

September 7, 1990

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

Mr. Oliver D. Kingsley, Jr.  
Senior Vice President, Nuclear Power  
Tennessee Valley Authority  
6N 38A Lookout Place  
1101 Market Street  
Chattanooga, Tennessee 37402-2801

Dear Mr. Kingsley:

SUBJECT: ISSUANCE OF AMENDMENTS TO THE TECHNICAL SPECIFICATIONS REGARDING  
LIQUID RADWASTE EFFLUENT FLOW MEASUREMENT (TAC NOS. 76651, 76652,  
AND 76653)

The Commission has issued the enclosed Technical Specifications (TS) Amendment Nos. 175, 178, and 146 to the Facility Operating Licenses Nos. DPR-33, DPR-52 and DPR-68 for the Browns Ferry Nuclear (BFN) Plant, Units 1, 2 and 3, respectively. These amendments are in response to your application dated April 19, 1990, which requested deletion of all reference to the fixed in line rotometer from TS table 3.2.D as a consequence of a hardware modification to the liquid radwaste system.

A copy of our Safety Evaluation is also enclosed. Furthermore, a Notice of Issuance regarding these TS amendments will be published in the Commission's bi-weekly Federal Register notice.

Sincerely,

Original signed by  
Thierry M. Ross, Project Manager  
Project Directorate II-4  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No.175 to License No. DPR-33
2. Amendment No.178 to License No. DPR-52
3. Amendment No. 146 to License No. DPR-68
4. Safety Evaluation

cc w/enclosures:  
See next page

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OFC	: PDII-4/LA	PDII-4/PM	OGC	PRRB	PDII-4/D
NAME	: MKrebs <i>MK</i>	: TRoss <i>TR</i>	: L. DEWEY	: LCunningham	: FHebdon
DATE	: 8/30/90	: 8/30/90	: 9/4/90	: 8/31/90	: 9/7/90

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Document Name: BFN ROTOMETER

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Mr. Oliver D. Kingsley, Jr.

- 2 -

cc:

Mr. Marvin Runyon, Chairman  
Tennessee Valley Authority  
ET 12A 7A  
400 West Summit Hill Drive  
Knoxville, Tennessee 37902

Mr. Edward G. Wallace  
Manager, Nuclear Licensing  
and Regulatory Affairs  
Tennessee Valley Authority  
5N 157B Lookout Place  
Chattanooga, Tennessee 37402-2801

Mr. John B. Waters, Director  
Tennessee Valley Authority  
ET 12A 9A  
400 West Summit Hill Drive  
Knoxville, Tennessee 37902

Mr. W. F. Willis  
Chief Operating Officer  
ET 12B 16B  
400 West Summit Hill Drive  
Knoxville, Tennessee 37902

General Counsel  
Tennessee Valley Authority  
400 West Summit Hill Drive  
ET 11B 33H  
Knoxville, Tennessee 37902

Mr. Dwight Nunn  
Vice President, Nuclear Engineering  
Tennessee Valley Authority  
6N 38A Lookout Place  
1101 Market Street  
Chattanooga, Tennessee 37402-2801

Dr. Mark O. Medford  
Vice President and Nuclear  
Technical Director  
Tennessee Valley Authority  
6N 38A Lookout Place  
Chattanooga, Tennessee 37402-2801

Mr. O. J. Zeringue, Site Director  
Browns Ferry Nuclear Plant  
Tennessee Valley Authority  
P. O. Box 2000  
Decatur, Alabama 35602

Mr. P. Carier, Site Licensing Manager  
Browns Ferry Nuclear Plant  
Tennessee Valley Authority  
P. O. Box 2000  
Decatur, Alabama 35602

Mr. L. W. Myers, Plant Manager  
Browns Ferry Nuclear Plant  
Tennessee Valley Authority  
P. O. Box 2000  
Decatur, Alabama 35602

Chairman, Limestone County Commission  
P. O. Box 188  
Athens, Alabama 35611

Claude Earl Fox, M.D.  
State Health Officer  
State Department of Public Health  
State Office Building  
Montgomery, Alabama 36130

Regional Administrator, Region II  
U.S. Nuclear Regulatory Commission  
101 Marietta Street, N.W.  
Atlanta, Georgia 30323

Mr. Charles Patterson  
Senior Resident Inspector  
Browns Ferry Nuclear Plant  
U.S. Nuclear Regulatory Commission  
Route 12, Box 637  
Athens, Alabama 35611

Tennessee Valley Authority  
Rockville Office  
11921 Rockville Pike  
Suite 402  
Rockville, Maryland 20852



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

TENNESSEE VALLEY AUTHORITY  
DOCKET NO. 50-259  
BROWNS FERRY NUCLEAR PLANT, UNIT 1  
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 175  
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 April 19, 1990, 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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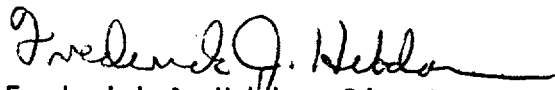
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-33 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 175, 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 fully implemented within 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Frederick J. Heddon, 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: September 7, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 175

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.

REMOVE

3.2/4.2-28

INSERT

3.2/4.2-28

3.2/4.2-28a

TABLE 3.2.D

Radioactive Liquid Effluent Monitoring Instrumentation

<u>Instrument (F)</u>	<u>Minimum Channels Operable</u>	<u>Applicability</u>	<u>Action</u>
1. LIQUID RADWASTE EFFLUENT MONITOR (RM-90-130)	1	**	A, B
2. RHR SERVICE WATER MONITOR (RM-90-133, -134)	1	***	C
3. RAW COOLING WATER MONITOR (RM-90-132)	1	**	D
4. LIQUID RADWASTE EFFLUENT FLOW RATE (77-60 loop)	1	**	E

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

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-260

BROWNS FERRY NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 178  
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 April 19, 1990, 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. 178, 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 fully 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: Septemebr 7, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 178

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.

REMOVE

3.2/4.2-28

INSERT

3.2/4.2-28

3.2/4.2-28a

TABLE 3.2.D

Radioactive Liquid Effluent Monitoring Instrumentation

<u>Instrument (F)</u>	<u>Minimum Channels Operable</u>	<u>Applicability</u>	<u>Action</u>
1. LIQUID RADWASTE EFFLUENT MONITOR (RM-90-130)	1	**	A, B
2. RHR SERVICE WATER MONITOR (RM-90-133, -134)	1	***	C
3. RAW COOLING WATER MONITOR (RM-90-132)	1	**	D
4. LIQUID RADWASTE EFFLUENT FLOW RATE (77-60 loop)	1	**	E

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NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-296

BROWNS FERRY NUCLEAR PLANT, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 146  
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 April 19, 1990, 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.

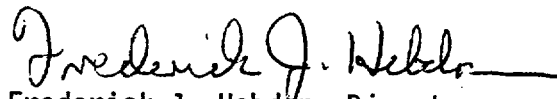
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-68 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 146, 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 fully 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: September 7, 1990

ATTACHMENT TO LICENSE AMENDMENT NO. 146

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.

REMOVE

3.2/4.2-27

INSERT

3.2/4.2-27

3.2/4.2-27a

TABLE 3.2.D

Radioactive Liquid Effluent Monitoring Instrumentation

<u>Instrument (F)</u>	<u>Minimum Channels Operable</u>	<u>Applicability</u>	<u>Action</u>
1. LIQUID RADWASTE EFFLUENT MONITOR (RM-90-130)	1	**	A, B
2. RHR SERVICE WATER MONITOR (RM-90-133, -134)	1	***	C
3. RAW COOLING WATER MONITOR (RM-90-132)	1	**	D
4. LIQUID RADWASTE EFFLUENT FLOW RATE (77-60 loop)	1	**	E



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ENCLOSURE 4

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 175 TO FACILITY OPERATING LICENSE NO. DPR-33

AMENDMENT NO. 178 TO FACILITY OPERATING LICENSE NO. DPR-52

AMENDMENT NO. 146 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

On April 19, 1990, Tennessee Valley Authority (TVA) proposed to revise the Browns Ferry Nuclear (BFN) Plant Technical Specification (TS) by removing reference to the fixed in line rotometer listed in the Table 3.2.D, "Radioactive Liquid Effluent Monitoring Instrumentation."

This TS change was necessitated by a modification to the radwaste system which replaced the existing non-safety-related high and low-flow loop radwaste discharge line rotometer flow indicating transmitters with a single ultrasonic transit time flowmeter. The ultrasonic flowmeter will be installed on a common radwaste discharge line and will measure any effluents being discharged. This modification is being made because the existing rotometers have not demonstrated the desired flow measurement accuracy or reliability.

2.0 EVALUATION

The liquid radwaste system collects, processes, stores, and disposes of all radioactive liquid wastes. The sources of radioactive liquid wastes are primarily from equipment drain sumps, reactor cleanup systems, decant from the cleanup and condensate phase separators, floor drain sumps, the chemical waste tank, Residual Heat Removal system, laboratory and decontamination drains, the radwaste building floor drain sump, radioactive laundry operations, and decontamination solutions containing detergents. The ultrasonic flowmeter is part of the control loop which controls, measures, and records the flowrate of the radwaste liquid effluent discharge. This control loop is not required for safe shutdown of the plant, but it does monitor and control the flow of normal offsite discharges to ensure compliance with the requirements of 10 CFR 20. Malfunctions of the flow measurement and recording loop (of which the new ultrasonic flowmeter is a part) can be compensated for by alternate measurement techniques detailed in plant surveillance instructions.

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The proposed TS change and its associated modification does not adversely impact the normal radioactive effluent discharge concentrations from the radwaste system, so there will be no increase in the radiological dose to the public. No accidents, transients, or events described in the plant Safety Analysis Report are initiated by failure of this flowmeter or the control loop of which it is a part. The modification will in fact enhance the accuracy and reliability of equipment used to measure liquid radwaste discharges. As such, the NRC staff concludes that TVA's proposed TS change is acceptable.

### 3.0 ENVIRONMENTAL CONSIDERATION

The amendments involve a change to a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 offsite, 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, 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 nor environmental assessment need be prepared in connection with the issuance of these amendments.

### 4.0 CONCLUSION

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 (3) the issuance of the amendments will not be inimical to the common defense and security nor to the health and safety of the public.

Principal Contributor: T. Ross

Dated: September 7, 1990

AMENDMENT NO. 175 FOR BROWNS FERRY UNIT 1 - DOCKET NO. 50-259,  
AMENDMENT NO. 178 FOR BROWNS FERRY UNIT 2 - DOCKET NO. 50-260, and  
AMENDMENT NO. 146 FOR BROWNS FERRY UNIT 3 - DOCKET NO. 50-296  
DATED: September 7, 1990

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