

July 23, 1985

Docket No. 50-302

DISTRIBUTION

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Dear Mr. Wilgus:

The Commission has issued the enclosed Amendment No. 79 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 1, 1985, as supplemented June 14, 1985, June 19, 1985, and July 8, 1985.

This amendment allows for:

- (1) Actuation testing of the High Pressure Injection pumps and valves (HPI) in Mode 6 (Refueling), effective prior to entry into Mode 3 during the Cycle 6 startup;
- (2) Performance of HPI Flow Balance Test during Mode 3 (Hot Standby);
- (3) Emergency Diesel Generator (EDG) Load Tests during Mode 3;
- (4) A one-time waiver of the 18-month requirement for certain EDG Load Tests until Mode 3 during startup for Cycle 6.

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

Sincerely,

original signed by

Harley Silver, Project Manager
Operating Reactors Branch #4
Division of Licensing

Enclosures:

- 1. Amendment No. 79 to DPR-72
- 2. Safety Evaluation

cc w/enclosures:
See next page

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RIngram
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Mr. W. S. Wilgus
Florida Power Corporation

Crystal River Unit No. 3 Nuclear
Generating Plant

cc:

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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. 79
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 1, 1985, as supplemented June 14, 1985, June 19, 1985, and July 8, 1985, 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.

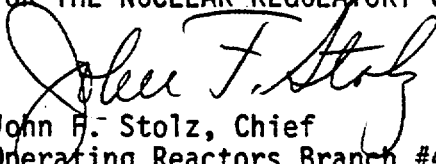
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-72 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 79, 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, except that the change to Technical Specification 4.5.2.f shall be effective prior to entry into Mode 3 during the startup for Cycle 6.

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 23, 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 79

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.

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EMERGENCY CORE COOLING SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying the correct position of each mechanical position stop for each of the stop check valves listed in Specification 4.5.2.c.
3. Verifying that the flow controllers for the throttle valves listed in Specification 4.5.2.d operate properly.
4. A visual inspection of the containment emergency sump which verifies that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or corrosion.
5. Verifying a total leak rate less than or equal to 6 gallons per hour for the LPI system at:
 - a) Normal operating pressure or a hydrostatic test pressure of greater than or equal to 150 psig for those parts of the system downstream of the pump suction isolation valve, and
 - b) Greater than or equal to 55 psig for the piping from the containment emergency sump isolation valve to the pump suction isolation valve.
- f. At least once per 18 months, in MODE 6, by
 1. Verifying that each automatic valve in the flow path actuates to its correct position on a high pressure or low pressure safety injection test signal, as appropriate.
 2. Verifying that each HPI and LPI pump starts automatically upon receipt of a high pressure or low pressure safety injection test signal, as appropriate.
- g. Following completion of HPI or LPI system modifications that could have altered system flow characteristics¹, by performance of a flow balance test during shutdown to confirm the following injection flow rates into the Reactor Coolant System:

HPI System - Single Pump²

Single pump flow rate greater than or equal to 500 gpm at 600 psig.

While injecting through 4 Injection Legs, the flow rate for all combinations of 3 Injection Legs greater than or equal to 350 gpm at 600 psig.

LPI System - Single Pump

1. Injection Leg A - 2800 to 3100 gpm.

2. Injection Leg B - 2800 to 3100 gpm.

¹Flow balance tests performed prior to complete installation of modifications are valid if performed with the system change that could alter flow characteristics in effect.

²The HPI Flow Balance Test shall be performed in MODE 3.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS

- c. Demonstrated OPERABLE by determining that each battery supplying DC control power to the 230kv switchyard breakers is OPERABLE;
1. At least once per 7 days by verifying that:
 - a) The electrolyte level of each pilot cell is between the minimum and maximum level indication marks,
 - b) The pilot cell specific gravity, corrected to 77°F, and full electrolyte level is ≥ 1.20 .
 - c) The pilot cell voltage is ≥ 2.15 volts, and
 - d) The overall battery voltage is ≥ 120 volts.
 2. At least once per 92 days by verifying that:
 - a) The voltage of each connected cell is ≥ 2.15 volts under float charge and has not decreased more than 0.10 volts from the value observed during the base-line tests, and
 - b) The specific gravity, corrected to 77°F, and full electrolyte level of each connected cell is ≥ 1.20 and has not decreased more than 0.01 from the value observed during the previous tests, and
 - c) The electrolyte level of each connected cell is between the minimum and maximum level indication marks.
 3. At least once per 18 months by verifying that:
 - a) The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration.
 - b) The cell-to-cell and terminal connections are clean, tight and coated with anti-corrosion materials,
 - c) The battery charger will supply at least 95 amperes at 125 volts for at least 2 hours.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4. At least once per 18 months, by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status all of the actual emergency loads for 1 hour when the battery is subjected to a battery service test.
 5. At least once per 60 months, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. This performance discharge test shall be performed subsequent to the satisfactory completion of the required battery service test.
- 4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:
- a. At least once per 31 days on a STAGGERED TEST BASIS by:
 1. Verifying the fuel level in the day fuel tank,
 2. Verifying the fuel level in the fuel storage tank,
 3. Verifying the fuel transfer pump can be started and transfers fuel from the storage system to the day tank,
 4. Verifying the diesel starts from ambient condition and accelerates to at least 900 rpm in less than or equal to 10 seconds,
 5. Verifying the generator is synchronized, loaded to greater than or equal to 1500 kw, and operates for greater than or equal to 60 minutes, and
 6. Verifying the diesel generator is aligned to provide standby power to the associated emergency busses.
 - b. At least once each 92 days by verifying that a sample of diesel fuel from the fuel storage tank is within the acceptable limits specified in Table 1 of ASTM D975-68 when checked for viscosity, water and sediment.
 - c. At least once per 18 months by
 1. Subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service,



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 79 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 letters dated May 1, 1985, June 14, 1985, June 19, 1985, and July 8, 1985, Florida Power Corporation, et al. (the licensee) made application to amend the Technical Specifications (TSs) for Crystal River Unit No. 3 Nuclear Generating Plant to resolve conflicts between the TSs and commitments made to NRC staff with regard to overpressurization protection of the reactor vessel at low temperatures. The amendment request includes revisions to allow the following:

1. High Pressure Injection (HPI) pumps and valves to be tested during Mode 6, REFUELING, except for the startup for Cycle 6
2. High Pressure Injection Flow Balance Test to be performed during Mode 3, HOT STANDBY
3. The Emergency Diesel Generator (EDG) Load Test to be performed during Mode 3, HOT STANDBY
4. A one-time waiver of the 18-month frequency requirement for TS 4.8.1.1.2.c.3 and 5 until Mode 3 during startup for Cycle 6, with the subject tests being performed in Mode 3

2.0 Discussion and Evaluation

TS 4.5.2.f., regarding the actuation of valves and startup of pumps in the HPI system, required that this testing be accomplished during shutdown. This requirement conflicted with a commitment that HPI discharge valves are closed and "racked out" below 280°F in order to provide low temperature overpressurization protection. However this commitment would not permit HPI actuation testing to be performed since the Reactor Coolant System (RCS) temperature is always below 280°F in Modes 4 and 5. If the testing were performed in Mode 6 instead of during Modes 4 or 5, low temperature overpressurization protection could be assured because the RCS cannot be overpressurized when the reactor vessel head is removed. Therefore, the proposed amendment would allow the HPI pumps and valves to be tested only during Mode 6. This is acceptable because it allows the necessary tests to be performed while still providing protection from overpressurization at low temperatures.

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying the generator capability to reject a load of ≥ 515 kw without tripping.
 - # * 3. Simulating a loss of offsite power in conjunction with Reactor Building high pressure and Reactor Building high-high pressure tests signals, and;
 - a) Verifying de-energization of the emergency busses and load shedding from the emergency busses,
 - b) Verifying that the 4160 v. emergency bus tie breakers open,
 - c) Verifying the diesel starts from ambient condition on the auto-start signal, energizes the emergency busses with permanently connected loads, energizes the auto-connected emergency loads through the load sequencer, and operates for ≥ 5 minutes while its generator is loaded with the emergency loads.
 4. Verifying the diesel generator operates for ≥ 60 minutes while loaded to ≥ 3000 kw,
 - ** 5. Verifying that the auto-connected loads to each diesel generator do not exceed the 2000 hour rating of 3000 kw, and
 6. Verifying that the automatic load sequence timers are OPERABLE with each load sequence time interval within $\pm 10\%$.
-

* This test shall be performed in MODE 3

The specified 18 month frequency may be waived for Cycle VI startup

ELECTRICAL POWER SYSTEMS

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

- a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and
- b. One diesel generator with:
 1. Day fuel tank containing a minimum volume of 400 gallons of fuel,
 2. A fuel storage system containing a minimum volume of 20,300 gallons of fuel, and
 3. A fuel transfer pump.

APPLICABILITY: MODES 5 and 6.

ACTION:

With less than the above minimum required A.C. electrical power sources OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes until the minimum required A.C. electrical power sources are restored to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by performance of each of the Surveillance Requirements of 4.8.1.1.1 and 4.8.1.1.2, except requirement 4.8.1.1.2.a.5.

For the startup for Cycle 6 only, one Emergency Core Cooling System (ECCS) train will not be available for testing prior to leaving Mode 6. The licensee has proposed in its letter dated July 8, 1985, to test the HPI pumps and valves for one train in Mode 4, as provided by the current TS. The valves (4.5.2.f.1) will be "racked in" and the "A" train pump will be shutdown and pump breaker "racked out". Double valve isolation between the operating pump and the RCS will be maintained. For the pump test (4.5.2.f.2), the valves will be "racked out" and the pump breaker "racked in". The pumps will then be tested in recirculation with double valve isolation between the pump and RCS. The licensee will administratively control the isolated pumps and valves to preclude inadvertent operation. Because the licensee is taking adequate protective measures to minimize the probability of low temperature overpressurization, and such testing is in accordance with the present TS, this is acceptable.

The HPI Flow Balance test (TS 4.5.2.g) must be performed with the vessel head on at a pressure of 600 psig. Low temperature overpressurization requirements prohibit testing in Modes 4 and 5 when the temperature is less than 280°F and the HPI valves are "racked out". Therefore the proposed amendment would change the Technical Specification to allow the test to be performed in Mode 3 in which the RCS temperature is above 280°.

The proposed amendment includes changes to allow two EDG surveillance tests to be performed in Mode 3, rather than during shutdown. These tests are: a) diesel auto-start from ambient conditions under simulated loss of offsite power, energizing emergency loads (TS 4.8.1.1.2.c.3), and b) verification that the auto-connected loads to each diesel generator do not exceed the 2000 hour rating of 3000 KW. The licensee has committed not to perform these tests in Modes 4 or 5 due to the possibility of overpressurizing the reactor vessel at low temperatures as a result of HPI operation. In addition, Mode 6 testing would not be representative or desirable due to the potential to overflow the fuel transfer canal and increase the reactor building's airborne contamination. Therefore this amendment would change the TS to specify that these tests (4.8.1.1.2.c.3 and 5) be done during Mode 3.

The proposed changes discussed above are acceptable because they permit performance of the necessary tests while providing protection against low temperature overpressurization.

It was also proposed to change TS 4.8.1.1.2.c.3 and 5 to allow a one-time waiver of the 18-month requirement for these EDG tests until Mode 3 during the startup for Cycle 6. The 18-month requirement was exceeded during the course of the present outage; the opportunity for testing the EDG in accordance with the TSs was missed when the plant was brought to cold shutdown and subsequently defueled. The NRC staff believes the waiver does not impact the diesel generator reliability since other necessary tests required by TS 4.8.1.1.2 have been successfully completed, and all the necessary testing would be performed to demonstrate the diesel generator operability prior to the unit startup. In addition, it is noted that because of the refueling and the length of the outage (3 months until Mode 6), the core decay heat is very low.

3.0 Environmental Consideration

This amendment involves a change in the surveillance requirements. 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.

4.0 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: July 23, 1985

Principal contributors: E. Lantz and J. Emami