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Mr. John A. Hancock
Vice President, Nuclear Operations
Florida Power Corporation
ATTN: Manager, Nuclear Licensing
P. O. Box 14042, M.A.C. H-2
St. Petersburg, Florida 33733

Dear Mr. Hancock:

The Commission has issued the enclosed Amendment No. 54 to Facility Operating License No. DPR-72 for the Crystal River Unit No. 3 Nuclear Generating Plant. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated March 21, 1979, as supplemented November 27, 1979, and February 15, 1980 (Change Request 35). A change to your proposed TSs as discussed with and agreed to by your staff has been made.

The amendment revises the TS requirements for nuclear overpower trip setpoints.

Copies of the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

original signed by

Sydney Miner, Senior Project Manager
Operating Reactors Branch #4
Division of Licensing

Enclosures:
1. Amendment No. 54
2. Safety Evaluation
3. Notice

cc w/enclosures:
See next page

F.R. NOTICE + AMEND.

OFFICE	ORB#4:DL	ORB#4:DL	C-ORB#4:DL	AD-OR:DL	OELD		
SURNAME	RIngram	SMiner/cb	JStolz	TNovak	M.Karman		
DATE	7/2/82	7/7/82	7/8/82	7/8/82	7/9/82		

cc w/enclosure(s):
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Florida Power Corporation
Vice President and General Counsel
P. O. Box 14042
St. Petersburg, Florida 33733

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Board of County Commissioners
Citrus County
Iverness, Florida 36250

Regional Radiation Representative
EPA Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30308

Crystal River Public Library
668 N. W. First Avenue
Crystal River, Florida 32629

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Crystal River, Florida 32629

Mr. T. C. Lutkehaus
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Florida Power Corporation
P. O. Box 219
Crystal River, Florida 32629

cc w/enclosure(s) & incoming dtd.:
3/21 & 11/27/79, 2/15/80
Bureau of Intergovernmental Relations
660 Apalachee Parkway
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Administrator
Department of Environmental Regulation
Power Plant Siting Section
State of Florida
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Tallahassee, Florida 32301

Attorney General
Department of Legal Affairs
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Tallahassee, Florida 32304

Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission, Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

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. 54
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 March 21, 1979, as supplemented November 27, 1979, and February 15, 1980, 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:

   (2) Technical Specifications

   The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 54, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: July 14, 1982

ATTACHMENT TO LICENSE AMENDMENT NO. 54

FACILITY OPERATING LICENSE NO. DPR-72

DOCKET NO. 50-302

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed 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.

3/4 7-2

B3/4 7-1

3/4.7 PLANT SYSTEMS

3/4.7.1 TURBINE CYCLE

SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.1 All main steam line code safety valves shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

With one or more main steam line code safety valves inoperable, operation in MODES 1, 2 and 3 may proceed provided, that within 4 hours, either the inoperable valve is restored to OPERABLE status or the Nuclear Overpower Trip Setpoint is reduced per Table 3.7-1; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.1 No additional Surveillance Requirements other than those required by Specification 4.0.5, are applicable for the main steam line code safety valves of Table 4.7-1.

TABLE 3.7-1

MAXIMUM ALLOWABLE NUCLEAR OVERPOWER TRIP SETPOINT WITH INOPERABLE STEAM LINE SAFETY VALVES

Maximum Number of Inoperable Safety Valves on Any Steam Generator	Maximum Allowable Nuclear Overpower Trip Setpoint (Percent of RATED THERMAL POWER)
1	96.9
2	82.4
3	67.9

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 11.0×10^6 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:

$$SP = \left[\frac{X - AY}{X^1}\right] \times 105.5$$

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

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

A = maximum number of inoperable safety valves per steam generator

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

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

105.5 = 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.

The electric driven 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. Each steam driven 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 CONDENSATE STORAGE TANK

The OPERABILITY of the condensate storage tank with the minimum water volume ensures that sufficient water is available for cooldown of the Reactor Coolant System to less than 280°F in the event of a total loss of offsite power or of the main feedwater system. The minimum water volume is sufficient to maintain the RCS at HOT STANDBY conditions for 24 hours with steam discharge to atmosphere concurrent with loss of offsite power. The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics.

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. 54 TO FACILITY OPERATING LICENSE NO. DPR-72

FLORIDA POWER CORPORATION, ET AL

CRYSTAL RIVER UNIT NO. 3 NUCLEAR GENERATING PLANT

DOCKET NO. 50-302

Introduction

By letter dated March 21, 1979, as supplemented November 27, 1979, and February 15, 1980, Florida Power Corporation (FPC) requested amendment of Appendix A to the Crystal River Unit No. 3 (CR-3) operating license to revise the Technical Specification (TS) requirements for nuclear overpower trip setpoints.

Evaluation

FPC proposes raising the maximum allowable nuclear overpower trip setpoints when one, two, or three main steam line safety valves (MSLSVs) are inoperable. The reason for the above proposed changes is to take credit for the fact that the actual relieving capacity of the MSLSVs is more than 6% in excess of the required relieving capacity presented in the Final Safety Analysis Report (FSAR). Raising the trip setpoints for the cases of one, two, or three inoperable MSLSVs will enhance the maneuverability of the plant.

CR-3 has a total of 16 MSLSVs, eight on each main steam line; seven valves relieve 845,759 lbs/hr each and one valve relieves 583,574 lbs/hr. The total relieving capacity of the 16 valves equals 13,007,774 lbs/hr. This value is 118.3% of the total secondary steam flow which is 11.0×10^6 lbs/hr at 100% rated thermal power.

At the present time, with all 16 MSLSVs operable, the nuclear overpower trip setpoint is 105.5%. At this setpoint, considering the measuring error, the maximum actual thermal power could be as high as 112% of the rated value, i.e., a relieving capacity of 112% of the total rated steam flow is therefore required.

The TSs require: "With one or more main steam line code safety valves inoperable, operation in MODES 1, 2 and 3 may proceed provided, that within 4 hours, either the inoperable valve is restored to OPERABLE status or the nuclear overpower trip setpoint is reduced per Table 3.7-1; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours". Presently the reactor trip setpoint reductions are derived based on the following equation:

$$S = \frac{A - NB}{C} \times 105.5\% \qquad (1)$$

where: S= Reduced nuclear overpower trip setpoint in percent of rated thermal power.

A = Required relieving capacity of all safety valves per steam generator to relieve 112% of rated steam generation rate, lbs/hr.

N = Maximum number of inoperable safety valves per steam generator.

B = Maximum actual relieving capacity of any one safety valve, lbs/hr.

C = Total actual relieving capacity of all safety valves per steam generator (118% of rated steam generation rate), lbs/hr.

105.5% = Nuclear overpower trip setpoint specified for an all-operable safety valves condition.

Equation (1) above results in the trip setpoints currently listed in the TSs. This equation uses a conservatively low remaining safety valves relief capacity and a conservatively high required relief capacity. FPC's proposed change modifies equation (1) as follows:

$$S^1 = \frac{C - NB}{A} \times 105.5\% \qquad (2)$$

where the variables on the righthand side have the same values as those for equation (1) above. Equation (2) uses the actual remaining safety valves relief capacity and the maximum required relief capacity. The modification in equation (2) increases the numerator value and decreases the denominator value, consequently resulting in higher nuclear overpower trip setpoints as indicated in the proposed change to Table 3.7-1 of the TSs. We find the modified trip setpoints acceptable because they are consistent with valve relief capacities.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant reduction in a margin of safety, the amendment does not involve a

significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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: July 14, 1982

The following NRC personnel have contributed to this Safety Evaluation: S. Diab, P. Erickson.

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-302

FLORIDA POWER CORPORATION, ET AL

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 54 to Facility Operating License No. DPR-72, issued to the 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., and the City of Tallahassee (the licensees) which revised the Technical Specifications (TSs) for operation of the Crystal River Unit No. 3 Nuclear Generating Plant (the facility) located in Citrus County, Florida. The amendment is effective as of the date of issuance.

This amendment revises the TS requirements for overpower trip setpoints.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior

public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated March 21, 1979, as supplemented November 27, 1979, and February 15, 1980, (2) Amendment No. 54 to License No. DPR-72, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. 20555, and at the Crystal River Public Library, 668 N. W. First Avenue, Crystal River, Florida. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 14th day of July 1982.

FOR THE NUCLEAR REGULATORY COMMISSION

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing