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

T. Barnhart
(4)

DO NOT REMOVE

September 28, 1983

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

Posted
Amendment 86
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. 90, 86 and 59 to Facility 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 June 13, 1983 (TVA BFNP TS 189).

These amendments change Section 4.7.B.3.a of the Technical Specifications to modify the required surveillance interval for testing the Standby Gas Treatment System from once per year to once per operating cycle to be consistent with the requirements in the BWR Standard Technical Specifications.

A copy of the Safety Evaluation is also enclosed.

Sincerely,

Richard J. Clark, Project Manager
Operating Reactors Branch #2
Division of Licensing

Enclosures:

1. Amendment No. 90 to DPR-33
2. Amendment No. 86 to DPR-52
3. Amendment No. 59 to DPR-68
4. Safety Evaluation

cc w/enclosures:
See next page

Mr. Hugh G. Parris
Tennessee Valley Authority
Browns Ferry Nuclear Plant, Units 1, 2 and 3

cc:

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

TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-259

BROWNS FERRY NUCLEAR PLANT, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 90
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 13, 1983 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 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. 90, 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 issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Domenic B. Vassallo, Chief
Operating Reactors Branch #2
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 28, 1983

ATTACHMENT TO LICENSE AMENDMENT NO.90

FACILITY OPERATING LICENSE NO. DPR-33

DOCKET NO. 50-259

Revise Appendix A as follows:

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

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The marginal lines on this page denotes the area being changed.

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 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. Once per operating cycle 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.



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TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-260

BROWNS FERRY NUCLEAR PLANT, UNIT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 86
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 June 13, 1983, 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 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. 86, 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 issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Domenic B. Vassallo, Chief
Operating Reactors Branch #2
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 28, 1983

ATTACHMENT TO LICENSE AMENDMENT NO. 86

FACILITY OPERATING LICENSE NO. DPR-52

DOCKET NO. 50-260

Revise Appendix A as follows:

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

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The marginal lines on this page denotes the area being changed.

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 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. Once per operating cycle 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.



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TENNESSEE VALLEY AUTHORITY

DOCKET NO. 50-296

BROWNS FERRY NUCLEAR PLANT, UNIT NO. 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 59
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 13, 1983, 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 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. 59, 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 issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



Domenic B. Vassallo, Chief
Operating Reactors Branch #2
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 28, 1983

ATTACHMENT TO LICENSE AMENDMENT NO. 59

FACILITY OPERATING LICENSE NO. DPR-68

DOCKET NO. 50-296

Revise Appendix A as follows:

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

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The marginal line on the above page indicate the area being changed.

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 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. Once per operating cycle 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
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WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 90 TO FACILITY OPERATING LICENSE NO. DPR-33
AMENDMENT NO. 86 TO FACILITY OPERATING LICENSE NO. DPR-52
AMENDMENT NO. 59 TO FACILITY OPERATING LICENSE NO. DPR-68
TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT, UNIT NOS. 1, 2 AND 3
DOCKET NOS. 50-259, 50-260 AND 50-296

1.0 Introduction

By letter dated June 13, 1983 (TVA BFNP TS 189) the Tennessee Valley Authority (the licensee or TVA) "requested emergency amendment to licenses DPR-33, DPR-52 and DPR-68 to change the technical specifications of Browns Ferry Nuclear Plant, Unit Nos. 1, 2 and 3." The proposed amendments would change Section 4.7.B.3.a of the Technical Specifications (TS) to modify the required surveillance interval for testing the standby gas treatment system (SGTS) from once per year to once per operating cycle to be consistent with the requirements in the BWR Standard Technical Specifications (NUREG-0123). TVA "requested an emergency amendment" to the licenses because of a revised interpretation of how the surveillance test should be conducted. The licensee stated that the revised interpretation would require Browns Ferry Unit 3 to shutdown by July 3, 1983 to test the initiating relays.

2.0 Background

In the event of an accident, the standby gas treatment system provides a means for minimizing the release of radioactive material from the containment to the environs by filtering and exhausting the air from any or all zones of the reactor building and maintaining the building at a negative pressure (such that air leakage is into, not out of, the building) during containment isolation conditions. Elevated release is assured by exhausting to the plant stack.

At Browns Ferry, the SGTS consists of three filter trains and associated blowers, arranged in parallel. The trains are located in two SGTS buildings. However, the three filter trains serve all three Browns Ferry units. Upon an accident signal in any unit, all three SGTS units will start. Since any two trains will maintain the design negative pressure in a unit, the operator may shutdown one of the trains.

The secondary containment isolation is initiated from any of three signals: low reactor water level; high drywell pressure or high activity in a ventilation exhaust duct; or by manual alignment and operation from the main control room. Each signal simultaneously isolates the secondary containment zone or zones, shuts down normal ventilation equipment, opens dampers to and from the standby gas treatment system and starts the standby gas treatment system blower. The isolation condition is removed and the standby gas treatment system shut down only by manual reset.

The SGTS, which is common to all three units, can be - and is - tested while the units are operating to check filter performance, air flow, etc. However, operation of the SGTS cannot be automatically initiated using any of the accident isolation logic circuits (i.e., high drywell pressure, low reactor water level or high radiation) in an operating unit, because it would trip the unit. As noted above, when the SGTS is activated using these logic circuits, the signal also shuts down the normal ventilation system to preclude possible release of activity to the environment. This includes shutting off the normal airflow in the main steam tunnel. There are 16 temperature sensors in the main steam tunnel to detect a possible steam line break. If the sensors indicate a temperature of 200°F or more, the reactor is tripped. Without the normal air flow in the steam tunnel, the temperature rapidly exceeds 200°F. Thus, it is not possible to initiate operation of the SGTS using the isolation logic in one of the operating units without causing a trip of the unit and closure of the main steam isolation valves. Table 4.2.A of the present technical specifications requires a functional test of the Group 2, 3, 6 and 8 logic components each operating cycle. Thus, when each of the units are down for refueling, there is a surveillance test of secondary containment isolation which automatically starts the SGTS. Since the Browns Ferry units are on a nominal 18-month fuel cycle, the common SGTS has generally been tested twice a year because of this requirement.

In addition to the logic test discussed above, Section 4.7.B.3.a of the TSs requires that "at least once per year, automatic initiation of each branch of the standby gas treatment system shall be demonstrated from each units' controls". Initially, the Browns Ferry units were on an annual refueling cycle and performance of the logic test required by Table 4.2.A also satisfied requirement 4.7.B.3.a. When the units went on an 18-month fuel cycle, the requirement of Section 4.7.B.3.a was satisfied by plugging a signal in downstream of the units' primary containment isolation logic. It was - and is - TVA's interpretation that Section 4.7.B.3.a does not require a logic functional test from the primary sensor (e.g., high drywell pressure) to SGTS actuation (since the word "logic" is not mentioned in the requirement) and is satisfied by actuating the SGTS from an appropriate relay (16A-K-23) in each units' primary containment isolation system logic on a once per year interval.

3.0 Evaluation

The BWR Standard Technical Specifications require a logic functional and system performance test of the SGTS once per operating cycle (nominally, every 18 months) on the basis that this frequency is adequate to detect possible equipment degradation prior to development of significant defects. The Standard Technical Specifications are recognized by the staff as an acceptable means of implementing our requirements concerning this issue. The change proposed by TVA would conform the frequency of testing the SGTS at Browns Ferry to the frequency required in the BWR Standard Technical Specifications and is therefore acceptable.

There would be no benefit in shutting down a unit part way through a fuel cycle to test the SGTS with respect to either equipment reliability or the effect on public health and safety. In fact, the transients and cool-down/heatup associated with a unit shutdown are likely to adversely affect plant equipment. In summary, a complete test of the SGTS more than once per operating cycle is not necessary to detect equipment deterioration and requiring shutdown of a unit solely to perform such a test is not warranted.

4.0 Environmental Considerations

We have determined that the amendment does 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 the amendment involves 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 this amendment.

5.0 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: September 28, 1983

Principal Reviewers: R. Clark
J. Boegli