



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

CNL-14-042

March 31, 2014

10 CFR 50.4

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

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

Subject: **Browns Ferry Nuclear Plant Updated Probabilistic Risk Analysis (PRA) Model**

- References:
1. Letter from NRC to TVA, "Browns Ferry Nuclear Plant, Unit 1 – Withdrawal of License Amendment Request to Revise Diesel Generators Allowed Outage Time (TAC NO. MC5254)," dated August 17, 2006 (ADAMS Accession No. ML062090177)
 2. Letter from NRC to TVA, "Browns Ferry Nuclear Plant, Unit 1 – Closeout of Generic Letter 88-20 Concerning Individual Plant Examination (MC5729)," dated July 16, 2007 (ADAMS Accession No. ML 071780517)
 3. Letter from TVA to NRC, "American Society of Mechanical Engineers, Section XI Inservice Inspection Program for the Unit 1 Second Ten-Year Inspection Interval, Request for Relief 1-ISI-26, Risk-Informed Inservice Inspection Program," dated February 11, 2010 (ADAMS Accession No. ML100480125)
 4. Report from TVA to NRC, "Transition to 10 CFR 50.48(c) - NFPA 805 Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants, 2001 Edition," March 2013 (ADAMS Accession No. ML13092A392)

By letters dated August 17, 2006 (Reference 1) and July 16, 2007 (Reference 2), the NRC had raised concerns with the quality and technical adequacy of the Browns Ferry Nuclear Plant (BFN), Unit 1, Probabilistic Risk Assessment (PRA) model in which the NRC staff stated that the Unit 1 PRA model should not be used to support time-sensitive requests, such as a notice of enforcement discretion (NOED), or an emergency or exigent Technical Specification (TS) change.

As described in Enclosure 2 of Reference 3, TVA began a PRA Quality Upgrade Initiative in July 2007. The scope included a transition of the PRA software from a RISKMAN model to a CAFTA model. It included the development of a three-unit model that included all supporting documentation. The entire BFN PRA was reviewed and the documentation was upgraded to be consistent with the current plant design and operation.

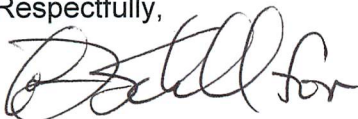
References 3 and 4 document that the BFN Units 1, 2, and 3 Internal Events PRA Peer Review was performed in May 2009 at the TVA offices in Chattanooga, TN, using the process described in NEI 05-04 (Process for Performing Follow-on PRA Peer Reviews Using the ASME PRA Standard), the ASME PRA Standard (ASME/ANS RA-Sa-2009), and Regulatory Guide 1.200, Revision 2. A separate review was performed for the internal flooding portion of the BFN PRA in October 2009 using the same process. A team of independent PRA experts from nuclear utility groups and PRA consulting organizations performed these Peer Review Certifications.

The Peer Review Certifications resulted in a total of 125 findings for the three unit model for internal events and internal flooding. All findings from these assessments have been dispositioned. The certification team determined that with these proposed changes incorporated, the quality of all elements of the BFN PRA model is sufficient to support "risk significant evaluations with deterministic input." As a result of the effort to incorporate the latest industry insights into the BFN PRA model upgrades and certification peer reviews, TVA concludes that the results of the risk evaluation are technically sound and consistent with the expectations for PRA quality set forth in Regulatory Guide 1.174 and Regulatory Guide 1.177.

As a result of these activities, the BFN PRA meets the requirements of Regulatory Guide 1.200, Revision 2 for Internal Events and Internal Flooding and has adequate quality and technical adequacy to be used in support of risk-informed applications for BFN. This includes supporting time-sensitive requests, such as NOEDs, or emergency or exigent TS changes.

There are no new regulatory commitments contained in this letter. Please address any questions regarding this letter to Mr. Edward D. Schrull at (423) 751-3850.

Respectfully,



J. W. Shea
Vice President, Nuclear Licensing

cc:

NRC Regional Administrator – Region II
NRC Senior Resident Inspector – Browns Ferry Nuclear Plant
NRC Project Manager - Browns Ferry Nuclear Plant
NRC PRA Licensing Branch Chief - NRR