

# Florida Power

CORPORATION  
Crystal River Unit 3  
Docket No. 50-302

September 27, 1996  
3F0996-05

Document Control Desk  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Subject: Technical Specification Change Request No. 209, Revision 0  
Post-Accident Monitoring Instrumentation

Reference: FPC to NRC letter, 3F0796-03, dated July 8, 1996

Dear Sir:

In the referenced letter, Florida Power Corporation (FPC) committed to submit, by October 1, 1996: a) the conclusions of an evaluation of alternatives to permanently modify the Crystal River Unit 3 (CR-3) subcooling margin monitors and b) a technical specification change request to add subcooling margin and decay heat removal (low pressure injection) flow to the post-accident monitoring (PAM) instrumentation technical specification. This correspondence provides the required information. In addition, two other changes are proposed to correct the nomenclature in the PAM technical specification.

Florida Power Corporation (FPC) hereby submits Technical Specification Change Request No. (TSCRN) 209, Revision 0, requesting an amendment to Operating License No. DPR-72. FPC considers these changes to be plant-specific rather than generic changes applicable to all Babcock and Wilcox-designed Nuclear Steam Supply plants.

This TSCRN proposes the following changes to the CR-3 post-accident monitoring instrumentation technical specification (LCO 3.3.17, Table 3.3.17-1):

- A. A revision to the descriptor for the narrow range containment pressure function. The descriptor change will eliminate confusion with the instruments used to monitor containment pressure during normal operation which have a range narrower than the instruments controlled by this specification.
- B. A revision to the required channels for the core exit temperature function. The revised requirement presents a more logical relationship to the installed configuration than the existing requirement.

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CRYSTAL RIVER ENERGY COMPLEX • 15760 W. Power Line Street • Crystal River • Florida 34428-6708 • (352) 795-6486

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A Florida Progress Company

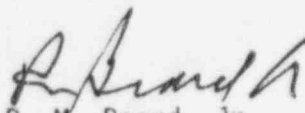
- C. The addition of low pressure injection (LPI) flow to the LCO. This variable has been recently re-classified as Type A per Regulatory Guide (RG) 1.97, requiring it to be added to the PAM LCO in accordance with our commitment to improved standard technical specifications. The above-referenced letter describes our commitment to upgrade the recording capability of the low pressure injection flow instrumentation no later than Refuel 11 currently scheduled for the Spring of 1998.
- D. The addition of degrees of subcooling to the LCO. This variable has also been recently re-classified as Type A per RG 1.97, requiring it to be added to the PAM LCO. As discussed in the referenced letter, the current design of the instrumentation used to measure degrees of subcooling (subcooling margin) does not meet all of the recommended criteria of RG 1.97 for Category 1 instrumentation. FPC commits to enhance this design to meet most, but still not all RG 1.97, Category 1 criteria during Refuel 11. A description of the design attributes of this instrumentation and a comparison of these attributes against the RG 1.97 recommendations is provided for NRC review and approval as Attachment 8 to this submittal. This attachment also includes justification for those areas where the recommendations of RG 1.97 are not fully met for this instrumentation.

Revised BASES pages are also included. FPC proposes the following schedule for review and approval of this request. The schedule will be modified as necessary to accommodate the review process.

Begin NRC Staff Review:	October 22, 1996
First Status Meeting (or teleconference):	December 18, 1996
Second Status Meeting (or teleconference):	January 16, 1997
Issue Amendment:	March 21, 1997

If you have any questions regarding this submittal or the schedule, please contact Brian Gutherman at (352) 563-4566.

Sincerely,



P. M. Beard, Jr.  
Senior Vice President  
Nuclear Operations

Attachments

PMB:AEF/BG

xc: Regional Administrator, Region II  
Senior Resident Inspector  
NRR Project Manager

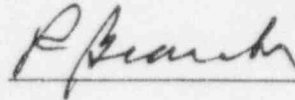
## LIST OF ATTACHMENTS

1. Affidavit (1 Page)
2. Certificate of Service (1 Page)
3. Description of Changes, Reason for Request, and Evaluation of Request (2 Pages)
4. Sholly Evaluation (2 Pages)
5. Revised Table 3.3.17-1 (1 Page)
6. Mark-up of BASES Changes (4 Pages)
7. Revised BASES (6 Pages)
8. Evaluation of Safety Parameter Display System (SPDS) Against Regulatory Guide 1.97 For Use as a Subcooling Margin Monitor (10 Pages)
9. Graphical Representation of SPDS Subcooling Margin Monitoring Instrumentation (3 Pages)

STATE OF FLORIDA

COUNTY OF CITRUS

P. M. Beard, Jr. states that he is the Senior Vice President, Nuclear Operations for Florida Power Corporation; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information, and belief.

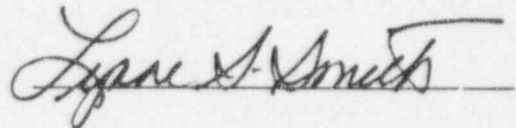


P. M. Beard, Jr.  
Senior Vice President  
Nuclear Operations

Subscribed and sworn to before me, a Notary Public in and for the State and County above named, this 27<sup>th</sup> day of September, 1996.

LYNNE S. SMITH

Notary Public (print)



Notary Public



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

IN THE MATTER )

FLORIDA POWER CORPORATION )

DOCKET NO. 50-302

CERTIFICATE OF SERVICE

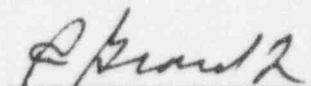
P. M. Beard, Jr. deposes and says that the following has been served on the Designated State Representative and Chief Executive of Citrus County, Florida, by deposit in the United States mail, addressed as follows:

Chairman,  
Board of County Commissioners  
of Citrus County  
Citrus County Courthouse  
Inverness, FL 34450

Administrator,  
Radiological Health Services  
Department of Health and  
Rehabilitative Services  
1323 Winewood Blvd.  
Tallahassee, FL 32301

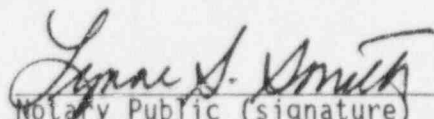
A copy of Technical Specification Change Request No. 209, Revision 0.

FLORIDA POWER CORPORATION

  
\_\_\_\_\_  
P.M. Beard, Jr.  
Senior Vice President  
Nuclear Operations

SWORN TO AND SUBSCRIBED BEFORE ME THIS 27<sup>th</sup> DAY OF SEPTEMBER, 1996

LYNNE S. SMITH  
\_\_\_\_\_  
Notary Public (print)

  
\_\_\_\_\_  
Notary Public (signature)

FLORIDA POWER CORPORATION  
CRYSTAL RIVER UNIT 3  
DOCKET NO. 50-302/LICENSE NO. DPR-72



FLORIDA POWER CORPORATION  
CRYSTAL RIVER UNIT 3  
DOCKET NO. 50-302/LICENSE NO. DPR-72  
REQUEST NO. 209, REVISION 0  
POST-ACCIDENT MONITORING INSTRUMENTATION

**LICENSEE DOCUMENT INVOLVED:** Technical Specifications

**PORTIONS:** Limiting Condition for Operation 3.3.17, Post-Accident Monitoring Instrumentation

**DESCRIPTION OF REQUEST:**

- A. Table 3.3.17-1, Function 8: The descriptor is changed from "Containment Pressure (Narrow Range)" to "Containment Pressure (Expected Post-Accident Range)."
- B. Table 3.3.17-1, Function 18: The required channels for Core Exit Temperature (Backup) is changed from "2 sets of 5" to "3 per core quadrant."
- C. Table 3.3.17-1: A new Function 20 is added and designated as "Low Pressure Injection Flow."
- D. Table 3.3.17-1: A new Function 21 is added and designated as "Degrees of Subcooling."

**REASON FOR REQUEST:**

- A. The change in the containment pressure descriptor is to eliminate confusion between the -10 to +70 psig instrument used for this LCO and the -5 to +5 psig instrument used to verify compliance with LCO 3.6.4, Containment Pressure.
- B. The required channels for the core exit temperature function are being changed to provide a more logical minimum subset of detectors.
- C/D. The low pressure injection flow and degrees of subcooling functions are being added because they have been identified as being used in the Crystal River 3 (CR-3) Emergency Operating Procedures (EOP's) in a manner that requires they be considered "Type A" per the criteria of Regulatory Guide 1.97. All Regulatory Guide 1.97 Type A functions are included in Table 3.3.17-1.

**EVALUATION OF REQUEST:**

- A. CR-3 has three ranges of containment pressure monitoring instrumentation. The narrowest range instrument (-5 to +5 psig) is used to verify compliance with LCO 3.6.4, but is not used for post-accident monitoring. It is, therefore, not considered a Regulatory Guide 1.97 instrument and is not included in Table 3.3.17-1. The mid-range instruments (-10 to 70 psig) cover the expected post-accident containment pressure range for design basis accidents. These instruments are covered by Table 3.3.17-1, Function

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8, and are currently designated as "narrow range," although they are not the narrowest range instruments available to the operators. The wide range instruments (0 to 200 psig) cover the range of containment pressure that might be expected following an accident more severe than that required to be postulated by the CR-3 design basis. These instruments are covered by Table 3.3.17-1, Function 9. None of the installed plant instrumentation for containment pressure included in Table 3.3.17-1 is being changed as a result of this descriptor change. The change simply allows the use of the term "narrow range" to be applied solely to the narrowest range of containment pressure instrumentation.

- B. The recorders that provide the indication of core exit temperature for Table 3.3.17-1 receive 16 thermocouple inputs, four from each quadrant of the reactor core. Adding the requirement that three instruments in each quadrant be OPERABLE provides better assurance that a representative distribution of temperatures across the core will be available to the operator for monitoring post-accident conditions.
- C/D. Low pressure injection flow and degrees of subcooling are being added to Table 3.3.17-1 because these functions have been determined to be Type A per Regulatory Guide 1.97. Low pressure injection flow must be manually throttled prior to switching from the borated water storage tank to the containment sump in order to prevent loss of net positive suction head (NPSH). Degrees of subcooling is used as a criterion for manual initiation of high pressure injection, tripping of reactor coolant pumps and selection of the steam generator high level setpoint on the Emergency Feedwater Initiation and Control System during loss of coolant accidents (LOCA's).

#### SHOLLY EVALUATION OF REQUEST:

Florida Power Corporation (FPC) has reviewed the requirements of 10 CFR 50.92(c) as they relate to the proposed revisions to Technical Specification 3.3.17 (Post-Accident Monitoring Instrumentation), Table 3.3.17-1 and considers the proposed changes do not involve a significant hazards consideration. In support of this conclusion, the following analysis is provided:

1. The proposed changes will not significantly increase the probability or consequences of an accident previously evaluated because:
  - A/B. The changes in containment pressure and core exit thermocouple nomenclature do not reflect any physical changes to the facility.
  - C/D. The addition of low pressure injection flow and degrees of subcooling to the Post-Accident Monitoring Instrumentation LCO is being done to comply with a commitment made during the technical specification improvement program to include in the technical specifications, that instrumentation which monitors variables classified as Type A in accordance with Regulatory Guide 1.97. These two variables have recently been re-classified as Type A. The associated instruments are used after an accident occurs to prompt the operators to take certain mitigative actions. Therefore, the probability of an accident occurring is unaffected. As part of the re-classification of these variables to Type A, the associated monitoring instrumentation will be under more strict surveillance and control, which provides additional assurance that the prescribed manual operator actions will be implemented when necessary. This, in turn, assures the previously evaluated accident consequences remain valid.
2. The proposed changes will not create the possibility of a new or different kind of accident from any accident previously evaluated because:
  - A/B. The changes in containment pressure and core exit thermocouple nomenclature do not reflect any physical changes to the facility. The changes provide clarification for the instruments which are required to comply with the LCO.
  - C/D. The addition of low pressure injection flow and degrees of subcooling to the Post-Accident Monitoring Instrumentation LCO is being done to comply with a commitment made during the technical specification improvement program to include in the technical specifications, that instrumentation which monitors variables classified as Type A in accordance with Regulatory Guide 1.97. These two variables have recently been re-classified as Type A. The associated instruments are used after an accident occurs to prompt the operators to take certain mitigative actions. Since the instrumentation is used only post-accident, these changes do not create the possibility of a new or different kind of accident.

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Attachment 4

3. The proposed change will not involve a significant reduction to the margin of safety because:

A/B. The changes in containment pressure and core exit thermocouple nomenclature have no affect on the margin of safety. The changes provide clarification of the technical specifications. This reduces the potential for confusion regarding this instrumentation.

C/D. The addition of low pressure injection flow and degrees of subcooling to the post-accident monitoring instrumentation table adds controls on the OPERABILITY of post-accident monitoring instrumentation providing greater assurance it will be available should an accident occur.