

Mr. D. N. Morey
 Vice President - Farley Project
 Southern Nuclear Operating
 Company, Inc.
 Post Office Box 1295
 Birmingham, Alabama 35201-1295

October 23, 1997

SUBJECT: ISSUANCE OF AMENDMENT - JOSEPH M. FARLEY NUCLEAR PLANT,
 UNIT 1 (TAC NO. M98268)

Dear Mr. Morey:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 131 to Facility Operating License No. NPF-2 for the Joseph M. Farley Nuclear Plant, Unit 1. The amendment changes the Technical Specifications (TS) in response to your submittal dated September 3, 1997.

The changes would reduce the number of required incore detectors necessary for continued operation for the remainder of Cycle 15 only.

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

Sincerely,
 ORIGINAL SIGNED BY:

Jacob I. Zimmerman, Project Manager
 Project Directorate II-2
 Division of Reactor Projects - I/II
 Office of Nuclear Reactor Regulation

Docket Nos. 50-348

- Enclosures: 1. Amendment No.13 to NPF-2
 2. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION:

Docket File PUBLIC
 PDII-2 RF B.Boger
 G.Hill (2) ACRS
 OGC J.Johnson,RII
 P.Skinner,RII M.Chatterton
 e-mail TLH3 SE only

DFM
 OFFICIAL RECORD COPY

9711040283 971023
 PDR ADDCK 05000348
 P PDR



DOCUMENT NAME: G:\FARLEY\M99505.AMD

OFFICE	DRPE/PDII-2/PM	DRPE:PDII-2/LA	OGC	DRPE/PD2/PS
NAME	J.ZIMMERMAN:cn	L.BERRY	<i>W Young</i>	H.BERKOW
DATE	10/1/97	10/15/97	10/21/97	10/23/97
COPY	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

October 23, 1997

Mr. D. N. Morey
Vice President - Farley Project
Southern Nuclear Operating
Company, Inc.
Post Office Box 1295
Birmingham, Alabama 35201-1295

SUBJECT: ISSUANCE OF AMENDMENT - JOSEPH M. FARLEY NUCLEAR PLANT,
UNIT 1 (TAC NO. M99505)

Dear Mr. Morey:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 131 to Facility Operating License No. NPF-2 for the Joseph M. Farley Nuclear Plant, Unit 1. The amendment changes the Technical Specifications (TS) in response to your submittal dated September 3, 1997.

The changes would reduce the number of required incore detectors necessary for continued operation for the remainder of Cycle 15 only.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Jacob I. Zimmerman".

Jacob I. Zimmerman, Project Manager
Project Directorate II-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-348

Enclosures: 1. Amendment No. 131 to NPF-2
2. Safety Evaluation

cc w/encls: See next page

Joseph M. Farley Nuclear Plant

cc:

Mr. R. D. Hill, Jr.
General Manager -
Southern Nuclear Operating Company
Post Office Box 470
Ashford, Alabama 36312

Mr. Mark Ajluni, Licensing Manager
Southern Nuclear Operating Company
Post Office Box 1295
Birmingham, Alabama 35201-1295

Mr. M. Stanford Blanton
Balch and Bingham Law Firm
Post Office Box 306
1710 Sixth Avenue North
Birmingham, Alabama 35201

Mr. J. D. Woodard
Executive Vice President
Southern Nuclear Operating Company
Post Office Box 1295
Birmingham, Alabama 35201

State Health Officer
Alabama Department of Public Health
434 Monroe Street
Montgomery, Alabama 36130-1701

Chairman
Houston County Commission
Post Office Box 6406
Dothan, Alabama 36302

Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
Atlanta Federal Center
61 Forsyth Street, S.W., Suite 23T85
Atlanta, Georgia 30303

Resident Inspector
U.S. Nuclear Regulatory Commission
7388 N. State Highway 95
Columbia, Alabama 36319



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

ALABAMA POWER COMPANY

DOCKET NO. 50-348

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 131
License No. NPF-2

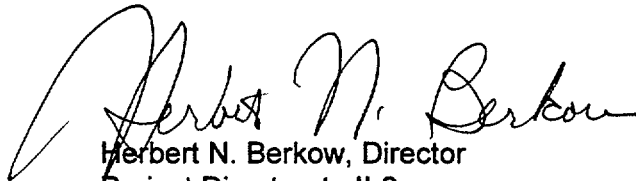
1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Southern Nuclear Operating Company, Inc. (Southern Nuclear), dated September 3, 1997, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the 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 license 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. NPF-2 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No.131, are hereby incorporated in the license. Southern Nuclear 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: October 23, 1997

ATTACHMENT TO LICENSE AMENDMENT NO. 131

TO FACILITY OPERATING LICENSE NO. NPF-2

DOCKET NO. 50-348

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

Remove Pages

3/4 2-4
3/4 2-6
3/4 3-42
B 3/4 2-2
B 3/4 2-4
B 3/4 3-2a

Insert Pages

3/4 2-4
3/4 2-6
3/4 3-42
B 3/4 2-2
B 3/4 2-4
B 3/4 3-2a

POWER DISTRIBUTION LIMITS
SURVEILLANCE REQUIREMENTS (Continued)

- b. Determining the computed heat flux hot channel factor $F_Q^C(Z)$, as follows:

Increase the measured $F_Q(Z)$ obtained from the power distribution map by 3% to account for manufacturing tolerances and further increase the value by 5% to account for measurement uncertainties when the map is taken with more than 37 OPERABLE detector thimbles. For Unit 1, Cycle 15 only, with 25 to 37 OPERABLE thimbles the measurement uncertainty is determined from the following algorithm:

$$F_Q \text{ measurement uncertainty} = 5\% + [2\{3-(T/12.5)\}],$$

where T = the number of OPERABLE thimbles.

- c. Verifying that $F_Q^C(Z)$, obtained in Specification 4.2.2.2b above, satisfies the relationship in Specification 3.2.2.
- d. Satisfying the following relationship:

$$F_Q^C(Z) \leq \frac{F_Q^{RTP} \times K(Z)}{P \times W(Z)} \quad \text{for } P > 0.5$$

$$F_Q^C(Z) \leq \frac{F_Q^{RTP} \times K(Z)}{0.5 \times W(Z)} \quad \text{for } P \leq 0.5$$

Where $F_Q^C(Z)$ is obtained in Specification 4.2.2.2b above, F_Q^{RTP} is the F_Q limit, $K(Z)$ is the normalized $F_Q(Z)$ as a function of core height, P is the fraction of RATED THERMAL POWER, and $W(Z)$ is the cycle dependent function that accounts for power distribution transients encountered during normal operation.

F_Q^{RTP} , $K(Z)$, and $W(Z)$ are specified in the COLR as per Specification 6.9.1.11.

- e. Measuring $F_Q(Z)$ according to the following schedule:
1. Upon achieving equilibrium conditions after exceeding by 20% or more of RATED THERMAL POWER, the THERMAL POWER at which $F_Q(Z)$ was last determined*, or
 2. At least once per 31 Effective Full Power Days, whichever occurs first.

*During power escalation after each fuel loading, power level may be increased until equilibrium conditions at any power level greater than or equal to 50% of RATED THERMAL POWER have been achieved and a power distribution map obtained.

POWER DISTRIBUTION LIMITS

SURVEILLANCE REQUIREMENTS (Continued)

- h. The limits specified in Specification 4.2.2.2c are applicable in all core plane regions, i.e., 0 - 100%, inclusive.
- i. The limits specified in Specifications 4.2.2.2d, 4.2.2.2f, and 4.2.2.2g above are not applicable in the following core plane regions:
 - 1) Lower core region from 0 to 15%, inclusive
 - 2) Upper core region from 85 to 100%, inclusive.

4.2.2.3 When $F_Q(Z)$ is measured for reasons other than meeting the requirements of Specification 4.2.2.2, an overall measured $F_Q(Z)$ shall be obtained from a power distribution map and increased by 3% to account for manufacturing tolerances and further increased to account for measurement uncertainty. When the map is taken with more than 37 OPERABLE detector thimbles, the measurement uncertainty is 5%. For unit 1, Cycle 15 only, with 25 to 37 OPERABLE thimbles the measurement uncertainty is determined from the following algorithm.

$$F_Q \text{ measurement uncertainty} = 5\% + [2\{3-(T/12.5)\}],$$

where T = the number of OPERABLE thimbles.

POWER DISTRIBUTION LIMITS

SURVEILLANCE REQUIREMENTS

4.2.3.1 $F_{\Delta H}^N$ shall be determined to be within its limit by using the movable incore detectors to obtain a power distribution map:

- a. Prior to operation above 75% of RATED THERMAL POWER after each fuel loading, and
- b. At least once per 31 Effective Full Power Days.
- c. The provisions of Specification 4.0.4 are not applicable.

4.2.3.2 The measured $F_{\Delta H}^N$ of 4.2.3.1 above, shall be increased by 4% for measurement uncertainty when the map is taken with more than 37 OPERABLE detector thimbles. For Unit 1, Cycle 15 only, with 25 to 37 OPERABLE thimbles the measurement uncertainty is determined from the following algorithm.

$$F_{\Delta H} \text{ measurement uncertainty} = 4\% + [1.5\{3 - (T/12.5)\}],$$

where T = the number of OPERABLE thimbles.

INSTRUMENTATION

MOVABLE INCORE DETECTORS

LIMITING CONDITION FOR OPERATION

3.3.3.2 The movable incore detection system shall be OPERABLE with:

- a. At least 75%* of the detector thimbles,
- b. A minimum of 2* detector thimbles per core quadrant, and
- c. Sufficient movable detectors, drive, and readout equipment to map these thimbles.

APPLICABILITY: When the movable incore detection system is used for:

- a. Recalibration of the excore neutron flux detection system,
- b. Monitoring the QUADRANT POWER TILT RATIO, or
- c. Measurement of $F_{\Delta H}^N$, $F_Q(Z)$ and F_{xy}

ACTION:

With the movable incore detection system inoperable, do not use the system for the above applicable monitoring or calibration functions. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.2 The movable incore detection system shall be demonstrated OPERABLE, by normalizing each detector output during use when required for:

- a. Recalibration of the excore neutron flux detection system, or
- b. Monitoring the QUADRANT POWER TILT RATIO, or
- c. Measurement of $F_{\Delta H}^N$, $F_Q(Z)$ and F_{xy} .

*For Unit 1, Cycle 15 only, at least 50% of the detector thimbles are required. With less than 75% of the detector thimbles, a minimum of 3 detectors thimbles per core quadrant are required, where quadrant includes both the horizontal-vertical quadrant and diagonally bound quadrants (eight quadrants total).

POWER DISTRIBUTION LIMITS

BASES

3/4.2.2 and 3/4.2.3 HEAT FLUX HOT CHANNEL FACTOR, NUCLEAR ENTHALPY HOT CHANNEL FACTOR

The limits on heat flux hot channel factor, and nuclear enthalpy rise hot channel factor ensure that 1) the design limit on peak local power density is not exceeded, 2) the DNB design criterion is met, and 3) in the event of a LOCA the peak fuel clad temperature will not exceed the 2200°F ECCS acceptance criteria limit.

Each of these is measurable but will normally only be determined periodically as specified in Specifications 4.2.2 and 4.2.3. This periodic surveillance is sufficient to insure that the limits are maintained provided:

- a. Control rods in a single group move together with no individual rod insertion differing by more than ± 12 steps, indicated, from the group demand position.
- b. Control rod banks are sequenced with overlapping groups as described in Specification 3.1.3.6.
- c. The control rod insertion limits of Specifications 3.1.3.5 and 3.1.3.6 are maintained.
- d. The axial power distribution, expressed in terms of AXIAL FLUX DIFFERENCE, is maintained within the limits.

$F_{\Delta H}^N$ will be maintained within its limits provided conditions a. through d. above are maintained. The relaxation of $F_{\Delta H}^N$ as a function of THERMAL POWER allows changes in the radial power shape for all permissible rod insertion limits.

When an F_0 measurement is taken, an allowance for both experimental error and manufacturing tolerance must be made. An allowance of 5% is appropriate for a full core map taken with the incore detector flux mapping system with more than 37 OPERABLE detector thimbles. With 25 to 37 OPERABLE detector thimbles, the allowance for measurement uncertainty is calculated by the algorithm in 4.2.2.2.b. for Unit 1, Cycle 15 only. A 3% allowance is appropriate for manufacturing tolerance.

The heat flux hot channel factor $F_0(Z)$ is measured periodically and increased by a cycle and height dependent power factor appropriate to RAOC operation, $W(Z)$, to provide assurance that the limit on the heat flux hot channel factor $F_0(Z)$ is met. $W(Z)$ accounts for the effects of normal operational transients within the AFD limits and was determined from expected power control maneuvers over the full range of burnup conditions in the core. The $W(Z)$ function for normal operation and the AFD limits are provided in the COLR per Specification 6.9.1.11.

POWER DISTRIBUTION LIMITS

BASES

When $F_{\Delta H}^N$ is measured, experimental error must be allowed for and 4% is the appropriate allowance for a full core map taken with the incore detection system with more than 37 OPERABLE detector thimbles. With 25 to 37 OPERABLE detector thimbles, the allowance for measurement uncertainty is calculated by the algorithm defined by 4.2.3.2 for Unit 1, Cycle 15 only. The specified limit for $F_{\Delta H}^N$ contains a 4% allowance for manufacturing uncertainties. The total uncertainty allowance is based on the following considerations:

- a. Abnormal perturbations in the radial power shape, such as from rod misalignment, affect $F_{\Delta H}^N$ more directly than F_Q ,
- b. Although rod movement has a direct influence upon limiting F_Q to within its limit, such control is not readily available to limit $F_{\Delta H}^N$, and
- c. Errors in prediction for control power shape detected during startup physics tests can be compensated for in F_Q by restricting axial flux distribution. This compensation for $F_{\Delta H}^N$ is less readily available.

If $F_{\Delta H}^N$ exceeds its limit, the unit will be allowed 4 hours to restore $F_{\Delta H}^N$ to within its limits. This restoration may, for example, involve realigning any misaligned rods or reducing power enough to bring $F_{\Delta H}^N$ within its power dependent limit. When the $F_{\Delta H}^N$ limit is exceeded, the DNBR limit is not likely violated in steady state operation, because events that could significantly perturb the $F_{\Delta H}^N$ value, e.g., static control rod misalignment, are considered in the safety analyses. However, the DNBR limit may be violated if a DNB limiting event occurs while $F_{\Delta H}^N$ is above its limit. The increased allowed action time of 4 hours provides an acceptable time to restore $F_{\Delta H}^N$ to within its limits without allowing the plant to remain in an unacceptable condition for an extended period of time.

Once corrective action has been taken, e.g., realignment of misaligned rods or reduction of power, an incore flux map must be obtained and the measured value of $F_{\Delta H}^N$ verified not to exceed the allowed limit. Twenty additional hours are provided to perform this task above the four hours allowed by Action Statement 3/4.2.3.a. The completion time of 24 hours is acceptable because of the low probability of having a DNB limiting event within this 24 hour period and, in the event that power is reduced, an increase in DNB margin is obtained at lower power levels. Additionally, operating experience has indicated that this completion time is sufficient to obtain the incore flux map, perform the required calculations, and evaluate $F_{\Delta H}^N$.

INSTRUMENTATION

BASES

RADIATION MONITORING INSTRUMENTATION (continued)

The alarm/trip setpoint for the fuel storage pool area has been established based on a flow rate of 13,000 scfm; a release in which Xe-133 and Kr-85 are the predominant isotopes, on concentration values equal to or less than the effluent concentration limits stated in 10 CFR 20, Appendix B, (to paragraphs 20.1001 - 20.2401), Table 2, Column 1 for these isotopes, and on a X/Q of 5.6×10^{-6} sec/m³ at the site boundary.

3/4.3.3.2 MOVABLE INCORE DETECTORS

The OPERABILITY of the movable incore detectors with the specified minimum complement of equipment ensures that the measurements obtained from use of this system accurately represent the spatial neutron flux distribution of the reactor core. The OPERABILITY of this system is demonstrated by irradiating each detector used and determining the acceptability of its voltage curve.

For the purpose of measuring $F_Q(Z)$, $F_{\Delta H}^N$, and F_{xy} a full incore flux map is used. Quarter-core flux maps, as defined in WCAP-8648, June 1976, may be used in recalibration of the excore neutron flux detection system. For Unit 1 Cycle 15 only, the definition of quadrants includes both the horizontal-vertical quadrant and diagonally bound quadrants (eight quadrants total) as defined in Westinghouse Report CAA-97-234. Full incore flux maps or symmetric incore thimbles may be used for monitoring the QUADRANT POWER TILT RATIO when one Power Range Channel is inoperable.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 13 TO FACILITY OPERATING LICENSE NO. NPF-2
SOUTHERN NUCLEAR OPERATING COMPANY, INC. ET AL.
JOSEPH M. FARLEY NUCLEAR PLANT, UNIT 1

DOCKET NO. 50-348

1.0 INTRODUCTION

By letter dated September 3, 1997 Southern Nuclear Operating Company (SNC, the licensee), Inc., et al., requested changes to the Technical Specifications for Joseph M. Farley Nuclear Plant, Unit 1. These changes would reduce the number of required incore detectors necessary for continued operation for the remainder of Cycle 15 only.

The Farley Unit 1 Movable Incore Detection System (MIDS) contains a total of 50 instrumentation thimbles in the core. Technical Specification (TS) 3.3.3.2 requires that at least 75% of the detector thimbles be operable with a minimum of two detector thimbles per quadrant when performing a flux map to ensure compliance with the peaking factor requirements of TS 3.2.2. The surveillance requirements of TS 3.2.2 require that the peaking factors must be determined to be within limits at least once per 31 effective full power days. Due to the recent increase in incore detector thimble failures at Farley Unit 1 during Cycle 15 thus far, SNC has proposed a change that will allow plant operation with the number of operable detector thimbles reduced to a minimum of 50% with three detector thimbles per quadrant. To compensate for the increased uncertainty as the number of operable detector thimbles is reduced, the measurement uncertainty for $F_{\Delta H}^N$ and F_{Q}^N will be increased whenever the number of detectors is between 37 and 25.

During the Unit 1 Cycle 14 refueling outage, the incore thimbles were inspected and cleaned and additional work was performed on the moveable incore detector system. During the start-up of Cycle 15, numerous flux maps were run with no unusual problems. A flux map attempt on July 8, 1997, was unsuccessful because 16 incore thimbles would not allow the detector to complete its transit. Flux maps, since that time, have been completed with 38 or 39 thimbles. While the location of the detector thimbles that were unavailable has changed from map to map, the available detectors have remained distributed throughout the core and the thimble coverage has been adequate. Since SNC believes that this problem has the potential to worsen throughout Cycle 15, there is concern about meeting the 75% requirement called for in the TS for future-required moveable incore detection system uses. Failure to have at least 75% of the thimbles accessible could result in a forced shutdown.

9711040293 971023
PDR ADOCK 05000348
P PDR

2.0 EVALUATION

Essentially all pressurized water reactor (PWR) TSs contain a requirement for operability of 75% of the incore detector locations for mapping of the core power distribution. On a number of occasions, for various reasons, failures of detector thimbles in operating PWRs have approached or exceeded 25%, and relaxation of the 75% requirement has been permitted for the remainder of the affected operating cycle.

Incore detector data is used to calculate power peaking factors that are used to verify compliance with fuel performance limits. As the number of inoperable detector thimbles increases, the uncertainties in the power distribution calculation increase. The requirement for maintaining 75% of the detector thimbles available provides for a reasonable number of failures of the incore detectors while encouraging licensees to strive for maintaining the system as near to 100% available as possible. The proposed TS 3.3.3.2 allows continued use of the movable incore detector system with less than 75% of the thimbles available if the measurement error allowance due to incomplete flux mapping is appropriate. The licensee submitted an analysis performed by the vendor, Westinghouse, which assessed the impacts of a reduction to a minimum of 25 of the 50 movable detector thimbles for Farley Unit 1 Cycle 15. The analysis indicated that additional uncertainties of 1.5% for $F_{\Delta H}^N$ and 2% for F_{σ}^N are appropriate when the number of instrumented assemblies is reduced from 38 to 25. The additional uncertainties should be applied linearly from below 75% to greater than 50% detector thimble locations. In addition, the Westinghouse analysis assumed random deletion of the thimbles. If the thimbles were systematically deleted from use, the calculated peaking factor uncertainties would not apply. Thus, there is an additional requirement that when the number of detector locations is less than 75%, there should be a minimum of three thimbles available per quadrant, where quadrant includes both horizontal-vertical quadrants and diagonally bounded quadrants (eight quadrants in all). This requirement improves the ability to distinguish between random and systemic thimble deletion events and establishes the bounds of applicability of the peaking factor uncertainties.

SNC has provided the results of core maps for Cycle 15. These show that there is currently approximately 10% margin to the $F_{\Delta H}^N$ TS limit and approximately 6% margin to the F_{σ}^N TS limit. Since the peaking factors normally tend to decrease with burnup, the staff would expect the margin to increase from now till the end of the cycle.

Another safety concern relating to degradation of incore mapping ability is the ability to detect anomalous conditions in the core. One of these is inadvertent loading of a fuel assembly into an improper position. Since this is a loading problem, it is not of concern for the remainder of the operating cycle. Furthermore, review of the Cycle 15 startup physics test results showed very good agreement between predictions and measurements, thus, giving more assurance that the core is as designed. Other anomalous conditions are conceived to produce either an axial or radial effect, which would cause either a change in quadrant tilt ratio or axial offset ratio. These are monitored by the excore detectors and would help identify problems not fully detectable with reduced incore mapping capability. Furthermore, the core exit thermocouples in the reactor provide a useful supplement to the incore detectors to detect problems.

Our review of the suitability of operation of the Farley Unit 1 reactor for the remainder of Cycle 15 with a reduced number of movable incore thimbles locations to as few as 50% indicated adequate margin exists at this time in Cycle 15 and sufficiently increased uncertainty allowances have been made to ensure that TS peaking factor limits will be met. In addition, there are adequate supplemental indicators of anomalous conditions to preclude an unsafe condition from escaping detection in the absence of full incore detector mapping capability.

3.0 TECHNICAL SPECIFICATION CHANGES

TSs 3.2.2.3.b, 4.2.2.3, and 4.2.3.2 - The changes increase the measurement uncertainty by 2% for F_{Δ}^N and 1.5% for $F_{\Delta H}^N$ when the number of operable incore detector thimbles is reduced to 50% (25) of the total number of detectors. The additional uncertainty is applied linearly from below 75% to greater than 50% detector thimble locations. The change in the uncertainty has been justified and is therefore acceptable.

TS 4.3.3.2 - The change adds a footnote which states that for Unit 1 Cycle 15 with greater than 50% and less than 75% detector thimbles available, three detector thimbles per quadrant are required where quadrant includes both the horizontal-vertical quadrant and four diagonally-bounded quadrants (eight individual quadrants in total). The proposed change was added to establish the bounds of applicability of the evaluation and is acceptable. The Bases have also been modified to incorporate the method for calculating the allowances for measurement uncertainty with 25 to 37 operable detector thimbles.

On the basis of the staff's evaluation in Section 2.0 above, the staff concludes that adequate margin exists to ensure that TS peaking factors will be met for the remainder of Cycle 15. Therefore, the proposed Technical Specification changes are acceptable. These changes are for the remainder of Cycle 15 only.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of Alabama official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has 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 the amendment involves no significant hazards consideration, and there has been no public comment on such finding (62 FR 47695 dated September 10, 1997). Accordingly, the 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 the amendment.

6.0 CONCLUSION

The Commission 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: M. Chatterton

Date: October 23, 1997