



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

July 21, 2006

TVA-BFN-TS-431  
TVA-BFN-TS-418

10 CFR 50.90

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Mail Stop OWFN, P1-35  
Washington, D. C. 20555-0001

Gentlemen:

In the Matter of	)	Docket Nos. 50-259
Tennessee Valley Authority	)	50-260
	)	50-296

**BROWNS FERRY NUCLEAR PLANT (BFN) - UNITS 1, 2, AND 3 -  
TECHNICAL SPECIFICATIONS (TS) CHANGES TS-431 AND TS-418 -  
EXTENDED POWER UPRATE (EPU) - REVISED STEAM DRYER STRESS  
REPORT (TAC NOS. MC3812, MC3743, AND MC3744)**

By letters dated June 28, 2004 (ADAMS Accession No. ML041840109) and June 25, 2004 (ML041840301), TVA submitted applications to the NRC for EPU of BFN Unit 1 and BFN Units 2 and 3, respectively. In support of the applications for EPU, TVA is providing certain engineering reports to demonstrate that the structural integrity of the BFN steam dryers will not be challenged under EPU conditions. These reports include steam dryer benchmarking, scale model testing, and stress analysis reports for the BFN steam dryers under EPU operating conditions. By letters dated March 9, 2006 (ML060720303), April 13, 2006 (ML061070627), May 5, 2006 (ML061300436), and June 23, 2006, TVA provided the GE scale model steam dryer benchmarking report, the BFN scale model test report, the CDI load definition benchmarking report, the BFN steam dryer (unmodified) stress report, and the BFN steam dryer (modified) stress report, respectively.

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This letter transmits a revised BFN steam dryer stress analysis report, representing planned steam dryer modifications. Enclosure 1 is the revised BFN steam dryer stress analysis report, entitled "Browns Ferry Nuclear Plant, Units 1, 2, and 3 Steam Dryer Stress, Dynamic, and Fatigue Analyses for EPU Conditions," prepared by General Electric Company (GE). This report provides a summary structural analysis of the modified steam dryer at EPU conditions and supersedes in its entirety the stress analysis report provided NRC by TVA letter dated June 23, 2006.

The planned steam dryer modifications described in the revised stress report are based on the evaluated loads. The modified steam dryer configuration includes a replacement outer hood and cover plates of one-inch thickness, together with reinforcements to certain welds. In addition, the outer hood stiffeners, cover plate access hole, and manway cover will be eliminated.

Enclosure 3 is a revision to the BFN load definition report that was previously provided as Enclosure 1 to TVA's letter of May 5, 2006. The BFN load definition was derived from scale model testing of the BFN Unit 1 steam dryer and the application of an acoustic circuit methodology that was validated based on the Quad Cities Unit 2 instrumented steam dryer. As described in the revised load definition report, actual pressure measurements were taken from the main steam lines in the scale model test and input to the acoustic circuit model to develop the load definition. This report contains revised uncertainty determination for the acoustic circuit methodology. Enclosure 3 supersedes the version provided on May 5, 2006, in its entirety.

The engineering analyses for the modified dryer demonstrate that the stresses on the steam dryer components will be within the fatigue endurance limits under EPU conditions, even considering the conservatism in the scale model test-based load definition. In addition, the conservatisms incorporated in the power ascension limit curves provide further assurance that operational stresses in the modified BFN steam dryers will remain well within the acceptance criteria during EPU operation. Therefore, the modified BFN steam dryers are acceptable for EPU operation.

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Please note that the engineering reports provided in Enclosures 1 and 3 contain information that GE considers to be proprietary in nature and subsequently, pursuant to 10 CFR 9.17(a)(4), 2.390(a)(4) and 2.390(d)(1), requests that such information be withheld from public disclosure. Enclosures 2 and 4 are redacted versions of the reports in Enclosures 1 and 3, respectively, with the GE proprietary material removed. Enclosures 2 and 4 are suitable for public disclosure. Enclosures 1 and 3 contain affidavits from GE supporting this request for withholding from public disclosure.

TVA has determined that the additional information provided by this letter does not affect the no significant hazards considerations associated with the proposed TS changes. The proposed TS changes still qualify for a categorical exclusion from environmental review pursuant to the provisions of 10 CFR 51.22(c)(9).

There are no new regulatory commitments contained in this letter. If you have any questions regarding this letter, please contact me at (256)729-2636.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 21<sup>st</sup> day of July, 2006.

Sincerely,



William D. Crouch  
Manager of Licensing  
and Industry Affairs

Enclosures:

- 1: GE-NE-0000-0053-7413-R1-P (proprietary version)
- 2: GE-NE-0000-0053-7413-R1-NP (non-proprietary version)
- 3: CDI Report No. 06-11P, Revision 2 (proprietary version)
- 4: CDI Report No. 06-11, Revision 2 (non-proprietary version)

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Enclosures

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ENCLOSURE 2  
TENNESSEE VALLEY AUTHORITY  
BROWNS FERRY NUCLEAR PLANT (BFN)  
UNITS 1, 2, AND 3

TECHNICAL SPECIFICATIONS (TS) CHANGES TS-431 AND TS-418 -  
EXTENDED POWER UPRATE (EPU) - REVISED STEAM DRYER STRESS REPORT  
(TAC NOS. MC3812, MC3743, AND MC3744)  
GE ENGINEERING REPORT NO. GE-NE-0000-0053-7413-R1-NP

(NON-PROPRIETARY VERSION)

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Attached is the Non-Proprietary Version of GE Engineering Report No. GE-NE-0000-0053-7413-R1-NP, "Browns Ferry Nuclear Plant, Units 1, 2, and 3 Steam Dryer Stress, Dynamic, and Fatigue Analyses for EPU Conditions."