

MAY 4 1979

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

Mr. Hugh G. Parris  
Manager of Power  
Tennessee Valley Authority  
500 A Chestnut Street, Tower II  
Chattanooga, Tennessee 37401

Dear Mr. Parris:

By your letter of June 28, 1978, you transmitted a description of your planned modifications to the electrical controls and instrumentation for the Browns Ferry Plant Standby Gas Treatment System. We have reviewed the design and find it acceptable. Our evaluation is discussed in the enclosed safety evaluation. Installation of the modified system accomplishes the requirements in the condition that was incorporated in paragraph 2.E(1) of License DPR-68 for the Browns Ferry Nuclear Plant, Unit No. 3. Therefore, we have issued the enclosed Amendment No. 22 to Facility License No. DPR-68 to remove paragraph 2.E(1) relating to the Standby Gas Treatment System. Since the requirements in conditions 2.E(2) and 2.E(3) relating to fire protection modifications and training have also been completed, we are by this same Amendment No. 22 deleting these two conditions and are renumbering the two remaining conditions, which are now conditions 2.E.(4) and 2.E.(5) as conditions 2.E.(1) and 2.E.(2), respectively.

In your letter of August 3, 1978 (BFNP TS 113), you requested changes to the Technical Specifications to remove the interim, compensatory requirements that were incorporated in the Technical Specifications pending installation of approved electrical controls and instrumentation for the Standby Gas Treatment System. As we discussed above, this has now been accomplished. In your letter of January 10, 1979 (BFNP TS 120), you requested a clarification of wording in the test requirements for the Standby Gas Treatment System. In response to these requests, the Commission has issued the enclosed Amendments Nos. 50 and 44 to Facility Licenses Nos. DPR-33 and DPR-52 for Browns Ferry Nuclear Plant, Units Nos. 1 and 2, and the enclosed Amendment No. 22 cited above to Facility

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License DPR-68 for Unit No. 3 to affect the requested changes in the Technical Specifications related to the Standby Gas Treatment System.

Distribution

- ✓ Docket
- ORB #3
- NRR Reading
- Local PDR
- NRC PDR
- HDenton
- VStello
- BGrimes
- RVollmer
- Tippolito
- SSheppard
- RCaark
- DEisenhut
- WRussell
- TJCarter
- Atty, OELD
- OI&E (5)
- BJones (12)
- BScharf (10)
- DBrinkman
- BHarless
- ACRS (16)

OPA (CMiles)  
RDiggs  
JRBuchanan  
TERA

OFFICE >

SURNAME >

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OFFICE	SURNAME	DATE
ORB #3	Ssheppard	4/179
ORB #3	RG18179	4/179
AD:EXP	Bgrimes	4/179
DELD		4/179
ORB #3	Tippotto	4/179

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cc w/enclosures: See next page

- 1. Amendment no. 60 to DPR-33
- 2. Amendment no. 44 to DPR-52
- 3. Amendment no. 22 to DPR-68
- 4. Safety Evaluation
- 5. Notice

Enclosures:

Thomas A. Ippolito, Chief  
 Operating Reactors Branch #3  
 Division of Operating Reactors

Original signed by

Sincerely,

Copies of the Safety Evaluation and Notice of Issuance are also enclosed.

Mr. Hugh G. Parris

MAY 4 1979

Mr. Hugh G. Parris

- 3 -

May 4, 1979

cc: H. S. Sanger, Jr., Esquire  
General Counsel  
Tennessee Valley Authority  
400 Commerce Avenue  
E 11B 33C  
Knoxville, Tennessee 37902

Mr. Dennis McCloud  
Tennessee Valley Authority  
400 Chestnut Street, Tower II  
Chattanooga, Tennessee 37401

Mr. Charles R. Christopher  
Chairman, Limestone County Commission  
P. O. Box 188  
Athens, Alabama 35611

Ira L. Myers, M.D.  
State Health Officer  
State Department of Public Health  
State Office Building  
Montgomery, Alabama 36104

Mr. E. G. Beasley  
Tennessee Valley Authority  
400 Commerce Avenue  
W 10C 131C  
Knoxville, Tennessee 37902

Athens Public Library  
South and Forrest  
Athens, Alabama 35611

Director, Office of Urban & Federal  
Affairs  
108 Parkway Towers  
404 James Robertson Way  
Nashville, Tennessee 37219

Director, Technical Assessment Division  
Office of Radiation Programs (AW-459)  
US EPA  
Crystal Mall #2  
Arlington, Virginia 20460

U. S. Environmental Protection  
Agency  
Region IV Office  
ATTN: EIS COORDINATOR  
345 Courtland Street  
Atlanta, Georgia 30308

Mr. Robert F. Sullivan  
U. S. Nuclear Regulatory Commission  
P. O. Box 1863  
Decatur, Alabama 35602



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

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-259

BROWNS FERRY NUCLEAR PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 50  
License No. DPR-33

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The applications for amendments by Tennessee Valley Authority (the licensee) dated August 3, 1978 and January 10, 1979, comply 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 applications, 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 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. 50, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

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3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Thomas A. Appolito, Chief  
Operating Reactors Branch #3  
Division of Operating Reactors

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: May 4, 1979

ATTACHMENT TO LICENSE AMENDMENT NO. 50

FACILITY OPERATING LICENSE NO. DPR-33

DOCKET NO. 50-259

Revise Appendix A as follows:

1. Remove the following pages and replace with identically numbered pages:

236/237  
238/239

2. The underlined pages are those being changed; marginal lines on these pages indicate the revised area. The overleaf pages are provided for convenience.

3.7 CONTAINMENT SYSTEMSB. Standby Gas Treatment System

1. Except as specified in Specification 3.7.B.3 below, all three trains of the standby gas treatment system and the diesel generators required for operation of such trains shall be operable at all times when secondary containment integrity is required.

4.7 CONTAINMENT SYSTEMSB. Standby Gas Treatment System

1. At least once per year, the following conditions shall be demonstrated.
  - a. Pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches of water at a flow of 9000 cfm (+ 10%).
  - b. The inlet heaters on each circuit are capable of an output of at least 40 kW when tested in accordance with ANSI N510-1975.
  - c. Air distribution is uniform within 20% across HEPA filters and charcoal adsorbers.

## LIMITING CONDITIONS FOR OPERATION

## SURVEILLANCE REQUIREMENTS

3.7 CONTAINMENT SYSTEMS

2. a. The results of the in-place cold DOP and halogenated hydrocarbon tests at  $\geq 10\%$  design flow 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 when tested in accordance with ANSI N510-1975 (130°C, 95% R.E.).
- c. System shall be shown to operate within  $\pm 10\%$  design flow.

4.7 CONTAINMENT SYSTEMS

2. a. The tests and sample analysis of Specification 3.7.B.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.

3.7 CONTAINMENT SYSTEMS

- u. If these conditions cannot be met, the reactor shall be placed in a condition for which the standby gas treatment system is not required.

4.7 CONTAINMENT SYSTEMS

- c. When one train of the standby gas treatment system becomes inoperable the other two trains shall be demonstrated to be operable within 2 hours and daily thereafter.

3.7 CONTAINMENT SYSTEMS

3. From and after the date that one train of the standby gas treatment system is made or found to be inoperable for any reason, reactor operation and fuel handling is permissible only during the succeeding 7 days unless such circuit is sooner made operable, provided that during such 7 days all active components of the other two standby gas treatment trains shall be operable.

4.7 CONTAINMENT SYSTEMS

- d. Each train shall be operated with the heaters on a total of at least 10 hours every month.
  - e. Test sealing of gaskets for housing doors shall be performed utilizing chemical smoke generators during each test performed for compliance with Specification 4.7.B.2.a and Specification 3.7.B.2.a.
- 
3. a. At least once per year automatic initiation of each branch of the standby gas treatment system shall be demonstrated from each unit's controls.
  - b. At least once per year manual operability of the bypass valve for filter cooling shall be demonstrated.



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

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-260

BROWNS FERRY NUCLEAR PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 44  
License No. DPR-52

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The applications for amendments by Tennessee Valley Authority (the licensee) dated August 3, 1978 and January 10, 1979, comply 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 applications, 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 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. 44, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Thomas A. Ippolito, Chief  
Operating Reactors Branch #3  
Division of Operating Reactors

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: May 4, 1979

ATTACHMENT TO LICENSE AMENDMENT NO. 44

FACILITY OPERATING LICENSE NO. DPR-52

DOCKET NO. 50-260

Revise Appendix A as follows:

1. Remove the following pages and replace with identically numbered pages:

237/238

239/240

2. The underlined pages are those being changed; marginal lines on these pages indicate the revised area. The overleaf pages are provided for convenience.

## LIMITING CONDITIONS FOR OPERATION

## SURVEILLANCE REQUIREMENTS

3.7 CONTAINMENT SYSTEMS

2. a. The results of the in-place cold DOP and halogenated hydrocarbon tests at  $\geq 10\%$  design flow 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 when tested in accordance with ANSI N510-1975 (130°C, 95% R.R.).
- c. System shall be shown to operate within  $\pm 10\%$  design flow.

4.7 CONTAINMENT SYSTEMS

2. a. The tests and sample analysis of Specification 3.7.B.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.

3.7 CONTAINMENT SYSTEMS

3. From and after the date that one train of the standby gas treatment system is made or found to be inoperable for any reason, reactor operation and fuel handling is permissible only during the succeeding 7 days unless such circuit is sooner made operable, provided that during such 7 days all active components of the other two standby gas treatment trains shall be operable.

4.7 CONTAINMENT SYSTEMS

- d. Each train shall be operated with the heaters on a total of at least 10 hours every month.
- e. Test sealing of gaskets for housing doors shall be performed utilizing chemical smoke generators during each test performed for compliance with Specification 4.7.B.2.a and Specification 3.7.B.2.a.

- 3. a. At least once per year automatic initiation of each branch of the standby gas treatment system shall be demonstrated from each unit's controls.
- b. At least once per year manual operability of the bypass valve for filter cooling shall be demonstrated.

3.7 CONTAINMENT SYSTEMS

- 4. If these conditions cannot be met, the reactor shall be placed in a condition for which the standby gas treatment system is not required.

4.7 CONTAINMENT SYSTEMS

- c. When one train of the standby gas treatment system becomes inoperable the other two trains shall be demonstrated to be operable within 2 hours and daily thereafter.

**3.7.C Secondary Containment**

1. Secondary containment integrity shall be maintained in the reactor zone at all times except as specified in 3.7.C.2.

**4.7.C Secondary Containment**

1. Secondary containment surveillance shall be performed as indicated below:
  - a. A preoperational secondary containment capability test shall be conducted by isolating the reactor building and placing two standby gas treatment system filter trains in operation. Such test shall demonstrate the



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

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-296

BROWNS FERRY NUCLEAR PLANT, UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

1. The Nuclear Regulatory Commission (the Commission) has found that:

A. The applications for amendments by Tennessee Valley Authority (the licensee) dated August 3, 1978 and January 10, 1979, and the licensee's submittal of June 28, 1978, comply 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 applications, 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, Facility Operating License No. DPR-68 is amended as follows:

Paragraphs 2.E.(1), 2.E.(2) and 2.E.(3) of the license conditions are deleted and existing paragraphs 2.E.(4) and 2.E.(5) are renumbered as paragraphs 2.E.(1) and 2.E.(2), respectively.

The license is also amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraphs 2.C(2) of Facility 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.22, 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 the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Thomas A. Ippolito, Chief  
Operating Reactors Branch #3  
Division of Operating Reactors

Attachment:  
Changes to the Technical  
Specifications.

Date of Issuance: May 4, 1979

ATTACHMENT TO LICENSE AMENDMENT NO. 22

FACILITY OPERATING LICENSE NO. DPR-68

DOCKET NO. 50-296

Revise Appendix A as follows:

Remove the following pages and replace with identically numbered pages:

248

250

293

Marginal lines indicate changed areas.

3.7 CONTAINMENT SYSTEMS

2. a. The results of the in-place cold DOP and halogenated hydrocarbon tests at  $\geq 10\%$  design flow 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 when tested in accordance with ANSI N510-1975 (130°C, 95% R.H.).
- c. System shall be shown to operate within  $\pm 10\%$  design flow.

4.7 CONTAINMENT SYSTEMS

2. a. The tests and sample analysis of Specification 3.7.B.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.

1.7 CONTAINMENT SYSTEMS

- 4. If these conditions cannot be met, the reactor shall be placed in a condition for which the standby gas treatment system is not required.

4.7 CONTAINMENT SYSTEMS

- c. When one train of the standby gas treatment system becomes inoperable the other two trains shall be demonstrated to be operable within 2 hours and daily thereafter.

flow rate will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter. Heater capability, pressure drop and air distribution should be determined at least once per operating cycle to show system performance capability.

The frequency of tests and sample analysis are necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. Tests of the charcoal adsorbers with halogenated hydrocarbon refrigerant shall be performed in accordance with USAEC Report DP-1082. Iodine removal efficiency tests shall follow RDT Standard M-16-IT. The charcoal adsorber efficiency test procedures should allow for the removal of one adsorber tray, emptying of one bed from the tray, mixing the adsorbent thoroughly and obtaining at least two samples. Each sample should be at least two inches in diameter and a length equal to the thickness of the bed. If test results are unacceptable, all adsorbent in the system shall be replaced with an adsorbent qualified according to Table 1 of Regulatory Guide 1.52. The replacement tray for the adsorber tray removed for the test should meet the same adsorbent quality. Tests of the HEPA filters with DOP aerosol shall be performed in accordance to ANSI N510-1975. Any HEPA filters found defective shall be replaced with filters qualified pursuant to Regulatory Position C.3.d of Regulatory Guide 1.52.

All elements of the heater should be demonstrated to be functional and operable during the test of heater capacity. Operation of each filter train for a minimum of 10 hours each month will prevent moisture buildup in the filters and adsorber system.

With doors closed and fan in operation, DOP aerosol shall be sprayed externally along the full linear periphery of each respective door to check the gasket seal. Any detection of DOP in the fan exhaust shall be considered an unacceptable test result and the gaskets repairs and test repeated.

If significant painting, fire or chemical release occurs such that the HEPA filter or charcoal adsorber could become contaminated from the fumes, chemicals or foreign material, the same tests and sample analysis shall be performed as required for operational use. The determination of significance shall be made by the operator on duty at the time of the incident. Knowledgeable staff members should be consulted prior to making this determination.

Demonstration of the automatic initiation capability and operability of filter cooling is necessary to assure system performance capability. If one standby gas treatment system is inoperable, the other systems must be tested daily. This substantiates the availability of the operable systems and thus reactor operation and refueling operation can continue for a limited period of time.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 50 TO FACILITY OPERATING LICENSE NO. DPR-33

AMENDMENT NO. 44 TO FACILITY OPERATING LICENSE NO. DPR-52

AMENDMENT NO. 22 TO FACILITY OPERATING LICENSE NO. DPR-68

TENNESSEE VALLEY AUTHORITY

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

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

1. Introduction

In July 1976, the Commission issued Supplement No. 8 to the Safety Evaluation Report (SER) for the Browns Ferry Nuclear Plant, Units Nos. 1, 2 and 3, to update the SER and its previous seven supplements prior to issuance of an operating license to Browns Ferry Unit No. 3 (BFNP-3). Section 7.0 of Supplement No. 8 discussed the staff's concern about the Standby Gas Treatment System (SGTS) for BFNP-3. A condition was included in the BFNP-3 license (paragraph 2.E.(1)) which states:

- (1) The licensee shall modify the present design of the instrumentation and controls for the standby gas treatment system to satisfy the following minimum requirements prior to a return to power following the first refueling of the facility;
  - (a) Capability for manual initiation of the standby gas treatment system from the facility's control room;
  - (b) Instrumentation in the facility's control room to indicate the system operating mode and the functional operating status of each of the trains;
  - (c) Instrumentation in the facility's control room to indicate the availability of each of the trains; and
  - (d) The cable separation criteria presently applied to the Browns Ferry Nuclear Plant, Units 1, 2 and 3 shall be implemented for the design and installation of the above controls and instrumentation.

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In accordance with the above requirements, the Tennessee Valley Authority (TVA or licensee) submitted for NRC review by their letter of June 28, 1978 a description of the proposed modifications to the SGTS and proposed revisions to the BFNPP Final Safety Analysis Report (FSAR) to reflect the modifications. By letter dated August 3, 1978 (BFNP TS 113), TVA requested changes to the Technical Specifications (Appendix A) appended to Facility Operating Licenses Nos. DPR-33, DPR-52 and DPR-68 for the Browns Ferry Nuclear Plant, Units Nos. 1, 2 and 3, respectively. The proposed amendments and revised Technical Specifications would remove the temporary, compensatory surveillance requirements which the Commission required pending completion of the required modifications to the SGTS. Supplement No. 8 to the Commission's SER discussed the interim, compensatory surveillance requirements. Supplement No. 8 to the SER (page 7-3) lists the interim surveillance requirements and states: "We have included this commitment as a surveillance requirement in the Technical Specifications for the standby gas treatment system". Supplement No. 8 also states: "We conclude that interim operation of Unit No. 3 prior to completion of the required modifications is acceptable with the above commitment for augmenting the plant operating procedures".

By letter dated January 10, 1979 (BFNP TS 120), TVA requested an additional minor change to the Technical Specifications (Appendix A) for each of the Browns Ferry Units. This change, which was recommended by the Commission's Office of Inspection and Enforcement, related to the test requirements for the SGTS. The present requirement in the Technical Specifications states that the "fans shall be shown to operate within  $\pm 10\%$  design flow". The proposed change is to revise this to read: "the System shall be shown to operate within  $\pm 10\%$  design flow", since the parameter of interest is the performance of the overall system rather than a component (i.e., the fans).

## 2.0 Evaluation

### 2.1 Design of Modified Standby Gas Treatment System

The modifications to the SGTS discussed herein were installed in BFNPP-3 during the first refueling outage (September 8, 1978 to November 22, 1978). Our evaluation is based both on inspection of the modifications and the installation drawings provided by TVA.

The blower in each train can be started manually from Unit 3 provided the control switch in the Units 1 and 2 control room for that train is not in the LOCKOUT position. A white light and train unavailability annunciator in Unit 3 will indicate that the switch is in the LOCKOUT position. Once started the blowers can only be stopped from the Units 1 and 2 control room. This feature, although limiting, is acceptable to the staff.

No provisions were included in the design for controlling directly other components in the SGTS from Unit 3. However, any other components which must function are operated automatically upon blower start. For example, contacts on the blower motor starter of each train will close to open the input damper of that train. Once flow is established in the system the relative humidity control heaters are enabled for subsequent control by thermal switches. Also, when flow is established, charcoal preheaters are shut off. These provisions of the proposed design are acceptable to the staff.

Lights have been provided in the proposed SGTS modification to indicate in Unit 3 the opened or closed status of all dampers controlled from Units 1 and 2. These lights operate directly off limit switches on the dampers. Lights have also been provided to indicate whether or not each blower is running. These lights derive their signal from the power breaker to each blower. These features of the proposed modification are acceptable to the staff.

Four annunciators have been provided: one associated with each of the three trains to announce train unavailability and one to announce low total flow out of the system. The damper inputs to the annunciators are taken off the hand switches used to control the dampers. The annunciators indicate misalignment of the control switches rather than the misalignment of the dampers themselves. Although a more direct indication of the availability status of the SGTS trains is preferable, the proposed annunciation scheme is adequate.

All cabling for the SGTS is physically separated such that cables for one train are in Division 1, those for the second train are in Division 2, and those for the third train are in conduit. This provision for cable separation is acceptable to the staff.

If a decay heat removal damper is open in any particular train the unavailability annunciator will not announce; however, if the decay heat removal damper in either of the other two trains is open the annunciator will announce. This would imply that any open decay heat removal damper would be a single failure. TVA states that a particular train is not made unavailable by open decay heat removal dampers in the other two trains. TVA corrected the design drawings for the annunciation to show that a decay heat removal damper in a particular train renders that train unavailable but not the other trains. An administrative change has also been made which requires that for each train the blower control hand-removal damper is open. With these corrections the design is acceptable to the staff.

The design modification submitted by TVA for the SGTS does provide the capability to manually initiate each of the trains from the Unit 3 control room, it does provide instrumentation in the Unit 3 control room to indicate the operating mode and functional status of each of the trains, it provides adequate annunciation of train unavailability and the cables for each train will be separated from those in the other trains. The proposed design modification is therefore acceptable. We conclude that the modified design of the instrumentation and controls for the Browns Ferry standby gas treatment system satisfactorily meets the design requirements listed in paragraph 2.E.(1) of the conditions specified in License No. DPR-68 for Browns Ferry Unit No. 3.

## 2.2 Technical Specifications

As discussed in the introduction to this safety evaluation, TVA in their submittal of August 3, 1978 requested removal of the interim, compensatory surveillance requirements which we required pending installation of acceptable instrumentation and controls for the SGTS. As we stated above, we find that the design of the modified SGTS is acceptable. The modified system was installed during the recent Unit No. 3 refueling outage (September 8 thru November 22, 1978). Therefore, there no longer is any need for the interim Technical Specifications and we agree that they should be removed.

As discussed in the above introduction, TVA also requested a clarifying change to the Technical Specification on the SGTS in their letter of January 10, 1978. The proposed change would modify paragraph 3.7.B.2.C of the limiting conditions for operation to read "system" rather than "fan" to make it clear that the system as a whole must meet the specified flow requirements. This change will make testing of the Standby Gas Treatment System responsive to system performance. Such testing will be in compliance with ANSI-N510-1075 and will be consistent with other Technical Specification ventilation tests. We conclude that the clarifying change is desirable and acceptable.

Operability of the SGTS requires that certain switches in the Unit 1 and 2 control room be positioned correctly for the system to respond to Unit 3 accidents. In our opinion, those switches in the Units 1 and 2 control room and their appropriate positions for automatic and manual responses to possible accidents in Unit 3, should be specified and included in the Browns Ferry plant operating procedures. Also, we felt that these procedures should require each unit operator to notify the other unit operators should he remove from service or find inoperable any components which reduce system availability. An alternative would be to incorporate these administrative controls in the Technical

Specifications. TVA has modified Operating Instruction BFNP-OI-65 to the Browns Ferry Plant operating procedures which address all of the staff's concerns. We have reviewed these procedures and GOI (General Operating Instruction) 100-1 (which specifies the valve lineups and valve checklists for starting up the SGTs) and find them acceptable.

### 3.0 Fire Protection

The license for Browns Ferry Unit No. 3 (DPR-68) now contains two conditions relating to fire protection that were added by Amendment No. 1 dated August 2, 1976. Condition 2.E.(2) required the licensee to complete five plant modifications in the facility related to the Fire Recovery Program by the end of the first refueling outage. Condition 2.E.(3) required the licensee to complete a training program for all fire brigade members within 18 months of the amendment date. Both of these conditions have been satisfactorily completed. Therefore, by this amendment, we are deleting these conditions from License DPR-68.

### 4.0 Environmental Considerations

We have determined that these amendments do not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that these amendments involve an action which is insignificant from the standpoint of environmental impact, and pursuant to 10 CFR §51.5(d)(4) that an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of these amendments.

### 5.0 Conclusion

We have concluded that: (1) because the amendments do not involve a significant increase in the probability or consequences of accidents previously considered and do not involve a significant decrease in a safety margin, the amendments do not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Dated: May 4, 1979

UNITED STATES NUCLEAR REGULATORY COMMISSIONDOCKET NOS. 50-259, 50-260 AND 50-296TENNESSEE VALLEY AUTHORITYNOTICE OF ISSUANCE OF AMENDMENTS TO FACILITY  
OPERATING LICENSES

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 50 to Facility Operating License No. DPR-33, Amendment No. 44 to Facility Operating License No. DPR-52, and Amendment No. 22 to Facility Operating License No. DPR-68 issued to Tennessee Valley Authority (the licensee), which revised Technical Specifications for operation of the Browns Ferry Nuclear Plant, Unit Nos. 1 and 2 and the license and Technical Specifications for operation of Browns Ferry Unit No. 3, (the facility) located in Limestone County, Alabama. The amendments are effective as of the date of issuance.

These amendments change the Technical Specifications to delete the interim, compensatory requirements on the Standby Gas Treatment System (SGTS) and clarify a test requirement for the SGTS. These amendments also (1) delete the existing condition in paragraph 2.E.(1) of License DPR-68 which required TVA to modify the electrical controls and instrumentation for the SGTS, since this modification has been satisfactorily completed, and (2) delete existing conditions in paragraph 2.E.(2) and 2.E.(3) relating to fire protection requirements, since these conditions have also been satisfactorily completed.

The applications for the amendments comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and

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regulations in 10 CFR Chapter I, which are set forth in the license amendments. Prior public notice of these amendments was not required since the amendments do not involve a significant hazards consideration.

The Commission has determined that the issuance of these amendments will not result in any significant environmental impact and that pursuant to 10 CFR §51.5(d)(4) an environmental impact statement, or negative declaration and environmental impact appraisal need not be prepared in connection with issuance of these amendments.

For further details with respect to this action, see (1) the applications for amendments dated August 3, 1978 and January 10, 1979 and supplemental information dated June 28, 1978, (2) Amendment No. 50 to License No. DPR-33, Amendment No. 44 to License No. DPR-52, and Amendment No. 22 to License No. DPR-68, and (3) the Commission's related Safety Evaluation. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at the Athens Public Library, South and Forrest, Athens, Alabama 35611. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Operating Reactors.

Dated at Bethesda, Maryland, this 4th day of May 1979.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Thomas A. Appolito, Chief  
Operating Reactors Branch #3  
Division of Operating Reactors