

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

December 4, 1981

Director of Licensing  
Attention: Mr. Thomas A. Ippolito, Chief  
Operating Reactors Branch No. 2  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555



Dear Mr. Ippolito:

In the Matter of the ) Docket No. 50-259  
Tennessee Valley Authority ) 50-260  
50-296

Your letter to H. G. Parris dated October 5, 1981 requested that TVA provide additional information regarding our responses to IE Bulletin 80-06. As discussed with your staff in a November 9, 1981 telephone conversation, enclosed are our responses to the questions identified in the October 5, 1981 letter.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager  
Nuclear Regulation and Safety

Subscribed and sworn to before  
me this 4<sup>th</sup> day of December 1981.

Paulette W. White

Notary Public

My Commission Expires 9-5-84

Enclosure

cc: Mr. D. Hackett (Enclosure)  
EG&G, Inc.  
P.O. Box 204  
San Ramon, California 94583-9983

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ENCLOSURE  
REQUEST FOR ADDITIONAL INFORMATION  
OIE BULLETIN 80-06  
BROWNS FERRY NUCLEAR PLANT  
(DOCKET NOS. 50-259, -260, -296)

T. A. Ippolito's letter to H. G. Parris dated October 5, 1981 requested that TVA provide additional information regarding our responses to the subject bulletin. The specific requests and their responses are as follows.

1. Have all systems serving a safety-related function been reviewed?

Response

The review of all systems serving a safety-related system was completed in October 1980 and the results were transmitted by L. M. Mills' letter to J. P. O'Reilly dated December 3, 1980.

2. Provide a schedule for the required testing of all systems serving a safety-related function, or provide the results of the test if it has been completed.

Response

The required testing on unit 1 has been satisfactorily completed. No additional modifications required by the subject bulletin were identified.

The required testing on unit 2 is scheduled to be performed during the next refueling outage (summer 1982), and the unit 3 testing is scheduled to be performed during the current refueling outage.

3. Concerning the RHR system (Ref: Licensee's letter dated September 10, 1980): Do valves FCV-74-53 and FCV-74-67 change states (go shut) upon reset of an ESF signal? Which ESF signal(s) are involved? What is reset switch 10A-532A? What do valves FCV-74-53, FCV-74-67, FCV-74-47, and FCV-74-48 control?

Response

Valves FCV-74-53 and FCV-74-67 do not change states (go shut) on reset of ESF signal. The ESF signals involved are (1) reactor vessel low-water level, (2) reactor low pressure, and (3) no auto-close signal. Reset switch 10A-532A should be listed as 10A-S32A and is used to reset the auto-close signal to FCV-74-53 and FCV-74-67. FCV-74-53 is the inboard recirculation injection valve for RHR and LPCI loop I. FCV-74-67 is the same as FCV-74-53 except it is in loop II. FCV-74-47 (outboard) and FCV-74-48 (inboard) are the series isolation valves in the RHR shutdown cooling suction piping from the reactor vessel.

4. "Concerning the RCIC system (Ref: Licensee's letters dated August 11, 1980 and September 10, 1980): Is the turbine trip solenoid number "XY-71-9" or "XX-71-9?"

Response

The turbine trip solenoid number is XX-71-9.

5. Concerning 480-Volt Load-Shed logic (Ref: Licensee's letter dated January 14, 1981): What are the results of your further evaluation of the 480-V Load-Shed logic? What loads are retied to the 480-V shutdown boards upon ESF reset?

Response

A detailed analysis was performed by TVA's Division of Engineering Design to determine if the diesel generators could be overloaded upon reset of the ESF signal, resulting in automatic restarting of certain loads which had been shed previously. The results of the analysis showed that the diesel generators would not be overloaded. The following loads are retied to the 480-V shutdown boards upon ESF reset.

1. Reactor water cleanup demineralizer holding pumps 1A and 1B
2. 250-V battery chargers 1, 2A, and 2B
3. Shutdown board room exhaust fan 1A
4. Shutdown board room emergency supply fan 1B
5. Diesel generators A, B, C, and D; Air Compressors A and B
6. Several standby gas treatment loads will restart if the ESF signals are reset in less than 40 seconds after initiation.

6. What is your schedule for modification? Provide a complete, narrative description of the modifications that will or have been implemented. Include a commitment to test the modifications after installation.

Response

As a result of our Bulletin 80-06 drawing review, the need for a modification to the traversing incore probe (TIP) was identified. No additional modifications were identified as a result of testing unit 1. If modifications are deemed necessary after testing units 2 and 3, information concerning modifications will be transmitted at that time.

The emergency mode for the isolation valve associated with the TIP probe tube is closed. However, the isolation valve could change states if the ESF were reset with the system in manual mode and the drive mechanism in forward drive. This condition would only exist approximately once every week for a two-hour period.

The addition of a momentary reset switch with latching relay logic is proposed to resolve this concern. The relay would unlatch on containment isolation initiation and prevent energizing of the TIP system withdrawal enable circuits; therefore, the isolation valve will remain closed.

This modification is scheduled to be worked in December 1984. Postmodification testing will be done to ensure the relay functions properly. The TIP guide tubing system is a closed system inside the primary containment. If the TIP ball valves inadvertently opened on ESF reset, the only path for fission products to escape from primary containment by way of the TIP system penetrations would be through damaged TIP tubing. Additionally, most accident events involving fission product release will not allow ESF reset due to a high drywell pressure. We believe the probability of these conditions occurring simultaneously is small enough to justify delay of this modification until 1984.

Additional Information

The isolation logic on the high pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) steam supply isolation valves merits some additional discussion regarding the applicability of IE Bulletin 80-06. Two valves each in the HPCI (FSV-73-2, -3) and RCIC (FSV-71-2, -3) systems do not remain closed on reset of HPCI or RCIC system line isolation signal.

The subject HPCI and RCIC steam supply valves will isolate on a HPCI or RCIC system isolation signal. The valves may be reopened automatically (provided an initiation signal is present) by successfully resetting the original isolation signal using two reset switches. The intent of IE Bulletin 80-06 is met in that the two isolation switches control only these two steam supply valves. Furthermore, the existing logic arrangement has some advantages in allowing the system to quickly recover from a spurious system isolation.