

August 15, 1984

Docket No. 50-259

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 No. 109 to Facility Operating License No. DPR-33 for the Browns Ferry Nuclear Plant, Unit 1. This amendment is in response to your application of July 31, 1984 (TVA BFNP TS 198).

The amendment changes the Technical Specifications to temporarily permit Train A of the Containment Air Dilution System to be considered operable with valve FCV-84-8B inoperable.

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

Sincerely,



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

Enclosures:

1. Amendment No. 109 to License No. DPR-33
2. Safety Evaluation

cc w/enclosures:
See next page

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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 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 109
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 July 31, 1984, 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. 109, 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 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: August 15, 1984

ATTACHMENT TO LICENSE AMENDMENT NO. 109

FACILITY OPERATING LICENSE NO. DPR-33

DOCKET NO. 50-259

Revise Appendix A as follows:

1. Insert new page 248A.

3.7 CONTAINMENT SYSTEM

6. System A may be considered operable with FCV 84-8B inoperable provided that all active components in System B and all other active components in System A are operable.

7. Specification 3.7.G.6 and 4.7.G.2 are in effect until the first cold shutdown of unit 1 after July 20, 1984 or until January 17, 1985, whichever occurs first.

4.7 CONTAINMENT SYSTEM

2. When FCV 84-8B is inoperable, each solenoid operated air/nitrogen valve of System B shall be cycled through at least one complete cycle of full travel and each manual valve in the flow path of System B shall be verified open at least once per week.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 109 TO FACILITY OPERATING LICENSE NO. DPR-33

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT, UNIT 1

DOCKET NO. 50-259

1.0 Introduction

By letter dated July 31, 1984, the Tennessee Valley Authority proposed certain changes to the Technical Specifications for the Browns Ferry Nuclear Plant, Unit 1.

Valve FCV-84-8B (CAD supply to the torus; System A, see attached figure) was declared inoperable on July 17, 1984. Upon investigation, it was found that the valve could not be repaired without breaking primary containment. This would require the unit to be brought to a cold shutdown before repairs could be made.

In light of this valve failure and pursuant to Specification 3.7.G.3, Browns Ferry Unit 1 has been in a Limiting Condition for Operation (LCO) since July 18, 1984 which would require plant shutdown on Aug 16, 1984.

2.0 Evaluation

By its letter dated July 31, 1984, the licensee requested a temporary suspension of Specification 3.7.G.3 so that it may continue operating the plant with valve FCV-84-8B in an inoperable status until either 180 days from July 20, 1984, or until the next cold shutdown of Unit 1, whichever occurs first. To support the continuing operation for Unit 1, the licensee stated that the Containment Atmosphere Dilution (CAD) system has two trains, with each train having valves to admit nitrogen to both the torus (wetwell) and the drywell. The nitrogen is added to keep the post-LOCA hydrogen concentration below four percent and oxygen concentration below five percent. The system also has vent valves to vent the drywell and torus atmospheres through the standby gas treatment system (SGTS). Inoperability of valve FCV-84-8B leaves only one path through train B to introduce nitrogen directly into the torus. However, should train B fail, an alternate path via the drywell and downcomers provides a backup for dilution of the torus atmosphere.

The licensee contends that if nitrogen is only added to the drywell, a mixing flow toward the torus will be established through the downcomers. This flow will be further enhanced if venting is done through the torus vent path or by intermittent operation of the drywell spray. The licensee

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stated that current operating instructions provide for adding nitrogen and venting and intermittent use of spray as necessary to control the hydrogen concentration in both the drywell and torus. Therefore, train A can still meet its design objective (i.e., maintain an inerted containment) with valve FCV-84-8B declared inoperable.

The licensee further stated that surveillance tests on valves in the redundant B train will be increased from once per month to once per week to reduce the potential for an undetected failure as indicated in the proposed TS changes.

The staff has completed its review of the licensee's submittal and concludes that the proposed Technical Specification changes are acceptable. The bases which were used to arrive at this conclusion are provided below.

1. The failure of valve FCV-84-8B, by itself, does not prevent train A from meeting its design objective (maintaining an inerted containment post-LOCA). An additional single failure is necessary to disable the system.
2. Train A, with the failure, has only one inlet to the containment which is to the drywell. The normal wetwell inlet has been isolated due to the valve failure. However, communication between the drywell and wetwell still exists via the downcomer-vent system. This pathway will allow nitrogen addition to both containment volumes. As a result, flexibility of operation is reduced but not the ability to meet the design objective.
3. The licensee has also taken steps to assure that no further degradation of train B will occur for this interim period until valve repairs can be made. The authorization for such interim operating would expire at the first cold shutdown of unit 1 after July 20, 1984, or on January 17, 1985, whichever occurs first. The surveillance interval will be weekly rather than monthly.

Emergency Circumstances

The valve was declared inoperable on July 17, 1984 and determined to require cold shutdown for repair on July 19, 1984. From July 20, 1984 to July 31, 1984 the licensee prepared an analysis indicating that the CAD system could perform its function consistent with SRP 6.2.5 criteria, with the valve in an inoperable condition. On July 31, 1984 the licensee submitted an emergency amendment request to avoid shutdown. The request was received without sufficient time to permit prior notice and opportunity for public comment.

No Significant Hazards Consideration Determination

The Commission's regulations in 10 CFR 50.92 state that the Commission may make a final determination that a license amendment involves no significant hazards considerations if operation of the facility in accordance with the amendment would not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or
- (2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- (3) Involve a significant reduction in a margin of safety.

The information in this SE provides the basis for evaluating this license amendment against these criteria. Since the requested operational mode, plant operating conditions, the physical status of the plant, and dose consequences of potential accidents are the same as without the requested change, the staff concludes that:

- (1) Operation of the facility in accordance with the amendment would not significantly increase the probability or consequences of an accident previously evaluated.
- (2) Operation of the facility in accordance with the amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated.
- (3) Operation of the facility in accordance with the amendment would not involve a significant reduction in a margin of safety.

Accordingly, we conclude that the amendment to Facility Operating License No. DPR-33 permitting CAD train A to be considered operable with valve 84-8B inoperable involves no significant hazards considerations.

State Consultation

In accordance with the Commission's regulations, consultation was held with the State of Alabama by telephone. The State expressed no concern either from the standpoint of safety or of no significant hazards consideration determination, in view of the interim nature of the amendment and the compensatory measures.

3.0 Environmental Considerations

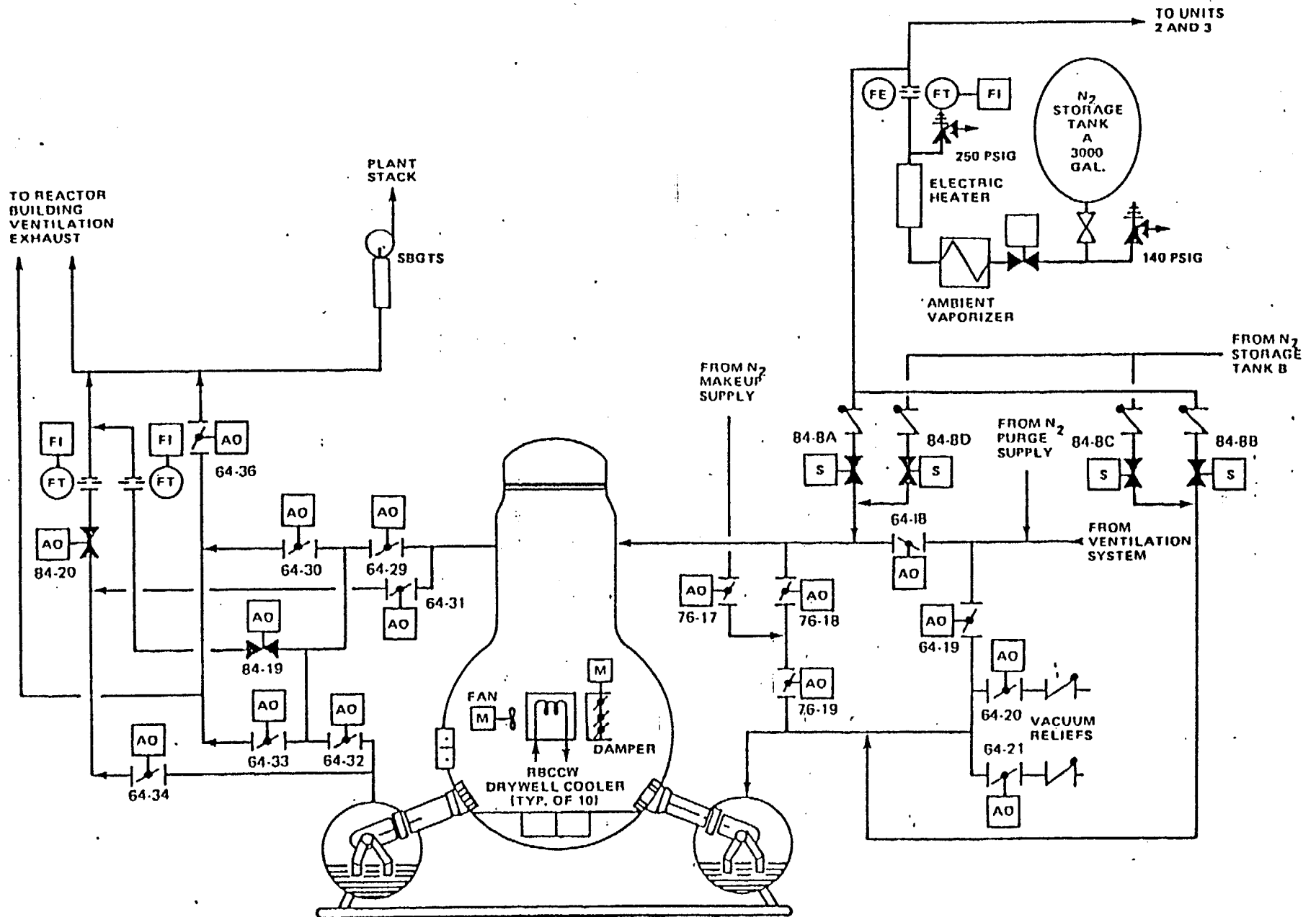
The amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and a change on a surveillance requirement. The staff has determined that the amendment involves no significant increase in the amounts, and no significant 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 made a final no significant hazards consideration finding with respect to this amendment. Accordingly, the amendment meets 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 amendment.

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

Principal Contributor: F. Eltawila

Dated: August 15, 1984



Containment Atmosphere Dilution System