



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

May 15, 2006

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 No. 50-259  
Tennessee Valley Authority )

**BROWNS FERRY NUCLEAR PLANT (BFN) - UNIT 1 - SUPPLEMENTAL  
RELOAD LICENSING REPORT - CYCLE 7 OPERATION**

This letter provides the Supplemental Reload Licensing Report (SRLR) for BFN Unit 1 Cycle 7 operation. The SRLR includes the results of the Unit 1 cycle-specific core analyses, and of the transient and accident analyses performed for the actual core design and operating plan for next cycle of power operation. The Unit 1 Cycle 7 core is designed for Extended Power Uprate (EPU) operation and is primarily comprised of fresh fuel. The core design uses 564 fresh GE14 and 108 fresh GE13 fuel assemblies, and 36 previously irradiated GE14 and 56 previously irradiated GE13 fuel assemblies, which were discharged from the BFN Unit 2 Cycle 13 core.

NRC requested that TVA submit the Unit 1 SRLR to show the results of the plant-and cycle-specific analyses for this first planned cycle of EPU operation no later than six months prior to EPU implementation, which is currently scheduled for early 2007 (Reference: letter to TVA from NRC dated May 17, 2005 (ADAMS Accession No. ML051320102)).

DO30

U. S. Regulatory Commission  
Page 3  
May 15, 2006

NRC subsequently requested in a March 1, 2006, letter from NRC to TVA (ML060530095) that TVA provide the Unit 1 SRLR by May 20, 2006, to facilitate completion of the draft EPU Safety Evaluation by October 2006. TVA submitted the Unit 1 EPU license amendment request by letter dated June 28, 2004, (ML041840109) as proposed Technical Specifications Change 431, which is currently being reviewed by NRC.

The Unit 1 SRLR was prepared by Global Nuclear Fuel for TVA, and has been reviewed and accepted by TVA. The report represents the completed core design for Unit 1 Cycle 7 and satisfies the staffs request for a site-specific core safety analysis.

There are no regulatory commitments associated with this submittal. If you have any questions about this submittal, please contact me at (256) 729-2636.

Sincerely,



William D. Crouch  
Manager of Licensing  
and Industry Affairs

Enclosure: 0000-0043-8325-SRLR, Revision 1, Supplemental  
Reload Licensing Report for Browns Ferry 1,  
Reload 6 Cycle 7, May 2006

cc: See page 3

U. S. Regulatory Commission  
Page 3  
May 15, 2006

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