

December 31, 1987

DO NOT REMOVE

Docket Nos. 50-259-260/296

Posted  
 Amdt. 135  
 to DPR-52  
 (See Collection letter  
 of 1-25-88)

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

Dear Mr. White:

SUBJECT: TECHNICAL SPECIFICATION CLARIFICATION HIGH RADIATION AREAS (TS 234)  
 (TAC R00077/R00078/R00079)

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

The Commission has issued the enclosed Amendments Nos. 139, 135, and 110 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 June 2, 1987.

The amendments to Section 6, Administrative Controls, change the upper limit of certain requirements of high radiation areas to read "less than or equal to 1000 mrem/hr" to clarify that areas in which the radiation intensity is exactly 1000 mrem/hr are covered by high radiation area control procedures.

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

Sincerely,

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

Enclosures:

1. Amendment No. 139 to License No. DPR-33
2. Amendment No. 135 to License No. DPR-52
3. Amendment No. 110 to License No. DPR-68
4. Safety Evaluation

cc w/enclosures:  
 See next page

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

December 31, 1987

Dockets No. 50-259/260/296

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

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SUBJECT: TECHNICAL SPECIFICATION CLARIFICATION HIGH RADIATION AREAS (TS 234)  
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Sincerely,

A handwritten signature in cursive script, appearing to read "Gary G. Zech".

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

Enclosures:

1. Amendment No. 139 to License No. DPR-33
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4. Safety Evaluation

cc w/enclosures:  
See next page

Mr. S. A. White  
Tennessee Valley Authority

Browns Ferry Nuclear Plant  
Units 1, 2, and 3

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Chairman, Limestone County Commission  
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Athens, Alabama 35611

Claude Earl Fox, M.D.  
State Health Officer  
State Department of Public Health  
State Office Building  
Montgomery, Alabama 36130



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. 139  
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 June 2, 1987, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

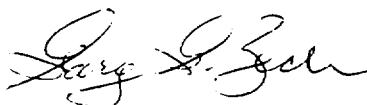
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-33 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 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 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: December 31, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 139

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

6.0-21  
6.0-22

INSERT

6.0-21  
6.0-22\*

Corrected January 25, 1988

with the requirements of 10 CFR 20. This radiation protection program shall be organized to meet the requirements of 10 CFR 20 except in lieu of the "control device" or "alarm signal" required by paragraph 20.203 (c) of 10 CFR 20.

6.8.3.1 Each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than or equal to 1000 mrem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiological Work Permit.\* Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

- a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.
- b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.
- c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility Health Physicist in the Radiological Work Permit.

6.8.3.2 Each high radiation area in which the intensity of radiation is greater than 1,000 mrem/hr shall be subject to the provisions of (1) above; and, in addition, access to the source and/or area

shall be secured by lock(s). The key(s) shall be under the administrative control of the shift engineer. In the case of a high radiation area established for a period of 30 days or less, direct surveillance to prevent unauthorized entry may be substituted for permanent access control.

- \* Health Physics personnel, or personnel escorted by Health Physics personnel, in accordance with approved emergency procedures, shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.

#### QUALITY ASSURANCE PROCEDURES - EFFLUENT AND ENVIRONMENTAL MONITORING

- 6.8.4 Quality Assurance procedures shall be established, implemented, and maintained for effluent and environmental monitoring, using the guidance in Regulatory Guide 1.21, Rev. 1, June 1974 and Regulatory Guide 4.1, Rev. 1, April 1975 or Regulatory Guide 4.15, Dec. 1977.



ATTACHMENT TO LICENSE AMENDMENT NO. 135

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

6.0-21  
6.0-22

INSERT

6.0-21  
6.0-22\*

Corrected January 25, 1988

with the requirements of 10 CFR 20. This radiation protection program shall be organized to meet the requirements of 10 CFR 20 except in lieu of the "control device" or "alarm signal" required by paragraph 20.203 (c) of 10 CFR 20.

6.8.3.1 Each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than or equal to 1000 mrem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiological Work Permit.\* Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

- a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.
- b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.
- c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility Health Physicist in the Radiological Work Permit.

6.8.3.2 Each high radiation area in which the intensity of radiation is greater than 1,000 mrem/hr shall be subject to the provisions of (1) above; and, in addition, access to the source and/or area

shall be secured by lock(s). The key(s) shall be under the administrative control of the shift engineer. In the case of a high radiation area established for a period of 30 days or less, direct surveillance to prevent unauthorized entry may be substituted for permanent access control.

- \* Health Physics personnel, or personnel escorted by Health Physics personnel, in accordance with approved emergency procedures, shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.

#### QUALITY ASSURANCE PROCEDURES - EFFLUENT AND ENVIRONMENTAL MONITORING

- 6.8.4 Quality Assurance procedures shall be established, implemented, and maintained for effluent and environmental monitoring, using the guidance in Regulatory Guide 1.21, Rev. 1, June 1974 and Regulatory Guide 4.1, Rev. 1, April 1975 or Regulatory Guide 4.15, Dec. 1977.



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. 110  
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 June 2, 1987, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

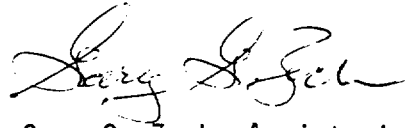
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-68 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 110, 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 30 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



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

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: December 31, 1987

ATTACHMENT TO LICENSE AMENDMENT NO. 110

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

6.0-21

6.0-22

INSERT

6.0-21

6.0-22\*

with the requirements of 10 CFR 20. This radiation protection program shall be organized to meet the requirements of 10 CFR 20 except in lieu of the "control device" or "alarm signal" required by paragraph 20.203 (c) of 10 CFR 20.

- 6.8.3.1 Each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than or equal to 1000 mrem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiological Work Permit.\* Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:
- a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.
  - b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.
  - c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility Health Physicist in the Radiological Work Permit.
- 6.8.3.2 Each high radiation area in which the intensity of radiation is greater than 1,000 mrem/hr shall be subject to the provisions of (1) above; and, in addition, access to the source and/or area

shall be secured by lock(s). The key(s) shall be under the administrative control of the shift engineer. In the case of a high radiation area established for a period of 30 days or less, direct surveillance to prevent unauthorized entry may be substituted for permanent access control.

- \* Health Physics personnel, or personnel escorted by Health Physics personnel, in accordance with approved emergency procedures, shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.

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- 6.8.4 Quality Assurance procedures shall be established, implemented, and maintained for effluent and environmental monitoring, using the guidance in Regulatory Guide 1.21, Rev. 1, June 1974 and Regulatory Guide 4.1, Rev. 1, April 1975 or Regulatory Guide 4.15, Dec. 1977.





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

SAFETY EVALUATION BY THE OFFICE OF SPECIAL PROJECTS

SUPPORTING AMENDMENT NO. 139 TO FACILITY OPERATING LICENSE NO. DPR-33

AMENDMENT NO. 135 TO FACILITY OPERATING LICENSE NO. DPR-52

AMENDMENT NO. 110 TO FACILITY OPERATING LICENSE NO. DPR-68

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT, UNITS 1, 2 AND 3

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

1.0 INTRODUCTION

The proposed amendments would correct a minor deficiency in technical specification 6.8.3.1, page 6.0-21, concerning high radiation areas. It would change the upper limit of one set of requirements from "less than 1000 mrem/hr" to "less than or equal to 1000 mrem/hr" to clarify any time the radiation intensity of exactly 1000 mrem/hr is achieved in any area of the plant.

2.0 EVALUATION

The current technical specification 6.8.3.1 contains certain requirements for high radiation areas in which the intensity of radiation is greater than 100 mrem/hr but less than 1000 mrem/hr. The current technical specification 6.8.3.2 contains additional requirements for high radiation areas greater than 1000 mrem/hr. This set of limits is deficient in that the possibility of an area with a radiation intensity of exactly 1000 mrem/hr is not covered.

The proposed change would clarify and complete those requirements by simply including an area of exactly 1000 mrem/hr in technical specification 6.8.3.1. Since this change would alleviate a deficiency and result only in a minor change in technical specification requirements, the margin of nuclear safety will not be reduced. Therefore, the staff finds the proposed change to the TS acceptable.

3.0 ENVIRONMENTAL CONSIDERATION

The amendments involve a change to a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration and there has been no public

comment on such finding. Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement nor environmental assessment need be prepared in connection with the issuance of these amendments.

#### 4.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendments will not be inimical to the common defense and security nor to the health and safety of the public.

Principal Contributor: John Stang

Dated: December 31, 1987