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 50-296 Browns Ferry Nuclear Power Station, Unit 3, Tennessee 05000296

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 GRIDLEY, R. L. Tennessee Valley Authority  
 RECIP. NAME RECIPIENT AFFILIATION  
 MULLER, D. R. BWR Project Directorate 2

SUBJECT: Forwards response to B60310 request for addl info re hydrogen recombiner capability. Mod planned to provide alternate supply of nitrogen to drywell control air sys, per Generic Ltr 84-09.

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TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

5N 157B Lookout Place

May 13, 1986

Director of Nuclear Reactor Regulation  
Attention: Mr. D. R. Muller, Project Director  
BWR Project Directorate No. 2  
Division of Boiling Water Reactor Licensing  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Muller:

In the Matter of the )  
Tennessee Valley Authority )

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

By letter from M. Grotenhuis (NRC) to S. A. White dated March 10, 1986, we received a request for additional information regarding hydrogen recombiner capability at the Browns Ferry Nuclear Plant. Our response to that request is enclosed.

If you have any questions, please get in touch with us through the Browns Ferry Project Manager.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

*R. L. Gridley*  
R. L. Gridley, Director  
Nuclear Safety and Licensing

Enclosure

cc (Enclosure):

Mr. R. J. Clark  
U.S. Nuclear Regulatory Commission  
Browns Ferry Project Manager  
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Bethesda, Maryland 20814

U.S. Nuclear Regulatory Commission  
Region II  
ATTN: Dr. J. Nelson Grace, Regional Administrator  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30323

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ENCLOSURE

Response to Request for Additional Information  
Hydrogen Recombiner Relief  
Browns Ferry Nuclear Plant (BFN)  
Units 1, 2, and 3

Item 1

Based on your July 2, 1984 reply to Generic Letter 84-09, the possibility exists that valve 32-332 (Ref: FSAR Fig. 10.14-4), backup air supply cutout valve, might be open during the course of a LOCA. This could occur as a result of having been left open following a prior maintenance procedure or as a result of a deliberate action due to a loss of drywell air compressor operability.

Describe any administrative controls, presently in effect, or planned, which assures that when 32-332 is open, and primary containment integrity is required, the control room operators will close this valve in the event of a LOCA. Verify whether this valve can be closed from the control room or locally. Include in your response a discussion of the anticipated timing of the necessary operator actions.

Response

A modification is planned which will provide an alternate supply of nitrogen to the drywell control air system. This modification will eliminate the need to use air as a pneumatic supply when primary containment integrity is required and will obviate the above concern. The modification is required to meet 10 CFR 50, Appendix R and will be completed on each unit prior to startup.

Item 2

The control nitrogen system, which supplies systems inside containment, utilizes recycled containment atmosphere during normal operation. However, an air supply system is used as a backup to the control nitrogen system. Additionally, the isolation provisions (penetration X-22) used for the normal nitrogen supply and the backup air supply systems consist of two check valves, one located on each side of the containment. This arrangement does not comply with the 10 CFR 50, Appendix A, GDC 56, requirements (i.e. sole use of vacuum breakers for isolation).

Provide the following information:

- a. The procedures and instrumentation available to the operators to be used to meet the intent of Criterion 3 of Generic Letter 84-09 if the backup air supply is in use when the LOCA occurs.
- b. The means by which the operator would become aware that operation of the backup air system may have filled the accumulators with air.
- c. The philosophy used to demonstrate compliance with the requirements for use of vacuum breakers as isolation valves contained in 10 CFR 50, Appendix A, GDC 56.



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Response

- a. Upon completion of the modification discussed in response to Item 1, Browns Ferry will be in compliance with Criterion 3 of Generic Letter 84-09.
- b. The volume of the accumulators relative to that of containment is small enough such that even if they were completely filled with air their contribution to de-inerting the containment is insignificant.
- c. The licensing basis for BFN, as reflected in the FSAR, does not prohibit the use of two check valves as automatic isolation valves. The requirements for containment isolation valves are described in section 5.2.3 of the FSAR. Also, Appendix A of the FSAR compares BFN's design basis to the proposed AEC design criteria which existed at the time of our application for license. These criteria did not prohibit the use of check valves as automatic isolation valves. The use of check valves to isolate influent lines is common practice throughout the industry and is within BFN's licensing basis.



11-11-11