. Young.

Lisa A Morris

Signature of Notary Public
State of Florida



LISA A. MORRIS
Notary Public, State of Florida
My Comm. Exp. Oct. 25, 2003
Comm. No. CC 879691

LISA A MORRIS

(Print, type, or stamp Commissioned
Name of Notary Public)

Personally X Produced
Known -OR- Identification

FLORIDA POWER CORPORATION

CRYSTAL RIVER UNIT 3

DOCKET NUMBER 50-302 / LICENSE NUMBER DPR-72

ATTACHMENT A

**LICENSE AMENDMENT REQUEST #273, REVISION 0
Emergency Diesel Generator (EDG) Loss of Power Start (LOPS)**

**Description of Proposed Changes, Background and
Reason for Request, and Evaluation of Request**

**LICENSE AMENDMENT REQUEST #273, REVISION 0
EMERGENCY DIESEL GENERATOR (EDG) LOSS OF POWER START (LOPS)**

Description of Proposed Changes

Crystal River Unit 3 (CR-3) proposes to revise Improved Technical Specifications (ITS) 3.3.8, "Emergency Diesel Generator (EDG) Loss of Power Start (LOPS)," by changing the Completion Time for Required Action D.2 from 12 hours to 36 hours.

ITS Bases Section B 3.3.8 will be revised to reflect this change. The wording of Bases Section B 3.3.8 for Actions D.1 and D.2 will also be clarified to recognize the applicability of ITS 3.3.8 in MODES 5 and 6 to support shutdown operation.

This License Amendment Request also corrects a typographical error in the Section Number of ITS 3.3.8 by changing 3.4 to 3.3.

Background and Reason for Request

In February 2001, Florida Power Corporation (FPC) submitted License Amendment Request (LAR) #265, "Emergency Diesel Generator Loss of Power Start." LAR #265 proposed changes to ITS 3.3.8 to clarify the actions to be taken in the event that one or more channels of loss of voltage or degraded voltage EDG start Functions become inoperable.

The CR-3 ITS 3.3.8 in effect at the time LAR #265 was submitted was identical to the EDG LOPS specification contained in NUREG-1430, "Standard Technical Specifications: Babcock and Wilcox Plants." As discussed in the LAR submittal, this standard guidance did not reflect the CR-3-specific configuration of the loss of voltage and degraded voltage actuation logic circuits or the interaction of the loss of voltage Function with the Engineered Safeguards Actuation System (ESAS) automatic actuation logic. As a result, the guidance in ITS 3.3.8 was not appropriate for all situations involving inoperable degraded voltage and loss of voltage start Functions.

The changes proposed by LAR #265 addressed these concerns by revising the Conditions, Required Actions, and Completion Times for ITS 3.3.8. These changes included a revised Condition D that specifies the Actions to be taken in the event that an inoperable channel of loss of voltage Function cannot be restored to OPERABLE status with 72 hours. Revised Condition D requires the plant to be placed in MODE 3 within 6 hours and MODE 5 within 12 hours.

LAR #265 was approved by the NRC and issued as License Amendment No. 202 to the CR-3 Technical Specifications in January 2002.

The revised ITS 3.3.8, Condition D Completion Times, were intended to replicate the standard guidance provided in NUREG-1430 and the CR-3 ITS to address Conditions where Required Actions and associated Completion Times for a specification cannot be met. For Limiting Conditions for Operation (LCOs) that are applicable in MODES 1-4, this guidance requires the plant to be placed in MODE 3 within 6 hours and MODE 5 within 36 hours. Revised ITS 3.3.8, Condition D.2 of LAR #265, incorrectly specified a 12 hour Completion Time for placing the plant in MODE 5. This error was identified by a member of the CR-3 Operations staff following

issuance of License Amendment No. 202. The changes proposed by LAR #273 will correct this error by replacing the 12 hour Completion Time currently specified in ITS 3.3.8 Condition D.2 with the standard 36 hour Completion Time for placing the plant in MODE 5.

The current discussions in Bases Section B 3.3.8 for Actions D.1 and D.2 imply that this LCO is no longer applicable with the plant in MODE 5. Bases Section B 3.3.3.8 for Actions D.1 and D.2 will be clarified to ensure consistency with the applicability requirements for shutdown operation.

In preparing LAR #265, the Section Number of ITS 3.3.8 was inadvertently changed from 3.3 to 3.4. LAR #273 also proposes to correct this typographical error.

Evaluation of Request

As discussed above, both NUREG-1430 and the CR-3 ITS provide standard guidance for situations where a Required Action and its associated Completion Time for a specification cannot be met. The time limits specified to reach lower MODES of operation permit the plant shutdown to proceed in a controlled and orderly manner that is well within the specified maximum cooldown rate and within the capabilities of the unit, assuming only the minimum required equipment is OPERABLE. This reduces thermal stresses on components of the Reactor Coolant System and reduces the potential for a plant upset that could challenge plant systems. Replacing the 12 hour Completion Time currently specified in ITS 3.3.8 Condition D.2 with the standard 36 hour Completion Time will allow the above criteria to be met in the event that a plant shutdown to MODE 5 is required, and will ensure consistency with both NUREG-1430 and similar guidance contained in other sections of the CR-3 ITS.

The loss of voltage and degraded voltage Functions for both EDGs are required to be OPERABLE in MODES 1 through 4 by ITS 3.3.8. In MODES 5 and 6, the loss of Voltage and degraded voltage Functions must also be operable for the EDG required to be OPERABLE by ITS 3.8.2, "AC Sources – Shutdown." The current Bases Section 3.3.8 discussions for Actions D.1 and D.2 imply that this LCO is no longer applicable with the plant in MODE 5. LAR #273 revises the wording of the Bases to eliminate this implication.

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ATTACHMENT B

**LICENSE AMENDMENT REQUEST #273, REVISION 0
Emergency Diesel Generator (EDG) Loss of Power Start (LOPS)**

No Significant Hazards Consideration Determination

NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

This license amendment proposes to revise Improved Technical Specifications (ITS) 3.3.8, "Emergency Diesel Generator (EDG) Loss of Power Start (LOPS)," by changing the Completion Time for Required Action D.2 from 12 hours to 36 hours.

ITS Bases Section B 3.3.8 will be revised to reflect this change. The wording of Bases Section B 3.3.8 for Actions D.1 and D.2 will also be clarified to recognize the applicability of ITS 3.3.8 in MODES 5 and 6 to support shutdown operation.

This License Amendment Request also corrects a typographical error in the Section Number of ITS 3.3.8 by changing 3.4 to 3.3.

Florida Power Corporation (FPC) has reviewed the proposed revisions to ITS 3.3.8 and Bases Section B 3.3.8 against the requirements of 10 CFR 50.92(c). The proposed changes do not involve a significant hazards consideration. In support of this conclusion, the following analysis is provided:

- (1) *Does not involve a significant increase in the probability or consequences of an accident previously analyzed.*

The proposed license amendment revises the Required Time to place the plant in MODE 5 if an inoperable loss of voltage Function for the emergency diesel generator (EDG) loss of power start (LOPS) cannot be restored to OPERABLE status, corrects a typographical error in the Section Number of ITS 3.3.8, and clarifies the wording of ITS Bases Section B 3.3.8 for Action D.1 and D.2 regarding the applicability of the specification during MODES 5 and 6.

The EDG LOPS is intended to protect engineered safeguards equipment from damage due to sustained undervoltage conditions, and to ensure rapid restoration of power to the engineered safeguards electrical buses in the event of a loss of offsite power. The EDG LOPS is not an initiator of any design basis accident. The design functions of the EDG LOPS and the initial conditions for accidents that require an EDG LOPS will not be affected by the change. Therefore, the change will not increase the probability or consequences of an accident previously evaluated.

- (2) *Does not create the possibility of a new or different kind of accident from any accident previously analyzed.*

The proposed amendment involves no changes to the design functions or operation of the EDG LOPS. Editorial corrections, clarification of the wording in Bases Section B 3.3.8, or changing the Required Completion Time for placing the plant in MODE 5 when an inoperable loss of voltage function cannot be restored will not introduce any new failure mechanisms, malfunctions or accident initiators. Therefore, the proposed change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

- (3) *Does not involve a significant reduction in the margin of safety.*

The proposed change corrects a typographical error, clarifies the wording of Bases Section B 3.3.8 for Actions D.1 and D.2, and revises the required Completion Time to place the plant in MODE 5. The revised Completion Time will allow the plant to be shutdown in an orderly fashion without challenging plant systems or plant cooldown limits. The proposed change does not change the design or operation of the EDG LOPS, and does not impact the ability of the EDG LOPS to perform its design functions. Thus, the proposed amendment will not result in a reduction in the margin of safety.

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ATTACHMENT C

**LICENSE AMENDMENT REQUEST #273, REVISION 0
Emergency Diesel Generator (EDG) Loss of Power Start (LOPS)**

Environmental Impact Evaluation

Environmental Impact Evaluation

10 CFR 51.22(c)(9) provides criteria for and identification of licensing and regulatory actions eligible for categorical exclusion from performing an environmental assessment. A proposed amendment to an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant hazards consideration, (2) result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (3) result in a significant increase in individual or cumulative occupational radiation exposure.

Florida Power Corporation (FPC) has reviewed this license amendment request and has determined that it meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(c), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of the proposed license amendment. The basis for this determination is as follows:

1. The proposed license amendment does not involve a significant hazards consideration as described previously in the no significant hazards evaluation for this License Amendment Request (LAR).
2. The proposed license amendment revises the Required Time to place the plant in MODE 5 if an inoperable loss of voltage Function for the emergency diesel generator (EDG) loss of power start (LOPS) cannot be restored to OPERABLE status within 72 hours, corrects a typographical error in the Section Number for ITS 3.3.8 and clarifies the wording in Bases Section B 3.3.8 for Actions D.1 and D.2 regarding the applicability of the specification during MODES 5 and 6. The EDG LOPS Functions do not interface with any plant systems that are involved in the generation or processing of radioactive fluids. Therefore, the proposed license amendment will not result in a significant change in the types or increase in the amounts of any effluents that may be released off-site.
3. The proposed changes do not involve equipment that interfaces with radiologically contaminated systems. The proposed change does not require operator or other actions that could increase occupational radiation exposure. Therefore, the proposed license amendment will not result in a significant increase to the individual or cumulative occupational radiation exposure.

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ATTACHMENT D

**LICENSE AMENDMENT REQUEST #273, REVISION 0
Emergency Diesel Generator (EDG) Loss of Power Start (LOPS)**

**Proposed Revised Improved Technical Specifications and Bases
Change Pages**

Strikeout / Shadow Format

Strikeout Text	Indicates deleted text
Shadowed text	Indicates added text

3.4.3 INSTRUMENTATION

3.3.8 Emergency Diesel Generator (EDG) Loss of Power Start (LOPS)

LCO 3.3.8 Three channels of loss of voltage Function and three channels of degraded voltage Function EDG LOPS instrumentation per EDG shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4,
When associated EDG is required to be OPERABLE by LCO 3.8.2
"AC Sources-Shutdown."

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One channel of loss of voltage Function per EDG inoperable.	A.1 Restore the channel to OPERABLE status.	72 hours
B. One or two channels of degraded voltage Function per EDG inoperable.	B.1 Place the channel(s) in trip.	1 hour
C. Two or more channels of loss of voltage Function per EDG inoperable or three channels of degraded voltage Function per EDG inoperable.	C.1 Enter applicable Condition(s) and Required Action for EDG made inoperable by EDG LOPS.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A not met.	D.1 Be in Mode 3. <u>AND</u>	6 hours
	D.2 Be in Mode 5.	12 36 hours
E. Required Action and associated Completion Time of Condition B not met.	E.1 Enter applicable Condition(s) and Required Action for EDG made inoperable by EDG LOPS.	Immediately

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 is not required provided the applicable Condition(s) and Required Actions for the EDG made inoperable by EDG LOPS are entered. ----- Perform CHANNEL FUNCTIONAL TEST.</p>	31 days
<p>SR 3.3.8.2 -----NOTE----- Voltage sensors may be excluded from CHANNEL CALIBRATION. ----- Perform CHANNEL CALIBRATION with setpoint Allowable Value as follows: a. Degraded voltage ≥ 3933 and ≤ 3970 V with a time delay of 5.0 seconds ± 0.5 seconds; and b. Sudden loss of voltage from full voltage to 0.0 V with a time delay of 7.8 seconds ± 0.55 seconds at 0.0 V.</p>	18 months

BASES

ACTIONS
(continued)

D.1 and D.2

If the inoperable channel cannot be restored to OPERABLE status within the associated Completion Time, ~~the plant must be placed in a MODE in which the LCO does not apply. To achieve this status,~~ the plant must be placed in at least MODE 3 within 6 hours and in MODE 5 within ~~12~~ **36** hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required MODES from full power conditions in an orderly manner and without challenging plant systems.

E.1

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

Required Action E.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.

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 Note has been added to allow performance of the SR without taking the ACTIONS for inoperable instrumentation channels although during this time period the relay instrumentation cannot initiate a diesel start. This allowance is based on the assumption that the EDG is maintained inoperable during this functional test and the appropriate actions for the inoperable EDG are entered.

(continued)

FLORIDA POWER CORPORATION

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ATTACHMENT E

**LICENSE AMENDMENT REQUEST #273, REVISION 0
Emergency Diesel Generator (EDG) Loss of Power Start (LOPS)**

**Proposed Revised Improved Technical Specifications and Bases Change
Pages**

Revision Bar Format

3.3 INSTRUMENTATION

3.3.8 Emergency Diesel Generator (EDG) Loss of Power Start (LOPS)

LCO 3.3.8 Three channels of loss of voltage Function and three channels of degraded voltage Function EDG LOPS instrumentation per EDG shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4,
When associated EDG is required to be OPERABLE by LCO 3.8.2
"AC Sources-Shutdown."

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One channel of loss of voltage Function per EDG inoperable.	A.1 Restore the channel to OPERABLE status.	72 hours
B. One or two channels of degraded voltage Function per EDG inoperable.	B.1 Place the channel(s) in trip.	1 hour
C. Two or more channels of loss of voltage Function per EDG inoperable or three channels of degraded voltage Function per EDG inoperable.	C.1 Enter applicable Condition(s) and Required Action for EDG made inoperable by EDG LOPS.	Immediately

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A not met.	D.1 Be in Mode 3. <u>AND</u>	6 hours
	D.2 Be in Mode 5.	36 hours
E. Required Action and associated Completion Time of Condition B not met.	E.1 Enter applicable Condition(s) and Required Action for EDG made inoperable by EDG LOPS.	Immediately

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 is not required provided the applicable Conditions(s) and Required Actions for the EDG made inoperable by EDG LOPS are entered. -----</p> <p>Perform CHANNEL FUNCTIONAL TEST.</p>	31 days
<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 ≥ 3933 and ≤ 3970 V with a time delay of 5.0 seconds ± 0.5 seconds; and</p> <p>b. Sudden loss of voltage from full voltage to 0.0 V with a time delay of 7.8 seconds ± 0.55 seconds at 0.0 V.</p>	18 months

BASES

ACTIONS
(continued)

D.1 and D.2

If the inoperable channel cannot be restored to OPERABLE status within the associated Completion Time, the plant must be placed in at least MODE 3 within 6 hours and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required MODES from full power conditions in an orderly manner and without challenging plant systems.

E.1

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

Required Action E.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.

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 Note has been added to allow performance of the SR without taking the ACTIONS for inoperable instrumentation channels although during this time period the relay instrumentation cannot initiate a diesel start. This allowance is based on the assumption that the EDG is maintained inoperable during this functional test and the appropriate actions for the inoperable EDG are entered.

(continued)