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February 29, 1988

Posted
Amdt. 141
to DPR-52

Dockets Nos. 50-259/260/296

Mr. S. A. White
Manager of Nuclear Power
Tennessee Valley Authority
6N 38A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

Dear Mr. White:

SUBJECT: TECHNICAL SPECIFICATION CHANGE PRIMARY CONTAINMENT (TAC R00034/35/36) (TS 236)

Re: Browns Ferry Nuclear Plant, Units 1, 2, and 3

The Commission has issued the enclosed Amendments Nos. 145, 141, and 116 to Facility Operating Licenses Nos. DPR-33, DPR-52 and DPR-68 for the Browns Ferry Nuclear Plant, Units 1, 2 and 3, respectively. These amendments are in response to your application dated October 16, 1987. This proposed amendment will involve making the Primary Containment Integrity definition, operability requirement, and action statement more appropriate and consistent with each other.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

Sincerely,

Original Signed by
Gary G. Zech, Assistant Director
for Projects
TVA Projects Division
Office of Special Projects

Enclosures:
1. Amendment No. 145 to License No. DPR-33
2. Amendment No. 141 to License No. DPR-52
3. Amendment No. 116 to License No. DPR-68
4. Safety Evaluation

cc w/enclosures:
See next page

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

February 29, 1988

Dockets Nos. 50-259/260/296

Mr. S. A. White
Manager of Nuclear Power
Tennessee Valley Authority
6N 38A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

Dear Mr. White:

SUBJECT: TECHNICAL SPECIFICATION CHANGE PRIMARY CONTAINMENT (TAC R00034/35/36) (TS 236)

Re: Browns Ferry Nuclear Plant, Units 1, 2, and 3

The Commission has issued the enclosed Amendments Nos. 145, 141, and 116 to Facility Operating Licenses Nos. DPR-33, DPR-52 and DPR-68 for the Browns Ferry Nuclear Plant, Units 1, 2 and 3, respectively. These amendments are in response to your application dated October 16, 1987. This proposed amendment will involve making the Primary Containment Integrity definition, operability requirement, and action statement more appropriate and consistent with each other.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's Bi-Weekly Federal Register Notice.

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Gary G. Zech, Assistant Director
for Projects
TVA Projects Division
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Enclosures:
1. Amendment No. 145 to License No. DPR-33
2. Amendment No. 141 to License No. DPR-52
3. Amendment No. 116 to License No. DPR-68
4. Safety Evaluation

cc w/enclosures:
See next page

cc:
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Chairman, Limestone County Commission
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Regional Administrator, Region II
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Resident Inspector/Browns Ferry NP
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Athens, Alabama 35611

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Dr. Henry Myers, Science Advisor
Committee on Interior
and Insular Affairs
U.S. House of Representatives
Washington, D.C. 20515

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. 145
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 October 16, 1987, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

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

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 145, 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

Gary G. Zech, Assistant Director
for Projects
TVA Projects Division
Office of Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 29, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 145

FACILITY OPERATING LICENSE NO. DPR-33

DOCKET NO. 50-259

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

REMOVE	INSERT
1.0-3	1.0-3*
1.0-4	1.0-4
3.7/4.7-17	3.7/4.7-17
3.7/4.7-18	3.7/4.7-18

H. Reactor Power Operation - Reactor power operation is any operation with the mode switch in the "Startup" or "Run" position with the reactor critical and above 1 percent rated power.

I. Hot Standby Condition - Hot standby condition means operation with coolant temperature greater than 212°F, system pressure less than 1,055 psig, the main steam isolation valves closed and the mode switch in the Startup/Hot Standby position.

J. Cold Condition - Reactor coolant temperature equal to or less than 212°F.

K. Hot Shutdown - The reactor is in the shutdown mode and the reactor coolant temperature greater than 212°F.

L. Cold Shutdown - The reactor is in the shutdown mode and the reactor coolant temperature equal to or less than 212°F.

M. Mode of Operation - A reactor mode switch selects the proper interlocks for the operational status of the unit. The following are the modes and interlocks provided:

1. Startup/Hot Standby Mode - In this mode the reactor protection scram trips initiated by condenser low vacuum and main steam line isolation valve closure, are bypassed when reactor pressure is less than 1,055 psig, the reactor protection system is energized with IRM neutron monitoring system trip, the APRM 15 percent high flux trip, and control rod withdrawal interlocks in service. This is often referred to as just Startup Mode. This is intended to imply the Startup/Hot Standby position of the mode switch.

2. Run Mode - In this mode the reactor system pressure is at or above 825 psig and the reactor protection system is energized with APRM protection (excluding the 15 percent high flux trip) and the RBM interlocks in service.

3. Shutdown Mode - Placing the mode switch to the shutdown position initiates a reactor scram and power to the control rod drives is removed. After a short time period (about 10 sec), the scram signal is removed allowing a scram reset and restoring the normal valve lineup in the control rod drive hydraulic system; also, the main steam line isolation scram and main condenser low vacuum scram are bypassed if reactor vessel pressure is below 1,055 psig.

4. Refuel Mode - With the mode switch in the refuel position, interlocks are established so that one control rod only may be withdrawn when the Source Range Monitor indicates at least 3 cps and the refueling crane is not over the reactor; also the main steam line isolation scram and main condenser low vacuum scram are bypassed if the reactor vessel pressure is below 1,055 psig. If the refueling crane is over the reactor, all rods must be fully inserted and none can be withdrawn.

N. Rated Power - Rated power refers to operation at a reactor power of 3,293 MWt; this is also termed 100 percent power and is the maximum power level authorized by the operating license. Rated steam flow, rated coolant flow, rated neutron flux, and rated nuclear system pressure refer to the values of these parameters when the reactor is at rated power. Design power, the power to which the safety analysis applies, corresponds to 3,440 MWt.

O. Primary Containment Integrity - Primary containment integrity means that the drywell and pressure suppression chamber are intact and all of the following conditions are satisfied:

1. All nonautomatic containment isolation valves on lines connected to the reactor coolant systems or containment which are not required to be open during accident conditions are closed. These valves may be opened to perform necessary operational activities.

2. At least one door in each airlock is closed and sealed.

3. All automatic containment isolation valves are operable or each line which contains an inoperable isolation valve is isolated as required by specification 3.7.D.2.

4. All blind flanges and manways are closed.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.7.C. Secondary Containment	
4. If refueling zone secondary containment cannot be maintained the following conditions shall be met:	
a. Handling of spent fuel and all operations over spent fuel pools and open reactor wells containing fuel shall be prohibited.	
b. The standby gas treatment system suction to the refueling zone will be blocked except for a controlled leakage area sized to assure the achieving of a vacuum of at least 1/4-inch of water and not over 3 inches of water in all three reactor zones.	
D. Primary Containment Isolation Valves	D. Primary Containment Isolation Valves
1. When Primary Containment Integrity is required, all isolation valves listed in Table 3.7.A and all reactor coolant system instrument line flow check valves shall be OPERABLE except as specified in 3.7.D.2.	1. The primary containment isolation valves surveillance shall be performed as follows:
	a. At least once per operating cycle the OPERABLE isolation valves that are power operated and automatically initiated shall be tested for simulated automatic initiation and closure times.
	b. At least once per quarter:
	(1) All normally open power-operated isolation valves (except for the main steam line power-operated isolation valves) shall be fully closed and reopened.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.7.D. Primary Containment Isolation Valves	4.7.D. Primary Containment Isolation Valves
	4.7.D.1.b (Cont'd)
	(2) With the reactor power less than 75%, trip main steam isolation valves individually and verify closure time.
	c. At least twice per week the main steam line power-operated isolation valves shall be exercised one at a time by partial closure and subsequent reopening.
	d. At least once per operating cycle the operability of the reactor coolant system instrument line flow check valves shall be verified.
2. In the event any isolation valve specified in Table 3.7.A becomes INOPERABLE, reactor operation may continue provided at least one valve, in each line having an INOPERABLE valve, is OPERABLE and within 4 hours either:	2. Whenever an isolation valve listed in Table 3.7.A is INOPERABLE, the position of at least one other valve in each line having an INOPERABLE valve shall be recorded daily.
a. The INOPERABLE valve is restored to OPERABLE status, or	
b. Each affected line is isolated by use of at least one deactivated containment isolation valve secured in the isolated position.	
3. If specification 3.7.D.1 and 3.7.D.2 cannot be met, an orderly shutdown shall be initiated and the reactor shall be in the Cold Shutdown condition within 24 hours.	

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. 141
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 October 16, 1987, 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. 141, 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

Gary G. Zech, Assistant Director
for Projects
TVA Projects Division
Office of Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 29, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 141

FACILITY OPERATING LICENSE NO. DPR-52

DOCKET NO. 50-260

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

REMOVE	INSERT
1.0-3	1.0-3*
1.0-4	1.0-4
3.7/4.7-17	3.7/4.7-17
3.7/4.7-18	3.7/4.7-18

H. Reactor Power Operation - Reactor power operation is any operation with the mode switch in the "Startup" or "Run" position with the reactor critical and above 1 percent rated power.

I. Hot Standby Condition - Hot Standby condition means operation with coolant temperature greater than 212°F, system pressure less than 1055 psig, the main steam isolation valves closed and the mode switch in the Startup/Hot Standby position.

J. Cold Condition - Reactor coolant temperature equal to or less than 212°F.

K. Hot Shutdown - The reactor is in the shutdown mode and the reactor coolant temperature greater than 212°F.

L. Cold Shutdown - The reactor is in the shutdown mode and the reactor coolant temperature equal to or less than 212°F.

M. Mode of Operation - A reactor mode switch selects the proper interlocks for the operational status of the unit. The following are the modes and interlocks provided:

1. Startup/Hot Standby Mode - In this mode the reactor protection system is energized with IRM neutron monitoring system trip, the APRM 15 percent high flux trip, and control rod withdrawal interlocks in service. This is often referred to as just Startup Mode. This is intended to imply the Startup/Hot Standby position of the mode switch.

2. Run Mode - In this mode the reactor system pressure is at or above 825 psig and the reactor protection system is energized with APRM protection (excluding the 15 percent high flux trip) and the RBM interlocks in service.

3. Shutdown Mode - Placing the mode switch to the shutdown position initiates a reactor scram and power to the control rod drives is removed. After a short time period (about 10 seconds), the scram signal is removed allowing a scram reset and restoring the normal valve lineup in the control rod drive hydraulic system.

4. Refuel Mode - With the mode switch in the refuel position, interlocks are established so that one control rod only may be withdrawn when the Source Range Monitor indicates at least three counts per second and the refueling crane is not over the reactor, except as specified by TS 3.10.B.1.b.2. If the refueling crane is over the reactor, all rods must be fully inserted and none can be withdrawn.

N. Rated Power - Rated power refers to operation at a reactor power of 3,293 MWt; this is also termed 100 percent power and is the maximum power level authorized by the operating license. Rated steam flow, rated coolant flow, rated neutron flux, and rated nuclear system pressure refer to the values of these parameters when the reactor is at rated power. Design power, the power to which the safety analysis applies, corresponds to 3,440 MWt.

O. Primary Containment Integrity - Primary containment integrity means that the drywell and pressure suppression chamber are intact and all of the following conditions are satisfied:

1. All nonautomatic containment isolation valves on lines connected to the reactor coolant systems or containment which are not required to be open during accident conditions are closed. These valves may be opened to perform necessary operational activities.

2. At least one door in each airlock is closed and sealed.

3. All automatic containment isolation valves are operable or each line which contains an inoperable isolation valve is isolated as required by specification 3.7.D.2.

4. All blind flanges and manways are closed.

P. Secondary Containment Integrity

1. Secondary containment integrity means that the reactor building is intact and the following conditions are met:

a) At least one door in each access opening to the turbine building, control bay and out-of-doors is closed.

b) The Standby Gas Treatment System is operable and can maintain 0.25 inches of water negative pressure in those areas where secondary containment integrity is stated to exist.

c) All secondary containment penetrations required to be closed during accident conditions are either:

1. Capable of being closed by an operable secondary containment automatic isolation system, or

2. Closed by at least one secondary containment automatic isolation valve deactivated in the isolated position.

2. Reactor zone secondary containment integrity means the unit reactor building is intact and the following conditions are met:

a) At least one door between any opening to the turbine building, control bay and out-of-doors is closed.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.7.C. Secondary Containment	
4. If refueling zone secondary containment cannot be maintained the following conditions shall be met:	
a. Handling of spent fuel and all operations over spent fuel pools and open reactor wells containing fuel shall be prohibited.	
b. The standby gas treatment system suction to the refueling zone will be blocked except for a controlled leakage area sized to assure the achieving of a vacuum of at least 1/4-inch of water and not over 3 inches of water in all three reactor zones.	
D. Primary Containment Isolation Valves	D. Primary Containment Isolation Valves
1. When Primary Containment Integrity is required, all isolation valves listed in Table 3.7.A and all reactor coolant system instrument line flow check valves shall be OPERABLE except as specified in 3.7.D.2.	1. The primary containment isolation valves surveillance shall be performed as follows:
	a. At least once per operating cycle the OPERABLE isolation valves that are power operated and automatically initiated shall be tested for simulated automatic initiation and closure times.
	b. At least once per quarter:
	(1) All normally open power-operated isolation valves (except for the main steam line power-operated isolation valves) shall be fully closed and reopened.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.7.D. Primary Containment Isolation Valves	4.7.D. Primary Containment Isolation Valves
	4.7.D.1.b (Cont'd)
	(2) With the reactor power less than 75%, trip main steam isolation valves individually and verify closure time.
	c. At least twice per week the main steam line power-operated isolation valves shall be exercised one at a time by partial closure and subsequent reopening.
	d. At least once per operating cycle the operability of the reactor coolant system instrument line flow check valves shall be verified.
2. In the event any isolation valve specified in Table 3.7.A becomes INOPERABLE, reactor operation may continue provided at least one valve, in each line having an INOPERABLE valve, is OPERABLE and within 4 hours either:	2. Whenever an isolation valve listed in Table 3.7.A is INOPERABLE, the position of at least one other valve in each line having an INOPERABLE valve shall be recorded daily.
a. The INOPERABLE valve is restored to OPERABLE status, or	
b. Each affected line is isolated by use of at least one deactivated containment isolation valve secured in the isolated position.	
3. If specification 3.7.D.1 and 3.7.D.2 cannot be met, an orderly shutdown shall be initiated and the reactor shall be in the Cold Shutdown condition within 24 hours.	

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. 116
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 October 16, 1987, 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. 116 , 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

Gary G. Zech, Assistant Director
for Projects
TVA Projects Division
Office of Special Projects

Attachment:
Changes to the Technical
Specifications

Date of Issuance: February 29, 1988

ATTACHMENT TO LICENSE AMENDMENT NO. 116

FACILITY OPERATING LICENSE NO. DPR-68

DOCKET NO. 50-296

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

REMOVE	INSERT
1.0-3	1.0-3*
1.0-4	1.0-4
3.7/4.7-17	3.7/4.7-17
3.7/4.7-18	3.7/4.7-18

H. Reactor Power Operation - Reactor power operation is any operation with the mode switch in the "Startup" or "Run" position with the reactor critical and above 1-percent rated power.

I. Hot Standby Condition - Hot standby condition means operation with coolant temperature greater than 212°F, system pressure less than 1,055 psig, the main steam isolation valves closed and the mode switch in the Startup/Hot Standby position.

J. Cold Condition - Reactor coolant temperature equal to or less than 212°F.

K. Hot Shutdown - The reactor is in the shutdown mode and the reactor coolant temperature greater than 212°F.

L. Cold Shutdown - The reactor is in the shutdown mode and the reactor coolant temperature equal to or less than 212°F.

M. Mode of Operation - A reactor mode switch selects the proper interlocks for the operational status of the unit. The following are the modes and interlocks provided:

1. Startup/Hot Standby Mode - In this mode the reactor protection system is energized with IRM neutron monitoring system trip, the APRM 15 percent high flux trip, and control rod withdrawal interlocks in service. This is often referred to as just Startup Mode. This is intended to imply the Startup/Hot Standby position of the mode switch.

2. Run Mode - In this mode the reactor system pressure is at or above 825 psig and the reactor protection system is energized with APRM protection (excluding the 15 percent high flux trip) and the RBM interlocks in service.

3. Shutdown Mode - Placing the mode switch to the shutdown position initiates a reactor scram and power to the control rod drives is removed. After a short time period (about 10 seconds), the scram signal is removed allowing a scram reset and restoring the normal valve lineup in the control rod drive hydraulic system.

4. Refuel Mode - With the mode switch in the refuel position, interlocks are established so that one control rod only may be withdrawn when the Source Range Monitor indicates at least 3 cps and the refueling crane is not over the reactor except as specified by TS 3.10.B.1.b.2. If the refueling crane is over the reactor, all rods must be fully inserted and none can be withdrawn.

N. Rated Power - Rated power refers to operation at a reactor power of 3,293 MWt; this is also termed 100 percent power and is the maximum power level authorized by the operating license. Rated steam flow, rated coolant flow, rated neutron flux, and rated nuclear system pressure refer to the values of these parameters when the reactor is at rated power. Design power, the power to which the safety analysis applies, corresponds to 3,440 MWt.

O. Primary Containment Integrity - Primary containment integrity means that the drywell and pressure suppression chamber are intact and all of the following conditions are satisfied:

1. All nonautomatic containment isolation valves on lines connected to the reactor coolant systems or containment which are not required to be open during accident conditions are closed. These valves may be opened to perform necessary operational activities.

2. At least one door in each airlock is closed and sealed.

3. All automatic containment isolation valves are operable or each line which contains an inoperable isolation valve is isolated as required by specification 3.7.D.2.

4. All blind flanges and manways are closed.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.7.C. Secondary Containment	
4. If refueling zone secondary containment cannot be maintained the following conditions shall be met:	
a. Handling of spent fuel and all operations over spent fuel pools and open reactor wells containing fuel shall be prohibited.	
b. The standby gas treatment system suction to the refueling zone will be blocked except for a controlled leakage area sized to assure the achieving of a vacuum of at least 1/4-inch of water and not over 3 inches of water in all three reactor zones.	
D. Primary Containment Isolation Valves	D. Primary Containment Isolation Valves
1. When Primary Containment Integrity is required, all isolation valves listed in Table 3.7.A and all reactor coolant system instrument line flow check valves shall be OPERABLE except as specified in 3.7.D.2.	1. The primary containment isolation valves surveillance shall be performed as follows:
	a. At least once per operating cycle the OPERABLE isolation valves that are power operated and automatically initiated shall be tested for simulated automatic initiation and closure times.
	b. At least once per quarter:
	(1) All normally open power-operated isolation valves (except for the main steam line power-operated isolation valves) shall be fully closed and reopened.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.7.D. Primary Containment Isolation Valves	4.7.D. Primary Containment Isolation Valves
	4.7.D.1.b (Cont'd) (2) With the reactor power less than 75%, trip main steam isolation valves individually and verify closure time. c. At least twice per week the main steam line power-operated isolation valves shall be exercised one at a time by partial closure and subsequent reopening. d. At least once per operating cycle the operability of the reactor coolant system instrument line flow check valves shall be verified.
2. In the event any isolation valve specified in Table 3.7.A becomes INOPERABLE, reactor operation may continue provided at least one valve, in each line having an INOPERABLE valve, is OPERABLE and within 4 hours either: a. The INOPERABLE valve is restored to OPERABLE status, or b. Each affected line is isolated by use of at least one deactivated containment isolation valve secured in the isolated position.	2. Whenever an isolation valve listed in Table 3.7.A is INOPERABLE, the position of at least one other valve in each line having an INOPERABLE valve shall be recorded daily.
3. If specification 3.7.D.1 and 3.7.D.2 cannot be met, an orderly shutdown shall be initiated and the reactor shall be in the Cold Shutdown condition within 24 hours.	

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

SAFETY EVALUATION BY THE OFFICE OF SPECIAL PROJECTS

SUPPORTING AMENDMENT NO. 145 TO FACILITY OPERATING LICENSE NO. DPR-33

AMENDMENT NO. 141 TO FACILITY OPERATING LICENSE NO. DPR-52

AMENDMENT NO. 116 TO FACILITY OPERATING LICENSE NO. DPR-68

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT, UNITS 1, 2 AND 3

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

1.0 INTRODUCTION

By letter dated October 16, 1987, Tennessee Valley Authority (The licensee) requested a change to the Browns Ferry Nuclear Plant, Units 1, 2 and 3 Technical Specifications. The proposed changes to the Technical Specifications are as follows:

A. Limiting Condition for Operation (LCO) 3.7.D.1, to require primary containment isolation valves be operable when primary containment integrity is required. Primary containment integrity is required by LCO 3.7.A.2.a when the reactor is critical or when the reactor water temperature is above 212°F. Currently, LCO 3.7.D.1 required primary containment isolation valves be operable only during reactor power operations.

B. LCO 3.7.D.2, to permit reactor operation to continue for up to 4 hours with an inoperable primary containment isolation valve, without requiring a redundant valve be placed in the isolated position, provided that at least one isolation valve in the line having an inoperable isolation valve is operable, and

C. Definition 1.0.0.3, Primary Containment Integrity, to reference specification 3.7.D.2 which defines under what conditions reactor operation is acceptable with an inoperable primary containment isolation valve.

2.0 EVALUATION

LCO 3.7.D.1 requires primary containment isolation valves to be operable only during reactor power operation. This is inconsistent with LCO 3.7.A.2.a which requires primary containment integrity be maintained when the reactor is critical or when the reactor water temperature is above 212°F. Therefore, LCO 3.7.D.1 is being revised to be consistent with LCO 3.7.A.2 by requiring the primary containment isolation valves be operable when primary containment integrity is required.

LCO 3.7.D.1 requires primary containment isolation valves be operable only during reactor power operations. Reactor power operation is defined as any operation with the mode switch in the "Startup" or "Run" position with the reactor critical and above 1 percent rated power. This revision will require primary containment isolation valves be operable whenever primary containment integrity is required. LCO 3.7.A.2.a requires primary containment integrity when the reactor is critical or when the reactor water temperature is above 212°F. Therefore, this change will additionally require the primary containment isolation valves be operable when the reactor is in hot shutdown or a hot standby condition. Hot shutdown is when the reactor is in the shutdown mode with control rods fully inserted and the reactor coolant temperature greater than 212°F. Hot Standby condition means operation with coolant temperature greater than 212°F, system pressure less than 1055 psig, the main steam isolation valves closed and the mode switch in the Startup/Hot Standby position. Since this change will require the primary containment isolation valves be operable over a broader range of operating conditions, it constitutes additional operating restrictions and is therefore conservative.

LCO 3.7.D.2 action does not specify a time period for isolating the line which contains an inoperable primary containment isolation valve. The revised LCO 3.7.D.2 specifies a time period for completing this action and provides increased operational flexibility by allowing the repair of an inoperable valve as an alternative to isolating the affected line. The change to LCO 3.7.D.2 action permits reactor operation to continue for a short period of time (4 hours) when a primary containment isolation valve is inoperable, without requiring a redundant valve be placed in the isolated position, provided that at least one isolation valve in the same line is operable. The BFN primary containment isolation valve system is designed to provide the capability for rapid isolation of lines which penetrate the primary containment. The primary containment isolation valves are designed to limit leakage of primary containment atmosphere to the environment after an accident and, in the case of lines connected to the reactor coolant system, to limit loss of reactor coolant due to a line break outside containment. This change is consistent with other Browns Ferry Technical Specification requirements as demonstrated by Table 3.2.A, Note 11, which allows a channel of the primary containment isolation instrumentation to be placed in an inoperable status for up to four hours for surveillance without placing the channel in the tripped condition. This change is also consistent with recently approved Technical Specifications for other facilities as demonstrated by Section 3.6.3.a of the Hope Creek Generating Station Technical Specifications (NUREG-1202, July 1986) which allows four hours to restore the inoperable primary containment isolation valve or isolate the affected penetration.

Definition 1.0.0.3 must be consistent with revised LCO 3.7.D.2 action so as to satisfy the definition of primary containment integrity during the four hours that a line penetrating the primary containment is permitted to remain open when an isolation valve is inoperable. This change is purely administrative and does not affect nuclear safety.

Based on the above evaluation the staff finds the proposed changes to the Technical Specification are 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 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 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 the issuance of the amendments will not be inimical to the common defense and security nor to the health and safety of the public.

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Dated: February 29, 1988