

April 22, 1986

Docket No. 50-364

DISTRIBUTION

Mr. R. P. McDonald
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Dear Mr. McDonald:

The Commission has issued the enclosed Amendment No. 56 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 telecopy dated April 18, 1986.

The amendment deletes the fuel rod weight limit in Technical Specification 5.3.1. The amendment also confirms action taken by the Administrator of Region II to allow the fuel loading to proceed. The Technical Specification change is required prior to entering Mode 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 bi-weekly Federal Register notice.

Sincerely,

/s/

Edward A. Reeves, Project Manager
PWR Project Directorate #2
Division of PWR Licensing-A
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No. 56 to NPF-8
- 3. Safety Evaluation

cc: w/enclosures:
See next page

LA:PAD#2
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4/21/86

PM:PAD#2
EReeves
4/21/86

for
BC:RSB:PWR-A
CBerlinger
4/21/86

D:PAD#2
LRubenstein
4/21/86

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4/21/86

Mr. R. P. McDonald
Alabama Power Company

Joseph M. Farley Nuclear Plant

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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. 56
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 April 18, 1986, 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:

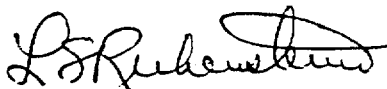
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(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 56, 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



Lester S. Rubenstein, Director
PWR Project Directorate #2
Division of PWR Licensing-A
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: April 22, 1986

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO.56 FACILITY OPERATING LICENSE NO. NPF-8

DOCKET NO. 50-364

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised page is identified by amendment number and contains vertical lines indicating the areas of change. A corresponding overleaf page is also provided to maintain document completeness.

Remove Page

5-6

Insert Page

5-6

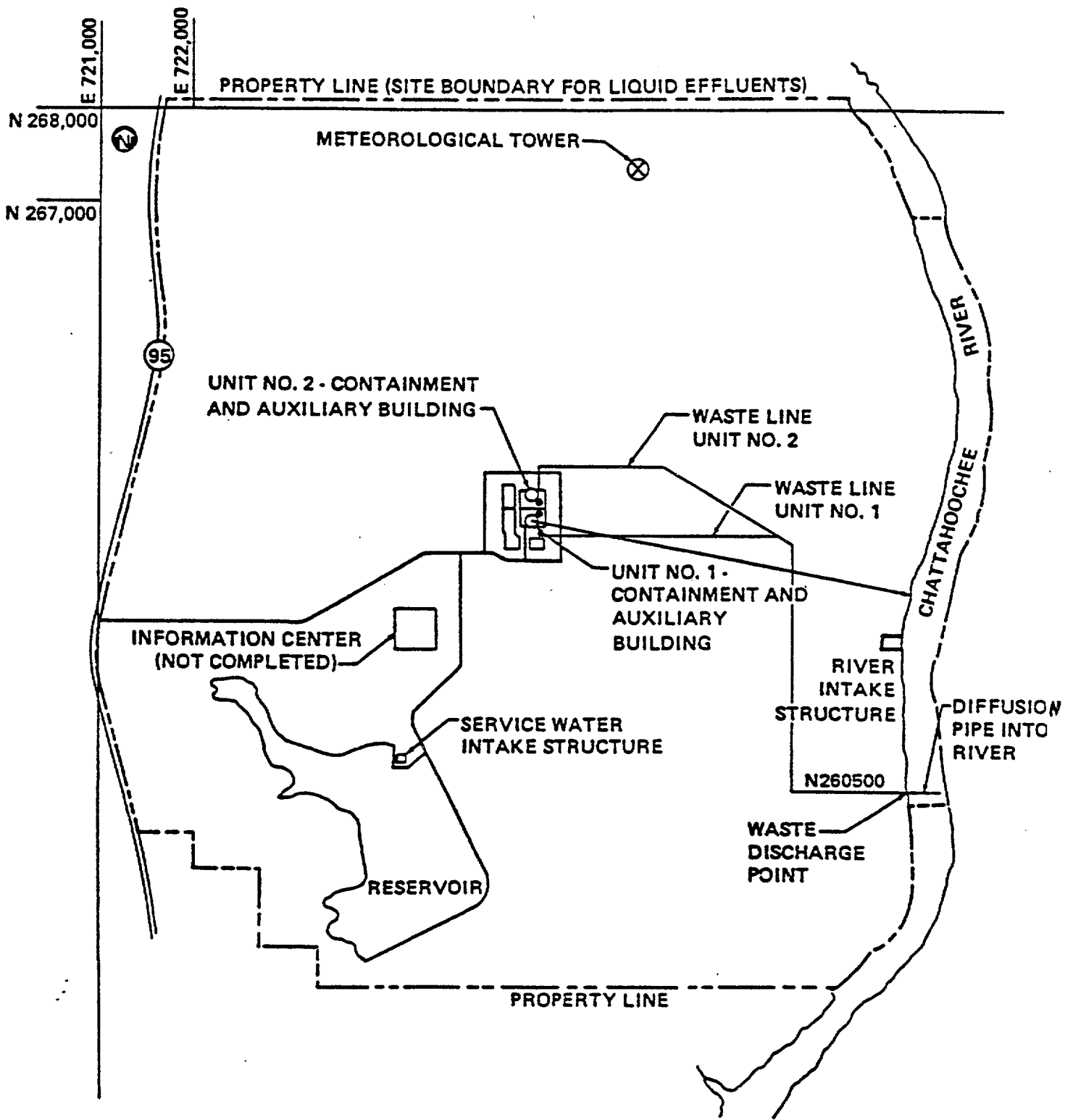


Figure 5.1-4 Plant Farley Site Map
Exclusion Area and Liquid Effluents

DESIGN FEATURES

5.3 REACTOR CORE

FUEL ASSEMBLIES

5.3.1 The reactor core shall contain 157 fuel assemblies with each fuel assembly containing 264 fuel rods clad with Zircaloy -4. Each fuel rod shall have a nominal active fuel length of 144 inches. The initial core loading shall have a maximum enrichment of 3.2 weight percent U-235. Reload fuel shall be similar in physical design to the initial core loading and shall have a maximum enrichment of 4.3 weight percent U-235.

CONTROL ROD ASSEMBLIES

5.3.2 The reactor core shall contain 48 full length and no part length control rod assemblies. The full length control rod assemblies shall contain a nominal 142 inches of absorber material. The nominal values of absorber material shall be 80 percent silver, 15 percent indium and 5 percent cadmium. All control rods shall be clad with stainless steel tubing.

5.4 REACTOR COOLANT SYSTEM

DESIGN PRESSURE AND TEMPERATURE

5.4.1 The reactor coolant system is designed and shall be maintained:

- a. In accordance with the code requirements specified in Section 5.2 of the FSAR, with allowance for normal degradation pursuant to the applicable Surveillance Requirements,
- b. For a pressure of 2485 psig, and
- c. For a temperature of 650°F, except for the pressurizer which is 680°F.

VOLUME

5.4.2 The total water and steam volume of the reactor coolant system is 9723 + 100 cubic feet at a nominal T_{avg} of 525°F.

5.5 METEOROLOGICAL TOWER LOCATION

5.5.1 The meteorological tower shall be located as shown on Figure 5.1-1.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 56 TO FACILITY OPERATING LICENSE NO. NPF-8

ALABAMA POWER COMPANY

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT NO. 2

DOCKET NO. 50-364

Introduction

By telecopy from R. P. McDonald to the Director, Nuclear Reactor Regulation (ATTN: L. S. Rubenstein) dated April 18, 1986, Alabama Power Company (APCo) requested changes to Operating License NFP-8 for Joseph M. Farley Nuclear Plant, Unit 2:

At present the Design Features Section 5.3.1, Fuel Assemblies, of the Farley 2 Technical Specifications identifies a maximum total fuel rod weight of 1,766 grams of uranium. Recent changes by Westinghouse to the fuel design, including chamfered pellets with a reduced dish and a nominal density increase, have increased the fuel weight slightly. The weight increase has caused the assembly averaged fuel rod weight for Cycle 5 fuel to exceed the 1,766 limit by approximately one percent. The proposed change will delete the weight limits from the Technical Specifications to allow use of the slightly heavier fuel which is reflected in the Final Safety Analysis Report (FSAR) Update for Farley.

Evaluation

The important safety related parameters which depend on fuel weight, such as reactor criticality, power level, power distribution and the rate of decay heat production, are all regulated by requirements in the Limiting Condition for Operation sections of the Technical Specifications. In addition, the fuel weight is implicitly included in the nuclear design analysis performed for each reactor operating cycle and used to evaluate conformance with established limits for Design Basis Events. For the slight weight increases reported by the licensee for the Cycle 5 fuel, and any similar possible small future fuel weight increases without a significant change in fuel design, there is no impact on the safety analysis. A significant change in the fuel design would be the subject of review and changes to the other governing Technical Specifications.

Significant Hazards Determination

In accordance with the requirements of 10 CFR 50.92, the enclosed application is judged to involve no significant hazards based on the following information:

1. Does the proposed license amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

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The deletion of fuel rod uranium weight limits does not increase the probability or consequences of previously evaluated accidents. The change in fuel rod weight that could occur without a Technical Specification limit is small because other fuel design constraints such as rod diameter, gap size, UO_2 density, fuel active lengths, etc., limit the variation in rod weight. The current safety analyses are not based on fuel rod weights, but more on parameters such as power, thermal conductivity, fuel dimensions, etc. These parameters are either (1) not affected at all by fuel rod weight, or (2) are only slightly affected. However, a review of parameters which may be affected indicates that a change in fuel weight does not cause other parameters to exceed the values assumed in the safety analyses, or to cause acceptance criteria to be exceeded. The slight effects are such that the monitored nuclear parameters (power, power distribution, nuclear coefficients, etc.) remain within their Technical Specification limits. Thus, it is concluded that the change does not involve a significant increase in the probability or consequences of previously evaluated accident.

2. Does the proposed license amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

The possibility of a new or different kind of accident from any previously evaluated has been considered and is not affected by this change. All of the fuel is contained in the fuel rod which is of the same dimensions and designed to function the same as previous fuel. The existing new and spent fuel pool criticality analyses bound the changes observed. This change is mainly administrative in nature and does not create the possibility of new or different kind of accident.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

The margin of safety is maintained by adherence to other Technical Specification limits and the FSAR Design Bases. The deletion of fuel rod weight limits in Technical Specifications Design Features Section 5.3.1 does not directly affect any safety system or safety limits. Because safety margins are maintained by other limiting Technical Specifications, the deletion of fuel rod weight limits in Technical Specification Design Features Section 5.3.1 will not affect the margin of safety.

In the April 6, 1983 Federal Register, NRC published a list of examples of amendments that are not likely to involve significant hazards concern. Example No. 6 of that list applies to the deletion of the fuel rod weight limit Technical Specification, and states that,

". . . . a change which either may result in some increase to the probability or consequences of a previously-analyzed accident or may reduce in some way a safety margin, but where the results of the change

are clearly within all acceptable criteria with respect to the system or component specified in the Standard Review Plan: for example, a change resulting from the application of a small refinement of a previously used calculational model or design method."

Therefore, since the proposed amendment satisfies the three criteria, the staff concludes that the amendment does not involve a significant hazards consideration.

Safety Summary

We conclude that there will be no significant safety impact in deleting the maximum fuel weight from Technical Specification 5.3.1. We also find this action preferable to changing the specifications each cycle to accommodate the applicable weight, or to specifying an artificial upper value of the weight to bound future variations.

Finding on Existence of Emergency Situation

In the APCo submittal of April 18, 1986, the licensee explains the circumstances that led to the situation where, if the existing description of the maximum fuel rod weight in the Technical Specifications were fully implemented, entering into Mode 4 (Hot Shutdown) following the refueling would be delayed. The staff has reviewed the submittal and concluded that the situation could not reasonably be anticipated by Alabama Power Company, the failure to act in a timely way would result in a delay in Farley 2 startup, and therefore an emergency situation existed. For that reason the Commission issued the amendment under the provisions of 10 CFR 50.91(a)(5).

Environmental Conclusion

The 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. 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 made a final determination that the amendment involves a no significant hazards consideration. 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: April 22, 1986

Principal Contributor:

M. Dunenfeld