



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402-2801

November 5, 2009

10 CFR 50.90

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
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, and 50-296

Subject: **Technical Specifications (TS) Changes TS-431 and TS-418 –  
Extended Power Uprate (EPU) – Revised Unit 2 Steam Dryer Report**

- References:
1. Letter from TVA to NRC, "Browns Ferry Nuclear Plant (BFN) - Unit 1 - Proposed Technical Specifications (TS) Change TS - 431 - Request for License Amendment - Extended Power Uprate (EPU) Operation," dated June 28, 2004
  2. Letter from TVA to NRC, "Browns Ferry Nuclear Plant (BFN) - Units 2 and 3 - Proposed Technical Specifications (TS) Change TS - 418 - Request for License Amendment - Extended Power Uprate (EPU) Operation," dated June 25, 2004
  3. Letter from TVA to NRC, "Browns Ferry Nuclear Plant (BFN) - Unit 2 - Technical Specifications (TS) Change TS-418 - Extended Power Uprate (EPU) - Unit 2 Steam Dryer Analyses," dated July 14, 2009
  4. Letter from TVA to NRC "Technical Specifications (TS) Change TS - 431 - Extended Power Uprate (EPU) - Steam Dryer Reports," dated August 31, 2009
  5. Letter from NRC to TVA, "Browns Ferry Nuclear Plant, Units 1, 2, and 3 - Revised Schedule for Extended Power Uprate Amendment Request Review," dated September 18, 2009

By letters dated June 28, 2004 (Ref. 1) and June 25, 2004 (Ref. 2), TVA submitted license amendment applications for the EPU of BFN Unit 1, and BFN Units 2 and 3, respectively. The proposed amendment would modify the operating licenses to increase the maximum authorized core thermal power level by approximately 14 percent to 3952 megawatts.

Based on discussions with the NRC staff, including an August 11, 2009 meeting, TVA has revised the Unit 2 steam dryer stress analysis previously provided in Reference 3. Enclosure 1 provides the revised steam dryer analysis, CDI Report No. 09-13P, Revision 1, "Stress Assessment of Browns Ferry Nuclear Unit 2 Steam Dryer with Steam Dam, Outer Hood and Tie-Bar Reinforcements," and includes the following changes:

- Use of an ASME code based evaluation of weld stresses (in accordance with Table NG-3352-1) is discontinued.
- Removed the part retention analysis for the support beams (T-beams).
- Incorporated additional planned modifications to address high stress areas as discussed in Section 3.1 of CDI Report No. 09-13P.
  - Added stress relief cutout holes to hood stiffeners
  - Reinforced undersize welds on the support beams
- Incorporated a stress reduction factor (SRF) for application at the hood stiffeners as described in Section 4.5 of CDI Report No. 09-13P. This SRF was previously applied in the Unit 1 steam dryer stress analysis for EPU conditions (Ref. 4).

The revisions to the Unit 2 steam dryer stress analysis did not result in a change to the to minimum alternating stress ratio (SR-a). The Unit 2 stress results with frequency shifts remain at SR-a = 3.20 at current licensed thermal power and SR-a = 2.18 at EPU conditions with bump-up factors applied.

The NRC has notified TVA (Ref. 5) that review of the BFN EPU will be delayed until appropriate staff guidance has been completed to address containment overpressure (COP) credit. Currently, the NRC staff has focused its efforts on the review of the Unit 1 EPU based on a TVA request which was predicated on the near term implementation of EPU on Unit 1. Due to the delay associated with the development of COP guidance by the NRC, TVA requests that equal priority be placed on the EPU review of Units 1 and 2. With the submittal of the attached Unit 2 steam dryer stress analysis report, Units 1 and 2 have established the same basis for any outstanding technical issues.

TVA currently plans on repairing the main steam line (MSL) strain gages on Unit 3 during the next refueling outage in the spring of 2010. This would allow completion of the Unit 3 steam dryer structural integrity analyses based on MSL data collected during startup from the outage.

Note that Enclosure 1 contains information that Continuum Dynamics, Inc. (CDI) considers to be proprietary in nature and subsequently, pursuant to 10 CFR

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2.390(a)(4), CDI requests that such information be withheld from public disclosure. Enclosure 3 provides an affidavit from CDI supporting this request. Enclosure 2 contains the redacted version of the proprietary enclosure with the CDI proprietary material removed, which is suitable for 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 change. The proposed TS change still qualifies for a categorical exclusion from environmental review pursuant to the provisions of 10 CFR 51.22(c)(9).

No new regulatory commitments are made in this submittal. Please direct any questions concerning this matter to J. D. Wolcott at (256) 729-2495.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 5th<sup>th</sup> day of November, 2009.

Respectfully,



R. M. Krich  
Vice President  
Nuclear Licensing

- Enclosures:
- Enclosure 1 - CDI Report No. 09-13P, "Stress Assessment of Browns Ferry Nuclear Unit 2 Steam Dryer with Steam Dam, Outer Hood and Tie-Bar Reinforcements," Revision 1 (Proprietary Version)
  - Enclosure 2 - CDI Report No. 09-13NP, "Stress Assessment of Browns Ferry Nuclear Unit 2 Steam Dryer with Steam Dam, Outer Hood and Tie-Bar Reinforcements," Revision 1 (Non-proprietary Version)
  - Enclosure 3 - CDI Affidavit

cc: (Enclosures):

NRC Regional Administrator – Region II  
NRC Senior Resident Inspector – Browns Ferry Nuclear Plant  
State Health Officer – Alabama Department of Public Health