

File Files

MAY 12 1977

Docket No. 50-302

Florida Power Corporation
ATTN: Mr. J. T. Rodgers
Assistant Vice President and
Nuclear Project Manager
P. O. Box 14042
St. Petersburg, Florida 33733

Gentlemen:

SUBJECT: ISSUANCE OF AMENDMENT NO. 4 TO FACILITY OPERATING LICENSE
NO. DPR-72 FOR CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING
PLANT

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 4 to Facility Operating License No. DPR-72 which is effective as of the date of issuance. Amendment No. 4 revises the Technical Specifications, Appendix A to the Facility Operating License, to allow an acceptance result of 95% or greater for the laboratory test of a representative carbon sample of the charcoal absorber units of the auxiliary building ventilation exhaust system, compared to the previous acceptance result of 99% or greater. The license is amended by making the appropriate changes to Specification 4.7.8.1.b.3 and 4.7.8.1.c on page 3/4 7-24 of Appendix A to the license.

We have determined that Amendment No. 4 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 Section 51.5(d)(4), that an environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

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A copy of the Federal Register Notice of Issuance of Amendment No. 4 and the related Safety Evaluation supporting Amendment No. 4 to License No. DPR-72 are also enclosed.

Sincerely,

John F. Stolz, Chief
Light Water Reactors Branch No. 1
Division of Project Management

Enclosures:

- 1. Amendment No. 4 to License No. DPR-72
- 2. Federal Register Notice
- 3. Safety Evaluation Supporting Amendment No. 4 to License No. DPR-72

cc w/enclosures:
See page 3

OK B. L...
EEB/DOR 5/5/77
 ETS/DSE
 J Collins
 4/4/77
 J Stolz
 5/1/77

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MAY 12 1977

cc: Mr. S. A. Brandimore
Vice President and General Counsel
P. O. Box 14042
St. Petersburg, Florida 33733

Bureau of Intergovernmental Relations
660 Apalachee Parkway
Tallahassee, Florida 32304

Mr. Wilbur Langely, Chairman
Board of County Commissioners
Citrus County
Iverness, Florida 36250

U. S. Environmental Protection Agency
Region IV Office
345 Courtland Street, N. E.
Atlanta, Georgia 30308

Chief, Energy Systems
Analyses Branch (AW-459)
Office of Radiation Programs
U. S. Environmental Protection Agency
Room 645, East Tower
401 M Street, S. W.
Washington, D. C. 20460

Mr. Bruce Blanchard
Environmental Projects Review
Department of the Interior
Room 5321
18th and C Street, N. W.
Washington, D. C. 20242

Mr. Sheldon Myers
ATTN: Jack Anderson
Office of Federal Activities
Environmental Protection Agency
Room W-541, Waterside Mall
401 M Street, S. W.
Washington, D. C. 20460

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FLORIDA POWER CORPORATION
CITY OF ALACHUA
CITY OF BUSHNELL
CITY OF GAINESVILLE
CITY OF KISSIMEE
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. 4
 License No. DPR-72

1. The Nuclear Regulatory Commission (the Commission) having found that:
 - A. The application for amendment by Florida Power Corporation, et al (the licensees) dated April 21, 1977, 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.

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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.C.(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 4, 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

Original Signed by

John F. Stolz, Chief
Light Water Reactors Branch No. 1
Division of Project Management

Attachment:
Changes to the Technical
Specifications

Date of Issuance: **MAY 12 1977**

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PLANT SYSTEMS

3/4.7.8 AUXILIARY BUILDING VENTILATION EXHAUST SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.8.1 The auxiliary building ventilation exhaust system shall be OPERABLE and shall consist of a minimum of two independent pairs of exhaust fans and four filter systems.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one pair of exhaust fans or one filter system inoperable, restore the inoperable pair of fans or system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUT-DOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.8.1 Each auxiliary building ventilaiton exhaust system shall be demonstrated OPERABLE:

- a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the system operates for at least 15 minutes.
- b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system by:
 1. Verifying that with the system operating at a flow rate of 156,680 cfm \pm 10% and exhausting through the HEPA filters and charcoal adsorbers, the total bypass flow of the system to the facility vent, including leakage through the system diverting valves, is $<$ 1% when the system is tested by admitting cold DOP at the system intake.

*The air flow distribution test Section 8 of ANSI N510-1975 may be performed downstream of the HEPA filters.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that the ventilation system satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a, C.5.c* and C.5.d* of Regulatory Guide 1.52, Revision 1, July 1976, and the system flow rate is 156,680 cfm $\pm 10\%$.
 3. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 1, July 1976, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 1, July 1976.**
 4. Verifying a system flow rate of 156,680 cfm $\pm 10\%$ during system operation when tested in accordance with ANSI N510-1975.
- c. After every 720 hours of charcoal adsorber operation by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 1, July 1976, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 1, July 1976.**
 - d. At least once per 18 months by verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is < 6 inches Water Gauge while operating the system at a flow rate of 156,680 cfm $\pm 10\%$.
 - e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove $\geq 99\%$ of the DOP when they are tested in-place in accordance with ANSI N510-1975* while operating the system at a flow rate of 39,170 cfm $\pm 10\%$.
 - f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove $> 99\%$ of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975* while operating the system at a flow rate of 39,170 cfm $\pm 10\%$.

**The laboratory test of Table 3 for a representative sample of used activated carbon shall be per Test 5b in Table 2 at a relative humidity of 70% for a methyl iodide removal efficiency of $\geq 95\%$.

ATTACHMENT TO LICENSE AMENDMENT NO. 4

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.

Pages

3/4 7-23

3/4 7-24

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-302

FLORIDA POWER CORPORATION, et al

CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 4 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 which revised Technical Specifications for operation of the Crystal River Unit 3 Nuclear Generating Plant located in Citrus County, Florida.

The Amendment permits an acceptance criteria of 95 percent or greater for the removal efficiency for methyl iodide as demonstrated by a laboratory analysis of a representative carbon sample of the charcoal absorber units of the auxiliary building ventilation exhaust system.

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.

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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 April 21, 1977, (2) Amendment No. 4 to License No. DPR-72, and (3) the Commission's related Safety Evaluation Supporting Amendment No. 4 to License No. DPR-72. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at the Crystal River Public Library, Crystal River, Florida 32629. 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 Project Management.

Dated at Bethesda, Maryland, this 12 day of May 1977.

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed by

John F. Stolz, Chief
Light Water Reactors Branch No. 1
Division of Project Management

OK B. James
EEB/DOR
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ETS/DSE
J. Collins
5/14/77
J. Stolz
5/16/77

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 4 TO LICENSE NO. DPR-72

FLORIDA POWER CORPORATION, ET AL

CRYSTAL RIVER UNIT 3 NUCLEAR GENERATING PLANT

DOCKET NO. 50-302

INTRODUCTION

By letter dated April 21, 1977, Florida Power Corporation requested a change in the Technical Specifications appended to Facility Operating License No. DPR-72 for Crystal River Unit 3 Nuclear Generating Plant. The proposed change consists of allowing the demonstrated removal efficiency for methyl iodide of a representative carbon sample of charcoal absorbers in the auxiliary building ventilation exhaust system to be greater than or equal to 95 percent, versus the allowable efficiency of 99 percent that is specified in Regulatory Guide 1.52, "Design, Testing, and Maintenance Criteria for Engineered - Safety-Feature Atmosphere Cleanup System Air Filtration and Absorption Units of Light-Water-Cooled Nuclear Power Plants," Revision 1, July 1976.

Florida Power Corporation states that the reason for requesting the change in demonstrated removal efficiency is that the existing technical specification requirement for verifying 99 percent removal efficiency is unnecessarily restrictive and will result in excessive charcoal replacement at considerable expense without sufficient benefit to the public or to plant employees. The auxiliary building ventilation exhaust system at Crystal River Unit 3 is designed as a continuous flow system in which, unlike many other plant designs, the charcoal absorbers cannot be bypassed. This continuous use of the exhaust system, combined with the ambient conditions of high humidity typical of the region and local air contamination from two fossil-fired power plants on the site, results in an unnecessary economic penalty to maintain 99 percent demonstrated removal efficiency for the charcoal absorbers.

DISCUSSION

The change proposed by Florida Power Corporation would in effect have waived entirely the laboratory testing criteria for activated carbon as specified in Regulatory Guide 1.52, Revision 1, July 1976, when the intent of the proposed change was to allow a lower acceptance result for the laboratory test of a representative carbon sample with regard to the removal of methyl iodide. Regulatory Guide 1.52 states that the efficiency of the activated

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carbon absorber section should be determined by laboratory testing of representative samples of the activated carbon exposed simultaneously to the same service conditions as the absorber section. The guide further states that in order to assign a decontamination efficiency of 95 percent for elemental and organic iodine in a two inch activated carbon bed depth, the representative sample should meet an acceptance level of 99 percent or greater.

For Crystal River Unit 3, the NRC staff's evaluation of the radiological consequences for postulated design basis accidents is contained in the Safety Evaluation of the Crystal River Unit 3, issued on July 5, 1974. In that evaluation we assumed a decontamination efficiency of 90 percent for elemental iodine and 70 percent for organic iodine for the charcoal absorbers of the auxiliary building ventilation system in mitigating the consequences of a postulated fuel handling accident. We calculated a potential dose of nine rem to the thyroid and less than one rem to the whole body at the exclusion area boundary for the first two hours of the postulated accident. We also calculated potential doses of less than one rem to the thyroid and whole body for the 30-day course of the postulated accident at the outer boundary of the low population zone.

The purpose of the surveillance requirements of the Technical Specifications with regard to the acceptance results of the laboratory tests for a representative sample of carbon is to assure that the decontamination efficiency assumed in the safety analysis of design basis accidents can reasonably be expected in the event that a postulated accident occurs. For this reason, Regulatory Guide 1.52 recommends a laboratory test efficiency of 99 percent for the removal of methyl iodide in order to assure expected decontamination efficiency of 95 percent for the removal of elemental and organic iodine.

EVALUATION

We evaluated Florida Power Corporation request to change the demonstrated removal efficiency for methyl iodide to 95 percent for the acceptance results of the laboratory test of a representative sample. We determined that a demonstrated removal efficiency of 95 percent is acceptable to provide reasonable assurance that the removal efficiencies of 90 percent for elemental iodine and 70 percent for organic iodine can be expected in the event of occurrence of the postulated fuel handling accident. Our determination is based on a comparison of the demonstrated and expected values in Regulatory Guide 1.52 to the demonstrated and expected values proposed by Florida Power Corporation. On this basis we conclude that a demonstrated removal efficiency of 95 percent or greater is an acceptable limit for methyl iodide for the laboratory test of a representative sample of carbon.

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Our evaluation also gives consideration to the fact that the potential off-site doses due to the postulated fuel handling accident is significantly less than the guideline values of 10 CFR Part 100 even if no credit is given for removal of radioactive iodine as discussed in our Safety Evaluation of the Crystal River Unit 3, issued on July 5, 1974.

Consequently, Amendment No. 4 to the Facility Operating License No. DPR-72 allows an acceptance result of 95 percent methyl iodide removal efficiency for the laboratory test of a representative sample of carbon in the charcoal absorber units of the auxiliary building ventilation exhaust system. The amendment does not, however, allow a deviation from any of the other laboratory testing criteria for activated charcoal as specified in Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 1, July 1976, since this clearly was not the intent of Florida Power Corporation.

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 accidents previously considered or a significant decrease in any safety margin, it 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.

Date: May 12, 1977