March 2, 1995

Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

Dear Mr. Kingsley:

SUBJECT: ISSUANCE OF TECHNICAL SPECIFICATION AMENDMENTS FOR THE BROWNS FERRY NUCLEAR PLANT UNITS 1, 2, AND 3 (TAC NOS. M87897, M87898, AND M87899) (TS 336)

The Commission has issued the enclosed Amendment Nos. 218, 234, and 192 to Facility Operating Licenses Nos. DPR-33, DPR-52, and DPR-68 for the Browns Ferry Nuclear Plant (BFN), Units 1, 2, and 3, respectively. These amendments are in response to your application dated September 30, 1993, regarding the spent fuel pool water level surveillance requirements. The amendment clarifies requirements to verify the spent fuel pool level and provides numerical correspondence between the temperature and chemistry Limiting Conditions for Operation (LCO) and the respective surveillance requirements.

A copy of the NRC's Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,
ORIGINAL SIGNED BY:

Joseph F. Williams, Project Manager
Project Directorate II-4
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-259, 50-260 and 50-296

Enclosures:
1. Amendment No. 218 to License No. DPR-33
2. Amendment No. 234 to License No. DPR-52
3. Amendment No. 192 to License No. DPR-68
4. Safety Evaluation

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AMENDMENT NO. 218 FOR BROWNS FERRY UNIT 1 - DOCKET NO. 50-259
AMENDMENT NO. 234 FOR BROWNS FERRY UNIT 2 - DOCKET NO. 50-260
AMENDMENT NO. 192 FOR BROWNS FERRY UNIT 3 - DOCKET NO. 50-296
DATED: March 2, 1995

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E. Merschoff	RII
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Montgomery, AL 36130-1701

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-259

BROWNS FERRY NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 218
License No. DPR-33

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Tennessee Valley Authority (the licensee) dated September 30, 1993, 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. DPR-33 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 218, 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 from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Frederick J. Hebdon, Director
Project Directorate II-4
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: March 2, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 218

FACILITY OPERATING LICENSE NO. DPR-33

DOCKET NO. 50-259

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change. Overleaf* page is provided to maintain document completeness.

REMOVE	INSERT
3.10/4.10-7	3.10/4.10-7
3.10/4.10-8	3.10/4.10-8*

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.10.C Spent Fuel Pool Water	4.10.C Spent Fuel Pool Water
1. Whenever irradiated fuel is stored in the spent fuel pool, the pool water level shall be maintained at a depth of 8-1/2 feet or greater above the top of the spent fuel. A minimum of 6-1/2 feet of water shall be maintained over single irradiated fuel assemblies during transfer and handling operations.	1. Whenever irradiated fuel is stored in the spent fuel pool, the water level shall be verified to be above the low level alarm setpoint or the water level shall be measured. This action shall be taken daily and recorded.
2. Whenever irradiated fuel is in the fuel pool, the pool water temperature shall be $\leq$150° F.	2. Whenever irradiated fuel is stored in the spent fuel pool, the temperature shall be measured and recorded daily.
3. Fuel pool water shall be maintained within the following limits: conductivity $\leq$ 10 µmhos/cm at 25°C chlorides $\leq$ 0.5 ppm	3. A sample of fuel pool water shall be analyzed for conductivity and chloride content: a. Daily, or b. Once per 8 hours when the fuel pool cleanup system is inoperable.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.10.D Reactor Building Crane	4.10.D Reactor Building Crane
1. The reactor building crane shall be OPERABLE:	1. The following operational checks and inspections shall be performed on the reactor building crane prior to handling of a spent fuel cask and new or spent fuel. (These need not be performed more frequently than quarterly.):
a. When a spent fuel cask is handled.	a. The cab and pendant controls shall be demonstrated to be OPERABLE on both the 125-ton hoist and the 5-ton hoist.
b. Whenever new or spent fuel is handled with the 5-ton hoist.	b. A visual inspection shall be made to insure structural integrity of the 125-ton hoist, the 5-ton hoist and cask yoke safety wire ropes.
	c. The overtravel limit switch interlocks, movement speed control and braking operations for the bridge, trolley and hoists, the pendant

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TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-260

BROWNS FERRY NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 234
License No. DPR-52

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Tennessee Valley Authority (the licensee) dated September 30, 1993, 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. DPR-52 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 234, 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 from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Frederick J. Hebdon

Frederick J. Hebdon, Director
Project Directorate II-4
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: March 2, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 234

FACILITY OPERATING LICENSE NO. DPR-52

DOCKET NO. 50-260

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change. Overleaf* page is provided to maintain document completeness.

REMOVE	INSERT
3.10/4.10-7	3.10/4.10-7
3.10/4.10-8	3.10/4.10-8*

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.10.C Spent Fuel Pool Water	4.10.C Spent Fuel Pool Water
1. Whenever irradiated fuel is stored in the spent fuel pool, the pool water level shall be maintained at a depth of 8-1/2 feet or greater above the top of the spent fuel. A minimum of 6-1/2 feet of water shall be maintained over single irradiated fuel assemblies during transfer and handling operations.	1. Whenever irradiated fuel is stored in the spent fuel pool, the water level shall be verified to be above the low level alarm setpoint or the water level shall be measured. This action shall be taken daily and recorded.
2. Whenever irradiated fuel is in the fuel pool, the pool water temperature shall be $\leq$150° F.	2. Whenever irradiated fuel is stored in the spent fuel pool, the temperature shall be measured and recorded daily.
3. Fuel pool water shall be maintained within the following limits: conductivity $\leq$ 10 μmhos/cm at 25°C chlorides $\leq$ 0.5 ppm	3. A sample of fuel pool water shall be analyzed for conductivity and chloride content: a. Daily, or b. Once per 8 hours when the fuel pool cleanup system is inoperable.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.10.D Reactor Building Crane	4.10.D Reactor Building Crane
1. The reactor building crane shall be OPERABLE:	1. The following operational checks and inspections shall be performed on the reactor building crane prior to handling of a spent fuel cask and new or spent fuel. (These need not be performed more frequently than quarterly.):
a. When a spent fuel cask is handled.	a. The cab and pendant controls shall be demonstrated to be OPERABLE on both the 125-ton hoist and the 5-ton hoist.
b. Whenever new or spent fuel is handled with the 5-ton hoist.	b. A visual inspection shall be made to insure structural integrity of the 125-ton hoist, the 5-ton hoist and cask yoke safety wire ropes.
	c. The overtravel limit switch interlocks, movement speed control and braking operations for the bridge, trolley and hoists, the pendant

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TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-296

BROWNS FERRY NUCLEAR PLANT, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 192
License No. DPR-68

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Tennessee Valley Authority (the licensee) dated September 30, 1993, 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. DPR-68 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 192, 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 from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Frederick J. Hebdon

Frederick J. Hebdon, Director
Project Directorate II-4
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: March 2, 1995

ATTACHMENT TO LICENSE AMENDMENT NO. 192

FACILITY OPERATING LICENSE NO. DPR-68

DOCKET NO. 50-296

Revise the Appendix A Technical Specifications by removing the pages identified below and inserting the enclosed pages. The revised pages are identified by the captioned amendment number and contain marginal lines indicating the area of change. Overleaf* page is provided to maintain document completeness.

REMOVE	INSERT
3.10/4.10-7	3.10/4.10-7
3.10/4.10-8	3.10/4.10-8*

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.10.C Spent Fuel Pool Water	4.10.C Spent Fuel Pool Water
1. Whenever irradiated fuel is stored in the spent fuel pool, the pool water level shall be maintained at a depth of 8-1/2 feet or greater above the top of the spent fuel. A minimum of 6-1/2 feet of water shall be maintained over single irradiated fuel assemblies during transfer and handling operations.	1. Whenever irradiated fuel is stored in the spent fuel pool, the water level shall be verified to be above the low level alarm setpoint or the water level shall be measured. This action shall be taken daily and recorded.
2. Whenever irradiated fuel is in the fuel pool, the pool water temperature shall be $\leq$150° F.	2. Whenever irradiated fuel is stored in the spent fuel pool, the temperature shall be measured and recorded daily.
3. Fuel pool water shall be maintained within the following limits: conductivity $\leq$ 10 µmhos/cm at 25°C chlorides $\leq$ 0.5 ppm	3. A sample of fuel pool water shall be analyzed for conductivity and chloride content: a. Daily, or b. Once per 8 hours when the fuel pool cleanup system is inoperable.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.10.D Reactor Building Crane	4.10.D Reactor Building Crane
1. The reactor building crane shall be OPERABLE:	1. The following operational checks and inspections shall be performed on the reactor building crane prior to handling of a spent fuel cask and new or spent fuel. (These need not be performed more frequently than quarterly.):
a. When a spent fuel cask is handled.	a. The cab and pendant controls shall be demonstrated to be OPERABLE on both the 125-ton hoist and the 5-ton hoist.
b. Whenever new or spent fuel is handled with the 5-ton hoist.	b. A visual inspection shall be made to insure structural integrity of the 125-ton hoist, the 5-ton hoist and cask yoke safety wire ropes.
	c. The overtravel limit switch interlocks, movement speed control and braking operations for the bridge, trolley and hoists, the pendant interlocks, the main-auxiliary hoist operation interlock, and the remote emergency stop shall be functionally tested.

UNITED STATES
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 218 TO FACILITY OPERATING LICENSE NO. DPR-33

AMENDMENT NO. 234 TO FACILITY OPERATING LICENSE NO. DPR-52

AMENDMENT NO. 192 TO FACILITY OPERATING LICENSE NO. DPR-68

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT, UNITS 1, 2, AND 3

DOCKET NOS. 50-259, 50-260, AND 50-296

1.0 INTRODUCTION

By letter dated September 30, 1993, the Tennessee Valley Authority (the licensee) requested amendments of the technical specifications (TS) for the Browns Ferry Nuclear Plant (BFN) Units 1, 2, and 3. The proposed changes clarify current procedures used at BFN to verify the spent fuel pool water level and provide numerical correspondence between the temperature and sampling Limiting Conditions for Operation and the corresponding Surveillance Requirements. The licensee provided this submittal in response to Inspection Reports 50-259/93-07, 50-260/93-07, and 50-296/93-07, dated April 16, 1993. The resident inspector noted that Technical Specification Surveillance Requirement 4.10.C.1 requires that the spent fuel pool water level be recorded daily, whenever irradiated fuel is stored in the spent fuel pool. The inspector questioned the adequacy of using a control room annunciator for fulfilling this TS requirement.

2.0 BACKGROUND

The spent fuel pool water level monitoring, indication, and alarming functions are classified under the Fuel Pool Cooling and Cleanup system in the BFN Final Safety Analysis Report (FSAR), Chapter 10.5. Per the BFN FSAR, the Power Generation Design Basis for the fuel pool cooling and cleanup system is as follows:

1. The fuel pool cooling and cleanup system shall minimize the corrosion product buildup and control water clarity, so that the fuel assemblies can be efficiently handled underwater,

2. The fuel pool cooling and cleanup system shall minimize the fission product concentration in the water which could be released from the pool to the Reactor Building environment,

3. The fuel pool cooling and cleanup system shall monitor fuel pool water level and maintain a water level above the fuel sufficient to provide shielding for normal building occupancy.

The spent fuel pool water level surveillance requirement is being revised to explicitly describe the methods currently used to verify fuel pool water level, and to provide an alternative method to verify pool level which allows for maintenance on the primary fuel pool water level instrumentation. The fuel pool water level will be recorded as "above the low level alarm setpoint" or, in case of maintenance restrictions, the water level will be measured directly.

The water level in the spent fuel storage pool provides absorption of soluble fission gases and transport delays of insoluble gases that must pass through the water before being released to the secondary containment atmosphere. The water also provides radiation shielding for workers who may be in the vicinity. Since the proposed TS does not reduce the water level required to be maintained in the spent fuel pool, the shielding and gas absorption capability of the water is not diminished. Therefore, the proposed change is acceptable.

The spent fuel pool water temperature and sampling and analysis surveillance requirements are being revised to provide a numerical correspondence between the given Limiting Condition for Operation and its corresponding Surveillance Requirement. Also, the temperature and sampling and analysis revisions clarify the wording associated with the spent fuel pool surveillance requirements respectively. These changes are administrative in nature and do not alter the intent of the TS, therefore, the staff finds them acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Alabama State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes the surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (58 FR 67862). Accordingly, the 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 the amendments.

5.0 CONCLUSION

The Commission has concluded, based upon 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 (3) issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Laura A. Dudes

Dated: March 2, 1995