



Tennessee Valley Authority, Post Office Box 2000, Decatur, Alabama 35609-2000

April 30, 2012

10 CFR 21

ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Browns Ferry Nuclear Plant, Units 1, 2, and 3  
Facility Operating License Nos. DPR-33, DPR-52, and DPR-68  
NRC Docket Nos. 50-259, 50-260, 50-296

Subject: 10 CFR 21 Final Report - Cracks in Residual Heat Removal Pump  
Motor Stator Frames

Reference: TVA letter to the NRC, "10 CFR 21 Interim Report - Cracks in  
Residual Heat Removal Pump Motor Stator Frames," dated  
March 6, 2012

On March 6, 2012, the Tennessee Valley Authority (TVA) identified, in an interim 10 CFR 21 report, the existence of cracks in the motor frames for the RHR pump motors in use at Browns Ferry Nuclear Plant, Units 1, 2, and 3. In the interim 10 CFR 21 report, TVA indicated that additional evaluations of the condition were in progress and that the evaluation to determine reportability was expected to be completed by May 31, 2012. The purpose of this letter is to provide the results of the additional evaluations of this condition.

TVA has completed the metallurgical evaluation of crack specimens and concluded that the observed indications most likely originated during the original motor frame fabrication and were caused by the casting process. There have been no indications of on-going crack propagation subsequent to the original crack formation. The shallow fractures contain what appears to be the same red paint that was used to coat the casting, which indicates that the flaws were already present when that coating was applied. Structural Integrity Associates (SIA) has stated, based on the TVA Central Laboratory microstructure evaluations and the mechanical properties analysis, and the SIA fracture mechanics evaluation, that the indications should be acceptable as-is and no attempt to repair should be made. Additionally, General Electric-Hitachi has provided an assessment that this condition does not constitute a reportable condition in accordance with 10 CFR 21. Based on these results, TVA has concluded that a substantial safety hazard does not exist.

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There are no new regulatory commitments contained in this letter. Should you have any questions concerning this submittal, please contact J. E. Emens, Jr., Nuclear Site Licensing Manager, at (256) 729-2636.

Respectfully,



K. J. Polson  
Vice President

cc : NRC Regional Administrator - Region II  
NRC Senior Resident Inspector - Browns Ferry Nuclear Plant