



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. 148
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 January 14, 1988, 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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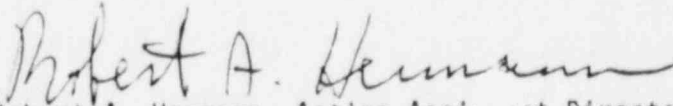
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-33 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 148, 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 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Robert A. Hermann, Acting Assistant Director
for Projects
TVA Projects Division
Office of Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 4, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 148

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 provided to maintain document completeness.

REMOVE

3.2/4.2-14

3.2/4.2-15

3.2/4.2-62

INSERT

3.2/4.2-14

3.2/4.2-15*

3.2/4.2-62

BFN
Unit 1

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

Minimum No. Operable per Trip Sys(1)	Function	Trip Level Setting	Action	Remarks
2	Instrument Channel - Reactor Low Water Level	≥ 470" above vessel zero.	A	1. Below trip setting initiated HPCI.
2	Instrument Channel - Reactor Low Water Level	≥ 470" above vessel zero.	A	1. Multiplier relays initiate RCIC.
2	Instrument Channel - Reactor Low Water Level (LIS-3-58A-D, SW #1)	≥ 378" above vessel zero.	A	1. Below trip setting initiates CSS. Multiplier relays initiate LPCI. 2. Multiplier relay from CSS initiates accident signal (15).
2(16)	Instrument Channel - Reactor Low Water Level (LIS-3-58A-D, SW #2)	≥ 378" above vessel zero.	A	1. Below trip settings, in conjunction with drywell high pressure, low water level permissive, 120 sec. delay timer and CSS or RHR pump running, initiates ADS.
1(16)	Instrument Channel - Reactor Low Water Level Permissive (LIS-3-184 & 185, SW #1)	≥ 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 62, SW #1)	> 312 5/16" above vessel zero. A (2/3 core height)	A	1. Below trip setting prevents inadvertent operation of containment spray during accident condition.

3.2/4.2-14

Amendment No. 148

BFN-Unit 1

TABLE 3.2.B (Continued)

Minimum No. Operable Per Trip Sys(1)	Function	Trip Level Setting	Action	Remarks
2	Instrument Channel - Drywell High Pressure (PS-64-58 E-H)	≤ 2.5 psig	A	1. Below trip setting prevents inadvertent operation of containment spray during accident conditions.
2	Instrument Channel - Drywell High Pressure (PS-64-58 A-D, SW #2)	≤ 2.5 psig	A	1. Above trip setting in conjunction with low reactor pressure initiates CSS. Multiplier relays initiate HPCI. 2. Multiplier relay from CSS initiates accident signal. (15)
2	Instrument Channel - Reactor Low Water Level (LS-3-56A, B, C, D)	$\geq 470''$ above vessel zero	A	1. Below trip setting trips recirculation pumps.
2	Instrument Channel - Reactor High Pressure (PS-3-204 A, B, C, D)	≤ 1120 psig	A	1. Above trip setting trips recirculation pumps.
2	Instrument Channel - Drywell High Pressure (PS-64-58A-D, SW #1)	≤ 2.5 psig	A	1. Above trip setting in conjunction with low reactor pressure initiates LPCI.
2(16)	Instrument Channel - Drywell High Pressure (PS-64-57A-D)	≤ 2.5 psig	A	1. Above trip setting, in conjunction with low reactor water level, drywell high pressure, 120 sec. delay timer and CSS or RHR pump running, initiates ADS.

TABLE 4.2.K

Radioactive Gaseous Effluent Instrumentation Surveillance

Instrument	Instrument Check	Source Check	Channel Calibration	Functional Test
1. STACK				
a. Noble Gas Monitor (5)	D	M	R(1)	Q(2)
b. Iodine Cartridge	W	NA	NA	NA
c. Particulate Filter	W	NA	NA	NA
d. Sampler Flow Abnormal	D	NA	R	Q
e. Stack Flowmeter	D	NA	R	Q
2. REACTOR/TURBINE BLDG VENT				
a. Noble Gas Monitor (6)	D	M	R(1)	Q(2)
b. Iodine Sampler	W	NA	NA	NA
c. Particulate Sampler	W	NA	NA	NA
d. Sampler Flowmeter	D	NA	R	Q
3. TURBINE BLDG EXHAUST				
a. Noble Gas Monitor (6)	D	M	R(1)	Q(2)
b. Iodine Sampler	W	NA	NA	NA
c. Particulate Sampler	W	NA	NA	NA
d. Sampler Flowmeter	D	NA	R	Q
4. RADWASTE BLDG VENT				
a. Noble Gas Monitor (6)	D	M	R(1)	Q(2)
b. Iodine Sampler	W	NA	NA	NA
c. Particulate Sampler	W	NA	NA	NA
d. Sampler Flowmeter	D	NA	R	Q
5. OFF GAS HYDROGEN ANALYZER (H ₂ A, H ₂ B)	D	NA	R(3)	Q
6. OFF GAS POST TREATMENT (5)				
a. Noble Gas Activity Monitor	D	M	R(1)	Q(4)
b. Sample Flow Abnormal	D	NA	R	Q(2)

BFN-Unit 1

3.2/4.2-62

Amendment No. 122, 148



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. 144
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 January 14, 1988, 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.

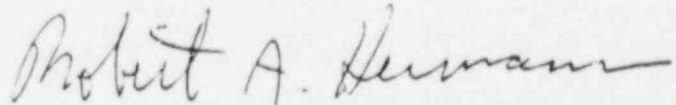
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-52 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 144, 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 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert A. Hermann, Acting Assistant Director
for Projects
TVA Projects Division
Office of Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 4, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 144

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 provided to maintain document completeness.

REMOVE

3.2/4.2-14

3.2/4.2-15

3.2/4.2-62

INSERT

3.2/4.2-14

3.2/4.2-15*

3.2/4.2-62

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

Minimum No. Operable Per Trip Sys(1)	Function	Trip Level Setting	Action	Remarks
2	Instrument Channel - Reactor Low Water Level (LIS-3-58A-0)	≥ 470" above vessel zero.	A	1. Below trip setting initiated HPCI.
2	Instrument Channel - Reactor Low Water Level (LIS-3-58A-0)	≥ 470" above vessel zero.	A	1. Multiplier relays initiate RCIC.
2	Instrument Channel - Reactor Low Water Level (LIS-3-58A-0)	≥ 378" above vessel zero.	A	1. Below trip setting initiates CSS. Multiplier relays initiate LPCI.
2(16)	Instrument Channel - Reactor Low Water Level (LIS-3-58A-0)	≥ 378" above vessel zero.	A	2. Multiplier relay from CSS initiates accident signal (15). 1. Below trip settings, in conjunction with drywell high pressure, low water level permissive, 120 sec. delay timer and CSS or RHR pump running, initiates ADS.
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 62)	> 312 5/16" above vessel zero. A (2/3 core height)	A	1. Below trip setting prevents inadvertent operation of containment spray during accident condition.

BFN
Unit 2

3.2/4.2-14

Amendment No. 144

BFN-Unit 2

BFN
Unit 2

TABLE 3.2.B (Continued)

Minimum No. Operable Per Trip Sys(1)	Function	Trip Level Setting	Action	Remarks
2	Instrument Channel - Drywell High Pressure (PIS-64-58 E-H)	$1 \leq p < 2.5$ psig	A	1. Below trip setting prevents inadvertent operation of containment spray during accident conditions.
2	Instrument Channel - Drywell High Pressure (PS-64-58 A-D)	≤ 2.5 psig	A	1. Above trip setting in conjunction with low reactor pressure initiates CSS. Multiplier relays initiate HPCI. 2. Multiplier relay from CSS initiates accident signal. (15)
2	Instrument Channel - Reactor low Water level (LIS-3-56A-D)	≥ 470 " above vessel zero	A	1. Below trip setting trips recirculation pumps.
2	Instrument Channel - Reactor High Pressure (PIS-3-204A-D)	≤ 1120 psig	A	1. Above trip setting trips recirculation pumps.
2	Instrument Channel - Drywell High Pressure (PIS-64-58A-D)	≤ 2.5 psig	A	1. Above trip setting in conjunction with low reactor pressure initiates LPCI.
2(16)	Instrument Channel - Drywell High Pressure (PIS-64-57A-D)	≤ 2.5 psig	A	1. Above trip setting, in conjunction with low reactor water level, drywell high pressure, 120 sec. delay timer and CSS or RHR pump running, initiates ADS.

3.2/4.2-15

TABLE 4.2.K

Radioactive Gaseous Effluent Instrumentation Surveillance

<u>Instrument</u>	<u>Instrument Check</u>	<u>Source Check</u>	<u>Channel Calibration</u>	<u>Functional Test</u>
1. STACK				
a. Noble Gas Monitor (5)	D	M	R(1)	Q(2)
b. Iodine Cartridge	W	NA	NA	NA
c. Particulate Filter	W	NA	NA	NA
d. Sampler Flow Abnormal	D	NA	R	Q
e. Stack Flowmeter	D	NA	R	Q
2. REACTOR/TURBINE BLDG VENT				
a. Noble Gas Monitor (6)	D	M	R(1)	Q(2)
b. Iodine Sampler	W	NA	NA	NA
c. Particulate Sampler	W	NA	NA	NA
d. Sampler Flowmeter	D	NA	R	Q
3. TURBINE BLDG EXHAUST				
a. Noble Gas Monitor (6)	D	M	R(1)	Q(2)
b. Iodine Sampler	W	NA	NA	NA
c. Particulate Sampler	W	NA	NA	NA
d. Sampler Flowmeter	D	NA	R	Q
4. RADWASTE BLDG VENT				
a. Noble Gas Monitor (6)	D	M	R(1)	Q(2)
b. Iodine Sampler	W	NA	NA	NA
c. Particulate Sampler	W	NA	NA	NA
d. Sampler Flowmeter	D	NA	R	Q
5. OFF GAS HYDROGEN ANALYZER (H ₂ A, H ₂ B)	D	NA	R(3)	Q
6. OFF GAS POST TREATMENT (5)				
a. Noble Gas Activity Monitor	D	M	R(1)	Q(4)
b. Sample Flow Abnormal	D	NA	R	Q(2)

BFN-Unit 2

3.2/4.2-62

Amendment No. 128, 144



UNITED STATES
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. 119
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 January 14, 1988 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.

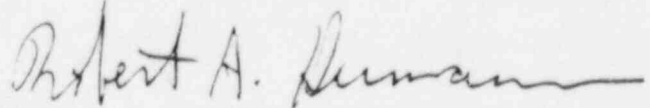
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-68 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No.119, 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 60 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Robert A. Hermann, Acting Assistant Director
for Projects
TVA Projects Division
Office of Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: May 4, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 119

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

3.2/4.2-61

INSERT

3.2/4.2-61

TABLE 4.2.K
Radioactive Gaseous Effluent Monitoring Instrumentation

Instrument	Instrument Check	Source Check	Calibration	Test
1. STACK				
a. Noble Gas Monitor (5)	D	M	R(1)	Q(2)
b. Iodine Cartridge	W	NA	NA	NA
c. Particulate Filter	W	NA	NA	NA
d. Sampler Flow Abnormal	D	NA	R	Q
e. Stack Flowmeter	D	NA	R	Q
2. REACTOR/TURBINE BLDG VENT				
a. Noble Gas Monitor (6)	D	M	R(1)	Q(2)
b. Iodine Sampler	W	NA	NA	NA
c. Particulate Sampler	W	NA	NA	NA
d. Stack Flowmeter	D	NA	R	Q
3. TURBINE BLDG EXHAUST				
a. Noble Gas Monitor (6)	D	M	R(1)	Q(2)
b. Iodine Sampler	W	NA	NA	NA
c. Particulate Sampler	W	NA	NA	NA
d. Stack Flowmeter	D	NA	R	Q
4. RADWASTE BLDG VENT				
a. Noble Gas Monitor (6)	D	M	R(1)	Q(2)
b. Iodine Sampler	W	NA	NA	NA
c. Particulate Sampler	W	NA	NA	NA
d. Stack Flowmeter	D	NA	R	Q
5. OFF GAS HYDROGEN ANALYZER (H ₂ A, H ₂ B)	D	NA	R(3)	Q
6. OFF GAS POST TREATMENT (5)				
a. Noble Gas Activity Monitor	D	M	R(1)	Q(4)
b. Sample Flow Abnormal	D	NA	R	Q(2)

BFN-Unit 3

3.2/4.2-61

Amendment No. 103, 119