



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

October 3, 1995

Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
Tennessee Valley Authority
6A Lookout Place
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Chattanooga, TN 37402-2801

SUBJECT: BROWNS FERRY NUCLEAR PLANT UNITS 2 AND 3 - REQUEST FOR ADDITIONAL
INFORMATION: CONFORMANCE WITH NUREG-0737 ITEM II.E.4.2 AND
10 CFR 50, APPENDIX J (TAC NOS. M74615 AND M74616)

Dear Mr. Kingsley:

On August 3, 1995, the Tennessee Valley Authority (TVA) provided supplemental information regarding Browns Ferry Nuclear Plant (BFN) Unit 3 conformance with NUREG-0737 Item II.E.4.2 and 10 CFR 50 Appendix J. This letter also provided updates for information reviewed in a safety evaluation dated March 22, 1991 for BFN Unit 2. The NRC staff has reviewed this information, and its conclusions are discussed below.

AUXILIARY BOILER SYSTEM

TVA's August 3, 1995 letter states that the BFN Units 2 and 3 Auxiliary Boiler System has been modified to remove the containment penetration 210A check valves and install a cap and thus no longer requires local leak rate tests (LLRT). Capped or flanged piping penetrations are subject to 10 CFR 50 Appendix J LLRTs unless the design and qualification of the penetration is such that the penetration no longer need be considered a penetration (i.e., permanently welded in a manner that conforms to standards of a containment repair). A seal-welded cap or flange may qualify for an exemption, but is still considered a penetration. Therefore, the staff requests that TVA clarify whether this cap meets the standards of a containment repair. If not, TVA should continue LLRT for this penetration until staff review and approval of an Appendix J exemption.

CONTAINMENT INERTING

The August 3, 1995 letter states that for BFN Unit 3, new penetrations X-229D and X-229K are used for hydrogen sampling instead of 52C, 229D and 229K. The letter also states that the Unit 3 penetration isolation design is otherwise similar to Unit 2. The staff finds that this BFN Unit 3 penetration design is bounded by the BFN Unit 2 safety evaluation, and is acceptable.

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CONTROL AIR SYSTEM - COMPRESSOR DRYWELL SUCTION

BFN Units 2 and 3 are similar, but the information previously given the staff for Unit 2 was incorrect. The fail-close isolation valves do not utilize spring force to close on loss of air or electrical power, but instead use an "integral air accumulator." P&ID 2-47E610-32-2 indicates that the operators on these valves utilize an air motor and that an accumulator air supply is provided for each valve. This is an acceptable isolation arrangement assuming the accumulators and associated isolation valves are safety grade. The staff requests that TVA verify and document the qualification of these components.

MAIN STEAM LINE/DRAIN

TVA states that the MSIVs close not on spring force alone, but on a combination of spring force and air cylinder force. The staff is aware of this feature, which is generic to BWR/4s, and is discussed in General Electric (GE) Service Information Letter No. 477. This design feature requires special testing considerations, but is acceptable.

The MSL drain isolation valves for Unit 3 differ from Unit 2 in that the valves are of a flexible wedge gate design instead of solid wedge. Because of this, LLRTs are conducted by applying test pressure in the space between the two halves of each wedge. This test method ensures that the critical leakage paths, the downstream seating surface of both valves, and the packing of the outboard valve, are tested. It is, therefore, acceptable.

RADIATION MONITORING SYSTEM

TVA indicates that the 1991 Unit 2 safety evaluation provided an incorrect description of the isolation valve arrangement in that two penetrations utilize a common outboard isolation valve. Ball valves have been replaced with solenoid-operated gate valves. The new information does not affect the previous conclusion that the arrangement is acceptable.

REACTOR BUILDING CLOSED COOLING WATER SYSTEM

The reference indicates that the 1991 safety evaluation reversely labeled the Penetration 23 as RBCCW RETURN, and Penetration 24 as RBCCW SUPPLY. This was an editorial error, and does not invalidate the 1991 conclusion.

REQUEST FOR ADDITIONAL INFORMATION

As discussed above, the staff requests that TVA provide information to clarify whether the cap installed on the former auxiliary boiler penetrations is a permanent containment repair. Also, the staff requests that TVA document the qualification of the control air system penetration isolation components.

Your timely response to this request will be helpful in avoiding concerns on these topics before the restart of Browns Ferry Unit 3. This requirement



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Mr. O. Kingsley, Jr.

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nine or fewer respondents and, therefore, is not subject to the Office of Management and Budget review under P.L. 96-511.

Sincerely,

Original signed by

Joseph F. Williams, Project Manager
Project Directorate II-4
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Docket Nos. 50-260 and 50-296

cc: See next page

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1. The first part of the document
 discusses the general principles
 of the system. It is divided into
 two main sections: the first
 section deals with the
 theoretical aspects, while the
 second section deals with the
 practical aspects. The first
 section is further divided into
 three sub-sections: the first
 sub-section deals with the
 basic principles, the second
 sub-section deals with the
 advanced principles, and the
 third sub-section deals with the
 application of the principles.

Mr. Oliver D. Kingsley, Jr.
Tennessee Valley Authority

BROWNS FERRY NUCLEAR PLANT

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