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ACCESSION NBR: 8803040174      DOC. DATE: 88/03/01      NOTARIZED: NO      DOCKET #  
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 GRIDLEY, R.      Tennessee Valley Authority  
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SUBJECT: Responds to NRC 871127 request for util completion of  
 NUREG-0737 Items II.F.2 & III.K.3.18.

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 TITLE: OR Submittal: TMI Action Plan Rgmt NUREG-0737 & NUREG-0660

NOTES: G. Zech 3 cy. 1 cy. ea to: Ebnetter, Axelrad, S. Richardson,      05000260 D  
          B. D. Liaw, K. Barr, Donohew, OI.

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TENNESSEE VALLEY AUTHORITY

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

Gentlemen:

In the Matter of ) Docket Nos. 50-260  
Tennessee Valley Authority )

BROWNS FERRY NUCLEAR PLANT (BFN) - NUREG-0737, ITEMS II.K.3.18, AUTOMATIC DEPRESSURIZATION SYSTEM AND II.F.2, INADEQUATE CORE COOLING INSTRUMENTATION

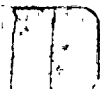
This letter is in response to your letter, dated November 27, 1987, from G. G. Zech to S. A. White. Your letter requested TVA complete NUREG-0737, Items II.K.3.18, Modification of Automatic Depressurization System (ADS) Logic, and II.F.2, Instrumentation for Detection of Inadequate Core Cooling, before the restart of BFN unit 2.

TVA concurs with the NRC's request to accelerate the completion of the ADS logic modification. This item will be completed on BFN unit 2 before restart.

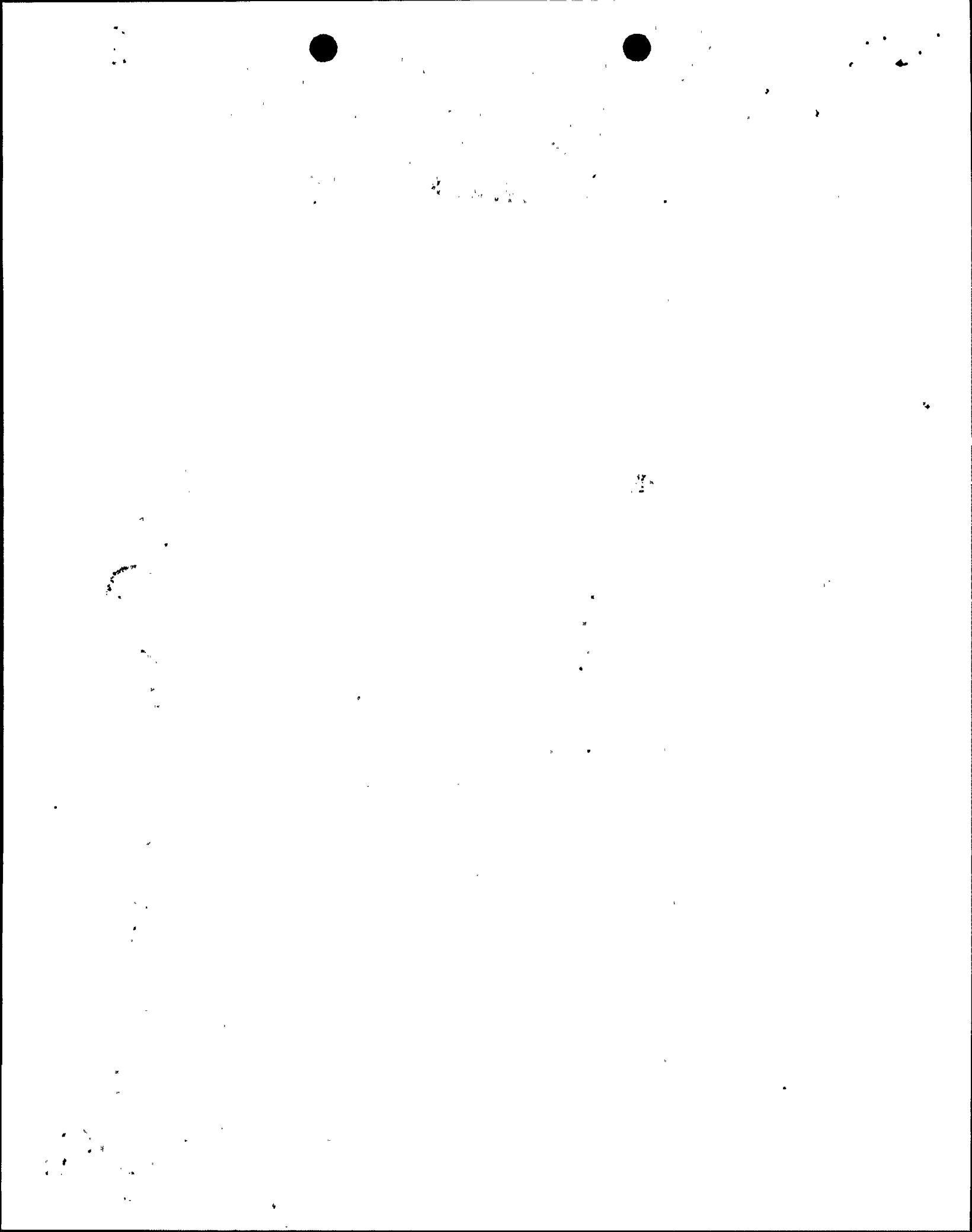
TVA has performed an evaluation of the necessity and feasibility of accelerating the completion of the modifications to the reactor vessel level instrumentation which are required to complete Three Mile Island (TMI) Item II.F.2. As detailed in the enclosure to this letter, TVA will enhance existing reactor vessel water level instrumentation, operating procedures, and operator training before restart of BFN unit 2. TVA currently intends to divisionalize the reactor vessel water level instrumentation reference legs as part of its resolution of this item and TVA is proceeding with the design. Both TVA and General Electric have determined that the present reactor vessel water level instrumentation is safe to support operation for an additional fuel cycle. As such, TVA does not wish to make completion of this modification a constraint to restart.

TVA requests NRC to reconsider its position regarding the scheduled completion of NUREG-0737, Item II.F.2, and approve TVA's proposed completion of the item during the cycle 6 refueling outage.

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Please refer questions regarding this submittal to M. J. May, Manager of BFN Site Licensing, at (205) 729-3570.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

  
R. Gridley, Director,  
Nuclear Licensing and  
Regulatory Affairs

Enclosures  
cc: See page 3



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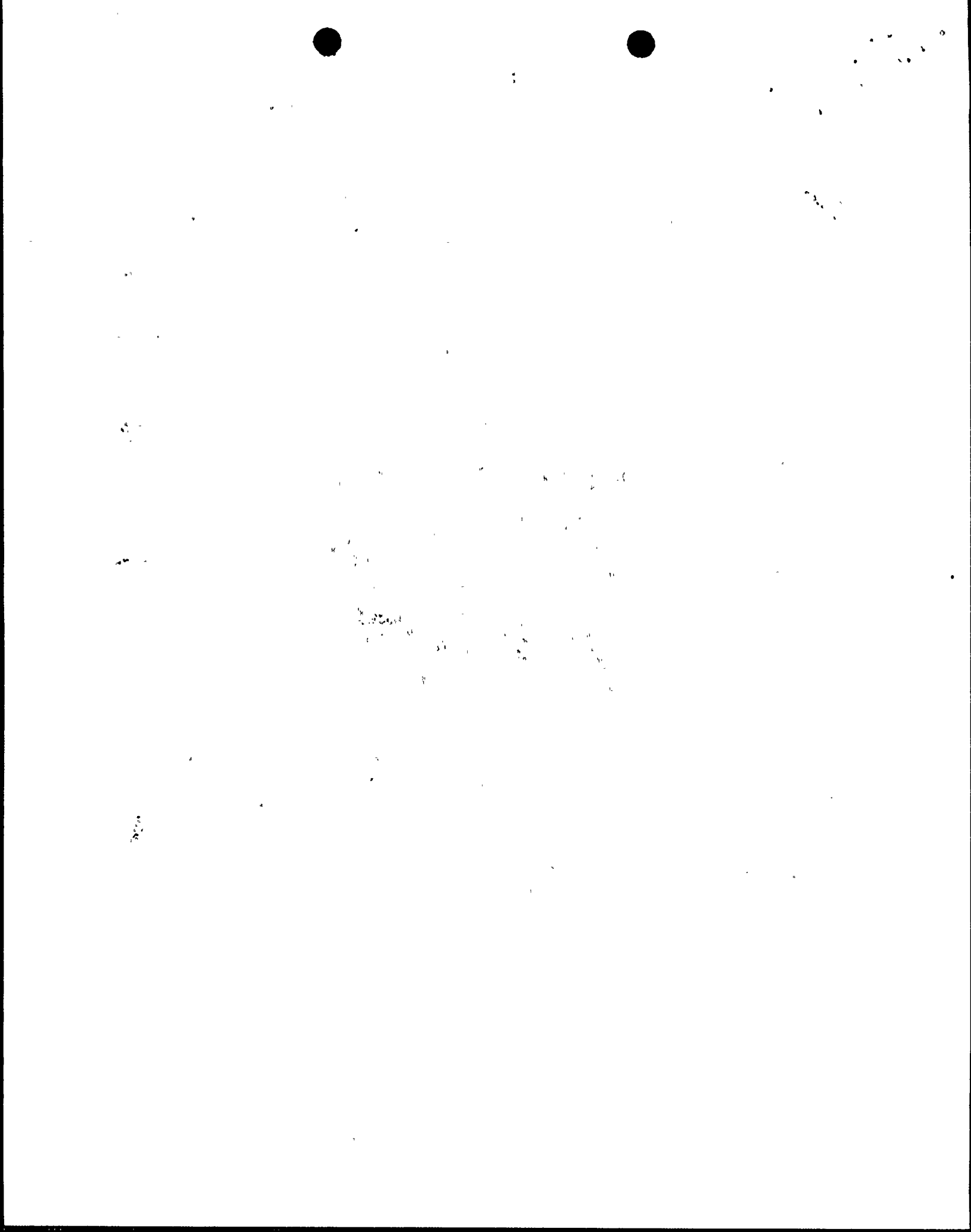
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cc (Enclosures):

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ENCLOSURE

ADDITIONAL INFORMATION CONCERNING INADEQUATE  
CORE COOLING INSTRUMENTATION  
(NUREG-0737 ITEM II.F.2 AND GENERIC LETTER 84-23)

TVA committed to minimize the effects of high drywell temperature on level indications by limiting the vertical drop of the reference legs inside the drywell to no more than two feet during the cycle 7 refueling outage in a letter from R. Gridley to Mr. Muller dated March 12, 1986. TVA committed to accelerate the implementation of the modification to cycle 6 refueling outage in a letter from S. A. White to L. W. Zech dated August 28, 1986. As discussed below, before the completion of this commitment, TVA is implementing adequate interim compensatory actions including modifications to equipment, procedural changes, and augmented operator training which will increase the operator's ability to ensure recovery from accident conditions.

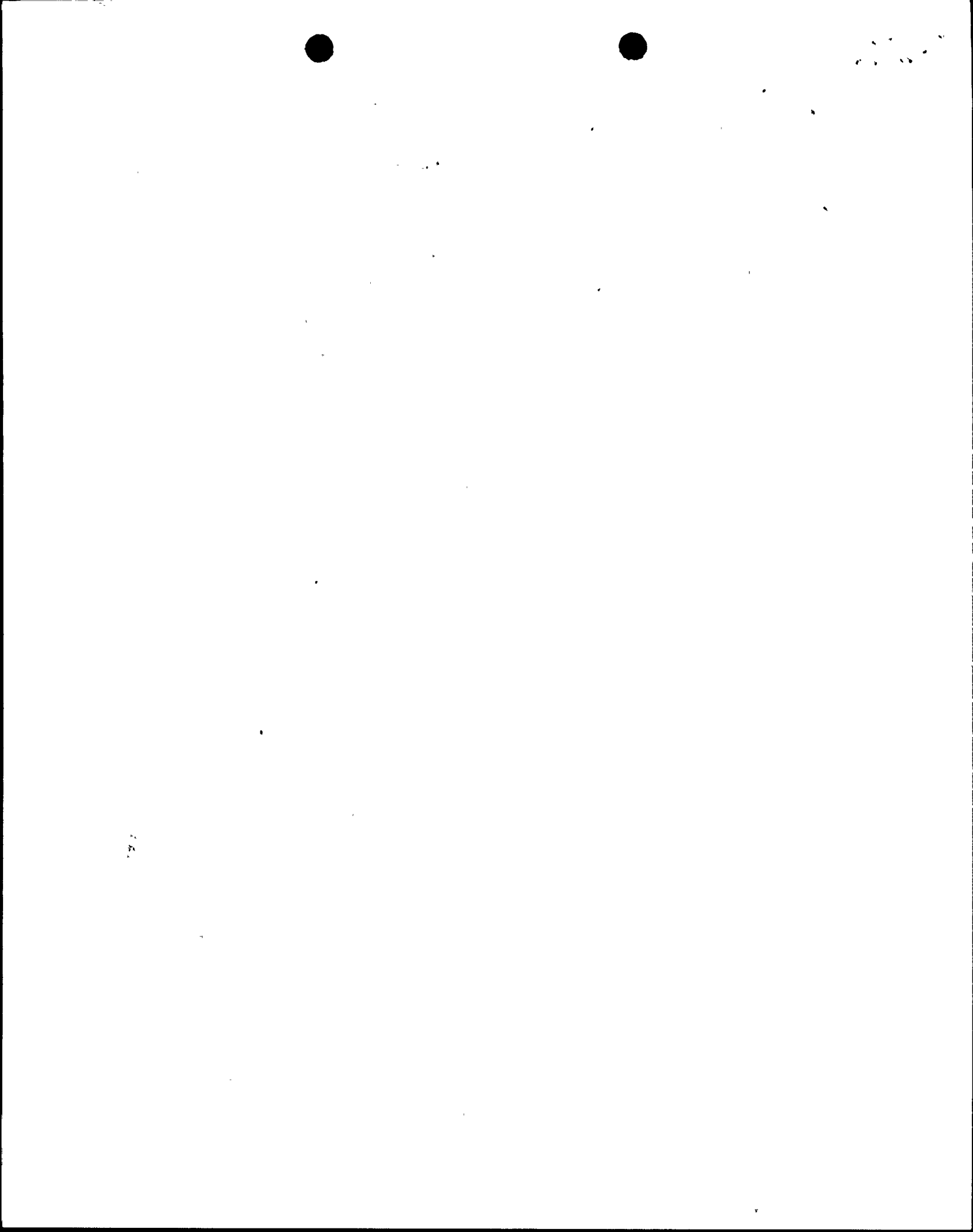
In order to address NUREG-0737, Item II.F.2, the Boiling Water Reactor Owner's Group (BWROG) performed studies which identified those conditions which may prevent the reactor vessel water level instrumentation from detecting inadequate core cooling. As an interim corrective action, the BWROG developed Emergency Operating Instructions (EOI's) which provide specific instructions to the operator if these events occur. The NRC staff has accepted these types of instructions to the operators for these potential emergency conditions. TVA has revised BFN EOI's to be in conformance with revision 3 of the BWROG Emergency Procedures Guidelines. The licensed operators and shift technical advisors have successfully completed training on the revised EOI's.

As committed in the letter from J. W. Hufham to Mr. Vassallo dated April 8, 1985, TVA is replacing the level instruments with Class 1E analog trip units. This modification will be completed before the restart of BFN unit 2.

In July 1986, General Electric (GE) personnel performed a review of BFN unit 3 reactor vessel water level indicator mismatch events and an evaluation of the as-constructed reactor vessel water level instrumentation. GE recommended modifications to enhance the reliability of the reactor water level instrumentation. These were the installation of quick-disconnect couplings on the instrument racks to decrease the possibility of air intrusion during calibration and surveillances, calibrations and surveillance procedural enhancements, and a stress analysis of the drywell portion of the instrument piping. These recommendations will be completed before the restart of BFN unit 2. The GE report concluded that the reactor vessel water level instrumentation is acceptable to support an additional fuel cycle of operation.

Subsequent to TVA's commitment to minimize the effects of high drywell temperature on level indications by limiting the vertical drop of the reference legs inside the drywell, TVA investigated methods of reducing scrams in cooperation with the Nuclear Management & Resources Council and GE. It has been determined that modifying the reference legs to make them hydraulically independent (divisionalizing) can reduce unnecessary scrams.





Rather than modify the reference legs to limit the vertical drop inside the drywell and then perform a separate modification to divisionalize the reference legs to make them hydraulically independent, TVA would prefer to combine these modifications and complete them during the cycle 6 refueling outage.

In summary, TVA considers that the operation of BFN unit 2 for one fuel cycle with the enhancements discussed in this letter will not pose an undue risk to the public health and safety. TVA requests NRC review TVA's position and concur with TVA's proposal to complete NUREG-0737, Item II.F.2, coupled with the divisionalization of the reactor vessel level instrumentation during the BFN unit 2 cycle 6 refueling outage.

