

September 21, 2006

Mr. Karl W. Singer  
Chief Nuclear Officer and  
Executive Vice President  
Tennessee Valley Authority  
6A Lookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

SUBJECT: BROWNS FERRY NUCLEAR PLANT, UNIT 1 - STATUS OF FIRE  
PROTECTION PROGRAM (TAC NO. MC8826)

Mr. Singer:

The purpose of this letter is to inform you of the results of our review of fire protection (FP) program issues at Browns Ferry Nuclear Plant (BFN) Unit 1 and to iterate actions necessary to bring the program into compliance with the U.S. Nuclear Regulatory Commission's (NRC's) applicable regulations.

As background, by letter dated March 19, 1993, Tennessee Valley Authority (TVA) committed to bring the fire protection program at BFN Unit 1 into compliance with Title 10 to the *Code of Federal Regulations* (10 CFR) Section 50.48 and 10 CFR Part 50, Appendix R, paragraphs III.G, III.J, and III.L. By letter dated January 3, 2006, the NRC staff requested that TVA provide information regarding implementation of the fire protection program upon restart of Unit 1. TVA responded to the NRC staff request by letters dated February 3 and 28, 2006. In its February 28, 2006, letter, TVA also provided a draft version of the BFN Units 1, 2 and 3, Fire Protection Report (FPR), which integrates Unit 1 into the FPR. A meeting between the NRC and TVA staffs was held on April 5, 2006, to discuss NRC staff concerns regarding the draft FPR. During the discussion, TVA reiterated its goal to maintain operational fidelity among all three units. To this end, TVA indicated that the Unit 1 FP program analysis was performed using the same methodology as Units 2 and 3 (i.e., similar modifications, manual actions, and same shutdown paths). Subsequently, in its letter dated April 24, 2006, TVA provided various commitments regarding the FP program.

On June 30, 2006, the NRC staff issued Regulatory Issue Summary (RIS) 2006-10, "Regulatory Expectations with Appendix R Paragraph III.G.2 Operator Manual Actions." In this document, the NRC reiterated the 10 CFR Part 50, Appendix R, Paragraph III.G.2, compliance expectations with respect to the use of operator manual actions. The RIS discussed the means to achieve compliance, and advised licensees of the date the NRC will terminate the enforcement discretion guidance in Enforcement Guide Memorandum (EGM) 98-02, "Enforcement Guidance Memorandum--Disposition of Violations of Appendix R, Sections III.G and III.L Regarding Circuit Failures," Revision 2, issued in February 2000 (incorporated into Enforcement Manual section 8.1.7.1). The RIS also discussed potential exemption requests, compensatory measures and corrective actions pertaining to operator manual actions.

Consistent with 10 CFR 50.48, TVA must satisfactorily establish fire protection features which satisfy the requirements of paragraph III.G of Appendix R. The NRC staff notes that for closeout of the Unit 1 Fire Protection Special Program in support of restart, several items must be satisfactorily addressed. These items include resolution of post-fire safe-shutdown circuit analysis spurious actuations, as well as any associated FP operator manual actions. To address these issues for Unit 1, TVA should address the following:

- (1) TVA should resolve issues arising from recent NRC FP generic communications, specifically, BFN Units 1, 2, and 3 must meet current regulatory requirements, including the treatment of FP operator manual actions.

Operator manual actions that do not comply with the regulations and have not received approval by exemption from the regulations should be considered noncompliances. As noted in RIS 2006-10, enforcement discretion was granted by the NRC for circuit analysis issues, which include those using manual actions in lieu of paragraph III.G.2 compliance. Consistent with other licensees, TVA, in its letter of April 24, 2006, committed to identify the Appendix R, Paragraph III.G.2, noncompliances involving operator manual actions, to place them into TVA's corrective action program, and to implement compensatory measures. Therefore, TVA should complete the commitments made in its April 24, 2006, letter, as well as any other restart related commitments made previously to the NRC regarding post-fire operator manual actions and notify the NRC staff upon completion.

- (2) TVA should evaluate its licensing basis regarding multiple spurious post-fire safe-shutdown analyses. The NRC published a draft Generic Letter (GL) in the *Federal Register* for public comment on October 19, 2005 (70 FR 60859). The NRC staff plans to issue the finalized letter in September 2006. Upon receipt of the GL, TVA should respond to the requests for information delineated in that GL. Like other licensees, TVA will then have 2-½ more years to complete the associated corrective actions. In addition, 30 days after receiving the GL, TVA should inform the NRC about the design assumptions that will be used to conduct its safe-shutdown analysis for Unit 1.
- (3) During the most recent fire protection inspection, TVA indicated that the Safe Shutdown Instructions used to direct those actions needed to bring the unit to safe shutdown in the event of a fire will not be complete until spring 2007. As these procedures contain interim compensatory measures to address safe shutdown analysis issues, the NRC staff requires that these procedures be completed by January 1, 2007.

Therefore to support restart of Unit 1, TVA should (A) identify and document all Unit 1 fire protection noncompliances in the corrective action program, (B) correct all safety significant items, (C) for the other items establish acceptable interim compensatory measures until corrective actions are completed, and (D) complete all hardware and administrative FP restart commitments. As indicated above, the NRC staff has requested that TVA provide notification upon completion of necessary interim compensatory measures (Items 1 and 3) as well as inform the NRC staff concerning the Unit 1 safe-shutdown analysis design assumptions. The NRC staff will use this information to make a determination regarding the ability of TVA to safely

shutdown Unit 1 in the event of a fire consistent with 10 CFR 50.48, Appendix A, General Design Criteria 3, Fire Protection, and paragraphs III.G, III.J. and III.O of Appendix R.

As indicated above, TVA provided various commitments regarding the FP program in its April 2006 letter. It should be noted that certain commitments were identified to not be consistent with NRC regulations, including the treatment of manual actions for Appendix R paragraph III.G.2 areas. For example, the April 24, 2006, letter, states that the NRC staff has previously approved post-fire manual actions in safety evaluations. Please be advised that any deviations from the requirements of Appendix R can only be made through a plant-specific exemption granted under the provisions of 10 CFR 50.12, not by safety evaluation. Inconsistencies in your licensing basis (e.g., safety evaluations cited by license condition 2.C(13)) should be identified in your corrective action program, appropriate interim compensatory measures established and then corrected by application for license amendment submitted for NRC approval under the provisions of 10 CFR 50.90. Please note that the NRC is continuing its review process. Should there be a need for additional actions, we will identify them in a prompt manner.

If you have any questions concerning this matter, please contact me at 301-415-2429.

Sincerely,

**/RA/**

Cornelius F. Holden, Deputy Director  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-259

cc: See next page

shutdown Unit 1 in the event of a fire consistent with 10 CFR 50.48, Appendix A, General Design Criteria 3, Fire Protection, and paragraphs III.G, III.J. and III.O of Appendix R.

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