

May 8, 1989

Docket No. 50-302

DISTRIBUTION  
See attached sheet

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 RE: HYDROGEN  
MONITORS (TAC NO. 54527)

The Commission has issued the enclosed Amendment No. 113 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 June 22, 1983, as revised February 24, 1984.

This amendment revises the TS by replacing the requirement that a hydrogen analyzer and a gas chromatograph be operable with a requirement that two hydrogen monitors be operable. It also establishes surveillance requirements and gives actions to be taken should one or both hydrogen monitors be found inoperable.

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. 113 to DPR-72
2. Safety Evaluation

cc w/enclosures:  
See next page

[AMEND 54527]

LA:PDII-2  
D Silver  
03/28/89

PE:PDII-2  
GWunder  
03/28/89

PM:PDII-2  
HSilver:bd  
03/28/89

D:PDII-2 SPLB  
HBerkow for JCraig  
03/13/89 04/10/89

OGC  
04/13/89

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PDR ADOCK 05000302  
P FDC

CP-1 cc

DATED: May 8, 1989

AMENDMENT NO. 113 TO FACILITY OPERATING LICENSE NO. DPR-72-CRYSTAL RIVER UNIT 3

Docket File

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J. Craig, 8/D/1

cc: Plant Service list

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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. 113  
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 June 22, 1983, as revised February 24, 1984, 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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P  
FDC

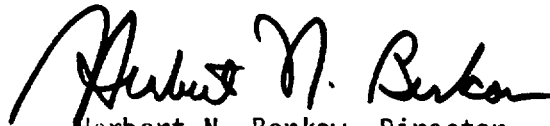
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-72 is hereby amended to read as follows:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 113, 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 and shall be implemented within 30 days 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: May 8, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 113

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

3/4 6-22

3/4 6-22

B3/4 6-4

B3/4 6-4

## CONTAINMENT SYSTEMS

### 3/4.6.4 COMBUSTIBLE GAS CONTROL

#### HYDROGEN MONITORS

#### LIMITING CONDITION FOR OPERATION

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3.6.4.1 Two independent containment hydrogen monitors shall be OPERABLE

APPLICABILITY: MODES 1 and 2

ACTION:

- a. With either installed hydrogen monitor inoperable, either:
  1. Verify the availability of a preplanned alternative method of monitoring the hydrogen concentration within 72 hours, or
  2. Restore the inoperable monitor to OPERABLE status within 30 days, or be in at least HOT STANDBY within the next 6 hours.
- b. With both installed hydrogen monitors inoperable, restore at least one monitor to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours.
- c. The provisions of 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.6.4.1 Each hydrogen monitor shall be demonstrated OPERABLE by the performance of a CHANNEL FUNCTIONAL TEST at least once per 31 days, and at least once per Refueling Cycle by verifying monitor accuracy to  $\pm 2\%$  of full scale using sample gas containing between 1 and 10 volume percent hydrogen, balance nitrogen.

## CONTAINMENT SYSTEMS

### BASES

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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.



## CONTAINMENT SYSTEMS

### BASES

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#### 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 time limits specified ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

#### 3/4.6.4 COMBUSTIBLE GAS CONTROL

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. 113 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 June 22, 1983, and revised February 24, 1984, Florida Power Corporation (FPC or the licensee) proposed changes to their Technical Specifications (TS) appended to Facility Operating License No. DPR-72 for the Crystal River Unit No. 3 Nuclear Generating Plant (CR-3). The proposed changes would remove the requirement that the licensee have one hydrogen analyzer and one gas chromatograph operable and replace it with a requirement that two hydrogen monitors be operable. The change includes actions to be taken if one or both of the hydrogen monitors should be found inoperable. It also includes changes to the surveillance requirements by addressing the frequency and method of checking and calibrating the hydrogen monitors. This change request is the result of the installation of two independent, in-place hydrogen monitors and of the requirements of Attachment 6 to Section II.F.2 of NUREG-0737.

EVALUATION

The function of the containment hydrogen monitor is to measure the amount of hydrogen in the containment building after an accident. This change would simply replace the current requirement to have a hydrogen analyzer and a gas chromatograph operable with a requirement to have two hydrogen monitors operable. Since the proposed change would ensure that the ability to measure containment building hydrogen concentration would be retained, the proposed change is acceptable. In addition, the changes to the surveillance requirements were found adequate by the Commission in a letter dated October 1, 1984, and will ensure that hydrogen monitors will be operable if needed. Therefore, the changes to the surveillance requirements are also 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 to 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 and changes to surveillance requirements.

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: May 8, 1989

Principal Contributor:

G. Wunder