



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

ELEMENT REPORT NO. 21300 "ELECTRICAL TESTING AND PLANNING"

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT, UNIT 2

1.0 INTRODUCTION

The issues in this element report were derived from two employee concerns which cited deficiencies or inadequacies in engineering participation in the preoperational test program of the plant systems. The two concerns identified in the element report were identified for the Watts Bar Nuclear Plant. TVA considered these concerns sufficiently broad however, to apply them to all four TVA nuclear plants. This SER only addresses these concerns for the Browns Ferry Nuclear (BFN) Plant, Unit 2.

2.0 EVALUATION

2.1 Background

The specific findings identified by TVA for BFN are as follows:

- o Engineering procedures and site standard practices relating to the pre-operational test program are not fully adequate to ensure incorporation of all design requirements including procedural requirements for the processing of preoperational test documents and, in some instances, not followed. This has resulted in discrepancies in test results packages.
- o There were no documented acceptance criteria in the initial TVA-prefix test scoping documents and preoperational test instructions.
- o Test results packages were found to have procedural inconsistencies and/or deficiencies. Engineering review of test results was not adequate because some test packages were approved with open exceptions and no documentation was available to identify the closure of these exceptions.
- o FSAR commitments were not fully reflected in the acceptance criteria of the test documents.

2.2 Corrective Action

TVA addressed the concern of system testing in the Nuclear Performance Plan, Volume 3, Special Programs III, Section 8. TVA stated that "The operability of the Browns Ferry Nuclear Plant (BFN) plant systems and their capability to perform their safety functions are under scrutiny due to prolonged plant shut-down and extensive modifications. BFN will conduct a Restart Test Program

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(RTP) to ensure that plant systems are capable of meeting their safe shutdown requirements." The staff has reviewed the RTP and documented their finding in the Safety Evaluation Report on TVA BFN Performance Plan, NUREG-1232, Vol. 3. The staff concluded that on the basis of their review that continued implementation of the BFN RTP, as currently constructed, will ensure proper verification of the functional integrity of the safety systems at BFN Unit 2.

### 3.0 CONCLUSION

TVA has developed an extensive review to re-verify plant design. As a result of this review a major restart test program has been developed to resolve employee concerns regarding the quality of testing/review performed during the initial preoperational test and retest programs. Therefore, the staff has concluded that TVA has adequately addressed the employee concerns identified in Element Report EN 21300, Revision 2.

