



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

November 4, 1991

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

Posted
Amdt. 199 to DPR-52

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

Dear Mr. Nauman:

SUBJECT: ISSUANCE OF LICENSE AMENDMENTS (TAC NOS. 81687, 81688, AND 81689)
(TS 299)

The Commission has issued the enclosed Amendment Nos. 186, 199, and 158 to Facility Operating License Nos. DPR-33, DPR-52 and DPR-68 for the Browns Ferry Nuclear Plant (BFNP), Units 1, 2 and 3, respectively. These amendments are in response to your application, dated September 13, 1991, to revise the BFNP Technical Specifications (TS). The NRC staff has reviewed and approved TVA's request to extend the TS surveillance requirements for certain logic system functional tests from 6 months to 18 months. A copy of the staff's Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's next biweekly Federal Register publication.

Sincerely,

A handwritten signature in black ink, appearing to read "Thierry M. Ross".

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

Enclosures:

1. Amendment No. 186 to License No. DPR-33
2. Amendment No. 199 to License No. DPR-52
3. Amendment No. 158 to License No. DPR-68
4. Safety Evaluation

cc w/enclosures:
See next page

Mr. Dan A. Nauman

Browns Ferry

cc:

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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. 186
License No. DPR-33

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Tennessee Valley Authority (the licensee) dated September 13, 1991, 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.186, 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 no later than November 6, 1991.

FOR THE NUCLEAR REGULATORY COMMISSION


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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 4, 1991

ATTACHMENT TO LICENSE AMENDMENT NO. 186

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. *Denotes overleaf page.

REMOVE

3.2/4.2-48

3.2/4.2-49

3.9/4.9-5

3.9/4.9-6

INSERT

3.2/4.2-48*

3.2/4.2-49

3.9/4.9-5

3.9/4.9-6

TABLE 4.2.B (Continued)
SURVEILLANCE REQUIREMENTS FOR INSTRUMENTATION THAT INITIATE OR CONTROL THE CSCS

<u>Function</u>	<u>Functional Test</u>	<u>Calibration</u>	<u>Instrument Check</u>
Core Spray Loop A Discharge Pressure (PI-75-20)	N/A	once/6 months	once/day
Core Spray Loop B Discharge Pressure (PI-75-48)	N/A	once/6 months	once/day
RHR Loop A Discharge Pressure (PI-74-51)	N/A	once/6 months	once/day
RHR Loop B Discharge Pressure (PI-74-65)	N/A	once/6 months	once/day
Instrument Channel - RHR Start	Tested during functional test of RHR pump (refer to Section 4.5.B)	N/A	N/A
Instrument Channel - Thermostat (RHR Area Cooler Fan)	once/month	once/6 months	N/A
Instrument Channel - Core Spray A or C Start	Tested during functional test of core spray (refer to Section 4.5.A).	N/A	N/A
Instrument Channel - Core Spray B or D start	Tested during functional test of core spray (refer to Section 4.5.A).	N/A	N/A
Instrument Channel - Thermostat (Core Spray Area Cooler fan)	once/month	once/6 months	N/A

3.2/4.2-48

TABLE 4.2.B (Continued)
SURVEILLANCE REQUIREMENTS FOR INSTRUMENTATION THAT INITIATE OR CONTROL THE CSCS

<u>Function</u>	<u>Functional Test</u>	<u>Calibration</u>	<u>Instrument Check</u>
RHR Area Cooler Fan Logic	Tested during functional test of instrument channels, RHR motor start and thermostat (RHR area cooler fan). No other test required.	N/A	N/A
Core Spray Area Cooler Fan Logic	Tested during logic system functional test of instrument channels, core spray motor start and thermostat (core spray area cooler fan). No other test required.	N/A	N/A
Instrument Channel - Core Spray Motors A or D Start	Tested during functional test of core spray pump (refer to Section 4.5.A).	N/A	N/A
Instrument Channel Core Spray Motors B or C Start	Tested during functional test of core spray pump (refer to Section 4.5.A).	N/A	N/A
Instrument Channel - Core Spray Loop 1 Accident Signal	Tested during logic system functional test of core spray system.	N/A	N/A
Instrument Channel - Core Spray Loop 2 Accident Signal	Tested during logic system functional test of core spray system.	N/A	N/A
RHRSW Initiate Logic	once/18 months	N/A	N/A
RPT Initiate Logic	once/month	N/A	N/A
RPT Breaker	once/operating cycle	N/A	N/A

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-V 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.

3.9/4.9 AUXILIARY ELECTRICAL SYSTEM

LIMITING CONDITIONS FOR OPERATION

3.9.A. Auxiliary Electrical Equipment

3.9.A.3. (Cont'd)

- d. The 480-V shutdown boards 1A and 1B 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.
 - g. Shutdown buses 1 and 2 energized.
 - h. The 480-V reactor motor-operated valve (RMOV) boards 1D & 1E are energized with motor-generator (mg) sets 1DN, 1DA, 1EN, and 1EA in service.
4. The three 250-V unit batteries, the four shutdown board batteries, a battery charger for each battery, and associated battery boards are OPERABLE.

SURVEILLANCE REQUIREMENTS

4.9.A. Auxiliary Electrical System

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.



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. 199
License No. DPR-52

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Tennessee Valley Authority (the licensee) dated September 13, 1991 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.

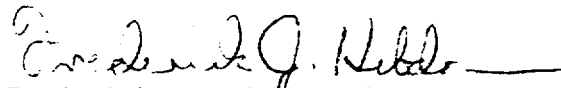
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-52 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No.199, 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 no later than November 6, 1991.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 4, 1991

ATTACHMENT TO LICENSE AMENDMENT NO.199

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 certain marginal lines indicating the area of change. *Denotes overleaf page.

<u>REMOVE</u>	<u>INSERT</u>
3.2/4.2-48	3.2/4.2-48*
3.2/4.2-49	3.2/4.2-49
3.9/4.9-5	3.9/4.9-5
3.9/4.9-6	3.9/4.9-6
3.9/4.9-15	3.9/4.9-15*
3.9/4.9-15a	3.9/4.9-15a

BFN
Unit 2

TABLE 4.2.B (Continued)
SURVEILLANCE REQUIREMENTS FOR INSTRUMENTATION THAT INITIATE OR CONTROL THE CSCS

<u>Function</u>	<u>Functional Test</u>	<u>Calibration</u>	<u>Instrument Check</u>
Core Spray Loop A Discharge Pressure (PI-75-20)	N/A	Once/6 months	Once/day
Core Spray Loop B Discharge Pressure (PI-75-48)	N/A	Once/6 months	Once/day
RHR Loop A Discharge Pressure (PI-74-51)	N/A	Once/6 months	Once/day
RHR Loop B Discharge Pressure (PI-74-65)	N/A	Once/6 months	Once/day
Instrument Channel - RHR Start	Tested during functional test of RHR pump (refer to section 4.5.B)	N/A	N/A
Instrument Channel - Thermostat (RHR Area Cooler Fan)	once/month	Once/6 months	N/A
Instrument Channel - Core Spray A or C Start	Tested during functional test of core spray (refer to section 4.5.A).	N/A	N/A
Instrument Channel - Core Spray B or D start	Tested during functional test of core spray (refer to section 4.5.A).	N/A	N/A
Instrument Channel - Thermostat (Core Spray Area Cooler Fan)	once/month	Once/6 months	N/A

3.2/4.2-48

TABLE 4.2.B (Continued)
SURVEILLANCE REQUIREMENTS FOR INSTRUMENTATION THAT INITIATE OR CONTROL THE CSCS

<u>Function</u>	<u>Functional Test</u>	<u>Calibration</u>	<u>Instrument Check</u>
RHR Area Cooler Fan Logic	Tested during functional test of instrument channels, RHR motor start and thermostat (RHR area cooler fan). No other test required.	N/A	N/A
Core Spray Area Cooler Fan Logic	Tested during logic system functional test of instrument channels, core spray motor start and thermostat (core spray area cooler fan). No other test required.	N/A	N/A
Instrument Channel - Core Spray Motors A or D Start	Tested during functional test of core spray pump (refer to section 4.5.A).	N/A	N/A
Instrument Channel - Core Spray Motors B or C Start	Tested during functional test of core spray pump (refer to section 4.5.A).	N/A	N/A
Instrument Channel - Core Spray Loop 1 Accident Signal	Tested during logic system functional test of core spray system.	N/A	N/A
Instrument Channel - Core Spray Loop 2 Accident Signal	Tested during logic system functional test of core spray system.	N/A	N/A
RHRSW Initiate Logic	Once/18 months	N/A	N/A
RPT Initiate Logic	Once/month	N/A	N/A
RPT Breaker	Once/operating cycle	N/A	N/A

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.

3.9/4.9 AUXILIARY ELECTRICAL SYSTEM

LIMITING CONDITIONS FOR OPERATION

3.9.A. Auxiliary Electrical Equipment

3.9.A.3. (Cont'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.
 - g. 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 three 250-V unit batteries, the four shutdown board batteries, a battery charger for each battery, and associated battery boards are OPERABLE.

SURVEILLANCE REQUIREMENTS

4.9.A. Auxiliary Electrical System

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.

3.9/4.9 AUXILIARY ELECTRICAL SYSTEM

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.9.C. Operation in Cold Shutdown

Whenever the reactor is in COLD SHUTDOWN CONDITION with irradiated fuel in the reactor, the availability of electric power shall be as specified in Section 3.9.A except as specified herein.

1. At least two Units 1 and 2 diesel generators and their associated 4-kV shutdown boards shall be OPERABLE.
2. An additional source of power energized and capable of supplying power to the Units 1 and 2 shutdown boards consisting of at least one of the following:
 - a. One of the offsite power sources specified in 3.9.A.1.c.
 - b. A third OPERABLE diesel generator.
3. At least one 480-V shutdown board for each unit must be OPERABLE.
4. One 480-V RMOV board mg set is required for each RMOV board (2D or 2E) required to support operation of the RHR system in accordance with 3.5.B.9.

4.9.C Operation in Cold Shutdown

1. No additional surveillance is required.

3.9/4.9 AUXILIARY ELECTRICAL SYSTEM

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.9.D Unit 3 Diesel Generators
Required for Unit 2 Operation

1. Whenever any of the following equipment is required to be OPERABLE in accordance with the corresponding section of these technical specifications, the Unit 3 diesel generator aligned to supply emergency power to that equipment shall be OPERABLE.
 - a. Standby gas treatment train C in accordance with T.S. 3.7.B (diesel generator 3D).
 - b. Control room emergency ventilation train B in accordance with T.S. 3.7.E (diesel generator 3B or 3C).
2. When the diesel generator aligned to supply emergency power to the equipment in 3.9.D.1.a or b is inoperable, the equipment may be considered OPERABLE for the purpose of satisfying the corresponding technical specification during the succeeding 30 days provided that the redundant train(s) of equipment and their normal and emergency power supplies are OPERABLE.
3. If Specification 3.9.D.2 cannot be met, the affected equipment shall be declared inoperable.

4.9.D Unit 3 Diesel Generators
Required for Unit 2 Operation

1.a Diesel Generators

Surveillance requirements are as specified in T.S. 4.9.A.1.a, 4.9.A.1.c, 4.9.A.1.d and 4.9.A.1.e.

1.b DC Power System

Surveillance requirements are as specified in T.S. 4.9.A.2.

1.c Logic Systems

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 the reactor to provide an automatic start signal to each diesel generator.

1.d Undervoltage Relays

Surveillance requirements are as specified in T.S. 4.9.A.4.

2. No surveillance required.

3. No surveillance required.



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. 158
License No. DPR-68

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Tennessee Valley Authority (the licensee) dated September 13, 1991, 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.158, 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 no later than November 6, 1991.

FOR THE NUCLEAR REGULATORY COMMISSION


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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: November 4, 1991

ATTACHMENT TO LICENSE AMENDMENT NO. 158

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. *Denotes overleaf page.

<u>REMOVE</u>	<u>INSERT</u>
3.2/4.2-47	3.2/4.2-47*
3.2/4.2-48	3.2/4.2-48
3.9/4.9-5	3.9/4.9-5
3.9/4.9-6	3.9/4.9-6
3.9/4.9-14a	3.9/4.9-14a
3.9/4.9-14b	3.9/4.9-14b*

TABLE 4.2.B (Cont'd)
SURVEILLANCE REQUIREMENTS FOR INSTRUMENTATION THAT INITIATE OR CONTROL THE CSCS

<u>Function</u>	<u>Functional Test</u>	<u>Calibration</u>	<u>Instrument Check</u>
Core Spray Loop A Discharge Pressure (PI-75-20)	N/A	once/6 months	once/day
Core Spray Loop B Discharge Pressure (PI-75-48)	N/A	once/6 months	once/day
RHR Loop A Discharge Pressure (PI-74-51)	N/A	once/6 months	once/day
RHR Loop B Discharge Pressure (PI-74-65)	N/A	once/6 months	once/day
Instrument Channel - RHR Start	Tested during functional test of RHR pump (refer to Section 4.5.B)	N/A	N/A
Instrument Channel - Thermostat (RHR Area Cooler Fan)	once/month	once/6 months	N/A
Instrument Channel - Core Spray A or C Start	Tested during functional test of core spray (refer to Section 4.5.A).	N/A	N/A
Instrument Channel - Core Spray B or D start	Tested during functional test of core spray (refer to Section 4.5.A).	N/A	N/A
Instrument Channel - Thermostat (Core Spray Area Cooler Fan)	once/month	once/6 months	N/A

TABLE 4.2.B (Cont'd)
SURVEILLANCE REQUIREMENTS FOR INSTRUMENTATION THAT INITIATE OR CONTROL THE CSCS

<u>Function</u>	<u>Functional Test</u>	<u>Calibration</u>	<u>Instrument Check</u>
RHR Area Cooler Fan Logic	Tested during functional test of instrument channels, RHR motor start and thermostat (RHR area cooler fan). No other test required.	N/A	N/A
Core Spray Area Cooler Fan Logic	Tested during logic system functional test of instrument channels, core spray motor start and thermostat (core spray area cooler fan). No other test required.	N/A	N/A
Instrument Channel - Core Spray Motors A or D Start	Tested during functional test of core spray pump (refer to Section 4.5.A).	N/A	N/A
Instrument Channel Core Spray Motors B or C Start	Tested during functional test of core spray pump (refer to Section 4.5.A).	N/A	N/A
RPT Initiate Logic	once/month	N/A	N/A
RPT Breaker	once/operating cycle	N/A	N/A
Instrument Channel - Core Spray Loop 1 Accident Signal	Tested during logic system functional test of core spray system.	N/A	N/A
Instrument Channel - Core Spray Loop 2 Accident Signal	Tested during logic system functional test of core spray system.	N/A	N/A
RHRSW Initiate Logic	once/18 months	N/A	N/A

BPN
Unit 3

3.2/4.2-48

Amendment 158

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 if a cooling tower transformer is designated as an offsite power source.

- c. The 4-kV shutdown boards (3EA, 3EB, 3EC, 3ED) are energized.

- d. The 480-V shutdown boards 3A and 3B are energized.

SURVEILLANCE REQUIREMENTS

4.9.A. Auxiliary Electrical System

3. Logic Systems

- a. Both divisions of the accident signal logic system shall be tested every 18 months to demonstrate that it will function on actuation of the core spray system of the reactor to provide an automatic start signal to all 4 diesel generators.

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.9.A. Auxiliary Electrical Equipment

4.9.A. Auxiliary Electrical System

3.9.A.3. (Cont'd)

- e. Loss of voltage and degraded voltage relays OPERABLE on 4-kV shutdown boards 3EA, 3EB, 3EC, and 3ED.
 - f. The 480-V diesel auxiliary boards 3EA and 3EB are energized.
 - g. The 480-V reactor motor-operated valve (RMOV) boards 3D & 3E are energized with motor-generator (mg) sets 3DN, 3DA, 3EN, and 3EA in service.
4. The 250-V shutdown board 3EB battery, all three unit batteries, a battery charger for each battery, and associated battery boards are OPERABLE.

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.

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.9.D Unit 3 Diesel Generators
Required for Unit 2 Operation

1. Whenever any of the following equipment is required to be OPERABLE in accordance with the corresponding section of any units technical specifications, the Unit 3 diesel generator aligned to supply emergency power to that equipment shall be OPERABLE.
 - a. Standby gas treatment train C in accordance with T.S. 3.7.B (diesel generator 3D).
 - b. Control room emergency ventilation train B in accordance with T.S. 3.7.E (diesel generator 3B or 3C).
2. When the diesel generator aligned to supply emergency power to the equipment in 3.9.D.1.a or b is inoperable, the equipment may be considered OPERABLE for the purpose of satisfying the corresponding technical specification during the succeeding 30 days provided that the redundant train(s) of equipment and their normal and emergency power supplies are OPERABLE.
3. If Specification 3.9.D.2 cannot be met, the affected equipment shall be declared inoperable.

4.9.D Unit 3 Diesel Generators
Required for Unit 2 Operation

1.a Diesel Generators

Surveillance requirements are as specified in T.S. 4.9.A.1.a, 4.9.A.1.c, 4.9.A.1.d and 4.9.A.1.e.

1.b DC Power System

Surveillance requirements are as specified in T.S. 4.9.A.2.

1.c Logic Systems

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 the Unit 2 reactor to provide an automatic start signal to each diesel generator.

1.d Undervoltage Relays

Surveillance requirements are as specified in T.S. 4.9.A.4.

2. No surveillance required.

3. No surveillance required.

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

ENCLOSURE 4

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO.186 TO FACILITY OPERATING LICENSE NO. DPR-33

AMENDMENT NO.199 TO FACILITY OPERATING LICENSE NO. DPR-52

AMENDMENT NO.158 TO FACILITY OPERATING LICENSE NO. DPR-68

TENNESSEE VALLEY AUTHORITY

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

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

1.0 INTRODUCTION

By letter dated September 13, 1991, the Tennessee Valley Authority (TVA) submitted a request for changes to the Browns Ferry Nuclear Plant (BFNP), Technical Specifications (TS). The requested changes would extend the logic system functional test (LSFT) surveillance interval from "once every 6 months" to "once every 18 months" for the Common Accident Signal Logic, 4 kV Shutdown Board Undervoltage Start of the Diesel Generator, 480V Load Shedding Logic, and RHR Service Water Initiation Logic. TVA considers this change to be similar to TS changes previously evaluated and approved by the staff on February 12, 1988 as License Amendments 144, 140, and 115 for BFNP Units 1, 2, and 3, respectively. As such, the LFST surveillance interval changes proposed by TVA's September 13, 1991 application should be within the bounds of the staff's previous safety evaluation.

2.0 EVALUATION

Present TS require a six-month surveillance interval for the aforementioned LSFTs. Since the duration of a fuel cycle is 18-24 months, a surveillance interval of six months requires performing LSFTs during power operation. In general, the performance of LSFTs at power is undesirable because of the potential for inadvertent scrams, actuations of equipment and unexpected transients which place unnecessary demands on safety systems. Furthermore, the numerous temporary alterations required to perform these complex tests place the plant in a configuration which increases system restoration time and reduces the redundancy of protection. The proposed TS changes will permit performing LSFTs during unit shutdown.

TVA's proposed extension of the surveillance interval for certain LSFTs is consistent with the guidelines established by the staff in the Standard TSs (i.e., NUREG-0123) for Boiling Water Reactors (BWR). Furthermore, it was only because of an oversight by TVA that the subject LFSTs were not included as part of the TS changes approved previously by the staff in License Amendments 144, 140 and 115.

Defining appropriate surveillance intervals is an important element in achieving high levels of availability for the Reactor Protection System (RPS) and the plant's Engineered Safeguard Features (ESF). As a result of extensive efforts by General Electric and the NRC staff to resolve concerns expressed in Item 4.5.3 of Generic Letter 83-28 regarding RPS reliability, the TS surveillance intervals established in NUREG-0123 were reviewed and determined to be adequate. Since TVA's requested TS revisions for BFNPs are consistent with the Standard TS for BWRs, the staff concludes that they are acceptable. Furthermore, extending the surveillance interval for these particular LSFTs should reduce equipment wear, increase system availability and minimize situations where the plant is placed in abnormal configurations.

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a surveillance requirement. The NRC staff has determined that the amendment involves 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 amendment involves no significant hazards consideration, and there has been no public comment on such finding (56 FR49927). Accordingly, the amendment meets 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 amendment.

5.0 CONCLUSION

The Commission 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, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: T. Ross

Date: November 4, 1991