

January 22, 1985

Docket No. 50-364

Mr. R. P. McDonald  
Senior Vice President  
Alabama Power Company  
Post Office Box 2641  
Birmingham, Alabama 35291

Dear Mr. McDonald:

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DBrinkman  
CMiles  
RDiggs  
BELLiot

The Commission has issued the enclosed Amendment No. 48 to Facility Operating License NPF-8 for the Joseph M. Farley Nuclear Plant, Unit No. 2. The amendment consists of changes to the Technical Specifications in response to your application transmitted by letter dated February 10, 1984, supplemented June 18, 1984.

The amendment modifies Technical Specification Table 4.4-5, the capsule withdrawal schedule. We have not made the changes as proposed for Figures 3.4-2 and 3.4-3 based on our review of the analysis of Capsule U Reactor Vessel Material Radiation Surveillance Program. We have discussed this with your staff who agree that Figures 3.4-2 and 3.4-3 as proposed are not required for Cycle 4 operation.

A copy of our related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next regular monthly Federal Register notice.

Sincerely,

/s/EAReesves

Edward A. Reeves, Project Manager  
Operating Reactors Branch #1  
Division of Licensing

Enclosures:

1. Amendment No. 48 to NPF-8
3. Safety Evaluation

cc: w/enclosures:

See next page

\*See previous white for concurrence

ORB#1:DL\*  
CParrish  
12/28/84

ORB#1:DL  
EReeves;ps  
12/28/84

BC-ORB#1:DL  
SVarga  
12/28/84

OELD  
W.D. Palm  
1/2/85

AD-GR:DL  
GLainas  
1/2/85

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P PDR

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The amendment modifies Technical Specification Table 4.4-5, the capsule withdrawal schedule. We have not made the changes as proposed for Figures 3.4-2 and 3.4-3 based on our review of the analysis of Capsule U Reactor Vessel Material Radiation Surveillance Program.

The 10 CFR Part 50 Appendix H analysis which you provided in WCAP-10425 by letter dated November 10, 1983 requires further clarification as indicated in the attachment to our enclosed evaluation. We have discussed our concerns with your staff who agree that Figures 3.4-2 and 3.4-3 as proposed are not required for Cycle 4 operation. Any changes needed for operation beyond Cycle 4 should be provided for NRC staff review approximately six months prior to the end of Cycle 4.

A copy of our related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next regular monthly Federal Register notice.

Sincerely,

Edward A. Reeves, Project Manager  
Operating Reactors Branch #1  
Division of Licensing

Enclosures:

1. Amendment No. to NPF-8
3. Safety Evaluation

cc: w/enclosures:  
See next page

ORB#1:DL  
CParrish

12/28/84

ORB#1:DL  
EReeves;ps

12/26/84

BC-ORB#1:DL  
SVarga

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OELD

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AD-OR:DL  
GLainas

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Mr. R. P. McDonald  
Alabama Power Company

Joseph M. Farley Nuclear Plant  
Units 1 and 2

cc: Mr. W. O. Whitt  
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Chairman  
Houston County Commission  
Dothan, Alabama 36301

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

ALABAMA POWER COMPANY

DOCKET NO. 50-364

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 48  
License No. NPF-8

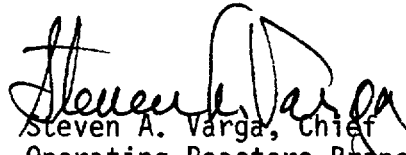
1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Alabama Power Company (the licensee) dated February 10, 1984, supplemented June 18, 1984, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the 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-8 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No.48 , 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 its date of 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: January 22, 1985

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 48 FACILITY OPERATING LICENSE NO. NPF-8

DOCKET NO. 50-364

Revise Appendix A as follows:

Remove Page

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Insert Page

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TABLE 4.4-5

REACTOR VESSEL MATERIAL SURVEILLANCE PROGRAM-WITHDRAWAL SCHEDULE

<u>CAPSULE</u>	<u>VESSEL LOCATION</u>	<u>LEAD FACTOR</u>	<u>WITHDRAWAL TIME</u>
U	343°	3.12	Removed 1.1 EFPY
W	110°	2.70	4 EFPY
X	287°	3.12	6 EFPY
Z	340°	2.70	12 EFPY
V	107°	3.12	18 EFPY
Y	290°	2.70	Standby



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 48 TO FACILITY OPERATING LICENSE NO. NPF-8

ALABAMA POWER COMPANY

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT NO. 2

DOCKET NO. 50-364

Introduction

In a letter from F. L. Clayton Jr. to S. A. Varga dated February 10, 1984, the licensee proposed changes to the Joseph M. Farley Nuclear Plant, Unit 2 (Farley 2) Technical Specifications. These changes included a revised withdrawal schedule for the reactor vessel surveillance capsule and a reduction in the effective period for the reactor vessel pressure-temperature limits from 5 (five) effective full power years (EFPY) to 4.3 EFPY. The licensee indicates that the proposed changes to the withdrawal schedule were required to conform to the requirements in Appendix H, 10 CFR 50, which became effective on July 26, 1983 (48 FR 24008 dated May 31, 1983). The changes to the pressure-temperature limits were considered administrative in nature, since they reduce the effective period for the curves to account for instrument error. To support these changes the licensee had submitted in a letter from F. L. Clayton to S. A. Varga dated November 10, 1983 the Westinghouse WCAP-10425, entitled "Analysis of Capsule U from the Alabama Power Company Joseph M. Farley Unit 2 Reactor Vessel Radiation Surveillance Program."

Our evaluation and discussion of the licensee's proposals follow.



### Evaluation and Discussion

Appendix H, 10 CFR 50 contains the regulatory requirements for a reactor vessel materials surveillance program. Appendix H requires that the proposed withdrawal schedule be approved prior to implementation and references ASTM E 185-82, "Standard Practice for Conducting Surveillance Tests for Light-Water Cooled Nuclear Power Reactor Vessels." For the Farley 2 reactor vessel, ASTM E 185-82 recommends that there be a minimum of (5) five capsules and that these capsules be withdrawn when the neutron fluence received by and capsules corresponds to the amount identified in Table I of ASTM E 185-82. This table recommends that the capsules be withdrawn at various neutron fluences throughout the plant's life and that the fifth (last) capsule be withdrawn at a neutron fluence not less than once or greater than twice the peak end-of-life (EOL) vessel fluence.

The measured and calculated end-of-life peak neutron fluence at the inside vessel surface reported in WCAP-10425 were  $5.30 \times 10^{19}$  and  $6.47 \times 10^{19}$  (>1MEV) n/cm<sup>2</sup> respectively. The Farley reactor vessel surveillance program contains (6) six capsules. Five capsules are to be withdrawn and one is to remain as a standby capsule. By letter dated June 18, 1984 the licensee provided the estimated neutron fluence to be received by each capsule at the proposed withdrawal schedule. We have compared the expected neutron fluence to be received by each capsule to that recommended by ASTM E 185-82 and conclude that the proposed capsule withdrawal schedule meets the intent of ASTM E 185-82. Hence, we consider the proposed withdrawal schedule Table 4.4-5 of the Farley 2 Technical Specification, acceptable.

However, this conclusion is based on the licensee continuing the current operating method (high leakage, 12 month cores) for the remainder of the life of the Farley 2 reactor vessel. If the fuel cycle changes to low leakage cores, the withdrawal schedule may require revisions in order to comply with the schedule recommended in ASTM E 185-82.

#### Safety Summary

Based on our review, as discussed herein, we conclude that the Capsule U test results confirm that the method used to predict radiation damage to the Farley 2 reactor vessel beltline materials is conservative, that the capsule withdrawal schedule in Table 4.4-5 is acceptable, and that the pressure temperature curves in Figures 3.4-2 and 3.4-3 may be utilized until completion of the fourth fuel cycle. If the licensee decides to change the fuel cycle from high leakage, 12 month core to low leakage core, the licensee may need to re-evaluate the capsule withdrawal schedule to determine whether it still conforms to that recommended in ASTM E-185-82.

#### Environmental Consideration

The amendment involves a change in an inspection or surveillance requirement for a facility component located within the restricted area as defined in 10 CFR Part 20. The 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 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 Sec 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.

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: January 22, 1985

Principal Contributors:

B. Elliot  
E. Reeves