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Docket No. 50-348

Mr. F. L. Clayton  
Senior Vice President  
Alabama Power Company  
Post Office Box 2641  
Birmingham, Alabama 35291



Dear Mr. Clayton:

The Commission has issued the enclosed Amendment No. 19 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 in response to your application transmitted by letter dated March 24, 1981.

The amendment authorizes a one time only Technical Specification change until about May 15, 1981. The change will allow time for needed modifications to the dual plant service water system.

Minor changes were made to your Technical Specification proposal. These changes have been discussed with your staff who concur with our changes.

Copies of the Safety Evaluation and the Notice of Issuance are also enclosed.

Sincerely,

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

Enclosures:

1. Amendment No. 19 to NPF-2
2. Safety Evaluation
3. Notice of Issuance

cc: w/enclosures  
See next page

CP

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no objection  
by amdt and fed.  
reg notice  
only

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DATE	3/3/81	3/2/81	3/5/81	4/1/81	3/1/81	3/1/81

Docket



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

April 3, 1981

Docket No. 50-348

Mr. F. L. Clayton  
Senior Vice President  
Alabama Power Company  
Post Office Box 2641  
Birmingham, Alabama 35291

Dear Mr. Clayton:

The Commission has issued the enclosed Amendment No. 19 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 in response to your application transmitted by letter dated March 24, 1981.

The amendment authorizes a one time only Technical Specification change until about May 15, 1981. The change will allow time for needed modifications to the dual plant service water system.

Minor changes were made to your Technical Specification proposal. These changes have been discussed with your staff who concur with our changes.

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Sincerely,

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

Enclosures:

- 1. Amendment No. 19 to NPF-2
- 2. Safety Evaluation
- 3. Notice of Issuance

cc: w/enclosures  
See next page

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Mr. F. L. Clayton  
Alabama Power Company

cc: Mr. W. O. Whitt  
Executive Vice President  
Alabama Power Company  
Post Office Box 2641  
Birmingham, Alabama 35291

U. S. Environmental Protection Agency  
Region IV Office  
ATTN: EIS COORDINATOR  
345 Courtland Street, N.E.  
Atlanta, Georgia 30308

Ruble A. Thomas, Vice President  
Southern Company Services, Inc.  
Post Office Box 2625  
Birmingham, Alabama 35202

George F. Trowbridge, Esquire  
Shaw, Pittman, Potts and Trowbridge  
1800 M Street, N.W.  
Washington, D. C. 20036

Chairman  
Houston County Commission  
Dothan, Alabama 36301

Mr. Robert A. Buettner, Esquire  
Balch, Bingham, Baker, Hawthorne,  
Williams and Ward  
Post Office Box 306  
Birmingham, Alabama 35201

George S. Houston Memorial Library  
212 W. Burdeshaw Street  
Dothan, Alabama 36303

Resident Inspector  
U.S. Nuclear Regulatory Commission  
Post Office Box 24-Route 2  
Columbia, Alabama 36319

State Department of Public Health  
ATTN: State Health Officer  
State Office Building  
Montgomery, Alabama 36104

Director, Criteria and Standards Division  
Office of Radiation Programs (ANR-460)  
U. S. Environmental Protection Agency  
Washington, D. C. 20460



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. 19  
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 March 24, 1981, 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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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. 19, 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: April 3, 1981

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 19 TO FACILITY OPERATING LICENSE NO. NPF-2

DOCKET NO. 50-348

Revise Appendix A as follows:

Remove Page

3/4 7-16

Insert Page

3/4 7-16

## PLANT SYSTEMS

### 3/4.7.4 SERVICE WATER SYSTEM

#### LIMITING CONDITION FOR OPERATION

3.7.4 At least two independent service water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

#### ACTION:

With only one service water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours\*or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#### SURVEILLANCE REQUIREMENTS

4.7.4 At least two service water loops shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each accessible valve (manual, power operated or automatic), in the flow path, servicing safety related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.
- b. At least once per 18 months during shutdown, by:
  1. Verifying that each automatic valve servicing safety related equipment actuates to its correct position on a safety injection test signal.
  2. Verifying that the buried piping is still leak tight by visual inspection of the ground area.

\*One service water loop may be made inoperable to perform system modifications to the service water recirculation lines as a one time only change. The 72 hour action provision may be extended to be 10 days (for each system) for the recirculation portion of the Service water system. Modifications, affecting operability, will be made on only one of the two service water loops at the same time. One loop must remain fully operational until the other loop has been modified and is fully operational. All other portions of the service water system are not covered by this one time change. All modifications to both loops are scheduled for completion by about May 15, 1981. The provisions of Specification 3.0.4 are not applicable.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 19 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 March 24, 1981, Alabama Power Company (APCO) proposed a change to Technical Specification 3.7.4 Service Water System ACTION Statement. The change is needed to allow time for modifications to the dual plant (Units No. 1 and No. 2) service water recirculation lines. The current limiting condition for operation allows 72 hours time should one service water loop become inoperable. APCO estimates the recirculation line modifications would require ten days for each loop. Only one train (loop) will be modified at a time.

We have evaluated APCO's proposed Technical Specification changes and have made minor changes. These changes have been discussed with the APCO staff who concur with our changes. Our discussion and evaluation are included herein.

Discussion

The service water system for Joseph M. Farley Nuclear Plant, Units 1 & 2 is shown on the attached Figure 1. The combined river and service water systems are designed to seismic Category 1, safety class 3 and single failure proof.

The river water intake system consists of two trains with five pumps dedicated to each train. Each train will normally have four operating pumps. During normal operations valves 1 and 2 are normally closed while river water is pumped to the pond via valves 3 and 4. While in the pond, silt settles out and water flows to the service water wet pit which acts as a common intake structure for the Unit 1 and 2 service water systems.

Each unit is supplied with redundant service water trains. Each train has five dedicated service water pumps; only four will normally be operating. During normal operation service water is supplied to the plant and discharged to the river through valves 7 and 9 for Unit 1 and valve 8 and 10 for Unit 2. The pond recirculation valves 5 and 11 for Unit 1 and valves 6 and 12 for Unit 2 are normally closed.

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If level indicators in the service water wet pit sense low water levels, valves 3 and 4 are automatically closed and valves 1 and 2 open so that river water can directly enter the wet pit. If control room alarms continue to indicate low level in the pond, the operators can close valves 7 and 9 for Unit 1 and 8 and 10 for Unit 2 (direct service water discharge to the river) and open valves 5 and 11 for Unit 1 and valves 6 and 12 for Unit 2 (recirculation of service water back to the pond).

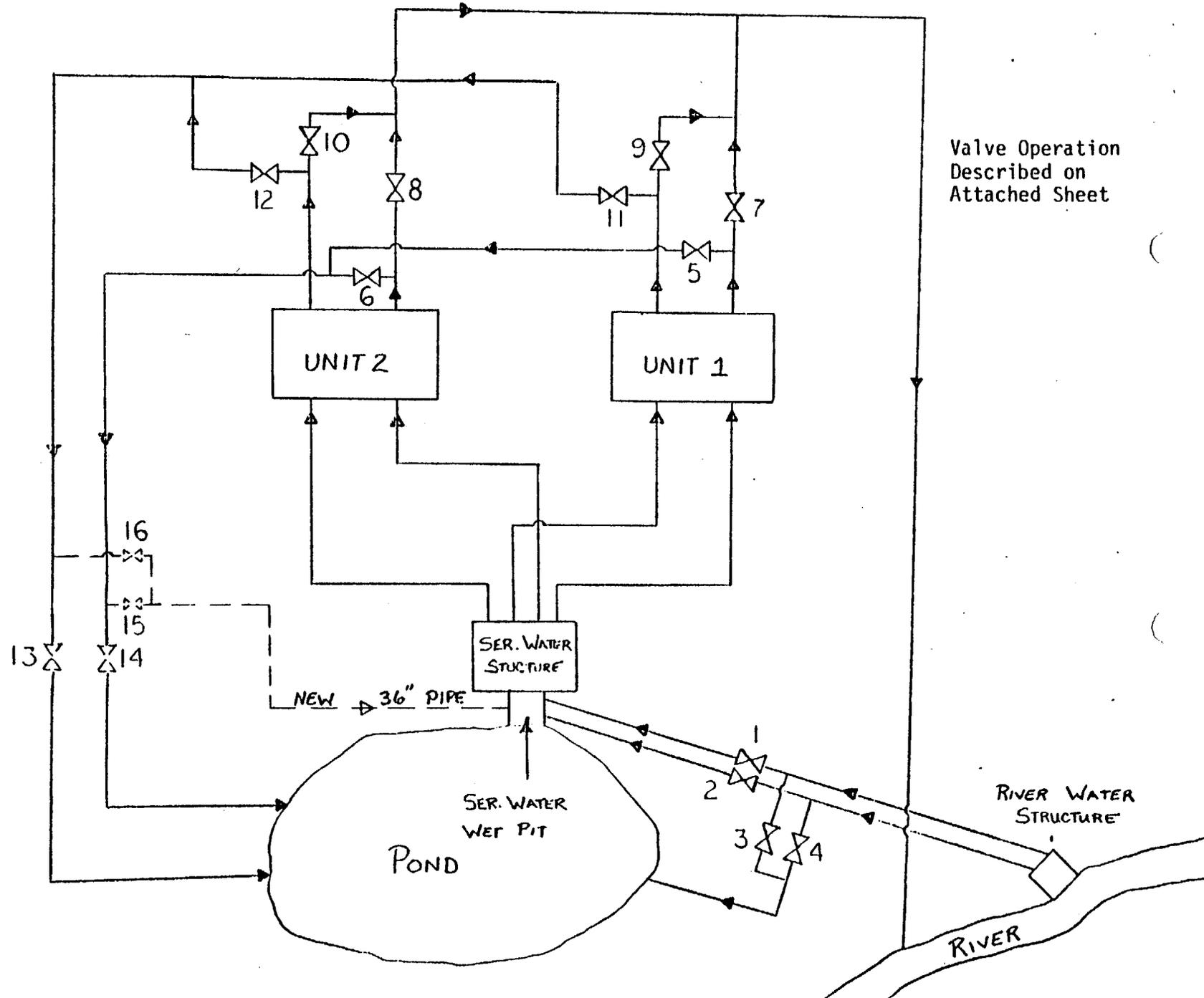
On March 24, 1981 the licensee reported a design deficiency in the service water system that was discovered during pre-operational flow tests for Unit 2. Farley FSAR Section 9.2.1.3 states that under a postulated accident condition involving a service water dam break, loss of offsite power (diesel generators would supply power to the river water and service water pumps), and the single most limiting active failure (e.g., loss of one train of river water), the operator would have 30 minutes before action would be required. During this 30 minute span a flow mismatch would exist in the wet pit as four river water pumps are postulated to serve eight service water pumps. If the operator does not take action to terminate service water flow to non-essential systems, the wet pit water level would decrease until the service water pumps would develop NPSH problems.

The eight service water pumps serving both units require approximately 53,000 gpm. Pre-operational flow tests by the licensee showed that the combined flow capacity of four river water pumps was over-estimated. Tests showed a combined capacity of approximately 43,000 gpm which would necessitate operator action in 20 minutes before service water pump problems would initiate.

On March 24, 1981, the licensee proposed modifying the service water systems by adding valves 13, 14, 15 and 16 and the new 36" line shown on the attached figure. When water levels in the service water wet pit reaches a pre-determined low level, instrumentation will now automatically open valves 5, 6, 11, 12, 15 and 16 and will automatically close valves 7, 8, 9 and 10. This action terminates service water flow directly to the river and diverts flow to the service water wet pit. Valves 13 and 14 will automatically close to a throttle position so that service water discharged from the two units will go to both the wet pit and the pond. The additional flow to the wet pit provides more than 30 minutes before operator action is required to balance the service water and river water flows.

The existing Technical Specification 3.7.4 requires two operable service water trains. If one train becomes inoperable, repair is required in the effected loop within 72 hours or the reactor must be in HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the next 30 hours. The licensee's letter of March 24, 1981 requested that the ACTION statement of this Technical Specification be extended to 10 days on a one time basis to allow for the described modifications. The licensee stated that the modifications are scheduled to be completed by May 15, 1981.

Figure 1 - Modification to Farley Nuclear Plant  
Service Water Recirculation System



## EVALUATION

The licensee has made very conservative assumptions to create the need for this Technical Specification change. The postulated scenario includes loss of the pond's dam which has been designed to withstand both the design basis seismic event (seismic Category 1) and the probable maximum flood coupled with waves, loss of offsite power and the worst case single active failure which would be the loss of one river water train. The previous FSAR analysis stated that under this scenario the operator would have 30 minutes to correct the river water/service water flow mismatch in the wet pit. Due to over-estimated river water flow with four pumps running, the licensee predicts that only 20 minutes would be available before action is needed. The proposed modifications automatically diverts service water back to the wet pit and the operator once again has over 30 minutes to take action.

The licensee has advised us that the additional valves, piping, electrical components, wiring, etc., included in the modifications will be purchased and designed to the identical codes and standards used for the existing Unit 1 and Unit 2 service water system.

While the modifications are being performed, only one train returning to the pond will be inoperable at a time. It is important to note that the return line that will be temporarily inoperable is normally closed. Both units will continue to be served by both trains of service water. Prior to modifications both trains of river water will be verified to be operable and the licensee will not initiate any modifications if there is a forecast of unusual river water flows which could possibly impair river water operability.

We consider that the possibility of a combined dam failure, loss of offsite power and failure of a river water train is remote. The possibility of this occurring within the ten day extension to the Technical Specification action statement is even more remote. Even if all of the above does occur, the operator will have 20 instead of 30 minutes to correct the flow mismatch in the wet pit by isolating non-essential service water systems. The plant operators have received special training to prepare themselves for this possibility.

We have reviewed the proposed Technical Specification change and find it to be acceptable with minor changes agreeable to the licensee. We have examined the proposed modifications to the service water system and conclude that they will be adequate to perform the system function. We agree that the modification schedule of completion about May 15, 1981 is satisfactory.

### 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) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) 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.

Date: April 3, 1981

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NO. 50-348ALABAMA POWER COMPANYNOTICE OF ISSUANCE OF AMENDMENT TO FACILITY  
OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 19 to Facility Operating License No. NPF-2 issued to Alabama Power Company (the licensee), which revised Technical Specifications for operation of the Joseph M. Farley Nuclear Plant, Unit No. 1 (the facility) located in Houston County, Alabama. The amendment is effective as of the date of issuance.

The amendment authorizes a one time only Technical Specification change until about May 15, 1981. The change will allow time for needed modifications to the dual plant service water system.

The application for the amendment complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I, which are set forth in the license amendment. Prior public notice of this amendment was not required since this amendment does not involve a significant hazards consideration.

The Commission has determined that the issuance of this amendment

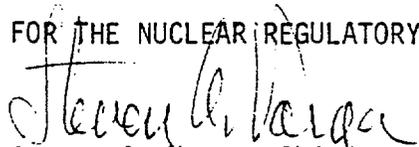
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will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of this amendment.

For further details with respect to this action, see (1) the application for amendment dated March 24, 1981, (2) Amendment No. 19 to License No. NPF-2 and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. and at the George S. Houston Memorial Library, 212 W. Berdeshaw Street, Dothan, Alabama 36303. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 3rd day of April, 1981.

FOR THE NUCLEAR REGULATORY COMMISSION

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