September 18, 1996

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

SUBJECT: ISSUANCE OF AMENDMENTS - BROWNS FERRY NUCLEAR PLANT UNITS 1, 2, AND 3 (TAC NOS. M95386, M95387, AND M95388) (TS 352)

Dear Mr. Kingsley:

The Commission has issued the enclosed Amendment Nos. 231, 246, and 206 to Facility Operating License 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 May 3, 1996, requesting administrative changes to the technical specifications.

A copy of the NRC's Safety Evaluation is enclosed. A Notice of Issuance of Amendment to Facility Operating License and Final Determination of No Significant Hazards Consideration and Opportunity for Hearing will be included in the Commission's next biweekly <u>Federal Register</u> notice.

Sincerely,

Original signed by

Joseph F. Williams, Project Manager Project Directorate II-3 Division of Reactor Projects - I/II Office of Nuclear Reactor Regulation

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

Enclosures:	1.	Amendment No. 231 to
		License No. DPR-33
	2.	Amendment No.246 to
		License No. DPR-52
	3.	Amendment No. 206 to
		License No. DPR-68
	4.	Safety Evaluation

cc w/enclosures: See next page

Distribution w/enclosure Docket File PUBLIC BFN Reading SVarga THarris [TLH3] (ltr/SE) GHill (6) T-5-C3 CGrimes 0-11-E22 ACRS JJohnson, RII MLesser, RII

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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

SUBJECT: ISSUANCE OF AMENDMENTS - BROWNS FERRY NUCLEAR PLANT UNITS 1, 2, AND 3 (TAC NOS. M95386, M95387, AND M95388) (TS 352)

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Joseph F. Williams, Project Manager Project Directorate II-3 Division of Reactor Projects - I/II Office of Nuclear Reactor Regulation

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BROWNS FERRY NUCLEAR PLANT

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Mr. Oliver D. Kingsley, Jr. Temnessee Valley Authority

cc:

Mr. O. J. Zeringue, Sr. Vice President Nuclear Operations Tennessee Valley Authority 6A Lookout Place 1101 Market Street Chattanooga, TN 37402-2801

Mr. Mark O. Medford, Vice President Technical Services Tennessee Valley Authority 6A Lookout Place 1101 Market Street Chattanooga, TN 37402-2801

Mr. R. D. Machon, Site Vice President Browns Ferry Nuclear Plant Tennessee Valley Authority P.O. Box 2000 Decatur, AL 35609

General Counsel Tennessee Valley Authority ET 10H 400 West Summit Hill Drive Knoxville, TN 37902

Mr. Raul R. Baron, General Manager Nuclear Licensing Tennessee Valley Authority 4G Blue Ridge 1101 Market Street Chattanooga, TN 37402-2801 Mr. Pedro Salas Site Licensing Manager Browns Ferry Nuclear Plant Tennessee Valley Authority P.O. Box 2000 Decatur, AL 35609

TVA Representative Tennessee Valley Authority One Massachusetts Avenue, Suite 300 Washington, DC 20001

Regional Administrator U.S. Nuclear Regulatory Commission Region II 101 Marietta Street, NW., Suite 2900 Atlanta, GA 30323

Mr. Leonard D. Wert Senior Resident Inspector Browns Ferry Nuclear Plant U.S. Nuclear Regulatory Commission 10833 Shaw Road Athens, AL 35611

Chairman Limestone County Commission 310 West Washington Street Athens, AL 35611

State Health Officer Alabama Department of Public Health 434 Monroe Street Montgomery, AL 36130-1701



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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. 231 License No. DPR-33 and a second

- The Nuclear Regulatory Commission (the Commission) has found that: 1.
 - The application for amendment by Tennessee Valley Authority (the Α. licensee) dated May 3, 1996, 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;
 - The facility will operate in conformity with the application, the Β. 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;
 - The issuance of this amendment will not be inimical to the common D. defense and security or to the health and safety of the public; and
 - The issuance of this amendment is in accordance with 10 CFR Part 51 Ε. 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) <u>Technical Specifications</u>

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 231, 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

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Frederick J. Hebdon, Director Project Directorate II-3 Division of Reactor Projects - I/II Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: September 18, 1996

- 2 -

ATTACHMENT TO LICENSE AMENDMENT NO. 231

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 pages are included to maintain document completeness.

REMOVE

INSERT

iii	iii
iv	iv *
1.0-11	1.0-11
1.0-12	1.0-12 *
3.2/4.2-9	3.2/4.2-9
3.2/4.2-10	3.2/4.2-10

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	<u>Section</u>	\smile		Page No.
		B. Coolant Chemistry	••••••	3.6/4.6-5
		C. Coolant Leakage	• • • • • • •	3.6/4.6-9
		D. Relief Valves	· • • • • • • •	3.6/4.6-10
		E. Jet Pumps	• • • • • • •	3.6/4.6-11
		F. Recirculation Pump Operation	• • • • • • •	3.6/4.6-12
		G. Structural Integrity	• • • • • • • •	3.6/4.6-13
		H. Snubbers	• • • • • • • •	3.6/4.6-15
	3.7/4.7	Containment Systems	• • • • • • •	3.7/4.7-1
		A. Primary Containment	• • • • • • • •	3.7/4.7-1
		B. Standby Gas Treatment System		3.7/4.7-13
		C. Secondary Containment		3.7/4.7-16
•		D. Primary Containment Isolation Va	alves	3.7/4.7-17 .
		E. Control Room Emergency Ventilati	ion	3.7/4.7-19
		F. Primary Containment Purge System	a	3.7/4.7-21
		G. Containment Atmosphere Dilution	System (CAD) .	3.7/4.7-22
		H. Containment Atmosphere Monitorin System H ₂ Analyzer		3.7/4.7-24
	3.8/4.8	Radioactive Materials		3.8/4.8-1
		A. Liquid Effluents		3.8/4.8-1
		B. Airborne Effluents		3.8/4.8-3
		C. (Deleted)		3.8/4.8-4
		D. (Deleted)		3.8/4.8-4 -
		E. Miscellaneous Radioactive Mater	ials Sources	3.8/4.8-5
		F. (Deleted)		3.8/4.8-6
	3.9/4.9	Auxiliary Electrical System		3.9/4.9-1
		A. Auxiliary Electrical Equipment		3.9/4.9-1
		B. Operation with Inoperable Equip	nent	3.9/4.9-8

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Secti	ion		Page No.
 	c.	Operation in Cold Shutdown	3.9/4.9-15
	D.	Diesel Generators Required For Units 1, 2, and 3 Shared Systems	3.9/4.9-15a
3.10,	/4.10	Core Alterations	3.10/4.10-1
	A.	Refueling Interlocks	3.10/4.10-1
	в.	Core Monitoring	3.10/4.10-5
	c.	Spent Fuel Pool Water	3.10/4.10-7
	D.	Reactor Building Crane	3.10/4.10-8
	E.	Spent Fuel Cask	3.10/4.10-9
	F.	Spent Fuel Cask Handling-Refueling Floor	3.10/4.10-10
3.11,	/4.11	Deleted	3.11/4.11-1
5.0	Мајол	r Design Features	5.0-1
	5.1	Site Features	5.0-1
	5.2	Reactor	5.0-1
	5.3	Reactor Vessel	5.0-1
	5.4	Containment	5.0-1
	5.5	Fuel Storage	. 5.0-1
	5.6	Seismic Design	. 5.0-2

- GG. <u>Site Boundary</u> Shall be that line beyond which the land is not owned, leased, or otherwise controlled by TVA.
- HH. <u>Unrestricted Area</u> Any area at or beyond the SITE BOUNDARY to which access is not controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials or any area within the SITE BOUNDARY used for industrial, commercial, institutional, or recreational purposes.
- II. Dose Equivalent I-131 The DOSE EQUIVALENT I-131 shall be the concentration of I-131 (in μ Ci/gm) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factor used for this calculation shall be those listed in Table III of TID-14844 "Calculation of Distance Factors for Power and Test Reactor Sites".
- JJ. <u>Gaseous Waste Treatment System</u> The charcoal adsorber vessels installed on the discharge of the steam jet air ejector to provide delay to a unit's offgas activity prior to release.
- KK. <u>Members of the Public</u> Any individual except when that individual receives an occupational dose (as defined in 10 CFR 20).
- LL. <u>Surveillance</u> Surveillance Requirements shall be met during the OPERATIONAL CONDITIONS or other conditions specified for individual limiting conditions for operation unless otherwise stated in an individual Surveillance Requirements. Each Surveillance Requirement shall be performed within the specified surveillance interval with a maximum allowable extension not to exceed 25 percent of the specified surveillance interval. It is not intended that this (extension) provision be used repeatedly as a convenience to extend surveillance intervals beyond that specified for surveillances that are not performed during refueling outages.

Performance of a Surveillance Requirement within the specified time interval shall constitute compliance and OPERABILITY requirements for a limiting condition for operation and associated action statements unless otherwise required by these specifications. Surveillance Requirements do not have to be performed on inoperable equipment.

If it is discovered that a surveillance was not performed within its specified frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified frequency, whichever is less. This delay period is permitted to allow performance of the surveillance.

BFN Unit 1

1.0 DEFINITIONS (Cont'd)

If the surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable condition(s) must be entered.

When the surveillance is performed within the delay period and the surveillance is not met, the LCO must immediately be declared not met, and the applicable condition(s) must be entered.

- MM. Surveillance Requirements for ASME Section XI Pump and Valve Program -Surveillance Requirements for Inservice Testing of ASME Code Class 1, 2, and 3 components shall be applicable as follows:
 - Inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55(g)(6)(i).
 - 2. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these technical specifications:

ASME Boiler and Pressure Vessel	Required frequencies
Code and applicable Addenda	for performing inservice
terminology for inservice	<u>testing activities</u>
testing activities	

Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days

- 3. The provisions of Specification 1.0.LL are applicable to the above required frequencies for performing inservice testing activities.
- 4. Performance of the above inservice testing activities shall be in addition to other specified surveillance requirements.
- 5. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any technical specification.
- 6. The inservice inspection program for piping identified in NRC Generic Letter 88-01 shall be performed in accordance with the staff positions on schedule, methods, personnel, and sample expansion included in this generic letter.

AMENDMENT NO. 230

Unit 1

BFN

BFN Unit l	Minimum No. Instrument Channels Operable <u>per Trip Sys(l)(ll)</u>	Function	Trip Level Setting	Action (1)	Remarks
-	1(15)	Instrument Channel – Reactor Building Ventilation High Radiation – Refueling Zone	≤ 100 mr/hr or downscale	F	 l upscale channel or 2 downscale channels will a. Initiate SGTS b. Isolate refueling floor c. Close atmosphere control system.
	2(7) (8)	Instrument Channel SGTS Flow - Train A R. H. Heaters	<u>></u> 2000 cfm and <u><</u> 4000 cfm	H and (A or F)	Below 2000 cfm airflow R.H. heaters shall be shut off.
	2(7) (8)	Instrument Channel SGTS Flow - Train B R. H. Heaters	<u>></u> 2000 cfm and <u><</u> 4000 cfm	H and (A or F)	Below 2000 cfm airflow R.H. heaters shall be shut off.
3.2/4.2-9	2(7) (8)	Instrument Channel SGTS Flow – Train C R. H. Heaters	<u>></u> 2000 cfm and <u><</u> 4000 cfm	H and (A or F)	Below 2000 cfm airflow R.H. heaters shall be shut off.
.2-9	1 .	Reactor Building Isolation Timer (refueling floor)	0 <u><</u> t <u><</u> 2 secs.	H or F	 Below trip setting prevents spurious trips and system perturbations from initiating isolation.
	1	Reactor Building Isolation Timer (reactor zone)	0 ≤ t ≤ 2 secs.	G or A or H	 Below trip setting prevents spurious trips and system perturbations from initiating isolation.
AMENDMENT NO. 231	2(10)	Group 1 (Initiating) Logic	N/A	Α	 Group 1: A Group 1 isolation is actuated by any of the following conditions: a. Reactor Vessel Low Low Water Level b. Deleted c. Main Steamline High Flow d. Main Steamline Space High Temperature e. Main Steamline Low Pressure

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TABLE 3.2.A (Continued) PRIMARY CONTAINMENT AND REACTOR BUILDING ISOLATION INSTRUMENTATION

BFN Unit l	Minimum No. Instrument Channels Operable <u>per Trip Sys(1)(11)</u>	Function	Trip Level Setting	Action (1)	Remarks
	1	Group 1 (A ctuation) Logic	N/A	В	 Group 1: A Group 1 isolation is actuated by any of the following conditions: a. Reactor Vessel Low Low Water Level b. Deleted c. Main Steamline High Flow d. Main Steamline Space High Temperature e. Main Steamline Low Pressure
	2	Group 2 (Initiating) Logic	N/A	A or (B and E)	 Group 2: A Group 2 isolation is actuated by any of the following conditions: Reactor Vessel Low Water Level High Drywell Pressure
ω	1	Group 2 (RHR Isolation- Actuation) Logic	N/A	D	
3.2/4.2-10	1	Group 8 (TIP-Actuation) Logic	N/A	J	
.2-10	۱	Group 2 (Drywell Sump Drains-Actuation) Logic	N/A	к	· · · ·
	1	Group 2 (Reactor Building & Refueling Floor, and Drywell Vent and Purge- Actuation) Logic	N/A	F and G	1. Part of Group 6 Logic
AME	2	Group 3 (Initiating) Logic	N/A	C	 Group 3: A Group 3 isolation is actuated by any of the following conditions: a. Reactor Vessel Low Water Level b. Reactor Water Cleanup System High Temperature c. Reactor Water Cleanup System High Drain Temperature

TABLE 3.2.A (Continued) PRIMARY CONTAINMENT AND REACTOR BUILDING ISOLATION INSTRUMENTATION

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-260

BROWNS FERRY NUCLEAR PLANT, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 246 License No. DPR-52

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- 1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Tennessee Valley Authority (the licensee) dated May 3, 1996, 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. 246, 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-3 Division of Reactor Projects - I/II Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: September 18, 1996

ATTACHMENT TO LICENSE AMENDMENT NO. 246

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 pages are included to maintain document completeness.

REMOVE

INSERT

	iii
iii	
iv	iv *
1.0-9	1.0-9
1.0-10	1.0-10 *
1.0-11	1.0-11
1.0-12	1.0-12 *
3.2/4.2-9	3.2/4.2-9
3.2/4.2-10	3.2/4.2-10
3.2/4.2-14	3.2/4.2-14
3.2/4.2-15	3.2/4.2-15 *
3.9/4.9-5	3.9/4.9-5 *
3.9/4.9-6	3.9/4.9-6
3.9/4.9-10a	
3.9/4.9-10b	
3.9/4.9-11	3.9/4.9-11
3.9/4.9-12	3.9/4.9-12 *
•	•

Section	\sim	\smile	Page No.
	C. Coolant Leakage		3.6/4.6-9
	D. Relief Valves		3.6/4.6-10
	E. Jet Pumps		3.6/4.6-11
	F. Recirculation Pump Operation	• • • • • •	3.6/4.6-12
	G. Structural Integrity		3.6/4.6-13
	H. Snubbers		3.6/4.6-15
3.7/4.7	Containment Systems		3.7/4.7-1
	A. Primary Containment		3.7/4.7-1
	B. Standby Gas Treatment System		3.7/4.7-13
	C. Secondary Containment	• • • • • •	3.7/4.7-16
	D. Primary Containment Isolation Valves	3	3.7/4.7-17
	E. Control Room Emergency Ventilation	• • • • • • •	3.7/4.7-19 ·
	F. Primary Containment Purge System .	• • • • • •	3.7/4.7-21
	G. Containment Atmosphere Dilution Syst	tem (CAD) .	3.7/4.7-22
	H. Containment Atmosphere Monitoring (System H ₂ Analyzer	•	3.7/4.7-24
3.8/4.8	Radioactive Materials	• • • • • •	3.8/4.8-1
	A. Liquid Effluents	• • • • • • •	3.8/4.8-1
	B. Airborne Effluents		3.8/4.8-3
	C. (Deleted)		3.8/4.8-4
	D. (Deleted)		3.8/4.8-4
	E. Miscellaneous Radioactive Materials	Sources	3.8/4.8-5
	F. (Deleted)		3.8/4.8-6
3.9/4.9	Auxiliary Electrical System		3.9/4.9-1
	A. Auxiliary Electrical Equipment	• • • • • •	3.9/4.9-1
	B. Operation with Inoperable Equipment	• • • • • •	3.9/4.9-8

AMENDMENT NO. 246

BFN Unit 2

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iii

Section		Page No.
-	C. Operation in Cold Shutdown	3.9/4.9-15
	D. Diesel Generators Required for Units 1, 2, and 3 Shared Systems	3.9/4.9-15a
3.10/4.10	Core Alterations	3.10/4.10-1
	A. Refueling Interlocks	3.10/4.10-1
	B. Core Monitoring	3.10/4.10-5
	C. Spent Fuel Pool Water	3.10/4.10-7
	D. Reactor Building Crane	3.10/4.10-8
	E. Spent Fuel Cask	3.10/4.10-9
	F. Spent Fuel Cask Handling-Refueling Floor	3.10/4.10-10
3.11/4.11	Deleted	3.11/4.11-1
5.0	Major Design Features	5.0-1
	5.1 Site Features	5.0-1
	5.2 Reactor	5.0-1
•	5.3 Reactor Vessel	5.0-1
	5.4 Containment	5.0-1
	5.5 Fuel Storage	5.0-1
	5.6 Seismic Design	5.0-2

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AMENDMENT NO. 229

9. <u>Simulated Automatic Actuation</u> - Simulated automatic actuation means applying a simulated signal to the sensor to actuate the circuit in question.

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- 10. Logic A logic is an arrangement of relays, contacts, and other components that produces a decision output.
 - (a) <u>Initiating</u> A logic that receives signals from channels and produces decision outputs to the actuation logic.
 - (b) <u>Actuation</u> A logic that receives signals (either from initiation logic or channels) and produces decision outputs to accomplish a protective action.
- 11. <u>Channel Calibration</u> Shall be the adjustment, as necessary, of the channel output such that it responds with necessary range and accuracy to known values of the parameters which the channel monitors. The channel calibration shall encompass the entire channel including alarm and/or trip functions and shall include the channel functional test. The channel calibration may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated. Non-calibratable components shall be excluded from this requirement, but will be included in channel functional test and source check.
- 12. Channel Functional Test Shall be:
 - a. Analog/Digital Channels the injection of a simulated signal into the channel as close to the sensor as practicable to verify OPERABILITY including alarm and/or trip functions.
 - b. Bistable Channels the injection of a simulated signal into the sensor to verify OPERABILITY including alarm and/or trip functions.

13. (Deleted)

در بو در دومه شروه ربه **میگو**رد . اور پالای هو په او ماره مار و ماره .

- W. <u>Functional Tests</u> A functional test is the manual operation or initiation of a system, subsystem, or component to verify that it functions within design tolerances (e.g., the manual start of a core spray pump to verify that it runs and that it pumps the required volume of water).
- X. <u>Shutdown</u> The reactor is in a shutdown condition when the reactor mode switch is in the shutdown mode position and no core alterations are being performed.
- Y. <u>Engineered Safeguard</u> An engineered safeguard is a safety system the actions of which are essential to a safety action required in response to accidents.
- Z. <u>Reportable Event</u> A reportable event shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.
- AA. (Deleted)
- BB. Offsite Dose Calculation Manual (ODCM) Shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring Alarm/Trip Setpoints, and in the conduct of the Environmental Radiological . Monitoring Program. The ODCM shall also contain (1) the Radioactive Effluent Controls and Radiological Environmental Monitoring Programs required by Section 6.8.4 and (2) descriptions of the information that should be included in the Annual Radiological Environmental Operating and Annual Radioactive Effluent Release Reports required by Specifications 6.9.1.5 and 6.9.1.8.
- CC. <u>Purge or purging</u> The controlled process of discharging air or gas from the primary containment to maintain temperature, pressure, humidity, concentration, or other operating condition in such a manner that replacement air or gas is required to purify the containment.
- DD. <u>Process Control Program</u> Shall contain the current formulas, sampling, analyses, test, and determinations to be made to ensure that processing and packaging of solid radioactive wastes based on demonstrated processing of actual or simulated wet solid wastes will be accomplished in such a way as to assure compliance with 10 CFR Parts 20, 61 and 71, State regulations, burial ground requirements, and other requirements governing the disposal of solid radioactive waste.

EE. (Deleted)

FF. <u>Venting</u> - The controlled process of discharging air or gas from the primary containment to maintain temperature, pressure, humidity, concentration, or other operating condition in such a manner that replacement air or gas is not provided or required. Vent, used in system names, does not imply a venting process.

AMENDMENT NO. 216

- GG. <u>Site Boundary</u> Shall be that line beyond which the land is not owned, leased, or otherwise controlled by TVA.
- HH. Unrestricted Area Any area at or beyond the SITE BOUNDARY to which access is not controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials or any area within the SITE BOUNDARY used for industrial, commercial, institutional, or recreational purposes.
- II. Dose Equivalent I-131 The DOSE EQUIVALENT I-131 shall be the concentration of I-131 (in μ Ci/gm) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factor used for this calculation shall be those listed in Table III of TID-14844 "Calculation of Distance Factors for Power and Test Reactor Sites".
- JJ. <u>Gaseous Waste Treatment System</u> The charcoal adsorber vessels installed on the discharge of the steam jet air ejector to provide delay to a unit's offgas activity prior to release.
- KK. <u>Members of the Public</u> Any individual except when that individual receives an occupational dose (as defined in 10 CFR 20).
- LL. <u>Surveillance</u> Surveillance Requirements shall be met during the OPERATIONAL CONDITIONS or other conditions specified for individual limiting conditions for operation unless otherwise stated in an individual Surveillance Requirements. Each Surveillance Requirement shall be performed within the specified surveillance interval with a maximum allowable extension not to exceed 25 percent of the specified surveillance interval. It is not intended that this (extension) provision be used repeatedly as a convenience to extend surveillance intervals beyond that specified for surveillances that are not performed during refueling outages.

Performance of a Surveillance Requirement within the specified time interval shall constitute compliance and OPERABILITY requirements for a limiting condition for operation and associated action statements unless otherwise required by these specifications. Surveillance Requirements do not have to be performed on inoperable equipment.

If it is discovered that a surveillance was not performed within its specified frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified frequency, whichever is less. This delay period is permitted to allow performance of the surveillance.

AMENDMENT NO. 246

BFN Unit 2

1.0 DEFINITIONS (Cont'd)

If the surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable condition(s) must be entered.

When the surveillance is performed within the delay period and the surveillance is not met, the LCO must immediately be declared not met, and the applicable condition(s) must be entered.

- MM. <u>Surveillance Requirements for ASME Section XI Pump and Valve Program</u> - Surveillance Requirements for Inservice Testing of ASME Code Class 1, 2, and 3 components shall be applicable as follows:
 - Inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55(g)(6)(i).
 - 2. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these technical specifications:

ASME Boiler and Pressure Vessel	Required frequencies
Code and applicable Addenda	for performing inservice
terminology for inservice	<u>testing activities</u>
testing activities	- · ·

Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days

- 3. The provisions of Specification 1.0.LL are applicable to the above required frequencies for performing inservice testing activities.
- 4. Performance of the above inservice testing activities shall be in addition to other specified surveillance requirements.
- 5. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any technical specification.
- 6. The inservice inspection program for piping identified in NRC Generic Letter 88-01 shall be performed in accordance with the staff positions on schedule, methods, personnel, and sample expansion included in this generic letter.

AMENDMENT NO. 245

Minimum No. Instrument Channels Operable <u>per Trip Sys(1)(11)</u>	Function	Trip Level Setting	Action (1)	Remarks	
1(14)	Instrument Channel – Reactor Building Ventilation High Radiation – Refueling Zone	≤ 100 mr/hr or downscale	F	 l upscale channel or 2 downscale channels will a. Initiate SGTS b. Isolate refueling floor c. Close atmosphere control system. 	(
2(7) (8)	Instrument Channel SGTS Flow - Train A R. H. Heaters	<u>></u> 2000 cfm and <u><</u> 4000 cfm	H and (A or F)	Below 2000 cfm airflow R.H. heaters shall be shut off.	
2(7) (8)	Instrument Channel SGTS Flow - Train B R. H. Heaters	<u>></u> 2000 cfm and <u><</u> 4000 cfm	H and (A or F)	Below 2000 cfm airflow R.H. heaters shall be shut off.	
2(7) (8)	Instrument Channel SGTS Flow - Train C R. H. Heaters	<u>></u> 2000 cfm and <u><</u> 4000 cfm	H and (A or F)	Below 2000 cfm airflow R.H. heaters shall be shut off.	
1	Reactor Building Isolation Timer (refueling floor)	0 <u><</u> t <u><</u> 2 secs.	H or F	 Below trip setting prevents spurious trips and system perturbations from initiating isolation. 	(
1	Reactor Building Isolation Timer (reactor zone)	0 <u><</u> t <u><</u> 2 secs.	G or A or H	 Below trip setting prevents spurious trips and system perturbations from initiating isolation. 	(
2(10)	Group 1 (Initiating) Logic	N/A	A	 Group 1: A Group 1 isolation is actuated by any of the following conditions: Reactor Vessel Low Low Water Level Deleted Main Steamline High Flow Main Steamline Space High Temperature Main Steamline Low Pressure 	9 -
	Instrument Channels Operable <u>per Trip Sys(1)(11)</u> 1(14) 2(7) (8) 2(7) (8) 1 1	Instrument Channels Operable per Trip Sys(1)(11)Function1(14)Instrument Channel - Reactor Building Ventilation High Radiation - Refueling Zone2(7) (8)Instrument Channel SGTS Flow - Train A R. H. Heaters2(7) (8)Instrument Channel SGTS Flow - Train B R. H. Heaters2(7) (8)Instrument Channel SGTS Flow - Train B R. H. Heaters2(7) (8)Instrument Channel SGTS Flow - Train C R. H. Heaters2(7) (8)Instrument Channel SGTS Flow - Train C R. H. Heaters1Reactor Building Isolation Timer (refueling floor)1Reactor Building Isolation Timer (reactor zone)	Instrument Channels Operable per Trip Sys(1)(1))FunctionTrip Level Setting1(14)Instrument Channel - Reactor Building Ventilation High Radiation - Refueling Zone $\leq 100 \text{ mr/hr or downscale}$ 2(7) (8)Instrument Channel SGTS Flow - Train A R. H. Heaters $\geq 2000 \text{ cfm}$ and $\leq 4000 \text{ cfm}$ 2(7) (8)Instrument Channel SGTS Flow - Train B R. H. Heaters $\geq 2000 \text{ cfm}$ and $\leq 4000 \text{ cfm}$ 2(7) (8)Instrument Channel SGTS Flow - Train B R. H. Heaters $\geq 2000 \text{ cfm}$ and $\leq 4000 \text{ cfm}$ 2(7) (8)Instrument Channel SGTS Flow - Train C R. H. Heaters $\geq 2000 \text{ cfm}$ and $\leq 4000 \text{ cfm}$ 1Reactor Building Isolation Timer (refueling floor) $0 \leq t \leq 2 \text{ secs.}$ 1Reactor Building Isolation Timer (reactor zone) $0 \leq t \leq 2 \text{ secs.}$	Instrument Channels Operable per Trip Sys(1)(11)Trip Level SettingAction (1)1(14)Instrument Channel - Reactor Building Ventilation High Radiation - Refueling Zone $\leq 100 \text{ mr/hr or downscale}$ F2(7) (8)Instrument Channel SGTS Flow - Train A R. H. Heaters $\geq 2000 \text{ cfm}$ and $\leq 4000 \text{ cfm}$ H and (A or F)2(7) (8)Instrument Channel SGTS Flow - Train B R. H. Heaters $\geq 2000 \text{ cfm}$ and $\leq 4000 \text{ cfm}$ H and (A or F)2(7) (8)Instrument Channel SGTS Flow - Train B R. H. Heaters $\geq 2000 \text{ cfm}$ and $\leq 4000 \text{ cfm}$ H and (A or F)2(7) (8)Instrument Channel SGTS Flow - Train C R. H. Heaters $\geq 2000 \text{ cfm}$ and $\leq 4000 \text{ cfm}$ H and (A or F)1Reactor Building Isolation Timer (refueling floor) $0 \leq t \leq 2 \text{ secs.}$ H or F1Reactor Building Isolation Timer (reactor zone) $0 \leq t \leq 2 \text{ secs.}$ G or A or H	Instrument Channels Operable per Trip Sys(1)(1)) Function Trip Level Setting Action (1) Remarks 1(14) Instrument Channel - Readror Building Ventilation High Radiation + Refueling Zone ≤ 100 mr/hr or downscale F 1. 1 upscale channel or 2 downsite channel or 2 downsite channel or 2 downsite channel or 2 downsite channel 5 isolate refueling floor c. Close atmosphere control system. 2(7) (8) Instrument Channel SGTS Flow - Train A R. H. Heaters 22000 cfm and ≤ 4000 cfm (A or F) H and (A or F) Below 2000 cfm airflow R.H. heaters shall be shut off. 2(7) (8) Instrument Channel SGTS Flow - Train B R. H. Heaters 22000 cfm and ≤ 4000 cfm (A or F) H and (A or F) Below 2000 cfm airflow R.H. heaters shall be shut off. 2(7) (8) Instrument Channel SGTS Flow - Train C R. H. Heaters 22000 cfm and ≤ 4000 cfm (A or F) H and (A or F) Below 2000 cfm airflow R.H. heaters shall be shut off. 1 Reactor Building Isolation Timer (refueling floor) 0 ≤ t ≤ 2 secs. H or F 1. Below trip setting prevents spurious trips and system puribus trips and system or H 2(10) Group 1 (Initiating) Logic N/A A 1. Group 1: A Group 1 isolation is actuated by any of the followin conditions: a. Reactor Vessel Low Low Water b. Beleded c. Main Steamline High Flow d. Main Steamline High Flow

TABLE 3.2.A (Continued) PRIMARY CONTAINMENT AND REACTOR BUILDING ISOLATION INSTRUMENTATION

<u> </u>		NIAIIUN			
BFN Unit 2	Minimum No. Instrument Channels Operable <u>per Trip Sys(1)(11)</u>	Function	Trip Level Setting	Action (1)	Remarks
·	1	Group 1 (Actuation) Logic	N/A	8	 Group 1: A Group 1 isolation is actuated by any of the following conditions: a. Reactor Vessel Low Low Water Level b. Deleted c. Main Steamline High Flow d. Main Steamline Space High Temperature e. Main Steamline Low Pressure
	2	Group 2 (Initiating) Logic	N/A	A or (B and E)	 Group 2: A Group 2 isolation is actuated by any of the following conditions: Reactor Vessel Low Water Level High Drywell Pressure
	1	Group 2 (RHR Isolation- Actuation) Logic	, N/A	D	
3.2/	1	Group 8 (TIP-Actuation) Logic	N/A	J	
3.2/4.2-10	١	Group 2 (Drywell Sump Drains-Actuation) Logic	N/A	к	
Ō	. 1	Group 2 (Reactor Building & Refueling Floor, and Drywell Vent and Purge- Actuation) Logic	N/A	F and G	1. Part of Group 6 Logic
AMENDMENT NO. 246	2	Group 3 (Initiating) Logic	N/A	C	 Group 3: A Group 3 isolation is actuated by any of the following unditions: a. Reactor Vessel Low Water Level b. Reactor Water Cleanup (RWCU) System High Temperature in the main steam valve vault c. RWCU System High Temperature in the RWCU pump room 2A d. RWCU System High Temperature in the RWCU pump room 2B e. RWCU System High Temperature in the RWCU heat exchanger room f. RWCU System High Temperature in the space near the pipe trench containing RWCU piping

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TABLE 3.2.A (Continued) PRIMARY CONTAINMENT AND REACTOR BUILDING ISOLATION INSTRUMENTATION

BFN Unit 2	Minimum No. Operable Per <u>Trip Svs(1)</u>	Function	Trip Level Setting	Action	Remarks
	2	Instrument Channel - Reactor Low Water Level (LIS-3-58A-D)	≥ 470" above vessel zero.	A	 Below trip setting initiates HPCI.
	2	Instrument Channel - Reactor Low Water Level (LIS-3-58A-D)	≥ 470" above vessel zero.	А	1. Multiplier relays initiate RCIC.
	2 (19)	Instrument Channel - Reactor Low Water Level (LS-3-58A-D)	≥ 398" above vessel zero.	A	 Below trip setting initiates - CSS. Multiplier relays initiate LPCI.
μ					 Multiplier relay from CSS initiates accident signal (15).
3.2/4.2-14	2(16)	Instrument Channel - Reactor Low Water Level (LS-3-58A-D)	≥ 398" above vessel zero.	A	 Below trip settings, in conjunction with drywell high pressure, low water level permissive, ADS timer timed out and CSS or RHR pump running, initiates ADS.
AMENI					 Below trip settings, in conjunction with low reactor water level permissive, ADS timer timed out, ADS high drywell pressure bypass timer timed out,
AMENDMENT NO.					CSS or RHR pump running, initiates ADS.
NO.					1

TABLE 3.2.B INSTRUMENTATION THAT INITIATES OR CONTROLS THE CORE AND CONTAINMENT COOLING SYSTEMS

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Operable Per Trip Sys(1)	Function	Trip Level Setting	Action		Remarks
1(16)	Instrument Channel - Reactor Low Water Level Permissive (LIS-3-184, 185)	≥ 544" above vessel zero.	A	1.	Below trip setting permissive for initiating signals on ADS
1	Instrument Channel – Reactor Low Water Level (LIS-3-52 and LIS-3-62A)	≥ 312 5/16" above vessel zero. (2/3 core height)	A	1.	Below trip setting prevents inadvertent operation of containment spray during accident condition.
2 (18)	Instrument Channel - Drywell High Pressure (PIS-64-58 E-H)	1 <u>≤</u> p <u>≤</u> 2.5 psig	A	1.	Below trip setting prevents inadvertent operation of containment spray during accident conditions.
2(18)	Instrument Channel – Drywell High Pressure (PIS-64-58 A-D)	<u><</u> 2.5 psig	A ·	1.	Above trip setting in con- junction with low reactor pressure initiates CSS. Multiplier relays initiate HPCI.
				2.	Multiplier relay from CSS initiates accident signal. (:
2(18)	Instrument Channel – Drywell High Pressure (PIS-64-58A-D)	<u><</u> 2.5 psig	A	1.	Above trip setting in conjunction with low reactor pressure initiates LPCI.
2(16)(18)	Instrument Channel – Drywell High Pressure (PIS-64-57A-D)	<u><</u> 2.5 psig	A	1.	Above trip setting, in conjunction with low reactor water level, low reactor water level permissive, ADS timer timed out, and CSS or RHR pump running, initiates ADS.

BFN Unit 2

3.2/4.2-15

Amendment ng. 244

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3.9/4.9 AUXILIARY ELECTRICAL SYSTEM

LIMITING CONDITIONS FOR OPERATION

- 3.9.A. Auxiliary Electrical Equipment
 - 3. Buses and Boards Available
 - a. The respective start bus is energized for each common station-service transformer designated as an offsite power source.

b. The 4-kV bus tie board is energized and capable of supplying power to the units 1 and 2 shutdown boards if a cooling tower transformer is designated as an offsite power source.

c. The units 1 and 2 4-kV shutdown boards are energized.

SURVEILLANCE REQUIREMENTS

- 4.9.A. Auxiliary Electrical System
 - 3. Logic Systems
 - a. Both divisions of the common accident signal logic system shall be tested every 18 months to demonstrate that it will function on actuation of the core spray system of each reactor to provide an automatic start signal to all 4 units 1 and 2 diesel generators.
 - b. Once every 18 months, the condition under which the 480-volt load shedding logic system is required shall be simulated using pendant test switches and/or pushbutton test switches to demonstrate that the load shedding logic system would initiate load shedding signals on the diesel auxiliary boards, RMOV boards, and the 480-V shutdown boards.

			<u> </u>	
3.9/4.9	AUXI	LIARY ELECTRICAL SYSTEM		
LIMITING	CONI	DITIONS FOR OPERATION	SURVEIL	LANCE REQUIREMENTS
3.9.A.	Auxi	liary Electrical Equipment	4.9.A.	Auxiliary Electrical System
3.9.A.3.	(Cor	ut'd)		
	d.	The 480-V shutdown boards 2A and 2B are energized.		
	e.	The units 1 and 2 diesel auxiliary boards are energized.		
	f.	Loss of voltage and degraded voltage relays OPERABLE on 4-kV shutdown boards A, B, C, and D.		
	g۰	Shutdown buses 1 and 2 energized.		
	h.	The 480-V reactor motor- operated valve (RMOV) boards 2D & 2E are energized with motor-generator (mg) sets 2DN, 2DA, 2EN, and 2EA in service.		•
4. -	the bat for ass	three 250-V unit batteries, four shutdown board teries, a battery charger each battery, and ociated battery boards are RABLE.	4.	 Undervoltage Relays a. (Deleted) b. Once every 18 months, the conditions under which the loss of voltage and degraded voltage relays are required shall be simulated with an undervoltage on each shutdown board to demonstrate that the associated diesel generator will start.

BFN Unit 2

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3.9/4.9 AUXILIARY ELECTRICAL SYSTEM

LIMITING CONDITIONS FOR OPERATION

3.9.B <u>Operation With Inoperable</u> Equipment

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8. From and after the date that one of the 250-V shutdown board batteries and/or its associated battery board is found to be INOPERABLE for any reason, continued REACTOR POWER OPERATION is permissible during the succeeding five days in accordance with 3.9.B.7.

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- 9. When one division of the logic system is INOPERABLE, continued REACTOR POWER OPERATION is permissible under this condition for seven days, provided the CSCS requirements listed in Specification 3.9.B.3 are satisfied. The NRC shall be notified within 24 hours of the situation, the precautions to be taken during this period, and the plans to return the failed component to an **OPERABLE** state.
- 10. (deleted)
- 11. The following limiting conditions for operation exist for the undervoltage relays which start the diesel generators on the 4-kV shutdown boards.

SURVEILLANCE REQUIREMENTS

BFN Unit 2

3.9/4.9 AUXILIARY ELECTRICAL SYSTEM

LIMITING CONDITIONS FOR OPERATION

3.9.B. <u>Operation With Inoperable</u> Equipment

- 3.9.B.11 (Cont'd)
 - a. The loss of voltage relay channel which starts the diesel generator for a complete loss of voltage on a 4-kV shutdown board may be INOPERABLE for 10 days provided the degraded voltage relay channel on that shutdown board is OPERABLE (within the surveillance schedule of 4.9.A.4.b).
 - b. The degraded voltage relay channel which starts the diesel generator for degraded voltage on a 4-kV shutdown board may be INOPERABLE for 10 days provided the loss of voltage relay channel on that shutdown board is OPERABLE (within the surveillance schedule of 4.9.A.4.b).
 - c. One of the three phaseto-phase degraded voltage relays provided to detect a degraded voltage on a 4-kV shutdown board may be INOPERABLE for 15 days provided both of the following conditions are satisfied.

SURVEILLANCE REQUIREMENTS



UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-296

BROWNS FERRY NUCLEAR PLANT, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 206 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 May 3, 1996, 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) <u>Technical Specifications</u>

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 206, 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

Frederich (

Frederick J. Hebdon, Director Project Directorate II-3 Division of Reactor Projects - I/II Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: September 18, 1996

ATTACHMENT TO LICENSE AMENDMENT NO. 206

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 pages are included to maintain document completeness.

REMOVE

INSERT

iii	iii
iv	iv *
1.0-11	1.0-11
1.0-12	1.0-12 *
3.2/4.2-9	3.2/4.2-9 *
3.2/4.2-10	3.2/4.2-10

-		•
Section		Page No.
	B. Coolant Chemistry	
n na se na mana an	C. Coolant Leakage	• • 3.6/4.6-9
	D. Relief Valves	3.6/4.6-10
	E. Jet Pumps	3.6/4.6-11
•	F. Recirculation Pump Operation	3.6/4.6-12
	G. Structural Integrity	3.6/4.6-13
	H. Snubbers	. 3.6/4.6-15
3.7/4.7	Containment Systems	3.7/4.7-1
	A. Primary Containment	3.7/4.7-1
	B. Standby Gas Treatment System	3.7/4.7-13
	C. Secondary Containment	3.7/4.7–16
•	D. Primary Containment Isolation Valves	3.7/4.7–17 ·
	E. Control Room Emergency Ventilation	3.7/4.7–19
	F. Primary Containment Purge System	3.7/4.7-21
	G. Containment Atmosphere Dilution System (CAD)). 3.7/4.7-22
	H. Containment Atmosphere Monitoring (CAM) System H ₂ Analyzer	3.7/4.7-23a
3.8/4.8	Radioactive Materials	3.8/4.8-1
	A. Liquid Effluents	. 3.8/4.8-1
	B. Airborne Effluents	. 3.8/4.8-3
·	C. (Deleted)	. 3.8/4.8-4
	D. (Deleted)	. 3.8/4.8-4 -
	E. Miscellaneous Radioactive Materials Sources	. 3.8/4.8-5
	F. (Deleted)	. 3.8/4.8-6
3.9/4.9	Auxiliary Electrical System	. 3.9/4.9-1
	A. Auxiliary Electrical Equipment	. 3.9/4.9-1

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AMENDMENT NO. 206

	Section		Page No.
		B. Operation with Inoperable Equipment	3.9/4.9-8
		C. Operation in Cold Shutdown Condition	3.9/4.9-14
		D. Diesel Generators Required for Units 1, 2, and 3 Shared Systems	3.9/4.9-14a
	3.10/4.10	Core Alterations	3.10/4.10-1
		A. Refueling Interlocks	3.10/4.10-1
		B. Core Monitoring	3.10/4.10-5
	·	C. Spent Fuel Pool Water	3.10/4.10-7
		D. Reactor Building Crane	3.10/4.10-8
		E. Spent Fuel Cask	3.10/4.10-9
		F. Spent Fuel Cask Handling-Refueling Floor	3.10/4.10-9
-	3.11/4.11	Deleted	3.11/4.11-1
	5.0	Major Design Features	5.0-1
		5.1 Site Features	5.0-1
		5.2 Reactor	5.0-1
		5.3 Reactor Vessel	5.0-1
		5.4 Containment	5.0-1
		5.5 Fuel Storage	5.0-1
		5.6 Seismic Design	5.0-2

BFN Unit 3

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- GG. <u>Site Boundary</u> Shall be that line beyond which the land is not owned, leased, or otherwise controlled by TVA.
- HH. <u>Unrestricted Area</u> Any area at or beyond the SITE BOUNDARY to which access is not controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials or any area within the SITE BOUNDARY used for industrial, commercial, institutional, or recreational purposes.
- II. Dose Equivalent I-131 The DOSE EQUIVALENT I-131 shall be the concentration of I-131 (in μ Ci/gm) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factor used for this calculation shall be those listed in Table III of TID-14844 "Calculation of Distance Factors for Power and Test Reactor Sites".
- JJ. <u>Gaseous Waste Treatment System</u> The charcoal adsorber vessels installed on the discharge of the steam jet air ejector to provide delay to a unit's offgas activity prior to release.
- KK. <u>Members of the Public</u> Any individual except when that individual receives an occupational dose (as defined in 10 CFR 20).
- LL. <u>Surveillance</u> Surveillance Requirements shall be met during the OPERATIONAL CONDITIONS or other conditions specified for individual limiting conditions for operation unless otherwise stated in an individual Surveillance Requirements. Each Surveillance Requirement shall be performed within the specified surveillance interval with a maximum allowable extension not to exceed 25 percent of the specified surveillance interval. It is not intended that this (extension) provision be used repeatedly as a convenience to extend surveillance intervals beyond that specified for surveillances that are not performed during refueling outages.

Performance of a Surveillance Requirement within the specified time interval shall constitute compliance and OPERABILITY requirements for a limiting condition for operation and associated action statements unless otherwise required by these specifications. Surveillance Requirements do not have to be performed on inoperable equipment.

If it is discovered that a surveillance was not performed within its specified frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified frequency, whichever is less. This delay period is permitted to allow performance of the surveillance.

BFN Unit 3

1.0 <u>DEFINITIONS (Cont'd)</u>

If the surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable condition(s) must be entered.

When the surveillance is performed within the delay period and the surveillance is not met, the LCO must immediately be declared not met, and the applicable condition(s) must be entered.

- MM. Surveillance Requirements for ASME Section XI Pump and Valve Program -Surveillance Requirements for Inservice Testing of ASME Code Class 1, 2, and 3 components shall be applicable as follows:
 - Inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i).
 - 2. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these technical specifications:

ASME Boiler and Pressure Vessel	Required frequencies		
Code and applicable Addenda	for performing inservice		
terminology for inservice	testing activities		
testing activities	· .		

Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days

- 3. The provisions of Specification 1.0.LL are applicable to the above required frequencies for performing inservice testing activities.
- 4. Performance of the above inservice testing activities shall be in addition to other specified surveillance requirements.
- 5. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any technical specification.
- 6. The inservice inspection program for piping identifed in NRC Generic Letter 88-01 shall be performed in accordance with the staff positions on schedule, methods, personnel, and sample expansion included in this generic letter.

Minimum No. Instrument Channels Operable <u>per Trip Sys(l)(ll)</u>	Function	Trip Level Setting	Action (1)	Remarks
2	Instrument Channel Reactor Water Cleanup System Pump Room 3A (TIS-069-836A-D)	≤ 152.0°F	с	Above Trip Setting initiates Isolation of Reactor Water Cleanup Lines to and from the Reactor
2	Instrument Channel Reactor Water Cleanup System Pump Room 3B (TIS-069-837A-D)	<u>≤</u> 152.0°F	С	Above Trip Setting initiates Isolation of Reactor Water Cleanup Lines to and from the Reactór
2	Instrument Channel Réactor Water Cleanup System Heat Exchanger Room (TIS-069-838A-D)	<u>≤</u> 143.0°F	с	Above Trip Setting initiates Isolation of Reactor Water Cleanup Lines to and from the Reactor
2	Instrument Channel Reactor Water Cleanup System Heat Exchanger Room (TIS-069-839A-D)	<u>≤</u> 170.0°F	С	Above Trip Setting initiates Isolation of Reactor Water Cleanup Lines to and from the Reactor
1 (15)	Instrument Channel - Reactor Building Ventilation High Radiation - Refueling Zone	≤ 100 mr/hr or downscale	F	 1 upscale channel or 2 downscale channels will a. Initiate SGTS b. Isolate refueling floor c. Close atmosphere control system.
2(7) (8)	Instrument Channel SGTS Flow - Train A R. H. Heaters	≥2000 cfm and <u><</u> 4000 cfm	H and (A or F)	Below 2000 cfm airflow R.H. heaters shall be shut off.

TABLE 3.2.A (Continued) PRIMARY CONTAINMENT AND REACTOR BUILDING ISOLATION INSTRUMENTATION

BFN Unit

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3.2/4.2-9

AMENOMENT INC. 193

BFN Unit 3	Minimum No. Instrument Channels Operable <u>per Trip Sys(1)(11)</u>	Function		Action(1)	Remarks
	2(7) (8)	Instrument Channel SGTS Flow – Train B R. H. Heaters	<u>></u> 2000 cfm and <u><</u> 4000 cfm	H and (A or F)	Below 2000 cfm airflow R.H. heaters shall be shut off.
	2(7) (8)	Instrument Channel SGTS Flow - Train C R. H. Heaters	<u>></u> 2000 cfm and <u><</u> 4000 cfm	H and (A or F)	Below 2000 cfm airflow R.H. heaters shall be shut off.
	ı	Reactor Building Isolation Timer (refueling floor)	0 <u><</u> t <u><</u> 2 secs	H or F	 Below trip setting prevents spurious trips and system perturbations from initiating isolation.
3.2	1	Reactor Building Isolation Timer (reactor zone)	0 <u><</u> t <u><</u> 2 secs.	G or A or H	 Below trip setting prevents spurious trips and system perturbations from initiating isolation.
3.2/4.2-10	2(10)	Group 1 (Initiating) Logic	N/A		 A Group 1 isolation is actuated by any of the following conditions: a. Reactor Vessel Low Low Water Level b. Deleted c. Main steamline high flow d. Main steamline space high temperature e. Main steamline low pressure
AMENDMENT NO.	1	Group 1 (Actuation) Logic	N/A		 Group 1: A Group 1 isolation is actuated by any of the following conditions: a. Reactor Vessel Low Low Water Level b. Deleted c. Main Steamline High Flow d. Main Steamline Space High Temperature e. Main Steamline Low Pressure
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TABLE 3.2.A (Continued) PRIMARY CONTAINMENT AND REACTOR BUILDING ISOLATION INSTRUMENTATION

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UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. ²³¹ TO FACILITY OPERATING LICENSE NO. DPR-33

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

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

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 May 3, 1996, 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 changes are administrative, deleting outdated temporary requirements, and providing clarifications and corrections.

2.0 DESCRIPTION OF PROPOSED TECHNICAL SPECIFICATIONS CHANGES

The changes consist of three parts, designated by the licensee as A, B, and C. Part A deletes TS requirements associated with BFN Unit 2 Amendment 219. issued November 12, 1993, to permit modification of reactor vessel water level instrumentation requested by NRC Bulletin 93-03. Part B deletes TS requirements associated with Amendment 228, issued on December 7, 1994, which provided a temporary change to permit upgrade of electrical equipment. The modifications associated with Parts A and C are complete. Part C provides other administrative changes to clarify requirements and to implement rule changes. The TS affected by each part are described below.

Part A:

In BFN Unit 2 TS Table 3.2.B, the asterisk and the footnote from page 3.2/4.2-14 will be deleted. The footnote is applicable only to instrumentation modifications associated with NRC Bulletin 93-03. These modifications have been completed.

Part B:

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The amendment deletes TS associated with BFN Unit 2 amendment 228. The affected specifications are TS 3.9.A.4 and 3.9.B.8. The items being deleted were in effect between January 1 and December 31, 1995 only for upgrade of battery systems. These modifications have been completed.

Enclosure 4

Part C:

This section consists of five items intended to clarify existing requirements or to correct discrepancies in earlier amendments. Each item is summarized below.

- 1. BFN Units 1, 2, and 3, TS Table of Contents, page iii, Section 3.8/4.8, Radioactive Materials, Item D., currently reads: "D. Mechanical Vacuum Pump...3.8/4.8-4." The revised specification deletes this item. This change was overlooked in Amendments 212, 227, and 185 for BFN Units 1, 2, and 3, respectively. These amendments were approved on September 27, 1994.
- 2. BFN Unit 2 TS page 1.0-9, 1.0, Definitions, Item Number 13, Source Check, is deleted.
- 3. The definition in BFN Units 1, 2, and 3 TS page 1.0-11, Section 1.0, Definitions, Item KK, for "Members of the Public" is revised to be consistent with recent changes to 10 CFR Part 20.
- 4. BFN Units 1, 2, and 3 TS page 3.2/4.2-9 (Units 1 and 2), and page 3.2./4.2-10 (Unit 3) Table 3.2.A, Primary Containment And Reactor Building Isolation Instrumentation is revised to delete reference to Group 1 isolation initiating logic on main steamline high radiation. This item was also overlooked in the September 27, 1994 amendments discussed above.
- 5. BFN Units 1, 2, and 3 TS pages 3.2/4.2-10, Table 3.2.A, Primary Containment And Reactor Building Isolation Instrumentation, remarks referencing Group 1 b. actuation logic as "Main Steamline High Radiation" is being deleted. This item was also overlooked in the September 27, 1994 amendments discussed above.

3.0 EVALUATION

The changes associated with Parts A and B delete temporary requirements which have expired. Therefore, these changes are acceptable.

Part C, item 1, deletes a table of contents reference to specifications deleted by amendments issued on September 27, 1994.

Part C, item 2, deletes a definition for source check in the BFN Unit 2 TS. This definition had been previously deleted in BFN Unit 2 Amendment 216, issued on September 22, 1993. The definition was inadvertently reinserted by Amendment 217, issued on October 21, 1993. The change corrects this error.

Part C, item 3, revises the definition of "Member of the Public" to be anyone other than someone that receives an occupational dose as defined by 10 CFR Part 20. A member of the public is defined in 10 CFR 20.1003 as "any individual except when that individual is receiving an occupational dose." The proposed definition is consistent with 10 CFR 20. Part C, items 4 and 5, remove references to main steam radiation monitoring equipment. The licensee erroneously excluded these items in its license amendment request of March 25, 1993 to support deletion of this equipment. Therefore, these items were not included in Amendments 212, 227, and 185 for BFN Units 1, 2, and 3, respectively, which were approved on September 27, 1994.

4.0 STATE CONSULTATION

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

5.0 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 (61 FR 42284). 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.

6.0 <u>CONCLUSION</u>

The Commission has concluded, based upon the considerations discussed above, that: (1) the amendment does not (a) significantly increase the probability or consequences of an accident previously evaluated, (b) create the possibility of a new or different kind of accident from any previously evaluated, or (c) significantly reduce a margin of safety, and therefore, 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; (3) such activities will be conducted in compliance with the Commission's regulations; and (4) 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: Joseph Williams

Dated: September 18, 1996