



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

March 7, 1990

Docket Nos. 50-348
and 50-364

Mr. W. G. Hairston, III
Senior Vice President
Alabama Power Company
40 Inverness Center Parkway
Post Office Box 1295
Birmingham, Alabama 35201

Dear Mr. Hairston:

SUBJECT: ISSUANCE OF AMENDMENT NO. 82 TO FACILITY OPERATING LICENSE
NO. NPF-2 AND AMENDMENT NO. 74 TO FACILITY OPERATING LICENSE NO.
NPF-8 - JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2, REGARDING
ADMINISTRATIVE AND EDITORIAL CHANGES (TAC NOS. 72876 AND 72877)

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 82 to Facility Operating License No. NPF-2 and Amendment No. 74 to NPF-8 for the Joseph M. Farley Nuclear Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications (TS) in response to your submittal dated March 20, 1989, as supplemented September 25, 1989.

The amendments change the TS to incorporate minor administrative and editorial changes in six general areas. The changes include the following:

1. The wording of TS 4.2.2.2.f.3 is clarified to more accurately and correctly define the grid plane regions of the core where Fxy limits are not applicable.
2. Figure 3.3-1, Time Delay Curves, is deleted to correct an error (curves not used) and Table 3.3-4 is revised to delete the footnote reference to Figure 3.3-1.
3. A typographical error is corrected in Table 3.3-3 for spelling of automatic.
4. Table 4.3-4 is changed to correct the locations of seismic instrumentation and to correct two typographical errors in the Table.
5. The addressee for reporting information to the NRC per 10 CFR 50.4 is revised in TS 3.11.4, 6.9.1, 6.9.1.10, 6.9.1.11, and 6.9.2 as editorial changes.

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- 6. TS 3.6.4.1. Action a. was to be modified to add a statement that the provisions of TS 3.0.4 are not applicable and to add an alternate hydrogen sampling capability when one hydrogen analyzer is inoperable. The proposed addition stating that TS 3.0.4 is not applicable was not made since TMI actions require operable hydrogen analyzers in Modes 1 and 2. The licensee agrees to this minor change.

Following discussions with your staff, by letter dated September 25, 1989, you proposed modifications to the Bases section for TS 3/4.6.4 to clearly identify the alternate hydrogen gas sampling capability. That proposed change to the Bases does not affect the conclusions of the previous no significant hazards determination.

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's regular bi-weekly Federal Register notice.

Sincerely,



Edward A. Reeves, Senior Project Manager
 Project Directorate II-1
 Division of Reactor Projects - I/II
 Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No.82 to NPF-2
- 2. Amendment No.74 to NPF-8
- 3. Safety Evaluation

cc w/enclosures:
 See next page

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 E. Jordan (MNBB 3302)
 G. Hill (8) (P1-137)
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OFC	: LA: PDII-1	: PM: PDII-1	: D: PDII-1	:	:	:
NAME	: PAnderson	: EReeves: bld	: EAdensam	:	:	:
DATE	: 3/6/90	: 3/06/90	: 02/6/90	:	:	:

Mr. W. G. Hairston, III
Alabama Power Company

Joseph M. Farley Nuclear Plant

cc:

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AMENDMENT NO. 82 TO FACILITY OPERATING LICENSE NO. NPR-2 - FARLEY, UNIT 1
AMENDMENT NO. 74 TO FACILITY OPERATING LICENSE NO. NPF-8 - FARLEY, UNIT 2

Docket File

NRC PDR

Local PDR

PDII-1 Reading

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E. Adensam

P. Anderson

E. Reeves (2)

OGC

D. Hagan (MNBB 3302)

E. Jordan (MNBB 3302)

G. Hill (4) (P1-137)

W. Jones (P-130A)

J. Calvo (11D3)

ACRS (10)

GPA/PA

ARM/LFMB

cc: Licensee/Applicant Service List

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

ALABAMA POWER COMPANY

DOCKET NO. 50-348

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 82
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 20, 1989, as supplemented September 25, 1989, 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 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-2 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. 82, 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 and shall be implemented within 30 days of receipt of the amendment.

FOR THE NUCLEAR REGULATORY COMMISSION

R. Lo for

Elinor G. Adensam, Director
Project Directorate II-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: March 7, 1990

*See previous concurrence

OFC	:LA:PD21	:DRPR:PM:PD21	:DRPR:	*OGC	:D:PD21	:	:	:
NAME	:PAnderson	:EReaves	:bld	:BBordenick	:EAdensam	:	:	:
DATE	:03/7/90	:03/07/90	:01/24/90	:03/7/90	:	:	:	:

ATTACHMENT TO LICENSE AMENDMENT NO. 82
TO FACILITY OPERATING LICENSE NO. NPF-2
DOCKET NO. 50-348

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

Remove Pages

3/4 2-6
3/4 3-18
3/4 3-28
3/4 3-45
3/4 6-19
3/4 11-19
6-15a
6-19
6-20
B 3/4 6-4

Insert Pages

3/4 2-6
3/4 3-18
3/4 3-28
3/4 3-45
3/4 6-19
3/4 11-19
6-15a
6-19
6-20
B 3/4 6-4

POWER DISTRIBUTION LIMITS

SURVEILLANCE REQUIREMENTS (Continued)

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2. When the F_{xy}^c is less than or equal to the F_{RTP}^{xy} limit for the appropriate measured core plane, additional F_{xy}^c power distribution maps shall be taken and F_{xy}^c compared to F_{RTP}^{xy} and F_{xy}^L at least once per 31 EFPD.
 - e. The F_{xy}^L limit for RATED THERMAL POWER (F_{RTP}^{xy}) shall be provided for all core planes containing bank "D" control rods and all unrodded core planes in a Radial Peaking Factor Limit Report per Specification 6.9.1.11.
 - f. The F_{xy}^L limits of e, above, are not applicable in the following core plane regions as measured in percent of core height from the bottom of the fuel:
 1. Lower core region from 0 to 15%, inclusive.
 2. Upper core region from 85 to 100%, inclusive.
 3. Grid plane regions within $\pm 2\%$ of core height around the midpoint of the grids.
 4. Core plane regions within $\pm 2\%$ of core height (± 2.88 inches) about the bank demand position of the bank "D" control rods.
 - g. With F_{xy}^c exceeding F_{xy}^L the effects of F_{xy}^c on $F_Q(Z)$ shall be evaluated to determine if $F_Q(Z)$ is within its limits.
- 4.2.2.3 When $F_Q(Z)$ is measured for other than F_{xy}^c determinations, an overall measured $F_Q(Z)$ shall be obtained from a power distribution map and increased by 3% to account for manufacturing tolerances and further increased by 5% to account for measurement uncertainty.

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
3. CONTAINMENT ISOLATION					
a. Phase "A" Isolation					
1) Manual	2	1	2	1, 2, 3, 4	18
2) From Safety Injection Automatic Actuation Logic	2	1	2	1, 2, 3, 4	13
b. Phase "B" Isolation					
1) Manual	2	1	2	1, 2, 3, 4	18
2) Automatic Actuation Logic	2	1	2	1, 2, 3, 4	13
3) Containment Pressure High-High-High	4	2	3	1, 2, 3	16
c. Purge and Exhaust Isolation					
1) Manual	2	1	2	1, 2, 3, 4	17
2) Automatic Actuation Logic	2	1	2	1, 2, 3, 4	17

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
6. AUXILIARY FEEDWATER		
a. Automatic Actuation Logic	N.A.	N.A.
b. Steam Generator Water Level-low-low	> 17% of narrow range instrument span each steam generator	> 16% of narrow range instrument span each steam generator
c. Undervoltage - RCP	> 2680 volts	> 2640 volts
d. S.I.	See 1 above (all SI Setpoints)	
e. Trip of Main Feedwater Pumps	N.A.	N.A.
7. LOSS OF POWER		
a. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage)	> 3255 volts bus voltage*	> 3222 volts bus voltage* < 3418 volts bus voltage*
b. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	> 3675 volts bus voltage*	> 3638 volts bus voltage* < 3749 volts bus voltage*
8. ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INTERLOCKS		
a. Pressurizer Pressure, P-11	< 2000 psig	< 2010 psig
b. Low-Low T _{avg} , P-12 (Increasing) (Decreasing)	544°F 543 F	< 546°F > 541 F
c. Steam Generator Level, P-14	(See 5. above)	
d. Reactor Trip, P-4	N.A.	N.A.

* Refer to appropriate relay setting sheet for calibration requirements.

TABLE 4.3-4

SEISMIC MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT CHANNEL</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>
1. STRONG MOTION TRIAXIAL ACCELEROGRAPHS			
a. 1A, 1B, 1C	M	R	SA
b. 2,3	M	R	SA
2. PEAK RECORDING ACCELEROGRAPHS			
a. 5,6,7,8, & 9	N.A.	R*	N.A.
b. 10 & 11	N.A.	**	N.A.
3. PEAK DEFLECTION RECORDERS			
a. 4A	N.A.	R	SA

* This unit is a mechanical device and should be opened to perform a visual inspection as outlined in the instruction manual. If, on development of its record, the unit has been shocked in excess of its measurement range, the unit should be removed and recalibrated.

** These units are in high radiation areas with difficult access and are removed for recalibration no later than every fourth refueling outage or after a seismic event, whichever occurs first.

CONTAINMENT SYSTEMS

3/4.6.4 COMBUSTIBLE GAS CONTROL

HYDROGEN ANALYZERS

LIMITING CONDITION FOR OPERATION
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3.6.4.1 Two independent containment hydrogen analyzers shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

- a. With one hydrogen analyzer inoperable:
 - i) restore the inoperable analyzer to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours, or
 - ii) establish an alternate hydrogen sampling capability.
- b. With both hydrogen analyzers inoperable, restore at least one analyzer to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS
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4.6.4.1 Each hydrogen analyzer shall be demonstrated OPERABLE at least once per 92 days on a STAGGERED TEST BASIS by performing a CHANNEL CALIBRATION using sample gases containing:

- a. Ten volume percent hydrogen, balance nitrogen, for zero check.
- b. Ten volume percent hydrogen, balance nitrogen, mixed with compressed air, for span check.

ADMINISTRATIVE CONTROLS

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6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted to the Commission, pursuant to 10CFR50.4.

STARTUP REPORT

6.9.1.1 A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the plant.

ADMINISTRATIVE CONTROLS

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- e. Type of container (e.g., LSA, Type A, Type B, Large Quantity), and
- f. Solidification agent (e.g., cement, urea formaldehyde).

The radioactive effluent release reports shall include unplanned releases from the site to unrestricted areas of radioactive materials in gaseous and liquid effluents on a quarterly basis.

The radioactive effluent release reports shall include any changes to the PROCESS CONTROL PROGRAM (PCP) made during the reporting period.

MONTHLY OPERATING REPORT

6.9.1.10 Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the PORV's or safety valves, shall be submitted on a monthly basis to the Commission, pursuant to 10CFR50.4, no later than the 15th of each month following the calendar month covered by the report.

Any changes to the OFFSITE DOSE CALCULATION MANUAL shall be submitted with the Monthly Operating Report within 90 days in which the change(s) was made effective. In addition, a report of any major changes to the radioactive waste treatment systems shall be submitted with the Monthly Operating Report for the period in which the change was implemented.

RADIAL PEAKING FACTOR LIMIT REPORT

6.9.1.11 The F_{xy} limit for Rated Thermal Power (F_{xy}^{RTP}) shall be provided to the Commission, pursuant to 10CFR50.4, for all core planes containing bank "D" control rods and all unrodded core planes at least 60 days prior to cycle initial criticality. In the event that the limit would be submitted at some other time during core life, it will be submitted 60 days prior to the date the limit would become effective unless otherwise exempted by the Commission.

Any information needed to support F_{xy}^{RTP} will be by request from the NRC and need not be included in this report.

ANNUAL DIESEL GENERATOR RELIABILITY DATA REPORT

6.9.1.12 The number of tests (valid or invalid) and the number of failures to start on demand for each diesel generator shall be submitted to the NRC annually. This report shall contain the information identified in Regulatory Position C.3.b of NRC Regulatory Guide 1.108, Revision 1, 1977.

ADMINISTRATIVE CONTROLS

ANNUAL REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY REPORT

6.9.1.13 This annual report is only required when the results of specific activity analyses of the primary coolant have exceeded the limits of Specification 3.4.9 during the year. The following information shall be included: (1) Reactor power history starting 48 hours prior to the first sample in which the limit was exceeded (in graphic and tabular format); (2) Results of the last isotopic analysis for radioiodine performed prior to exceeding the limit, results of analysis while limit was exceeded and results of one analysis after the radioiodine activity was reduced to less than the limit. Each result should include date and time of sampling and the radioiodine concentrations; (3) Clean-up flow history starting 48 hours prior to the first sample in which the limit was exceeded; (4) Graph of the I-131 concentration (micro Ci/gm) and one other radioiodine isotope concentration (micro Ci/gm) as a function of time for the duration of the specific activity above the steady-state level; and (5) The time duration when the specific activity of the primary coolant exceeded the radioiodine limit.

ANNUAL SEALED SOURCE LEAKAGE REPORT

6.9.1.14 A report shall be prepared and submitted to the Commission on an annual basis if sealed source or fission detector leakage tests reveal the presence of greater than or equal to 0.005 microcuries of removable contamination.

SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Commission in accordance with the requirements of 10CFR50.4 within the time period specified for each report. Reports should be submitted to the U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555.

6.10 RECORD RETENTION

In addition to the applicable record retention requirements of Title 10, Code of Federal Regulations, the following records shall be retained for at least the minimum period indicated.

- 6.10.1 The following records shall be retained for at least five years:
- a. Records and logs of unit operation covering time interval at each power level.
 - b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
 - c. ALL REPORTABLE EVENTS submitted to the Commission.
 - d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.
 - e. Records of changes made to the procedures required by Specification 6.8.1.
 - f. Records of radioactive shipments.
 - g. Records of sealed source and fission detector leak tests and results.

CONTAINMENT SYSTEMS

BASES

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within the time limits specified ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. The containment atmosphere post-accident sampling system can be used as an alternative to a hydrogen analyzer should a hydrogen analyzer become inoperable. Either recombiner unit (or the purge system) is capable of controlling the expected hydrogen generation associated with 1) zirconium-water reactions, 2) radiolytic decomposition of water and 3) corrosion of metals within containment. These hydrogen control systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a LOCA," March 1971.

The hydrogen mixing systems are provided to ensure adequate mixing of the containment atmosphere following a LOCA. This mixing action will prevent localized accumulations of hydrogen from exceeding the flammable limit.



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

ALABAMA POWER COMPANY

DOCKET NO. 50-364

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 74
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 March 20, 1989, as supplemented September 25, 1989, 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 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. 74, are hereby incorporated in the license. Alabama Power Company shall operate the facility in accordance with the Technical Specifications.

- 3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of receipt of the amendment.

FOR THE NUCLEAR REGULATORY COMMISSION

R. Lo for

Elinor G. Adensam, Director
 Project Directorate II-1
 Division of Reactor Projects - I/II
 Office of Nuclear Reactor Regulation

Attachment:
 Changes to the Technical
 Specifications

Date of Issuance: March 7, 1990

*See previous concurrence

OFC	:LA:PD21	:DRPR:PM:PD21	:DRPR: *OGC	:D:PD21	:	:	:
NAME	:PAnderson	:EReyes	:Bld	:BBordenick	:EAdensam	:	:
DATE	:03/07/90	:03/07/90	:01/24/90	:03/07/90	:	:	:

ATTACHMENT TO LICENSE AMENDMENT NO.74
TO FACILITY OPERATING LICENSE NO. NPF-8
DOCKET NO. 50-364

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised areas are indicated by marginal lines.

Remove Pages

3/4 2-6
3/4 3-18
3/4 3-28
3/4 3-45
3/4 6-19
3/4 11-19
6-15a
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Insert Pages

3/4 2-6
3/4 3-18
3/4 3-28
3/4 3-45
3/4 6-19
3/4 11-19
6-15a
6-19
6-20
B 3/4 6-4

POWER DISTRIBUTION LIMITS

SURVEILLANCE REQUIREMENTS (Continued)

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2. When the F_{xy}^c is less than or equal to the F_{xy}^{RTP} limit for the appropriate measured core plane, additional power distribution maps shall be taken and F_{xy}^c compared to F_{xy}^{RTP} and F_{xy}^L at least once per 31 EFPD.
 - e. The F_{xy} limit for RATED THERMAL POWER (F_{xy}^{RTP}) shall be provided for all core planes containing bank "D" control rods and all unrodded core planes in a Radial Peaking Factor Limit Report per Specification 6.9.1.11.
 - f. The F_{xy} limits of e, above, are not applicable in the following core plane regions as measured in percent of core height from the bottom of the fuel:
 1. Lower core region from 0 to 15%, inclusive.
 2. Upper core region from 85 to 100%, inclusive.
 3. Grid plane regions within $\pm 2\%$ of core height around the midpoint of the grids.
 4. Core plane regions within $\pm 2\%$ of core height (± 2.88 inches) about the bank demand position of the bank "D" control rods.
 - g. With F_{xy}^c exceeding F_{xy}^L the effects of F_{xy} on $F_Q(Z)$ shall be evaluated to determine if $F_Q(Z)$ is within its limits.
- 4.2.2.3 When $F_Q(Z)$ is measured for other than F_{xy} determinations, an overall measured $F_Q(Z)$ shall be obtained from a power distribution map and increased by 3% to account for manufacturing tolerances and further increased by 5% to account for measurement uncertainty.

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

<u>FUNCTIONAL UNIT</u>	<u>TOTAL NO. OF CHANNELS</u>	<u>CHANNELS TO TRIP</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABLE MODES</u>	<u>ACTION</u>
3. CONTAINMENT ISOLATION					
a. Phase "A" Isolation					
1) Manual	2	1	2	1, 2, 3, 4	18
2) From Safety Injection Automatic Actuation Logic	2	1	2	1, 2, 3, 4	13
b. Phase "B" Isolation					
1) Manual	2	1	2	1, 2, 3, 4	18
2) Automatic Actuation Logic	2	1	2	1, 2, 3, 4	13
3) Containment Pressure High-High-High	4	2	3	1, 2, 3	16
c. Purge and Exhaust Isolation					
1) Manual	2	1	2	1, 2, 3, 4	17
2) Automatic Actuation Logic	2	1	2	1, 2, 3, 4	17

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

<u>FUNCTIONAL UNIT</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUES</u>
6. AUXILIARY FEEDWATER		
a. Automatic Actuation Logic	N.A.	N.A.
b. Steam Generator Water Level-low-low	> 17% of narrow range instrument span each steam generator	> 16% of narrow range instrument span each steam generator
c. Undervoltage - RCP	≥ 2680 volts	≥ 2640 volts
d. S.I.	See 1 above (all SI Setpoints)	
e. Trip of Main Feedwater Pumps	N.A.	N.A.
7. LOSS OF POWER		
a. 4.16 kv Emergency Bus Undervoltage (Loss of Voltage)	≥ 3255 volts bus voltage*	> 3222 volts bus voltage* ≤ 3418 volts bus voltage*
b. 4.16 kv Emergency Bus Undervoltage (Degraded Voltage)	≥ 3675 volts bus voltage*	> 3638 volts bus voltage* ≤ 3749 volts bus voltage*
8. ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INTERLOCKS		
a. Pressurizer Pressure, P-11	≤ 2000 psig	≤ 2010 psig
b. Low-Low T _{avg} , P-12 (Increasing) (Decreasing)	544 °F 543 °F	< 546 °F ≥ 541 °F
c. Steam Generator Level, P-14	(See 5. above)	
d. Reactor Trip, P-4	N.A.	N.A.

* Refer to appropriate relay setting sheet for calibration requirements.

TABLE 4.3-4

SEISMIC MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>INSTRUMENT CHANNEL</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL CALIBRATION</u>	<u>CHANNEL FUNCTIONAL TEST</u>
1. STRONG MOTION TRIAXIAL ACCELEROGRAPHS			
a. 1A#, 1B#, 1C	M	R	SA
b. 2,3	M	R	SA
2. PEAK RECORDING ACCELEROGRAPHS			
a. 5#,6,7,8, & 9#	N.A.	R*	N.A.
b. 10# & 11#	N.A.	**	N.A.
3. PEAK DEFLECTION RECORDERS			
a. 4A#	N.A.	R	SA
* This unit is a mechanical device and should be opened to perform a visual inspection as outlined in the instruction manual. If, on development of its record, the unit has been shocked in excess of its measurement range, the unit should be removed and recalibrated.			
** These units are in high radiation areas with difficult access and are removed for recalibration no later than every fourth refueling outage or after a seismic event, whichever occurs first.			
# Sensors located in Farley Unit 1			

CONTAINMENT SYSTEMS

3/4.6.4 COMBUSTIBLE GAS CONTROL

HYDROGEN ANALYZERS

LIMITING CONDITION FOR OPERATION
=====

3.6.4.1 Two independent containment hydrogen analyzers shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

- a. With one hydrogen analyzer inoperable:
 - i) restore the inoperable analyzer to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours, or
 - ii) establish an alternate hydrogen sampling capability
- b. With both hydrogen analyzers inoperable, restore at least one analyzer to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS
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4.6.4.1 Each hydrogen analyzer shall be demonstrated OPERABLE at least once per 92 days on a STAGGERED TEST BASIS by performing a CHANNEL CALIBRATION using sample gases containing:

- a. Ten volume percent hydrogen, balance nitrogen, for zero check.
- b. Ten volume percent hydrogen, balance nitrogen, mixed with compressed air, for span check.

RADIOACTIVE EFFLUENTS

3/4.11.4 TOTAL DOSE

LIMITING CONDITION FOR OPERATION

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3.11.4 The dose or dose commitment to any member of the public, due to releases of radioactivity and radiation, from uranium fuel cycle sources shall be limited to less than or equal to 25 mrem to the total body or any organ (except the thyroid, which shall be limited to less than or equal to 75 mrem) over 4 consecutive quarters.

APPLICABILITY: At all times.

ACTION:

- a. With the calculated doses from the release of radioactive materials in liquid or gaseous effluents exceeding twice the limits of Specification 3.11.1.2.a, 3.11.1.2.b, 3.11.2.2.a, 3.11.2.2.b, 3.11.2.3.a, or 3.11.2.3.b, prepare and submit a Special Report to the Commission, pursuant to Specification 6.9.2, within 30 days, which defines the corrective action to be taken to reduce subsequent releases to prevent recurrence of exceeding the limits of Specification 3.11.4. This Special Report shall include an analysis which estimates the radiation exposure (dose) to a member of the public from uranium fuel cycle sources (including all effluent pathways and direct radiation) for a 4 consecutive quarter period that includes the release(s) covered by this report. If the estimated dose(s) exceeds the limits of Specification 3.11.4, and if the release condition resulting in violation of 40CFR190 has not already been corrected, the Special Report shall include a request for a variance in accordance with the provisions of 40CFR190 and including the specified information of § 190.11(b). Submittal of the report is considered a timely request, and a variance is granted until staff action on the request is complete. The variance only relates to the limits of 40CFR190, and does not apply in any way to the requirements for dose limitation of 10CFR Part 20, as addressed in other sections of this technical specification.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

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4.11.4 Dose Calculations Cumulative dose contributions from liquid and gaseous effluents shall be determined in accordance with Specifications 4.11.1.2, 4.11.2.2, and 4.11.2.3, and in accordance with the ODCM.

ADMINISTRATIVE CONTROLS

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6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted to the Commission, pursuant to 10CFR50.4.

STARTUP REPORT

6.9.1.1 A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the plant.

ADMINISTRATIVE CONTROLS

=====

- e. Type of container (e.g., LSA, Type A, Type B, Large Quantity), and
- f. Solidification agent (e.g., cement, urea formaldehyde).

The radioactive effluent release reports shall include unplanned releases from the site to unrestricted areas of radioactive materials in gaseous and liquid effluents on a quarterly basis.

The radioactive effluent release reports shall include any changes to the PROCESS CONTROL PROGRAM (PCP) made during the reporting period.

MONTHLY OPERATING REPORT

6.9.1.10 Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the PORV's or safety valves, shall be submitted on a monthly basis to the Commission, pursuant to 10CFR50.4, no later than the 15th of each month following the calendar month covered by the report.

Any changes to the OFFSITE DOSE CALCULATION MANUAL shall be submitted with the Monthly Operating Report within 90 days in which the change(s) was made effective. In addition, a report of any major changes to the radioactive waste treatment systems shall be submitted with the Monthly Operating Report for the period in which the change was implemented.

RADIAL PEAKING FACTOR LIMIT REPORT

6.9.1.11 The F_{xy} limit for Rated Thermal Power (F_{RTP}^{xy}) shall be provided to the Commission, pursuant to 10CFR50.4, for all core planes containing bank "D" control rods and all unrodded core planes at least 60 days prior to cycle initial criticality. In the event that the limit would be submitted at some other time during core life, it will be submitted 60 days prior to the date the limit would become effective unless otherwise exempted by the Commission.

Any information needed to support F_{xy}^{RTP} will be by request from the NRC and need not be included in this report.

ANNUAL DIESEL GENERATOR RELIABILITY DATA REPORT

6.9.1.12 The number of tests (valid or invalid) and the number of failures to start on demand for each diesel generator shall be submitted to the NRC annually. This report shall contain the information identified in Regulatory Position C.3.b of NRC Regulatory Guide 1.108, Revision 1, 1977.

ADMINISTRATIVE CONTROLS

ANNUAL REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY REPORT

6.9.1.13 This annual report is only required when the results of specific activity analyses of the primary coolant have exceeded the limits of Specification 3.4.9 during the year. The following information shall be included: (1) Reactor power history starting 48 hours prior to the first sample in which the limit was exceeded (in graphic and tabular format); (2) Results of the last isotopic analysis for radioiodine performed prior to exceeding the limit, results of analysis while limit was exceeded and results of one analysis after the radioiodine activity was reduced to less than the limit. Each result should include date and time of sampling and the radioiodine concentrations; (3) Clean-up flow history starting 48 hours prior to the first sample in which the limit was exceeded; (4) Graph of the I-131 concentration (micro Ci/gm) and one other radioiodine isotope concentration (micro Ci/gm) as a function of time for the duration of the specific activity above the steady-state level; and (5) The time duration when the specific activity of the primary coolant exceeded the radioiodine limit.

ANNUAL SEALED SOURCE LEAKAGE REPORT

6.9.1.14 A report shall be prepared and submitted to the Commission on an annual basis if sealed source or fission detector leakage tests reveal the presence of greater than or equal to 0.005 microcuries of removable contamination.

SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Commission in accordance with the requirements of 10CFR50.4 within the time period specified for each report. Reports should be submitted to the U. S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555.

6.10 RECORD RETENTION

In addition to the applicable record retention requirements of Title 10, Code of Federal Regulations, the following records shall be retained for at least the minimum period indicated.

- 6.10.1 The following records shall be retained for at least five years:
- a. Records and logs of unit operation covering time interval at each power level.
 - b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.
 - c. ALL REPORTABLE EVENTS submitted to the Commission.
 - d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.
 - e. Records of changes made to the procedures required by Specification 6.8.1.
 - f. Records of radioactive shipments.
 - g. Records of sealed source and fission detector leak tests and results.

CONTAINMENT SYSTEMS

BASES

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within the time limits specified ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. The containment atmosphere post-accident sampling system can be used as an alternative to a hydrogen analyzer should a hydrogen analyzer become inoperable. Either recombiner unit (or the purge system) is capable of controlling the expected hydrogen generation associated with 1) zirconium-water reactions, 2) radiolytic decomposition of water and 3) corrosion of metals within containment. These hydrogen control systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a LOCA," March 1971.

The hydrogen mixing systems are provided to ensure adequate mixing of the containment atmosphere following a LOCA. This mixing action will prevent localized accumulations of hydrogen from exceeding the flammable limit.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 82 TO FACILITY OPERATING LICENSE NO. NPF-2
AND AMENDMENT NO. 74 TO FACILITY OPERATING LICENSE NO. NPF-8
ALABAMA POWER COMPANY
JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NOS. 50-348 AND 50-364

1.0 INTRODUCTION

By letter dated March 20, 1989, as supplemented September 25, 1989, Alabama Power Company (licensee) submitted a request for changes to the Joseph M. Farley Nuclear Plant, Units 1 and 2 Technical Specifications (TS). The changes incorporate minor administrative and editorial changes in six general areas. The changes include the following:

1. The wording of TS 4.2.2.2.f.3 is clarified to more accurately and correctly define the grid plane regions of the core where Fxy limits are not applicable.
2. Figure 3.3-1, Time Delay Curves, is deleted to correct an error (curves not used) and Table 3.3-4 is revised to delete the footnote reference to Figure 3.3-1.
3. A typographical error is corrected in Table 3.3-3 for spelling of automatic.
4. Table 4.3-4 is changed to correct the locations of seismic instrumentation and to correct two typographical errors in the Table.
5. The addressee for reporting information to the NRC per 10 CFR 50.4 is revised in TSs 3.11.4, 6.9.1, 6.9.1.10, 6.9.1.11, and 6.9.2 as editorial changes.
6. TS 3.6.4.1. Action a. is modified to add that the provisions of TS 3.0.4 are not applicable and to add an alternate hydrogen sampling capability when one hydrogen analyzer is inoperable.

The evaluation of these proposed changes follows.

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2.0 EVALUATION

TS 4.2.2.2.f.3 refers to surveillance requirements dealing with core power distribution which is affected by the core physical design. The existing TS description is incorrect in stating precise locations of grid plane locations. Thus, the licensee proposes clarifying and correcting the TS to more accurately define the grid plane regions around the midpoint of the grids. The change is a correction and clarification of an error and is acceptable.

In TS Table 3.3-3, Item 3.C.2) the spelling of automatic is corrected as a typographical error and is acceptable.

TS Table 3.3.4 and Figure 3.3-1 relate to Engineered Safety Feature Actuation System Trip Setpoints and Time Delay Curves. The licensee proposes to delete Figure 3.3-1 (which is not used) and the asterisked footnote of Table 3.3.4 which refers to the Figure. The vendor's technical manual requires a one-point calibration; therefore, the curve of Figure 3.3-1 is superfluous information not needed in the TS. The word "and" is deleted from Table 3.3.4, Item 7.b, Allowable Values as a typographical correction. Since all of these changes are administrative corrections, they are acceptable.

TS Table 4.3-4, Seismic Monitoring Instrumentation Surveillance Requirements, shows incorrect locations for certain seismic monitoring sensors on Unit 2. A # footnote is added to that unit's table to show certain sensors actually located in Unit 1. Also, two typographical errors in the asterisked footnotes are corrected. Since these changes are administrative changes and corrections of errors, they are acceptable.

Changes were proposed to reflect the correct address requirements for written correspondence to the NRC in TS 3.11.4, 6.9.1, 6.9.1.10, 6.9.1.1.11 and 6.9.2 in accordance with 10 CFR 50.4. Since these changes are editorial in nature, they are acceptable.

TS 3.6.4.1 relates to a requirement that two independent hydrogen analyzers be OPERABLE in Modes 1 and 2. The licensee proposes to revise the TS to add an alternate hydrogen sampling capability when one hydrogen analyzer is inoperable. In addition, the licensee proposes to add a statement that the provisions of TS 3.0.4 are not applicable. This part of the proposed changes to TS 3.6.4.1 was not acted on based on TS guidance specified in Generic Letter 83-37 dated November 1, 1983. That TS guidance in paragraph (9) specifies the minimum number of hydrogen monitors to be operable at all times. The licensee proposal would have negated this TMI Action (II.F.1.6). Therefore, this change is not being made.

The NRC staff considers the change to add alternate hydrogen monitoring capability as appropriate because of the additional operational flexibility allowed with no reduction in safety margin. Therefore, the change is acceptable.

Following discussions with licensee staff in an effort to more clearly specify the alternate sampling capability available, the licensee provided proposed changes to the TS Bases 3/4 6.4, Combustible Gas Control. These changes identify the containment atmosphere post-accident sampling system as an alternative to the hydrogen analyzer. This clarification is acceptable. The previous no significant hazards determination conclusion is unaffected by the licensee's revised Bases provided by letter dated September 25, 1989.

3.0 SUMMARY

Based on the evaluations, noted above, these TS changes involving miscellaneous administrative, editorial changes, and corrections of certain typographical errors are acceptable.

4.0 ENVIRONMENTAL CONSIDERATION

These amendments change a requirement with respect to installation or use of a facility component located within the restricted areas as defined in 10 CFR Part 20 and changes to the surveillance requirements. The staff has determined that these amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released off site; and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration, and there has been no public comment on such finding. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 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 these amendments.

5.0 CONCLUSION

The Commission made a proposed determination that this amendment involves no significant hazards consideration which was published in the Federal Register (54 FR 29398) on July 12, 1989, and consulted with the State of Alabama. No public comments or requests for hearing were received, and the State of Alabama did not have any comments.

The Staff has 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor:
Edward A. Reeves

Dated: March 7, 1990