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November 24, 1982

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Docket No. 50-364

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. 20 to Facility Operating License No. 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 October 11, 1982.

The amendment modifies valve leakage test criteria on a one-time basis for startup from the first refueling outage only.

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

Sincerely,

Original signed by:
S. A. Varga

Steven A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing

Enclosures:
1. Amendment No. 20 to NPF-8
2. Safety Evaluation
3. Notice of Issuance

cc w/enclosures:
See next page

*PREVIOUS CONCURRENCES SEE NEXT PAGE

OFFICE	ORB#1:DL*	ORB#1:DL*	ORB#1:DL*	MEB*	AD/OR:DL*	OELD*	
SURNAME	CParrish	EReeves:rs	SVarga	JPage	GLainas		
DATE	11/ /82	11/ /82	11/ /82	11/ /82	11/ /82	11/ /82	

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Mr. F. L. Clayton
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Dear Mr. Clayton:

The Commission has issued the enclosed Amendment No. to Facility Operating License No. 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 October 11, 1982.

The amendment modifies valve leakage test criteria on a one-time basis to preclude a potential delay in the return to power after the first refueling outage.

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

Sincerely,

Steven A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing

Enclosures:
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cc w/enclosures:
See next page

no legal objection to notice or amend.

OFFICE	ORB 1	ORB 1	ORB 1	MEB	AD:OR:DL	OELD	
SURNAME	CParrish	EReeves/rs	SVarga	JPage	GLainas	DSWANSON	
DATE	11/24/82	11/24/82	11/24/82	11/24/82	11/24/82	11/25/82	

NRC FORM 318 (10-80) NRCM 0240 OFFICIAL RECORD COPY USGPO: 1981—335-960

Mr. F. L. Clayton
Alabama Power Company

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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. 20
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 October 11, 1982, 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.

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. 20, 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: November 24, 1982

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 20 TO FACILITY LICENSE NO. NPF-8

DOCKET NO. 50-364

Revise Appendix A as follows:

Remove Pages	Insert Pages
3/4 4-17	3/4 4-17
=	3/4 4-17a
-	3/4 4-19a

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

3.4.7.2 Reactor Coolant System leakage shall be limited to:

a. No PRESSURE BOUNDARY LEAKAGE,

b. 1 GPM UNIDENTIFIED LEAKAGE,

c. 1 GPM total primary-to-secondary leakage through all steam generators and 500 gallons per day through any one steam generator,

d. 10 GPM IDENTIFIED LEAKAGE from the Reactor Coolant System, and

e. 31 GPM CONTROLLED LEAKAGE at a Reactor Coolant System pressure of 2235 ± 20 psig.

*f. 1 GPM leakage from any Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-1 at a Reactor Coolant System pressure of 2235 ± 20 psig.

APPLICABILITY: MODES 1, 2, 3 and 4

ACTION:

a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With any Reactor Coolant System Pressure Isolation Valve leakage greater that the above limit, isolate the high pressure portion of the affected system from the low pressure portion within 4 hours by use of at least two closed manual or deactivated automatic valves, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.7.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by;

a. Monitoring the containment atmosphere particulate radioactivity monitor at least once per 12 hours.

b. Monitoring the containment air cooler condensate level system or containment atmosphere gaseous radioactivity monitor at least once per 12 hours.

*For startup following first refueling see page 3/4 4-17a.

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

3.4.7.2 Reactor Coolant System leakage shall be limited to:

a. No PRESSURE BOUNDARY LEAKAGE,

b. 1 GPM UNIDENTIFIED LEAKAGE,

c. 1 GPM total primary-to-secondary leakage through all steam generators and 500 gallons per day through any one steam generator,

d. 10 GPM IDENTIFIED LEAKAGE from the Reactor Coolant System, and

e. 31 GPM CONTROLLED LEAKAGE at a Reactor Coolant System pressure of 2235 $\pm$ 20 psig.

*f. The maximum allowable leakage of any Reactor Coolant System Pressure Isolation Valve shall be as specified in Table 3.4-1a at a pressure of 2235 $\pm$ 20 psig.

APPLICABILITY: MODES 1, 2, 3 and 4

ACTION:

a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and cold shutdown within the following 30 hours.

b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With any Reactor Coolant System Pressure Isolation Valve leakage greater that the above limit, isolate the high pressure portion of the affected system from the low pressure portion within 4 hours by use of at least two closed manual or deactiviated automatic valves, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.7.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by;

a. Monitoring the containment atmosphere particulate radioactivity monitor at least once per 12 hours.

b. Monitoring the containment air cooler condensate level system or containment atmosphere gaseous radioactivity monitor at least once per 12 hours.

*These leakage rates apply only to startup tests following the first refueling outage. Allowable leakage rates for this one time exception are contained in Table 3.4-1a.

TABLE 3.4-1a

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVES

TPNS	DESCRIPTION	PRE-OP DATA ADJUSTED LEAKAGE	ALLOWABLE LEAKAGE FOR 1ST REFUELING RESTART ADJUSTED TO 2235±20 PSIG
QV062A,B&C	2" check	0.303 GPM	1.65 GPM
QV051A	6" check	0.00 GPM	2.5 GPM
Q2E11V066A	2" check	0.00 GPM	1.5 GPM
Q2E11V021A	6" check	0.00 GPM	2.5 GPM
Q2E11V042B	10" check	0.00 GPM	2.5 GPM
Q2E11V051B	6" check	0.00 GPM	2.5 GPM
Q2E11V066B	2" check	0.32 GPM	1.66 GPM
Q2E11V021B	6" check	0.00 GPM	2.5 GPM
Q2E11V051C	6" check	0.00 GPM	2.5 GPM
Q2E11V021C	6" check	0.00 GPM	2.5 GPM
Q2E11V066C	2" check	0.91 GPM	1.955 GPM
Q2E11V042A	10" check	0.00 GPM	2.5 GPM
Q2E21V077A	6" check	0.00 GPM	2.5 GPM
Q2E21V077B	6" check	0.00 GPM	2.5 GPM
Q2E21V077C	6" check	0.00 GPM	2.5 GPM
Q2E21V078A	2" check	0.00 GPM	1.5 GPM
Q2E21V079A	2" check	0.00 GPM	1.5 GPM
Q2E21V076A	6" check	0.00 GPM	2.5 GPM
Q2E21V078B	2" check	0.45 GPM	1.725 GPM
Q2E21V079B	2" check	0.45 GPM	1.725 GPM
Q2E21V076B	6" check	0.00 GPM	2.5 GPM
Q2E21V078C	2" check	0.69 GPM	1.845 GPM
Q2E21V079C	2" check	0.76 GPM	1.88 GPM
Q2E11V016A	12" GATE	0.00 GPM	2.5 GPM
Q2E11V001A	12" GATE	0.00 GPM	2.5 GPM
Q2E11V016B	12" GATE	0.00 GPM	2.5 GPM
Q2D11V001B	12" GATE	0.00 GPM	2.5 GPM
Q2E21V032A	12" check	0.00 GPM	2.5 GPM
Q2E21V032B	12" check	0.00 GPM	2.5 GPM
Q2E21V032C	12" check	0.00 GPM	2.5 GPM
Q2E21V037A	12" check	0.00 GPM	2.5 GPM
Q2E21V037B	12" check	0.00 GPM	2.5 GPM
Q2E21V037C	12" check	0.00 GPM	2.5 GPM

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 20 TO FACILITY OPERATING LICENSE NO. NPF-8

ALABAMA POWER COMPANY

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT NO. 2

DOCKET NO. 50-364

INTRODUCTION

By letter dated October 11, 1982, the licensee proposed a one-time Technical Specification change using modified Unit 1 Pressure Isolation Valve (PIV) Technical Specification allowable leakages for the current Unit 2 outage.

DISCUSSION AND EVALUATION

The Unit 1 Technical Specifications allow for leakage rates of 1 to 5 gpm; however, the measured leak rate for any given test can not reduce the difference between the results of the previous test and 5 gpm by more than 50%. The proposed change restricts the maximum leakage on 2" valves to 3 gpm, but retains this same indexing criteria. The original Unit 2 Technical Specification restricts leakage to 1 gpm for each valve, regardless of size.

Conservative leak test criteria were established by the staff as a result of a concern which was brought to light by the Reactor Safety Study, WASH-1400. The study indicated that the failure of two in-series valves which form the interface between high (RCS) and low pressure systems would almost surely result in an intersystem LOCA; and that the probability of such an event was unacceptably high. Frequent independent tests of each valve was considered to be a relatively convenient method of reducing the probability of this type of failure.

The staff developed two sets of allowable leakage criteria; one for new plants (1 gpm) and one for older plants (1-5 gpm with certain restrictions); as it was felt that the newer valves would more easily meet the more stringent 1 gpm criteria.

The 1 to 5 gpm criterion is included in the Farley Unit 1 Technical Specifications together with the 50% indexing provision noted above. This criterion was ordered by the staff about two years ago to be effective for operating reactors. For these older plants, these valves had experienced numerous operating cycles and could not be expected to be in the "like new" condition, although the valves would be expected to fulfill their pressure isolation function.

The staff is currently re-evaluating these criteria; both theorectically and by means of plant surveys. A consultant, EG&G Idaho, has been performing this re-evaluation for the Office of Research. Although the study is not complete, the early recommendations indicate that the staff should consider allowing leak rates in excess of 1 gpm, particularly for larger valves. The basic recommendations are more consistent with the Farley Unit 1 Technical Specification criteria than with those of Unit 2.

Alabama Power Company (APCo) has supported their request by providing actual leakage data accumulated over approximately two years of leak testing these valves for Units 1 and 2 to the two different criteria. APCo provided the following historical data: The Unit 1 valves have been exposed to sixteen tests in past outages and resulted in six failures when the utility had arbitrarily imposed the Unit 2 1 gpm criteria. Personnel radiation exposure was estimated to be 25 rem to meet the 1 gpm criteria, but only 2.5 rem to meet the 1 to 5 gpm criteria. The utility also states that of the valves which failed the 1 gpm criteria and those that failed the 1 to 5 gpm criteria no discernible differences in seating surfaces could be found, and no evidence of impending valve failures were found in any of the valves that failed either criterion.

The Technical Specifications for both Units 1 and 2 require that leakage testing be performed during plant startup so that all valves will be tested after their last disturbance. The licensee routinely leak tests the referenced valves during each cooldown to refueling in an attempt to determine if any pressure isolation valves may require maintenance. This is a precautionary measure voluntarily utilized to increase the probability of successful leak test results during the return to power when the testing is on the schedular "critical path".

At the request of the staff the licensee provided leak test data measured during cooldown to the current refueling outage which started on October 22, 1982. The presented results indicated that only one of the thirty-five valves tested failed (leakage rate unknown) and 27 of the 35 valves had 0.00 gpm leakage. The remaining valves had leak rates less than 0.5 gpm. The valve which failed will be repaired prior to the return to power.

The staff developed Table 1, attached, as a result of the licensee's request. The values in the table were developed using the Unit 1 Technical Specification 1-5 gpm criteria together with the 50 percent indexing criterion for valves greater than 2" in nominal diameter. For the 2" nominal diameter valves a reduced maximum leakage of 3 gpm proposed by the licensee has been applied.

SUMMARY

Based on our review of the information provided by APCo; in particular the results of the leak tests performed during the shutdown of Unit 2 for the first refueling outage, preliminary recommendations made by the staff consultant, and our expectation that no significant valve degradation would occur during the short period of the current refueling outage; the staff has concluded that the allowable leak rates specified in Table 1 and the attached Technical Specifications are acceptable for the leak testing to be performed on Unit 2 during startup after the current outage.

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 an accident previously evaluated, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant reduction in a margin of safety, 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: November 24, 1982

Principal Contributor:
J. Page

7590-01

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-364

ALABAMA POWER COMPANY

NOTICE OF ISSUANCE OF AMENDMENT TO FACILITY OPERATING LICENSE

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 20 to Facility Operating License No. NPF-8 issued to Alabama Power Company (the licensee), which revised Technical Specifications for operation of the Joseph M. Farley Nuclear Plant, Unit No. 2 (the facility) located in Houston County, Alabama. The amendment is effective as of the date of issuance.

The amendment modifies valve leakage test criteria on a one-time basis for startup from the first refueling outage only.

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 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 October 11, 1982, (2) Amendment No. 20 to License No. NPF-8, 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. Burdeshaw 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 Licensing.

Dated at Bethesda, Maryland, this 24th day of November 1982.

FOR THE NUCLEAR REGULATORY COMMISSION

Steven A. Varga, Chief
Operating Reactors Branch No. 1
Division of Licensing