Docket No. 50-302

May 22, 1989

DISTRIBUTION
See attached list

Mr. W. S. Wilgus
Vice President, Nuclear Operations
Florida Power Corporation
ATTN: Manager, Nuclear Operations
Licensing
P. O. Box 219-NA-2I
Crystal River, Florida 32629

Dear Mr. Wilgus:

SUBJECT: CRYSTAL RIVER UNIT 3 - ISSUANCE OF AMENDMENT RE: CONTAINMENT ISOLATION VALVES (TAC NO. 68126)

The Commission has issued the enclosed Amendment No. 114 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 (TS) in response to your application dated March 31, 1983, as supplemented June 22, 1983, and application dated December 31, 1984, as superseded April 25, 1988, and revised November 28, 1988. Some changes to the amendment have been made for the sake of clarification. These changes have been discussed with and agreed to by members of your staff.

This amendment removes Table 3.6.1, Containment Isolation Valves, from the TS and relocates it to the FSAR. References to Table 3.6.1 in other TS are also removed. Relocation of the table was proposed by Florida Power Company as a line-item improvement to TS on a lead-plant basis for Crystal River Unit 3. In addition, the amendment clarifies the requirement for stroke retest of valves following maintenance and adds surveillances that ensure that the isolation time of each power-operated valve is within its approved limits and that all purge isolation valves are closed and verified closed at least every 31 days when in Modes 1, 2, 3, or 4.

Your letter dated May 8, 1989 states that you have implemented a modification to the containment isolation valves during the current maintenance outage. The modification includes (1) the removal of engineered safeguards (ES) closure signals from the 48-inch containment purge valves and (2) the addition of ES closure signals to the 6-inch valves which are currently used to depressurize containment at power. We understand that it is your intent to add the 6-inch valves to the table of containment isolation valves under the provisions of 10 CFR 50.59 upon receipt of this license amendment. The safety evaluation enclosed with this license amendment addresses only your amendment proposal and does not discuss these additional plans. In the May 8, 1989 letter you committed to request a TS change by June 12, 1989 consistent with the current Standard TS 3.6.1.8.6 to address the operability and use of both the 48-inch and 6-inch valves. You also committed to implement procedures now which are consistent with Standard

DFol
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TS 3.6.1.8.6, and you committed to obtain prior NRC approval before opening the 6-inch valves under those procedures until the TS to be proposed is approved. Based on the information you have provided and these commitments, we have no objection to plant operation with the modifications discussed above in place until the TS to be proposed is approved. We will review promptly your safety analysis and 50.59 conclusions regarding this modification.

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. 114 to DPR-72
2. Safety Evaluation

cc w/enclosures:
See next page

[AMEND 68126]

*See previous concurrence

LA:PDII-2	PM:PDII-2	PE:PDII-2	D:PDII-2	BC:OTSB	OGC	BC:SPLB
*DMiller	HSilver:bd	*GWunder	HBerkow	*EButcher	SHLewis	*JCraig
04/24/89	05/ /89	04/24/89	05/19/89	05/10/89	05/17/89	04/27/89

DATED: May 22, 1989

AMENDMENT NO. 114 TO FACILITY OPERATING LICENSE NO. DPR-72-CRYSTAL RIVER UNIT 3

Docket File
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D. Miller
H. Silver
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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. 114
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 31, 1983, as supplemented June 22, 1983, and application dated December 31, 1984, as superseded April 25, 1988, and revised November 28, 1988, 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. 114, 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 immediately and shall be implemented within 30 days of date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

for 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: May 22, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 114

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
1-2	1-2
3/4 6-1	3/4 6-1
3/4 6-15	3/4 6-15
3/4 6-16	3/4 6-16
3/4 6-17	3/4 6-17
3/4 6-18	3/4 6-18
3/4 6-19	3/4 6-19
3/4 6-20	3/4 6-20
3/4 6-21	3/4 6-21
3/4 6-21a	3/4 6-21a
B3/4 6-4	B3/4 6-4

DEFINED TERMS

1.1 The DEFINED TERMS of this section appear in capitalized type and are applicable throughout these Technical Specifications.

THERMAL POWER

1.2 THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.

RATED THERMAL POWER

1.3 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 2544 MWt.

OPERATIONAL MODE

1.4 An OPERATIONAL MODE shall correspond to any one inclusive combination of core reactivity condition, power level and average reactor coolant temperature specified in Table 1.1.

ACTION

1.5 ACTION shall be those additional requirements specified as corollary statements to each principle specification and shall be part of the specifications.

OPERABLE - OPERABILITY

1.6 A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s). Implicit in this definition shall be the assumption that all necessary attendant instrumentation, controls, normal and emergency electrical power sources, cooling or seal water, lubrication or other auxiliary equipment, that are required for the system, subsystem, train, component or device to perform its function(s), are also capable of performing their related support function(s).

REPORTABLE EVENT:

1.7 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.

CONTAINMENT INTEGRITY:

1.8 CONTAINMENT INTEGRITY shall exist when:

a. All penetrations required to be closed during accident conditions are either:

1. Capable of being closed by an OPERABLE containment automatic isolation system, or

2. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except those approved to be opened under administrative controls.

b. All equipment hatches are closed and sealed,

c. Each airlock is OPERABLE pursuant to Specification 3.6.1.3,

d. The containment leakage rates are within the limits of Specification 3.6.1.2, and

e. The sealing mechanism associated with each penetration (e.g., welds, bellows or O-rings) is OPERABLE.

CHANNEL CALIBRATION

1.9 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

CHANNEL CHECK

1.10 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

a. At least once per 31 days by verifying that:

1. All penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except those valves that may be opened under administrative controls per Specification 3.6.3.1, and

2. All equipment hatches are closed and sealed.

b. By verifying that each containment air lock is OPERABLE per Specification 3.6.1.3.

*Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are locked, sealed, or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that verification of these penetrations being closed need not be performed more often than once per 92 days.

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

3.6.1.2 Containment leakage rates shall be limited to:

a. An overall integrated leakage rate of $\leq L_a$, 0.25 percent by weight of the containment air per 24 hours at P_a, 49.6 psig.

b. A combined leakage rate of $\leq 0.60\ L_a$ for all penetrations and valves subject to Type B and C tests, when pressurized to P_a.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With either (a) the measured overall integrated containment leakage rate exceeding 0.75 L_a or (b) with the measured combined leakage rate for all penetrations and valves subject to Type B and C tests exceeding 0.60 L_a, restore the leakage rate(s) to within the limit(s) prior to increasing the Reactor Coolant System temperature above 200°F.

SURVEILLANCE REQUIREMENTS

4.6.1.2 The containment leakage rates shall be demonstrated at the following test schedule and shall be determined in conformance with the criteria specified in Appendix J of 10 CFR 50 using the methods and provisions of ANSI N45.4 - 1972:

a. Three Type A tests (Overall Integrated Containment Leakage Rate) shall be conducted at 40 $\pm$ 10 month intervals during shutdown at P_a, 49.6 psig, during each 10-year service period. The third test of each set shall be conducted during the shutdown for the 10-year plant inservice inspection.

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3.1 All containment isolation valves shall be OPERABLE with isolation times less than or equal to required isolation times.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one or more of the isolation valve(s) inoperable, either:

a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or

*b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position or,

*c. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange; or

d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.3.1.1 The isolation valves shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work that could affect the valve's performance is performed on the valve or its associated actuator, control or power circuit by performance of a cycling test and verification of isolation time.

*The provisions of Specification 3.0.4 are not applicable. Valves may be opened on an intermittent basis under administrative control.

SURVEILLANCE REQUIREMENTS (Continued)

4.6.3.1.2 Each isolation valve shall be demonstrated OPERABLE during the COLD SHUTDOWN or REFUELING MODE at least once per 18 months by:

a. Verifying that on a containment isolation test signal, each automatic isolation valve actuates to its isolation position.

b. Verifying that on a containment radiation-high test signal, each purge and exhaust automatic valve actuates to its isolation position.

4.6.3.1.3 The isolation time of each power operated or automatic valve shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

4.6.3.1.4 The containment purge supply and exhaust isolation valves (AHV 1-A, B, C and D) shall be determined sealed closed before proceeding from Mode 5 to Mode 4 and at least once every 31 days when in Modes 1, 2, 3 and 4.

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3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 CONTAINMENT SPRAY SYSTEM

The OPERABILITY of the containment spray system ensures that containment depressurization and cooling capability will be available in the event of a LOCA. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the safety analyses. The leak rate surveillance requirements assure that the leakage rates assumed for the system during the recirculation phase will not be exceeded.

3/4.6.2.2 SPRAY ADDITIVE SYSTEM

The OPERABILITY of the spray additive system ensures that sufficient NaOH is added to the containment spray in the event of a LOCA. The limits on contained sodium hydroxide solution volume and concentration ensure a pH value of between 7.2 and 11.0 of the solution sprayed within containment after a design basis accident. The pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion cracking on mechanical systems and components. The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics.

3/4.6.2.3 CONTAINMENT COOLING SYSTEM

The OPERABILITY of the containment cooling system ensures that 1) the containment air temperature will be maintained within limits during normal operation, and 2) adequate heat removal capacity is available when operated in conjunction with the containment spray systems during post-LOCA conditions.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within the required time limits ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA. Containment Isolation Valves and their required isolation times are addressed in the FSAR. The opening of a closed inoperable containment isolation valve on an intermittent basis during plant operation is permitted under administrative control. Operating procedures identify those valves which may be opened under administrative control as well as the safety precautions which must be taken when opening valves under such controls.

3/4.6.4 COMBUSTIBLE GAS CONTROLS

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. The purge system is capable of controlling the expected hydrogen generation associated with 1) zirconium-water reactions, 2) radiolytic decomposition of water and 3) corrosion of metals within containment. These hydrogen control systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a LOCA," March 1971.

In addition to the two inplace hydrogen monitors, there are two portable hydrogen analyzing units. In the event that one hydrogen monitor is inoperable, one of the portable units may be used to monitor the hydrogen concentration in the Reactor Building.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 114 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 March 31, 1983, as supplemented June 22, 1983, and by letter dated December 31, 1984, as superseded April 25, 1988 and revised November 28, 1988, Florida Power Corporation (FPC or the licensee) proposed changes to their Technical Specifications (TS) for the Crystal River Plant, Unit 3. The proposed changes would remove Table 3.6-1, Containment Isolation Valves, from the TS and place it in the Final Safety Analysis Report (FSAR). Relocation of the table was proposed by Florida Power Company as a line-item improvement to TS on a lead-plant basis for Crystal River Unit 3. The proposed amendment would also revise Surveillance 4.6.3.1.1 for clarification and add Surveillances 4.6.3.1.3 and 4.6.3.1.4 to address the isolation time requirements for the limiting condition for operation, and provide verification that purge valves are shut, respectively. In addition, the proposed amendment would revise Specifications 4.6.1.1.a.1, 3.6.3.1, 4.6.3.1.1, 4.6.3.1.2, and Definition 1.8 to delete the reference to Table 3.6-1.

By letter dated November 28, 1988, the licensee provided information which clarified portions of the April 25, 1988 submittal. The staff has reviewed this clarifying information and has determined that the November 28, 1988 letter did not provide information that would alter the staff's proposed no significant hazards consideration determination.

In addition, during the staff's review of the proposed amendment, the staff determined that further clarification was needed to the licensee's proposed changes to TS 4.6.1.1.a.1 and TS 3.6.3.1. Discussions were held between the staff and the licensee on the staff's proposed rewording, and the licensee agreed with the staff's proposed changes. However, these changes were clarifying in nature and therefore did not alter the staff's proposed no significant hazards consideration determination.

EVALUATION

The operability of containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. All items currently contained in Table 3.6-1, Containment Isolation Valves, will be removed from the TS and relocated in the FSAR. The requirement for containment isolation valve operability will still remain in the TS. The action statement and surveillance requirements will also remain in the TS. The relocation of this table would allow future changes to be made without a license amendment. This would relieve both the NRC and the licensee of an administrative burden. Maintaining the table in the FSAR would also ensure that the information is still available to the operators. Changes to the table would be controlled under 10 CFR 50.59 as a change to the facility. Therefore, adequate measures exist to control changes to the facility without having these components listed in the TS. Due to the proposed relocation of Table 3.6-1 from the TS to the FSAR, references to the table would be deleted from TS 4.6.1.1.a.1, 3.6.3.1, 4.6.3.1.1, and 4.6.3.1.2.

The Commission's Interim Policy Statement on Technical Specification Improvements recognized the advantages of improved TS and endorsed the recommendations of the nuclear industry and the NRC staff for a program to develop improvements in TS. An important part of that program is the implementation of line-item improvements in TS. This change has been implemented in the TS for new licenses and is consistent with previous guidance provided by Generic Letter 84-13 on removing the list of snubbers from TS. Guidance to licensees regarding removal of this list from TS will be provided to all power reactor licensees in a future generic letter based on this lead-plant review and approval.

The proposed change to Surveillance 4.6.3.1.1 would clarify that when work is done on a valve which would not affect the valves's performance, a valve stroke test is not required. Work that could affect the valve's performance would still require a retest.

The addition of Surveillance 4.6.3.1.3 would ensure that the isolation time of each power-operated or automatic valve is within its limit. Thus, isolation time requirements would remain in the TS.

Finally, the addition of Surveillance 4.6.3.1.4 would ensure that all purge isolation valves were verified shut at least once every 31 days. This ensures that the valves will be shut in the event of an accident and is consistent with the Commission's policy on purge/vent valve isolation dependability criteria per NUREG-0737.

SUMMARY

The staff finds that the requested changes will maintain conservative limiting conditions for plant operation and adequate surveillance requirements. Thus, the staff finds the proposed changes to be 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 and changes in 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.

CONCLUSION

The staff 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, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public and security or to the health and safety of the public.

Dated: May 22, 1989

Principal Contributor:

G. Wunder