LICENSE AUTHORITY FILE COPY DO NOT REMOVE

Docket Nos. 50-259/260/296 January 13, 1986

Posted Amdt. 121 to DPR-52

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

Dear Mr. Parris:

The Commission has issued the enclosed Amendment Nos. 126, 121 and 97 to Facility Operating License Nos. DPR-33, DPR-52 and DPR-68 for the Browns Ferry Nuclear Plant, Units 1, 2 and 3. These amendments are in response to your application dated August 5, 1985 (TVA BFNP TS-211) and become effective in ninety days.

The amendments change the Technical Specifications to permit offgas post-treatment and main stack radiation monitors to be considered operable for up to 1 hour during purging of the instruments. The Note 4 to Table 3.2.D, requested in your submittal, has not been included. It would be redundant to Limiting Condition for Operation 3.2.D.1(b). This was discussed with R. Rogers of your staff on December 19, 1985.

A copy of the Safety Evaluation is also enclosed. The notice of issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,

Original signed by
Richard J. Clark
Richard J. Clark, Project Manager
BWR Project Directorate #2
Division of BWR Licensing

Enclosures:
1. Amendment No. 126 to License No. DPR-33
2. Amendment No. 121 to License No. DPR-52
3. Amendment No. 97 to License No. DPR-68
4. Safety Evaluation

cc w/enclosures:
See next page

DISTRIBUTION
Docket File
NRC PDR
Local PDR
PD#2 Reading
RBernero
JPartlow
SNorris
RClark
WLong
OELD
LJHarmon
ELJordan
BGrimes
TBarnhart (12)
WJones
DVassallo
ACRS (10)
OPA
LFMB
Gray File
Extra - 5

*Please see previous concurrence page.

| DBL:PD#2 | DBL:PD#2 | DBL:PD#2 | DBL:PD#2 | OELD |
|---|---|---|---|---|
| SNorris:ajs* | WLong* | RClark* | DMuller* | GJohnson* |
| 12/13/85 | 12/13/85 | 12/13/85 | 01/13/86 | 12/19/85 |
| 1/9/86 | 1/9/86 | | | |

cc:
H. S. Sanger, Jr., Esquire
General Counsel
Tennessee Valley Authority
400 Commerce Avenue
E 11B 330
Knoxville, Tennessee 37902

Mr. Ron Rogers
Tennessee Valley Authority
400 Chestnut Street, Tower II
Chattanooga, Tennessee 37401

Mr. Charles R. Christopher
Chairman, Limestone County Commission
Post Office Box 188
Athens, Alabama 35611

Ira L. Meyers, M.D.
State Health Officer
State Department of Public Health
State Office Building
Montgomery, Alabama 36130

Mr. K. W. Whitt
E3A8
400 West Summit Hill Drive
Tennessee Valley Authority
Knoxville, Tennessee 37902

Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Mr. Steven Roessler
U. S. Nuclear Regulatory Commission
Reactor Training Center
Osborne Office Center, Suite 200
Chattanooga, Tennessee 37411

James A. Coffey
Site Director, BFNP
Tennessee Valley Authority
Post Office Box 2000
Decatur, Alabama 35602

Resident Inspector
U. S. Nuclear Regulatory Commission
Route 2, Box 311
Athens, Alabama 35611

Mr. Donald L. Williams, Jr.
Tennessee Valley Authority
400 West Summit Hill Drive, W10B85
Knoxville, Tennessee 37902

Robert L. Lewis, Manager, BFNP
Tennessee Valley Authority
Post Office Box 2000
Decatur, Alabama 35602

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. 126
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 August 5, 1985, 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. 126, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective 90 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Daniel R. Muller, Director
BWR Project Directorate #2
Division of BWR Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: January 13, 1986

ATTACHMENT TO LICENSE AMENDMENT NO. 126

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.

   52, 76, 285

2. The marginal lines on these pages denote the areas being changed.

| LIMITING CONDITIONS FOR OPERATION | SURVEILLANCE REQUIREMENTS |
|---|---|
| 3.2.D Off-Gas Post Treatment Isolation Functions<br>(b) From and after the date that one of the two offgas post treatment radiation monitors is made or found to be inoperable, continued reactor power operation is permissible during the next seven days, provided that the inoperable monitor is tripped in the downscale position. One radiation monitor may be out of service for four hours for functional test and/or calibration without the monitor being in a downscale tripped condition. Both monitors may be taken out of service for less than one hour for purging of monitors during SI performance.<br>(c) Upon the loss of both off-gas post treatment radiation monitors, initiate an orderly shutdown and shut the mainsteam isolation valves or the off-gas isolation valve within 10 hrs. Purging during SI performance is not considered a loss of monitoring capability. | 4.2.D Off-Gas Post Treatment Isolation Function |
| E. Drywell Leak Detection<br>The limiting conditions of operation for the instrumentation that monitors drywell leak detection are given in Table 3.2.E. | E. Drywell Leak Detection<br>Instrumentation shall be calibrated and checked as indicated in Table 4.2.E. |
| F. Surveillance Instrumentation<br>The limiting conditions for the instrumentation that provides surveillance information readouts are given in Table 3.2.F. | F. Surveillance Instrumentation<br>Instrumentation shall be calibrated and checked as indicated in Table 4.2.7. |
| G. Control Room Isolation<br>The limiting conditions for instrumentation that isolates the control room and initiates the control room emergency pressurization systems are given in Table 3.2.G. | G. Control Room Isolation<br>Instrumentation shall be calibrated and checked as indicated in Table 4.2.G. |

TABLE 3.2.D
OFF-GAS POST TREATMENT ISOLATION INSTRUMENTATION

| Min. No. Operable (1) (4) | Function | Trip Level Setting | Action(2) | Remarks |
|---|---|---|---|---|
| 2 | Off-Gas Post Treatment Monitor | Note 3 | A or B | 1. 2 upscales, or 1 downscale and 1 upscale, or 2 downscales will isolate off-gas line. |
| 1 | Off Gas Post Treatment Isolation | Note 3 | B | 1. One trip system with auto transfer to another source |

Notes:

1. Whenever the minimum number operable cannot be met, the indicated action shall be taken. Purging during SI performance is not considered a loss of monitoring capability.

2. Action
   A. Refer to Section 3.2.D.1.b
   B. Refer to Section 3.2.D.1.c

3. Trip setting to correspond to Specification 3.2.D.1.a

8. Radioactive gases released from each unit's turbine and reactor building roof vents, the radwaste building roof vents, and the main stack shall be continuously monitored. To accomplish this, at least one reactor building and one turbine building vent monitoring system per unit shall be operating whenever that unit's building ventilation system is in service. Also, one radwaste building system vent monitoring channel shall be operating whenever the radwaste ventilation system is in service. At least one main stack monitoring channel shall be operating whenever any unit's air ejector, mechanical vacuum pump, or a standby gas treatment system train is in service. If normal monitoring systems are not available, temporary monitors or other systems shall be used to monitor effluent. A monitoring channel may be out-of-service for 4 hours for functional testing and calibration without providing a temporary monitor. Both stack monitors may be taken out-of-service for less than 1 hour for purging of monitors during SI performance.

   If these requirements are not satisfied for the stack or radwaste monitor, the reactors shall be in the hot shutdown condition within 24 hours for the stack and 10 days for the radwaste vent. Purging during SI performance is not considered a loss of monitoring capability.

   If these requirements are not satisfied for the reactor and turbine building vents, the affected reactor shall be in hot shutdown condition within 10 days.

4.8.B Airborne Effluents

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. 121
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 August 5, 1985, 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. 121, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective 90 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Daniel R. Muller

Daniel R. Muller, Director
BWR Project Directorate #2
Division of BWR Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: January 13, 1986

ATTACHMENT TO LICENSE AMENDMENT NO. 121

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.

   52, 76, 285

2. The marginal lines on these pages denote the areas being changed.

| LIMITING CONDITIONS FOR OPERATION | SURVEILLANCE REQUIREMENTS |
|---|---|
| 3.2.D Off-Gas Post Treatment Isolation Functions<br>(b) From and after the date that one of the two offgas post treatment radiation monitors is made or found to be inoperable, continued reactor power operation is permissible during the next seven days, provided that the inoperable monitor is tripped in the downscale position. One radiation monitor may be out of service for four hours for functional test and/or calibration without the monitor being in a downscale tripped condition. Both monitors may be taken out of service for less than one hour for purging of monitors during SI performance.<br><br>(c) Upon the loss of both off-gas post treatment radiation monitors, initiate an orderly shutdown and shut the mainsteam isolation valves or the off-gas isolation valve within 10 hrs. Purging during SI performance is not considered a loss of monitoring capability. | 4.2.D Off-Gas Post Treatment Isolation Function |
| E. Drywell Leak Detection<br>The limiting conditions of operation for the instrumentation that monitors drywell leak detection are given in Table 3.2.E. | E. Drywell Leak Detection<br>Instrumentation shall be calibrated and checked as indicated in Table 4.2.E. |
| F. Surveillance Instrumentation<br>The limiting conditions for the instrumentation that provides surveillance information readouts are given in Table 3.2.F. | F. Surveillance Instrumentation<br>Instrumentation shall be calibrated and checked as indicated in Table 4.2.7. |
| G. Control Room Isolation<br>The limiting conditions for instrumentation that isolates the control room and initiates the control room emergency pressurization systems are given in Table 3.2.G. | G. Control Room Isolation<br>Instrumentation shall be calibrated and checked as indicated in Table 4.2.G. |

TABLE 3.2.D
OFF-GAS POST TREATMENT ISOLATION INSTRUMENTATION

| Min. No. Operable (1) (4) | Function | Trip Level Setting | Action(2) | Remarks |
|---|---|---|---|---|
| 2 | Off-Gas Post Treatment Monitor | Note 3 | A or B | 1. 2 upscales, or 1 downscale and 1 upscale, or 2 downscales will isolate off-gas line. |
| 1 | Off Gas Post Treatment Isolation | Note 3 | B | 1. One trip system with auto transfer to another source |

Notes:

1. Whenever the minimum number operable cannot be met, the indicated action shall be taken. Purging during SI performance is not considered a loss of monitoring capability.

2. Action
   A. Refer to Section 3.2.D.1.b
   B. Refer to Section 3.2.D.1.c

3. Trip setting to correspond to Specification 3.2.D.1.a

8. Radioactive gases released from each unit's turbine and reactor building roof vents, the radwaste building roof vents, and the main stack shall be continuously monitored. To accomplish this, at least one reactor building and one turbine building vent monitoring system per unit shall be operating whenever that unit's building ventilation system is in service. Also, one radwaste building system vent monitoring channel shall be operating whenever the radwaste ventilation system is in service. At least one main stack monitoring channel shall be operating whenever any unit's air ejector, mechanical vacuum pump, or a standby gas treatment system train is in service. If normal monitoring systems are not available, alternate monitors or other systems shall be used to monitor effluent. A monitoring channel may be out-of-service for 4 hours for functional testing and calibration without providing a temporary monitor. Both stack monitors may be taken out-of-service for less than 1 hour for purging of monitors during SI performance.

If these requirements are not satisfied for the stack or radwaste monitor, the reactors shall be in the hot shutdown condition within 24 hours for the stack and 10 days for the radwaste vent. Purging during SI performance is not considered a loss of monitoring capability.

If these requirements are not satisfied for the reactor and turbine building vents, the affected reactor shall be in hot shutdown condition within 10 days.

4.8.B Airborne Effluents

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. 97
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 August 5, 1985, 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. 97 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective 90 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Daniel R. Muller, Director
BWR Project Directorate #2
Division of BWR Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: January 13, 1986

ATTACHMENT TO LICENSE AMENDMENT NO. 97

FACILITY OPERATING LICENSE NO. DPR-68

DOCKET NO. 50-296

Revise Appendix A as follows:

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

   52, 79, 306, 307

2. The marginal lines on these pages denote the areas being changed.

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

3.2 PROTECTIVE INSTRUMENTATION

D. Off-Gas Post Treatment Isolation Function

continued
reactor power operation is permissible during the next seven days, provided that the inoperable monitor is tripped in the downscale position. One radiation monitor may be out-of-service for four hours for functional test and/or calibration without the monitor being in a downscale tripped condition. Both monitors may be taken out-of-service for less than one hour for purging of monitors during ST performance.

(c) Upon the loss of both off-gas post treatment radiation monitors, initiate an orderly shutdown and shut the mainsteam isolation valves or the off-gas isolation valve within 10 hours. Purging during ST performance is not considered a loss of monitoring capability.

4.2 PROTECTIVE INSTRUMENTATION

TABLE 3.2.D
OFF-GAS POST TREATMENT ISOLATION INSTRUMENTATION

| Min. No. Operable (1) (4) | Function | Trip Level Setting | Action(2) | Remarks |
|---|---|---|---|---|
| 2 | Off-Gas Post Treatment Monitor | Note 3 | A or B | 1. 2 upscales, or 1 downscale and 1 upscale, or 2 downscales will isolate off-gas line. |
| 1 | Off Gas Post Treatment Isolation | Note 3 | B | 1. One trip system with auto transfer to another source |

Notes:

1. Whenever the minimum number operable cannot be met, the indicated action shall be taken. Purging during SI performance is not considered a loss of monitoring capability.

2. Action
   A. Refer to Section 3.2.D.1.b
   B. Refer to Section 3.2.D.1.c

3. Trip setting to correspond to Specification 3.2.D.1.a

8. Radioactive gases released from each unit's turbine and reactor building roof vents, the radwaste building roof vents, and the main stack shall be continuously monitored. To accomplish this, at least one reactor building and one turbine building vent monitoring system per unit shall be operating whenever that unit's building ventilation system is in service. [illegible] one radwaste building [illegible] monitoring channel shall be operating whenever the radwaste ventilation system is in service. At least one main stack monitoring channel shall be operating whenever any unit's air ejector, mechanical vacuum pump, or standby gas [illegible] system train is in service. If normal monitoring systems are not available, temporary monitors or other systems shall be used to monitor effluent. A monitoring channel may be out-of-service for 4 hours for functional testing and calibration without providing a temporary monitor. Both stack monitors may be taken out-of-service for less than 1 hour for purging of tanks or during SI performance.

If these requirements are not satisfied for the stack or radwaste monitor, the reactors shall be in the hot shutdown condition within 24 hours for the stack and 10 days for the radwaste vent. Purging during SI performance is not considered a loss of monitoring capability.

If these requirements are not satisfied for the reactor and turbine building vents, the affected reactor shall be in hot shutdown condition within 10 days.

4.8.B Airborne Effluents

| LIMITING CONDITIONS FOR OPERATION | SURVEILLANCE REQUIREMENTS |
|---|---|
| 3.8 RADIOACTIVE MATERIALS | 4.8 RADIOACTIVE MATERIALS |
| C. Mechanical Vacuum Pumps<br>1. Each mechanical vacuum pump shall be capable of being automatically isolated and secured on a signal of high radioactivity in the steam lines whenever the main steam isolation valves are open.<br>2. If a vacuum pump cannot meet the limits of 3.8.C.1, that vacuum pump shall be isolated. | C. Mechanical Vacuum Pumps<br>At least once during each operating cycle verify automatic securing and isolation of the mechanical vacuum pumps. |

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 126 TO FACILITY OPERATING LICENSE NO. DPR-33

AMENDMENT NO. 121 TO FACILITY OPERATING LICENSE NO. DPR-52

AMENDMENT NO. 97 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 August 5, 1985, the Tennessee Valley Authority (the licensee or TVA) requested amendments to Facility Operating License Nos. DPR-33, DPR-52 and DPR-68 for the Browns Ferry Nuclear Plant, Units 1, 2 and 3. The amendments would permit offgas post-treatment radiation monitors and main stack radiation monitors to be considered operable for up to 1 hour during purging.

## 2.0 DISCUSSION AND EVALUATION

The offgas post-treatment radiation monitors consist of two instrument channels which share a common piping system. The main stack radiation monitors are similarly arranged. This arrangement precludes purging of one channel at a time.

Purging is a necessary part of the required surveillance testing. During purging, both channels contain purge air instead of effluent, and are therefore inoperable. With both channels inoperable, the event is reportable and requires a shutdown per the Technical Specifications. Since purging takes less than 1 hour, the present requirements impose an unreasonable burden having questionable safety significance. The proposed amendments will permit the radiation monitors to be considered operable during periods of purging less than 1 hour. This is acceptable in view of the fact that the purging operation is a required safety action, and is consistent with a related specification which indicates that effluent streams having continuous monitoring capability need only be monitored and recorded hourly.

## 3.0 ENVIRONMENTAL CONSIDERATIONS

The amendments involve a change in the 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 the 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 or environmental assessment need be prepared in connection with the issuance of the amendments.

## 4.0 CONCLUSION

We have 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: W. Long

Dated: January 13, 1986