

OCT 14 1983

Docket No. 50-348

Mr. F. L. Clayton  
Senior Vice President  
Alabama Power Company  
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Dear Mr. Clayton:

The Commission has issued the enclosed Amendment No. 34 to Facility Operating License No. NPF-2 for the Joseph M. Farley Nuclear Plant, Unit No. 1. The amendment consists of changes to the Technical Specifications to make a temporary change (until the next refueling outage) to allow one narrow range sump level channel to be inoperable and to allow neither narrow range sump level channel operable for up to seven days.

A copy of the Safety Evaluation is enclosed. The Notice of Issuance and Final Determination of No Significant Hazards Consideration and Opportunity for Hearing will be included in the Commission's Monthly Notice.

Sincerely,

*151*  
Steven A. Varga, Chief  
Operating Reactors Branch #1  
Division of Licensing

Enclosures:

1. Amendment No. 34 to NPF-2
2. Safety Evaluation

cc w/enclosures:  
See next page

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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. 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. 34, are hereby incorporated in the license. The licensee 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

  
Steven A. Varga, Chief  
Operating Reactors Branch #1  
Division of Licensing

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: October 14, 1983



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

ALABAMA POWER COMPANY

DOCKET NO. 50-348

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 34  
License No. NPF-2

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Alabama Power Company (the licensee) dated October 11, 1983, 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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ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 34 TO FACILITY OPERATING LICENSE NO. NPF-2

DOCKET NO. 50-348

Revise Appendix A as follows:

Remove Pages

3/4 3-56

3/4 3-55

Insert Pages

3/4 3-56

3/4 3-55\*

\*Included for convenience only

TABLE 3.3-10 (Continued)

<u>INSTRUMENT CHANNEL</u>	<u>SENSOR LOCATION</u>	<u>MINIMUM OPERABLE CHANNELS</u>
PSH-2853 G,H I,J	Recycle Evaporator Room E1. 121 ft. Corridor E1. 121 ft.	1 1
2. Flooding Detectors		
a. LSH 2828 A,B,C	Main Steam Room E1. 127 ft.	2
b. LSH 2829 A,B,C	Main Steam Room E1. 127 ft.	2

## INSTRUMENTATION

### ACCIDENT MONITORING INSTRUMENTATION

#### LIMITING CONDITION FOR OPERATION

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3.3.3.8 The accident monitoring instrumentation channels shown in Table 3.3-11 shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

#### ACTION:

- a. With the number of OPERABLE accident monitoring channels less than the Required Number of channels shown in Table 3.3-11, restore the inoperable channel to OPERABLE status within 7 days\* or be in at least HOT SHUTDOWN within the next 12 hours.
- b. With the number of OPERABLE accident monitoring channels less than the Minimum Channels OPERABLE requirements of Table 3.3-11; restore the inoperable channel(s) to OPERABLE status within 48# hours or be in at least HOT SHUTDOWN within the next 12 hours.
- c. The provisions of Specification 3.0.4 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.3.3.8 Each accident monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-7.

\* A one-time only change for Item 14 of Table 3.3-11 allows power operation to continue with one channel inoperable until the fifth refueling outage scheduled to begin during the January/February 1984 timeframe. During this period the provisions of Specification 3.0.5 are not applicable.

# A one-time only change for Item 14 of Table 3.3-11 allows power operation to continue with neither channel OPERABLE for up to seven days until the fifth refueling outage scheduled to begin during the January/February 1984 timeframe.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 34 TO FACILITY OPERATING LICENSE NO. NPF-2  
ALABAMA POWER COMPANY  
JOSEPH M. FARLEY NUCLEAR PLANT, UNIT NO. 1  
DOCKET NO: 50-348

Introduction

By letter dated October 11, 1983, the licensee requested an immediate one-time only Technical Specification change to allow for continued plant operation with only one operable narrow range sump monitor and with neither narrow range sump monitor channel operable for up to seven days.

Background

Each Farley Nuclear Plant Unit design includes two containment sumps. One of these sumps is the maintenance sump located under the reactor vessel that contains the narrow range containment sump level sensors. The other sump is the Emergency Core Cooling System (ECCS) sump that contains the post-accident containment water level sensors (wide range sump level). The ECCS sump is physically separate and independent from the maintenance sump (See Figure 1 from the licensees October 11, 1983 letter).

The sixty cubic foot capacity maintenance sump contains two narrow range sump level sensors (added to satisfy NUREG-0737, Item II.F.1), two 75 gpm sump pumps and one level sensor for pump control. The balance of plant panel located in the main control room contains two narrow range level indicators, pump controls and pump status lights. During normal operation the maintenance sump collects equipment drainage. The sump contents are periodically pumped to one of the liquid waste system tanks outside containment for radwaste processing. Upon a safety injection signal, the maintenance sump is isolated via containment isolation valves since it performs no post-accident function.

On October 8, 1983 at 5:15 am, one channel of the narrow range containment sump level indication failed at the Farley Nuclear Plant - Unit 1. When one channel is inoperable, the ACTION statement of Technical Specification 3/4.3.3.8 requires that both channels must be returned to operable status within 7 days

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or the plant must be in HOT SHUTDOWN within the next 12 hours. Without the proposed change to the Technical Specifications, the plant must begin to shutdown on October 15, 1983 and would remain shutdown for at least four days to repair or replace the failed sump monitor.

Subsequent to the discovery of the failed narrow range sump level channel, extensive trouble-shooting revealed that the sensor under the reactor vessel had failed. The vendor was consulted and could not identify any additional corrective action that could be implemented during power operation. To repair the failed sensor, entry into the incore instrument chase located under the reactor vessel is required. No significant or major maintenance can be performed in this area except during cold shutdown without seriously endangering operations personnel. The staff is satisfied that the licensee's actions in requesting this amendment to the Technical Specifications were timely.

#### Licensee's Justification for Technical Specification Change

As stated in the licensee's letter dated June 1, 1981 addressing NUREG-0737, II.F.1 requirements, the narrow range instruments are not required for post-accident conditions, are not needed for operator action and are not included as a part of any control system. These instruments are not included in emergency (e.g., LOCA) or abnormal (e.g., primary system leakage) procedures utilized to detect accident conditions or precursors to accident conditions. The narrow range sump level system provides a secondary indication of small primary system leakage. The primary leak detection system identified in Technical Specification 3/4.4.7.2 consists of the following:

1. containment atmosphere particulate monitor,
2. containment atmosphere gaseous monitor, or
3. containment air cooler condensate level.

Based on previous leakage detection experience at the Farley Nuclear Plant, the narrow range sump level system is not utilized to identify and quantify technical specification leakage. As stated in the licensee's letter dated May 20, 1983, TMI Action Plan equipment (specifically the narrow range sump level system) is not required to achieve a safe shutdown condition.

During the interval that one narrow range sump level channel is inoperable, the operable level channel would be used to determine sump level. In addition the sump pump status indication may be used as a secondary means to determine sump level. The number of pumps running (i.e., one pump, two pumps, or no pumps) would indicate the sump level and would provide a redundant method of level indication to the operable narrow range sump level channel. Figure 2 from the licensee's October 11 1983 letter shows that quantitative level information is provided at three points over the same three foot range indicated by the narrow range system.

#### NUREG-0737 Item II.F.1 Requirements

Item II.F.1 of NUREG-0737 required, in part, that a narrow range instrument be provided for PWRs to monitor the range from the bottom to the top of the containment sump. Clarification by the staff stipulated that the narrow range containment water level instruments meet the requirements of Regulatory Guide 1.89, "Qualification of Class 1E Equipment of Nuclear Power Plants".

The staff is currently in the process of developing further clarification to the NUREG requirements concerning the narrow range sump instrumentation. Although this clarification has not been finalized, the licensee's proposed change is not inconsistent with the clarification.

#### Evaluation

The licensee has requested that Technical Specification 3/4.3.3.8 be modified on a one-time only basis to allow continued operation of Unit 1 with only one narrow range sump level channel operable until the next refueling outage, scheduled to begin during the January/February 1984 timeframe. Included in this proposed technical specification is a provision to extend the ACTION statement when both channels are inoperable from 48 hours to seven days. This extension would facilitate a weekend outage to repair the inoperable channel.

The licensee has stated that the narrow range sump level system is not needed for post-accident conditions or operator action described in the emergency/abnormal operating procedures. Other means of detecting primary system leakage are available to the operator and are utilized for normal and emergency conditions. As stated in the licensee's letter dated May 20, 1983, TMI Action Plan equipment (specifically the narrow range sump level system) is not required to achieve safe shutdown condition at the Farley Nuclear Plant.

The original intent of Item II.F.1 of NUREG-0737 was to provide a reliable means for the control room operators to monitor the containment water level for the duration of an accident. The wide range monitors were required to meet the requirements of Regulatory Guide 1.97 and be both redundant and safety grade. The intent of the wide range monitors was to help the operators recognize a major pipe break in containment and determine when switchover between the injection and recirculation modes should take place. The narrow range monitors, on the other hand, were not intended to perform the same function as the wide range instrumentation. The narrow range sump monitors are generally housed in small, limited capacity sumps. These sumps would rapidly fill during even small pipe ruptures and their use in recognizing pipe ruptures in containment would be limited. Their intent was to provide plant operators with a secondary means of verifying a pipe break in containment.

### Summary

The Farley Nuclear Plant does not rely on the narrow range sump instrumentation for post accident conditions or emergency/abnormal operating conditions. As previously discussed, other means of detecting primary system leakage are available to the operator and are utilized for normal and emergency post-accident conditions. The Farley narrow range sump instrumentation does not provide a safety function and is only relied upon as a secondary means of verifying a containment pipe break.

The single narrow range channel has been shown to correlate with the automatic actuation and stopping of the containment sump pumps. The operators could use this as a secondary means of verifying sump level.

As previously discussed, the NRC is in the process of developing new clarification regarding the narrow range sump instrumentation. Although not finalized, the licensee's proposal is not inconsistent with the clarification.

Based on our review of the licensee's proposal we conclude that continued operation with only a single narrow range instrument channel and with neither narrow range channel operable for up to seven days is acceptable. The proposed Technical Specification changes will be in close conformance with the new clarification that is soon to be issued by the staff. Therefore, we find the proposed one time only Technical Specification changes to be acceptable.

### Final No Significant Hazards Consideration Determination

The State was informed by telephone of our proposed no significant hazards consideration determination on October 14, 1983. The State contact had no comments on the proposed determination. We have determined that the proposed amendment is not significant because the narrow range level channel is not required for post-accident conditions, is not needed for operator action, and is not included as part of any control system. The narrow range sump level system provides a secondary indication of small primary leakage; primary system leakage detection systems required by the Technical Specifications are the containment particulate monitor, gaseous monitor, and air cooler condensate monitor. We have also determined that compensatory safety measures are available as provided by the two pumps located in the same sump. The pump level switches will start one or two pumps depending on the level of fluid in the sump and the licensee has recently correlated the level from the narrow range channels with the light status on the one or two (or none) pump operation. With one narrow range sump level channel out or with two channels inoperable for up

to seven days, the sump level can still be determined by the light status from the sump pump operation. Based on our review of the licensee's submittal as described herein, we have determined that the licensee's amendment request does not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. Therefore we have further determined that the license amendment does not involve a significant hazards consideration.

#### 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) 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.

Principal Contributors: D. Pickett

Dated: October 14, 1983