

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

July 19, 1989

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

POSTED  
50-296  
BROWNS FERRY 3  
AMENDMENT NO. 139  
TO DPR-68

Dear Mr. Kingsley:

SUBJECT: REVISION TO TECHNICAL SPECIFICATIONS PERTAINING TO FIRE PUMP BATTERY  
CELL VOLTAGE AND CONTROL ROOM EMERGENCY VENTILATION SYSTEM (TAC 73138,  
73139, 73140) (TS 269) BROWNS FERRY NUCLEAR PLANTS, UNITS 1, 2, AND 3

The Commission has issued the enclosed Amendment Nos. 168, 168, and 139 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 May 15, 1989. The amendments modify the  
Limiting Conditions for Operations (LCO) and Surveillance Requirements (SR)  
for the Control Room Emergency System (CREVS) 4.7.3.4 and Technical  
Specification (TS) 4.11.B.3.a(3) Fire Pump Battery Cell Voltage as follows:

1. TS 4.7.E.4 is being updated to add a CREVS isolation damper which was added by a design change.
2. TS 4.11.B.3.a(3) is revised to correct an administrative error in the listed value for the fire pump battery pilot cell voltage.

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  
Suzanne Black, Assistant Director  
for Projects  
TVA Projects Division  
Office of Nuclear Reactor Regulation

- Enclosures: -
1. Amendment No. 168 to License No. DPR-33
  2. Amendment No. 168 to License No. DPR-52
  3. Amendment No. 139 to License No. DPR-68
  4. Safety Evaluation

**DISTRIBUTION:**

Docket File	MSimms	T. Meek (12)
NRC PDR	GGears	WJones
Local PDR	DMoran	EButcher
Projects Reading	TDaniels	GPA/CA
ADSP Reading	NMarkisohn	ARM/LFMB
DCrutchfield	CGC	TQuay
BDLiaw	BGrimes	
SBlack	EJordan	
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BWilson	GPA/PA	
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cc w/enclosures:  
See next page

:NRR:TVA/LA	:NRR:TVA/PM	:TVA:AD/TP	:OGC	:TVA:AD/PA	:
NAME :MSimms	TDaniels:as	RPierson	SBlack	:	:
DATE :5/21/89	:5/25/89	:5/27/89	:6/5/89	:7/19/89	:

Mr. Oliver D. Kingsley, Jr.

- 2 -

cc:

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Atlanta, Georgia 30323

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Suite 402  
Rockville, Maryland 20852



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

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-259

BROWNS FERRY NUCLEAR PLANT, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 168  
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 May 15, 1989, 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.

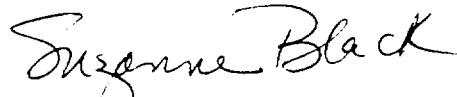
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-33 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 168, 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



Suzanne Black, Assistant Director  
for Projects  
TVA Projects Division  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: July 19, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 168

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

3.7/4.7-19

3.7/4.7-20

3.11/4.11-5

3.11/4.11-6

INSERT

3.7/4.7-19\*

3.7/4.7-20

3.11/4.11-5\*

3.11/4.11-6

## LIMITING CONDITIONS FOR OPERATION

3.7.E. Control Room Emergency Ventilation

- \* 1. Except as specified in Specification 3.7.E.3 below, both control room emergency pressurization systems shall be OPERABLE at all times when any reactor vessel contains irradiated fuel.
- 2. a. The results of the in-place cold DOP and halogenated hydrocarbon tests at design flows on HEPA filters and charcoal adsorber banks shall show  $\geq 99\%$  DOP removal and  $\geq 99\%$  halogenated hydrocarbon removal when tested in accordance with ANSI N510-1975.
- b. The results of laboratory carbon sample analysis shall show  $\geq 90\%$  radioactive methyl iodide removal at a velocity when tested in accordance with ASTM D3803 (130°C, 95% R.H.).
- c. System flow rate shall be shown to be within  $\pm 10\%$  design flow when tested in accordance with ANSI N510-1975.

\* LCO not applicable until just prior to withdrawing the first control rod for the purpose of making the reactor critical from the unit 2 cycle 5 outage.

## SURVEILLANCE REQUIREMENTS

4.7.E Control Room Emergency Ventilation

- 1. At least once every 18 months, the pressure drop across the combined HEPA filters and charcoal adsorber banks shall be demonstrated to be less than 6 inches of water at system design flow rate ( $\pm 10\%$ ).
- 2. a. The tests and sample analysis of Specification 3.7.E.2 shall be performed at least once per operating cycle or once every 18 months, whichever occurs first for standby service or after every 720 hours of system operation and following significant painting, fire, or chemical release in any ventilation zone communicating with the system.
- b. Cold DOP testing shall be performed after each complete or partial replacement of the HEPA filter bank or after any structural maintenance on the system housing.
- c. Halogenated hydrocarbon testing shall be performed after each complete or partial replacement of the charcoal adsorber bank or after any structural maintenance on the system housing.
- d. Each circuit shall be operated at least 10 hours every month.

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.7.E. Control Room Emergency Ventilation

- \* 3. From and after the date that one of the control room emergency pressurization systems is made or found to be inoperable for any reason, REACTOR POWER OPERATION or refueling operations is permissible only during the succeeding 7 days unless such circuit is sooner made OPERABLE.
- \* 4. If these conditions cannot be met, reactor shutdown shall be initiated and all reactors shall be in Cold Shutdown within 24 hours for reactor operations and refueling operations shall be terminated within 2 hours.

\* LCO not applicable until just prior to withdrawing the first control rod for the purpose of making the reactor critical from the unit 2 cycle 5 outage.

4.7.E. Control Room Emergency Ventilation

3. At least once every 18 months, automatic initiation of the control room emergency pressurization system shall be demonstrated.

4. During the simulated automatic actuation test of this system (see Table 4.2.G), it shall be verified that the following dampers operate as indicated:

Close: FCO-150 B, D, E, F,  
and G

Open: FCO-151  
FCO-152

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (Cont'd)

4.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (Cont'd)

b. At least quarterly by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-75, is within the acceptable limits specified in table 1 of ASTM-D975-77 when checked for viscosity, water, and sediment.

c. At least once per 18 months, by subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service.

3. The diesel-driven high-pressure fire pump starting 24-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least weekly by verifying that:

(1) The electrolyte level of each pilot cell is above the plates,

(2) The pilot cell specific gravity, corrected to 77° F and full electrolyte level, is greater than or equal to 1.200,



3.11/4.11 FIRE PROTECTION SYSTEMS

LIMITING CONDITIONS FOR OPERATION

3.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (Cont'd)

4. The raw service water storage tank level shall be maintained above level 723'7" by the raw service water pumps.

SURVEILLANCE REQUIREMENTS

4.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (Cont'd)

- (3) The pilot cell voltage is greater than or equal to 2.0 volts, and
  - (4) The overall battery voltage is greater than or equal to 24 volts.
- b. At least quarterly by verifying that the specific gravity is appropriate for continued service of the battery.
  - c. At least once per 18 months by verifying that:
    - (1) The batteries, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration, and
    - (2) Battery terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.
4. Simulated automatic and manual actuation of raw service water pumps and operation of tank level switches will be conducted annually.



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. 168  
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 May 15, 1989, 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.

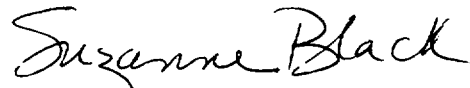
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-52 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 168, 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



Suzanne Black, Assistant Director  
for Projects  
TVA Projects Division  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: July 19, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 168

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

3.7/4.7-19

3.7/4.7-20

3.11/4.11-5

3.11/4.11-6

INSERT

3.7/4.7-19\*

3.7/4.7-20

3.11/4.11-5\*

3.11/4.11-6

## LIMITING CONDITIONS FOR OPERATION

3.7.E. Control Room Emergency Ventilation

- \* 1. Except as specified in Specification 3.7.E.3 below, both control room emergency pressurization systems shall be OPERABLE at all times when any reactor vessel contains irradiated fuel.
- 2. a. The results of the in-place cold DOP and halogenated hydrocarbon tests at design flows on HEPA filters and charcoal adsorber banks shall show  $\geq 99\%$  DOP removal and  $\geq 99\%$  halogenated hydrocarbon removal when tested in accordance with ANSI N510-1975.
- b. The results of laboratory carbon sample analysis shall show  $\geq 90\%$  radioactive methyl iodide removal at a velocity when tested in accordance with ASTM D3803 (130°C, 95% R.H.).
- c. System flow rate shall be shown to be within  $\pm 10\%$  design flow when tested in accordance with ANSI N510-1975.

\* LCO not applicable until just prior to withdrawing the first control rod for the purpose of making the reactor critical from the unit 2 cycle 5 outage.

## SURVEILLANCE REQUIREMENTS

4.7.E Control Room Emergency Ventilation

- 1. At least once every 18 months, the pressure drop across the combined HEPA filters and charcoal adsorber banks shall be demonstrated to be less than 6 inches of water at system design flow rate ( $\pm 10\%$ ).
- 2. a. The tests and sample analysis of Specification 3.7.E.2 shall be performed at least once per operating cycle or once every 18 months, whichever occurs first for standby service or after every 720 hours of system operation and following significant painting, fire, or chemical release in any ventilation zone communicating with the system.
- b. Cold DOP testing shall be performed after each complete or partial replacement of the HEPA filter bank or after any structural maintenance on the system housing.
- c. Halogenated hydrocarbon testing shall be performed after each complete or partial replacement of the charcoal adsorber bank or after any structural maintenance on the system housing.
- d. Each circuit shall be operated at least 10 hours every month.

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.7.E. Control Room Emergency Ventilation

- \* 3. From and after the date that one of the control room emergency pressurization systems is made or found to be inoperable for any reason, REACTOR POWER OPERATION or refueling operations is permissible only during the succeeding 7 days unless such circuit is sooner made OPERABLE.
- \* 4. If these conditions cannot be met, reactor shutdown shall be initiated and all reactors shall be in COLD SHUTDOWN within 24 hours for reactor operations and refueling operations shall be terminated within 2 hours.

\* LCO not applicable until just prior to withdrawing the first control rod for the purpose of making the reactor critical from the unit 2 cycle 5 outage.

4.7.E. Control Room Emergency Ventilation

3. At least once every 18 months, automatic initiation of the control room emergency pressurization system shall be demonstrated.

4. During the simulated automatic actuation test of this system (see Table 4.2.G), it shall be verified that the following dampers operate as indicated:

Close: FCO-150 B, D, E, F,  
and G  
Open: FCO-151  
FCO-152

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (Cont'd)

4.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (Cont'd)

b. At least quarterly by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-75, is within the acceptable limits specified in table 1 of ASTM-D975-77 when checked for viscosity, water, and sediment.

c. At least once per 18 months, by subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service.

3. The diesel-driven high-pressure fire pump starting 24-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least weekly by verifying that:

(1) The electrolyte level of each pilot cell is above the plates,

(2) The pilot cell specific gravity, corrected to 77° F and full electrolyte level, is greater than or equal to 1.200,

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (Cont'd)

4.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (Cont'd)

4. The raw service water storage tank level shall be maintained above level 723'7" by the raw service water pumps.

(3) The pilot cell voltage is greater than or equal to 2.0 volts, and

(4) The overall battery voltage is greater than or equal to 24 volts.

b. At least quarterly by verifying that the specific gravity is appropriate for continued service of the battery.

c. At least once per 18 months by verifying that:

(1) The batteries, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration, and

(2) Battery terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.

4. Simulated automatic and manual actuation of raw service water pumps and operation of tank level switches will be conducted annually.





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. 139  
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 15, 1989, 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. 139, 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



Suzanne Black, Assistant Director  
for Projects  
TVA Projects Division  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: July 19, 1989

ATTACHMENT TO LICENSE AMENDMENT NO. 139

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 provided to maintain document completeness.

REMOVE

3.7/4.7-19

3.7/4.7-20

3.11/4.11-5

3.11/4.11-6

INSERT

3.7/4.7-19\*

3.7/4.7-20

3.11/4.11-5\*

3.11/4.11-6

## LIMITING CONDITIONS FOR OPERATION

3.7.E. Control Room Emergency Ventilation

- \* 1. Except as specified in Specification 3.7.E.3 below, both control room emergency pressurization systems shall be OPERABLE at all times when any reactor vessel contains irradiated fuel.
- 2. a. The results of the in-place cold DOP and halogenated hydrocarbon tests at design flows on HEPA filters and charcoal adsorber banks shall show  $\geq 99\%$  DOP removal and  $\geq 99\%$  halogenated hydrocarbon removal when tested in accordance with ANSI N510-1975.
- b. The results of laboratory carbon sample analysis shall show  $\geq 90\%$  radioactive methyl iodide removal at a velocity when tested in accordance with ASTM D3803 (130°C, 95% R.H.).
- c. System flow rate shall be shown to be within  $\pm 10\%$  design flow when tested in accordance with ANSI N510-1975.

\* LCO not applicable until just prior to withdrawing the first control rod for the purpose of making the reactor critical from the unit 2 cycle 5 outage.

## SURVEILLANCE REQUIREMENTS

4.7.E Control Room Emergency Ventilation

- 1. At least once every 18 months, the pressure drop across the combined HEPA filters and charcoal adsorber banks shall be demonstrated to be less than 6 inches of water at system design flow rate ( $\pm 10\%$ ).
- 2. a. The tests and sample analysis of Specification 3.7.E.2 shall be performed at least once per operating cycle or once every 18 months, whichever occurs first for standby service or after every 720 hours of system operation and following significant painting, fire, or chemical release in any ventilation zone communicating with the system.
- b. Cold DOP testing shall be performed after each complete or partial replacement of the HEPA filter bank or after any structural maintenance on the system housing.
- c. Halogenated hydrocarbon testing shall be performed after each complete or partial replacement of the charcoal adsorber bank or after any structural maintenance on the system housing.
- d. Each circuit shall be operated at least 10 hours every month.

## LIMITING CONDITIONS FOR OPERATION

3.7.E. Control Room Emergency Ventilation

- \* 3. From and after the date that one of the control room emergency pressurization systems is made or found to be inoperable for any reason, REACTOR POWER OPERATION or refueling operation is permissible only during the succeeding 7 days unless such circuit is sooner made OPERABLE.
- \* 4. If these conditions cannot be met, reactor shutdown shall be initiated and all reactors shall be in COLD SHUTDOWN within 24 hours for reactor operations and refueling operations shall be terminated within 2 hours.

\* LCO not applicable until just prior to withdrawing the first control rod for the purpose of making the reactor critical from the unit 2 cycle 5 outage.

## SURVEILLANCE REQUIREMENTS

4.7.E. Control Room Emergency Ventilation

3. At least once every 18 months, automatic initiation of the control room emergency pressurization system shall be demonstrated.

4. During the simulated automatic actuation test of this system (see Table 4.2.G), it shall be verified that the following dampers operate as indicated:

Close: FCO-150 B, D, E, F,  
and G

Open: FCO-151  
FCO-152

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (Cont'd)

4.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (Cont'd)

b. At least quarterly by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-75, is within the acceptable limits specified in table 1 of ASTM-D975-77 when checked for viscosity, water, and sediment.

c. At least once per 18 months, by subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service.

3. The diesel-driven high-pressure fire pump starting 24-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least weekly by verifying that:

(1) The electrolyte level of each pilot cell is above the plates,

(2) The pilot cell specific gravity, corrected to 77° F and full electrolyte level, is greater than or equal to 1.200,

3.11/4.11 FIRE PROTECTION SYSTEMS

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (Cont'd)

4.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (Cont'd)

4. The raw service water storage tank level shall be maintained above level 723'7" by the raw service water pumps.

- (3) The pilot cell voltage is greater than or equal to 2.0 volts, and
- (4) The overall battery voltage is greater than or equal to 24 volts.

b. At least quarterly by verifying that the specific gravity is appropriate for continued service of the battery.

c. At least once per 18 months by verifying that:

- (1) The batteries, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration, and
- (2) Battery terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.

4. Simulated automatic and manual actuation of raw service water pumps and operation of tank level switches will be conducted annually.



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

ENCLOSURE 4

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 168 TO FACILITY OPERATING LICENSE NO. DPR-33

AMENDMENT NO. 168 TO FACILITY OPERATING LICENSE NO. DPR-52

AMENDMENT NO. 139 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 May 15, 1989, Tennessee Valley Authority (the licensee) requested an amendment to Facility Operating License Nos. DPR-33, DPR-52 and DPR-68 for the Browns Ferry Nuclear (BFN) Plant, Units 1, 2 and 3. The proposed amendment would change the Technical Specification (TS) to clarify, revise, and update existing Limiting Conditions for Operation (LCO) and Surveillance Requirements (SR) for the control room emergency ventilation system (CREVS) TS 4.7.E.4 and Fire Pump Battery Cell Voltage TS 4.11.B.3.a(3) as follows:

1. TS 4.7.E.4 update to add a CREVS isolation damper (FCO-150 G) which was added by a design change.
2. TS 4.11.B.3.a(3) revise to correct an administrative error in the listed value for the fire pump battery cell voltage.

2.0 EVALUATION

The licensee provided a proposed change to modify TS 4.7.E.4 to reflect the installation of an additional damper, Flow Control Operator (FCO-150 G), in the control room emergency ventilation system. This damper was installed in accordance with BFN Design Change W0143A. This damper provides additional isolation capability in the CREVS. Since an additional damper was added to the CREVS, it therefore needs to be included in the SR of TS 4.7.E.4.

The entire TS Section 3.11/4.11 for BFN Fire Protection Systems was requested to be revised by submittal to the NRC on August 30, 1988. The NRC staff approved the proposed revision on December 27, 1988. In that submittal, an incorrect number for the pilot cell voltage for the battery was used. The approved TS referenced that the pilot cell voltage would be equal to or greater than 24 volts. The 24 volts is for the total battery not the pilot cell voltage. The correct value for the pilot cell is 2.0 volts. Actual field performance of surveillance testing has demonstrated that the 2.0 pilot cell voltage is the correct voltage.



### 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 and changes to the surveillance requirements. 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 Commission made a proposed determination that the amendment involves no significant hazards consideration which was published in the Federal Register (54 FR 25378) on June 14, 1989 and consulted with the State of Alabama. No public comments were received and the State of Alabama did not have any comments.

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: July 19, 1989