

March 31, 2006

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

10 CFR 50.46

Gentlemen:

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

**TENNESSEE VALLEY AUTHORITY - BROWNS FERRY NUCLEAR PLANT (BFN) -
UNITS 1, 2, AND 3 - APPLICABILITY OF EMERGENCY CORE COOLING SYSTEM
(ECCS) EVALUATION MODELS**

In accordance with 10 CFR 50.46(a)(3)(ii), TVA reported changes in the modeling used to determine compliance with ECCS requirements for BFN Units 1, 2, and 3 in an April 8, 2005, letter (ADAMS Accession No. ML051010026).

Subsequently, on March 2, 2006, a telecon was held between TVA and NRC staff to discuss portions of the letter. During the telecon, the NRC staff requested that TVA confirm that the input values used in the BFN ECCS evaluation models bound BFN operation and that the range of the input values fall within the ranges approved for these models. This letter is provided in response to that request.

BFN Unit 1 will restart with fuel manufactured by Global Nuclear Fuels (GNF). BFN Units 2 and 3 are currently operating with a mixed core of GNF-manufactured and Areva-manufactured fuel (Areva was previously known as Framatome ANP or FANP). Both of these units are in transition to full cores of Areva-manufactured fuel. Since the LOCA analysis basis remains with the original fuel supplier and BFN plans to continue using fuel from both of these vendors, two ECCS evaluation models are used.

For GNF fuel, the BFN LOCA analysis is documented in:

"Browns Ferry Nuclear Plant Units 1, 2, and 3
SAFER/GESTR-LOCA Loss-Of-Coolant Accident Analysis"
General Electric (GE) NEDC-32484P, Rev. 6.

This analysis used four computer codes or models to evaluate the LOCA response: LAMB, TASC, SAFER, and GESTR-LOCA. These codes are described in "General Electric Standard Application for Reactor Fuel", NEDE-24011-P which is referenced in Units 1, 2, and 3 Technical Specification 5.6.5.b.

For Areva fuel, the BFN LOCA analysis is divided into two parts, a break spectrum analysis and a MAPLHGR analysis as documented in:

"Brown's Ferry Units 1, 2, and 3 Extended Power Uprate
LOCA Break Spectrum Analysis", EMF-2950(P), Rev. 1.

"Browns Ferry Units 1, 2, and 3 Extended Power Uprate
LOCA-ECCS Analysis MAPLHGR Limit for ATRIUM™-10 Fuel",
EMF-3145(P), Rev. 0.

The models and computer codes used by Areva for LOCA analyses are collectively referred to as the EXEM BWR-2000 Evaluation Model. The EXEM BWR-2000 Evaluation Model and NRC approval are documented in "EXEM BWR-2000 ECCS Evaluation Model", EMF-2361(P)(A), as referenced in Unit 2 and 3 Technical Specification 5.6.5.b.

The input values (pressures, flows, response times, etc.) used in each of these ECCS evaluation models in all cases conservatively bound BFN operating parameter values. These conservatisms include such things as the assumption of low ECCS flowrates, minimum available ECCS injection systems, and the assumption of internal vessel leakage paths. These bounding input values also fall within the range of values for which the aforementioned ECCS evaluation models have been approved for use by NRC. The administrative processes used in analyzing BFN ECCS performance ensure that acceptable, bounding values are used whenever these ECCS evaluation models are used.

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

Sincerely,

Original signed by

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