

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

5N 157B Lookout Place

JUN 24 1988

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

Gentlemen:

In the Matter of )  
Tennessee Valley Authority )

Docket No. 50-260

BROWNS FERRY NUCLEAR PLANT (BFN) - NUREG-0737, ITEM II.F.2, INADEQUATE CORE COOLING INSTRUMENTATION (GENERIC LETTER 84-23)

On June 20, 1988 NRC and TVA personnel met at the NRC office in Rockville, MD. to discuss the modification schedule to address item II.F.2 of NUREG-0737. This modification will reroute the reference leg of the reactor vessel water level instrumentation outside the drywell.

The purpose of this letter is to confirm the agreements reached in the meeting. TVA understands NRC agreed to the statements below:

- 1) NRC found the measures taken and the measures to be taken by TVA to address the postulated high drywell temperature effect on the reference leg of the BFN reactor vessel water level instrumentation to be acceptable.
- 2) NRC concurs with TVA's current implementation schedule of refuel cycle 6 to reroute the unit 2 reference legs of the reactor vessel water level instrumentation.

The TVA letter to NRC dated September 15, 1987 conclusively demonstrated that there is no relation between the BFN Unit 3 reactor vessel water level indicator mismatch event on February 13, 1985 and a postulated high drywell temperature situation and its effect on reactor vessel water level indication.

TVA considered the most likely cause of the BFN Unit 3 mismatch to be an air bubble in the reference leg. In July 1986, General Electric (GE) was called in to evaluate the mismatch event and determined the most likely cause to be the rigid piping in that the system did not allow for proper thermal growth during startup. GE recommended quick-disconnects be installed on instrument racks to minimize the possibility of air intrusion during calibration, a stress analysis be performed to ensure the existing configuration is acceptable, and some procedural enhancements be incorporated. All of these

8807050120 880624  
PDR ADOCK 05000260  
P PDC

A002  
1/0



Small, faint, illegible marks or characters in the top right corner.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

Small, faint mark.

U. S. Nuclear Regulatory Commission

JUN 24 1988

recommendations will be implemented before restart in addition to operator training on mismatch events. Both TVA and GE concluded that the current configuration is acceptable for an additional operating cycle.

The two concerns of Generic Letter 84-23 were reliability of mechanical switches and reliability of level indication during drywell temperature events. TVA has addressed these concerns by the following means:

- 1) Installation of analog trip units in place of mechanical level indication.
- 2) Emergency Operating Instructions based on the accepted revision of the Boiling Water Reactor (BWR) Owners Group Emergency Procedures Guidelines which give specific instructions to the operations personnel if a high drywell temperature situation occurs.
- 3) Operator training that dealt specifically with high drywell temperature situations.
- 4) Rerouting the reference leg outside the drywell to decrease the effects that a high drywell temperature situation would have on vessel level indication, during refuel cycle 6.

The reference leg rerouting modification is inherently difficult. Compounding this fact is that there is no generic modification due to differences among individual BWR plants. There is a wide variety of solutions among BWR plants from doing no modification and justifying existing hardware to rerouting reference legs and installing new or modified condensing pots.

TVA operations personnel are familiar with the current reactor vessel water level instrumentation. With the numerous other modifications completed during this outage, TVA does not want its operations personnel to have to address the potential uncertainties in a new design of this sensitive instrumentation.

As discussed in the March 1, 1988 letter to NRC, TVA also intends to divisionalize the reference legs in conjunction with rerouting. Hydraulically separating the reference leg into separate channels will significantly reduce unnecessary scrams caused during transmitter calibration. This will be a considerable benefit to BFN but will take additional time to properly engineer.

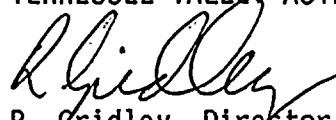
U.S. Nuclear Regulatory Commission

JUN 24 1988

As agreed upon between TVA and the NRC, the enhancements TVA is implementing to address the BFN Unit 3 reactor vessel water level indicator mismatch event and the measures being taken to address the postulated high drywell temperature situation of Generic Letter 84-23 ensure that BFN Unit 2 can be safely operated for an additional cycle.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



R. Gridley, Director  
Nuclear Licensing and  
Regulatory Affairs

cc: Mr. F. McCoy, Assistant Director  
for Inspection Programs  
TVA Projects Division  
U.S. Nuclear Regulatory Commission  
Region II  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30323

Ms. S. C. Black, Assistant Director  
for Projects  
TVA Projects Division  
U.S. Nuclear Regulatory Commission  
One White Flint, North  
11555 Rockville Pike  
Rockville, Maryland 20852

Browns Ferry Resident Inspector  
Browns Ferry Nuclear Plant  
Route 12, Box 637  
Athens, Alabama 35611

