December 14, 1987

Docket No. 50-302

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Mr. W. S. Wilgus
Vice President, Nuclear Operations
Florida Power Corporation
ATTN: Manager, Nuclear Licensing
P. O. Box 219
Crystal River, Florida 32629

Dear Mr. Wilgus:

SUBJECT: CRYSTAL RIVER UNIT 3 - ISSUANCE OF AMENDMENT (TAC NO. 65520)

The Commission has issued the enclosed Amendment No. 102 to Facility Operating License No. DPR-72 for the Crystal River Unit No. 3 Nuclear Generating Plant (CR-3). This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated May 20, 1987.

This amendment reflects the installation of a dedicated emergency feedwater (EFW) tank which will serve as the primary source of water for the emergency feedwater system, and updates the Bases to reflect the installation of the dedicated emergency feedwater tank and the analysis clarifications which are based on improved understanding of the length of time and amount of feedwater required for cooldown following a postulated loss of offsite power.

A copy of the Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly Federal Register notice.

Sincerely,

Original signed by

Harley Silver, Project Manager
Project Directorate II-2
Division of Reactor Projects-I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 102 to DPR-72
2. Safety Evaluation

cc w/enclosures:
See next page

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

December 14, 1987

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Vice President, Nuclear Operations
Florida Power Corporation
ATTN: Manager, Nuclear Licensing
P. O. Box 219
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Harley Silver, Project Manager
Project Directorate II-2
Division of Reactor Projects-I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 102 to DPR-72
2. Safety Evaluation

cc w/enclosures:
See next page

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

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
SEBRING UTILITIES COMMISSION
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. 102
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 May 20, 1987, 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 by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-72 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 102 , 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.

FOR THE NUCLEAR REGULATORY COMMISSION

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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 14, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 102

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 overleaf pages are also provided to maintain document completeness.

Remove	Insert
VI	VI
3/4 7-6	3/4 7-6
B3/4 7-2	B3/4 7-2

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LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

PLANT SYSTEMS

EMERGENCY FEEDWATER TANK

LIMITING CONDITION FOR OPERATION

3.7.1.3 The emergency feedwater tank shall be OPERABLE with a minimum contained volume of 150,000 gallons of water.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

With the emergency feedwater tank inoperable, within 4 hours, either:

a. Restore the emergency feedwater tank to OPERABLE status or be in HOT SHUTDOWN within the next 12 hours, or

b. Demonstrate the OPERABILITY of the condenser hotwell as a backup supply to the emergency feedwater system and restore the emergency feedwater tank to OPERABLE status within 7 days or be in HOT SHUTDOWN within the next 12 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.3.1 The emergency feedwater tank shall be demonstrated OPERABLE at least once per 12 hours by verifying the contained water volume to be within its limits when the tank is the supply source for the emergency feedwater pumps.

4.7.1.3.2 The condenser hotwell shall be demonstrated OPERABLE at least once per 12 hours by verifying a minimum contained volume of 150,000 gallons of water whenever the condenser hotwell is the supply source for the emergency feedwater system.

3/4.7 PLANT SYSTEMS

BASES

3/4.7.1 TURBINE CYCLE

3/4.7.1.1 SAFETY VALVES

The OPERABILITY of the main steam line code safety valves ensures that the secondary system pressure will be limited to within its design pressure of 1050 psig during the most severe anticipated system operational transient. The maximum relieving capacity is associated with a turbine trip from 100% RATED THERMAL POWER coincident with an assumed loss of condenser heat sink (i.e., no steam bypass to the condenser).

The specified valve lift settings and relieving capacities are in accordance with the requirements of Section III of the ASME Boiler and Pressure Vessel Code, 1971 Edition. The total relieving capacity for all valves on all of the steam lines is 13,007,774 lbs/hr which is 118.3 percent of the total secondary steam flow of 11.0 x 10^6 lbs/hr at 100% RATED THERMAL POWER.

STARTUP and/or POWER OPERATION is allowable with safety valves inoperable within the limitations of the ACTION requirements on the basis of the reduction in secondary system steam flow and THERMAL POWER required by the reduced reactor trip settings of the Nuclear Overpower channels. The reactor trip setpoint reductions are derived on the following bases:

$$SP = \left[\frac{X - AY}{X^1} \right] \times NOTS$$

where: SP = reduced Nucelar Overpower Trip Setpoint in percent of Rated Thermal Power.

X = total actual relieving capacity of each steam generator in lbs/hr (6,503,887 lbs/hr).

A = maximum number of inoperable safety valves per steam generator.

Y = maximum relieving capacity of each of the larger capacity safety valves in lbs/hr (845,759 lbs/hr).

X^1 = total required relieving capacity of each steam generator for 112% Rated Thermal Power in lbs/hour (6,160,000 lbs/hr).

NOTS = Nuclear Overpower Trip Setpoint specified in Table 2.2.1.

3/4.7.1.2 EMERGENCY FEEDWATER SYSTEMS

The OPERABILITY of the emergency feedwater systems ensures that the Reactor Coolant system can be cooled down to less than 280°F from normal operating conditions in the event of a total loss of offsite power.

Each emergency feedwater pump is capable of delivering a total feedwater flow of 740 gpm at a pressure of 1144 psig to the entrance of the steam generators. This capacity is sufficient to ensure that adequate feedwater flow is available to remove decay heat and reduce the Reactor Coolant System temperature to less than 280°F where the Decay Heat Removal System may be placed into operation.

3/4.7.1.3 EMERGENCY FEEDWATER TANK

The OPERABILITY of the emergency feedwater tank with the minimum water volume ensures that sufficient water is available for heat removal from the Reactor Coolant System in the event of a total loss of offsite power or of the main feedwater system. The Reactor Coolant System can be maintained in HOT STANDBY conditions by natural circulation using the emergency feedwater system. The heat removal path for natural circulation involves primary coolant flow from the Reactor Coolant System to the steam generators. Heat is transferred to the emergency feedwater which flashes to steam and is subsequently discharged through the atmospheric dump valves. The minimum water volume in the emergency feedwater tank is sufficient to maintain HOT STANDBY conditions for approximately 18 hours. This period of time is considered adequate to allow plant conditions to be stabilized and another source of water (the condenser hotwell or the condensate storage tank) be made available to complete natural circulation cooldown to decay heat removal conditions. The contained water volume limit is the useable water volume of the emergency feedwater tank.

3/4.7.1.4 ACTIVITY

The limitations on secondary system specific activity ensure that the resultant offsite radiation dose will be limited to a small fraction of 10 CFR Part 100 limits in the event of a steam line rupture. This dose includes the effects of a coincident 1.0 GPM primary to secondary tube leak in the steam generator of the affected steam line. These values are consistent with the assumptions used in the safety analyses.

3/4.7.1.5 MAIN STEAM LINE ISOLATION VALVES

The OPERABILITY of the main steam line isolation valves ensures that no more than one steam generator will blowdown in the event of a steam line rupture. This restriction is required to 1) minimize the

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 102 TO FACILITY OPERATING LICENSE NO. DPR-72

FLORIDA POWER CORPORATION, ET AL.

CRYSTAL RIVER UNIT NO. 3 NUCLEAR GENERATING PLANT

DOCKET NO. 50-302

BACKGROUND

By letter dated May 20, 1987, Florida Power Corporation (FPC) proposed changes to the Technical Specifications (TSs) for the Crystal River Unit No. 3 Nuclear Generating Plant. The proposed changes (1) reflect the installation of a dedicated emergency feedwater (EFW) tank which will serve as the primary source of water for the emergency feedwater system, and (2) update the Bases to reflect the installation of the dedicated emergency feedwater tank and the analysis clarifications which are based on improved understanding of the length of time and amount of feedwater required for cooldown following a postulated loss of offsite power.

DISCUSSION

The dedicated EFW tank, previously reviewed by the NRC staff, has been designed to meet or exceed the design requirements of the existing condensate storage tank. It is a seismic Category I structure and provides protection against tornado missiles, as well as wind and wave loads. The condenser hotwell remains the backup supply with corresponding surveillance requirements. The proposed changes to the Crystal River TS Sections 3.7.1.3, 4.7.1.3.1 and 4.7.1.3.2 are identical to the current sections with "emergency feedwater tank" substituted for "condensate storage tank". The staff finds these changes acceptable.

The proposed changes to the Bases Section 3/4.7.1.3 make it a more detailed discussion of how the EFW tank supply is used and its limitations. The staff finds these changes acceptable.

Therefore, modifications to the TS and Bases proposed in this amendment by FPC for the Crystal River Nuclear Plant, Unit 3 concerning the EFW tank are judged by the NRC staff to be adequate and acceptable.

ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. We have determined that the amendment involves 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets 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 this amendment.

CONCLUSION

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: December 14, 1987

Principal Contributor:

John O. Schiffgens