June 27, 2005

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 - RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING TECHNICAL SPECIFICATION (TS) CHANGE TS 438 – REVISION TO EXCESS FLOW CHECK VALVE (EHC) SURVEILLANCE TESTING FREQUENCY

In Reference 1, TVA submitted a request for a TS change (TS 438) to license DPR-33 for BFN Unit 1. The proposed TS change will revise the frequency of Surveillance Requirement 3.6.1.3.8 by testing a representative sample (approximately 20 percent) of EHC every 24 months, so each EHC is tested once every 120 months. The enclosure to this letter provides a response to an informal request for additional information.

TVA has determined that the provided information 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).

If you have any questions about this submittal, please contact me at (256) 729-2636.

Sincerely,

Original Signed by:

William D. Crouch
Manager of Licensing
and Industry Affairs

References:

1. TVA letter, T.E. Abney to NRC, dated October 12, 2004, "Browns Ferry Nuclear Plant (BFN) - Unit 1 – Technical Specifications (TS) Change 438 – Revision To Excess Flow Check Valve (EHC) Surveillance Testing Frequency."

Enclosure
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ENCLOSURE
RESPONSE TO NRC INFORMAL
REQUEST FOR ADDITIONAL INFORMATION

BROWNS FERRY NUCLEAR PLANT (BFN)
TECHNICAL SPECIFICATION (TS) CHANGE TS 438
EXCESS FLOW CHECK VALVE SURVEILLANCE FREQUENCY

NRC QUESTION

1. In Section 4A of Enclosure 1, you provided the radiological dose assessment due to an instrument line break outside of the containment. Please provide:

   (1) The amount of liquid and steam released for the first 10 minutes following the postulated instrument line break prior to the containment isolation;

   (2) Steam flashing factor assumed; and

   (3) Total iodine activity released during this period.

TVA RESPONSE

(1) The Steam Release Rate is 4206 lb/hr (701 lbs in 10 min.) and Liquid Release Rate is 6780 lb/hr(1130 lbs in 10 min.) and the mass values are post flashing masses. The leak is modeled as a flow from the reactor coolant to either the sump (the non-flashed liquid fraction) or the reactor building (the flashed steam fraction). The leak flow rates and fluid pressure are taken from Figure 8-1 on Page 8-2, *Total Mass Flow Rate From Instrument Line Break - ¼ inch Orifice*, and Figure 8-2 on Page 8-3, *Reactor Pressure During Normal Shutdown*, of General Electric NEDO-21143-1, Radiological Accident Evaluation - The CONAC03 Code, dated December 1981. NEDO-21143-1 was included as part of TVA's April 27 2005 letter.

To establish the flashing fraction, the pressure is read off Figure 8-2. Using the steam tables, the enthalpy at saturation at those pressures are calculated. Assuming constant enthalpy, the flashing fraction will be the quality of the fluid at atmospheric pressure. Once the mass release and flashing fractions are known, the liquid and steam release can be determined. The release rates as

calculated were corrected by a scaling factor to be consistent with GE Report B21-0658-01, *Excess Flow Check Valve Testing Relaxation*, dated November 16, 1998.

(2) The steam flashing factor is 0.3829 (See above).

(3) The total iodine activity released for the 10 minute period is:

NUCLIDE	REACTOR BUILDING RELEASE
Iodine 131	9.881E-01
Iodine 132	8.885E+00
Iodine 133	6.649E+00
Iodine 134	1.565E+01
Iodine 135	9.472E+00

The units for releases are in Curies.

NRC QUESTION

2. Would implementation of this Technical Specification change require a change to the Inservice Test Program described in 10 CFR 50.55a?

TVA RESPONSE

No. In accordance with the Units 2 and 3 precedent, the Effects are in the Augmented Inservice Test Program, but they are not in the Inservice Test Program (TIP).

TVA reviewed this question in 1999 when Units 2 and 3 Technical Specification changes were submitted. After reviewing the BWROG report upon which the Technical Specification change was based, it was decided that a relief request was not required. The report states that these valves are not required to perform any of the functions that make the ASME code applicable for ITS and therefore are excluded from Code requirements for ITS.

The valves are ASME Code Class 1 components within the ASME piping boundaries for pressure boundary and structural integrity but do not perform a safety function other than maintaining their pressure boundary. The ability to maintain pressure boundary is verified on a periodic and ongoing basis. Although the excess flow check valves are not in the ASME Code ITS Program, they are tested for function per the TS and the Augmented ITS Program at prescribed frequencies.