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SUBJECT: Application for amends to licenses DPR-52 & DPR-68, revising
TS Section 3.4, re Reactor Coolant sys.

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

June 26, 1998

10 CFR 50.90

U.S. Nuclear Regulatory Commission
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Washington, DC 20555

Gentlemen:

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

BROWNS FERRY NUCLEAR PLANT (BFN) - UNITS 2 AND 3 TECHNICAL SPECIFICATIONS (TS) CHANGE-384 - REQUEST FOR LICENSE AMENDMENT FOR POWER UPRATE SUPPLEMENT 2

In accordance with the provisions of 10 CFR 50.4 and 50.90, TVA is submitting a request for an amendment TS-384 to licenses DPR-52 and DPR-68 to change the TS for Units 2 and 3. In support of amendment request TS-384, TVA is providing these supplemental changes relating to TS Section 3.4, Reactor Coolant System.

On October 1, 1997, TVA proposed changes which will allow Units 2 and 3 to operate at an uprated power level of 3458 Mwt. The October 1, 1997, submittal was based on the latest version of BFN Improved Technical Specifications (ITS) at that time. Subsequently, several supplements of ITS were submitted to the staff. TVA has reviewed the supplements to ITS and identified these technical changes which are associated with Power Uprate.

This supplement provides changes to LCO 3.4.10 (Reactor Steam Dome Pressure), SR 3.4.10.1 and corresponding Bases sections. LCO 3.4.10, SR 3.4.10.1 and related Bases sections were added to the proposed ITS by TS-362, Supplement 5, dated November 14, 1997. The change presented by this supplement is consistent with that provided in the plant specific analysis in Enclosure 5 of the October 1, 1997, letter.

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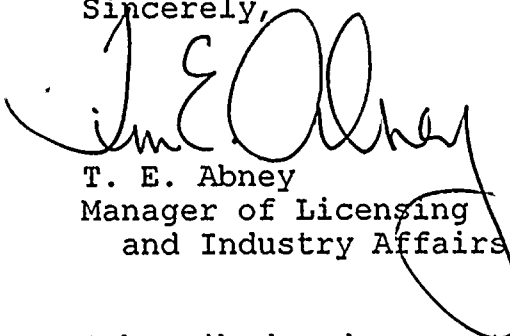
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Enclosure 1 to this letter provides a description and evaluation of the proposed change. Enclosure 2 contains a mark-up of the affected Unit 2 and Unit 3 TS pages. The revised pages will be provided prior to NRC issuance of the Power Uprate license amendment.

The enclosed supplemental information does not alter the determination that there are no significant hazards considerations associated with the proposed changes, nor does it alter the originally submitted Environmental Assessment and Finding of No Significant Impact. The BFN Plant Operations Review Committee and the BFN Nuclear Safety Review Board have reviewed this proposed change and determined that operation of BFN Units 2 and 3 in accordance with the proposed change will not endanger the health and safety of the public. Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter and enclosures to the Alabama State Department of Public Health.

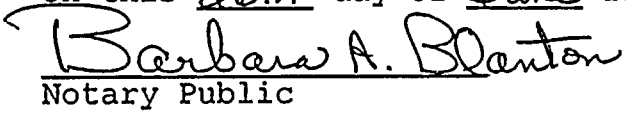
There are no commitments contained in this letter. If you have any questions, please contact me at (265) 729-2636.

Sincerely,



T. E. Abney
Manager of Licensing
and Industry Affairs

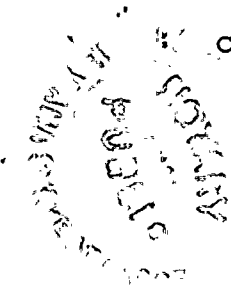
Subscribed and sworn to before me
on this 26th day of June 1998.



Notary Public

My Commission Expires _____ My Commission Expires 10/06/98

cc: See page 3



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Enclosures

cc (Enclosures):

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ENCLOSURE 1

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT (BFN)
UNITS 2 AND 3

PROPOSED TECHNICAL SPECIFICATION (TS) CHANGE
TS-390, SUPPLEMENT 2
DESCRIPTION AND EVALUATION OF THE PROPOSED CHANGE

I. DESCRIPTION OF THE PROPOSED CHANGES:

In LCO 3.4.10 and in SR 3.4.10.1 the limit for reactor steam dome pressure is increased from ≤ 1020 psig to ≤ 1050 psig.

In Bases Section B 3.4.10 corresponding and related changes are made. The reactor steam dome pressure limit is increased from ≤ 1020 psig to ≤ 1050 psig in the discussions of "Applicable Safety Analyses," "LCO," and "Surveillance Requirements."

In addition, the reactor steam dome pressure input as an initial condition to the vessel overpressure protection analysis is changed from a pre-uprated pressure of 1071 psig to an uprated value of 1055 psig. The nominal operating pressure at which design basis accident and transient analyses are performed is increased from a pre-uprated value of 1005 psig to an uprated value of 1035 psig and 1040 psig, respectively.

II. Reason for the Changes:

As discussed in submittal TS-384 (Reference), nominal operating pressure for uprated power is increased 30 psi, from 1005 psig to 1035 psig. Operating pressure is increased to assure that satisfactory reactor pressure control is maintained. The operating pressure was chosen on the basis of steam line pressure drop characteristics and the steam flow capability of the turbine. Satisfactory reactor pressure control requires an adequate flow margin between the uprated operating condition and the steam flow capability of the turbine control valves at their maximum stroke.

The operating limit for reactor steam dome pressure is increased 30 psi, from ≤ 1020 psig to ≤ 1050 psig. This is consistent with the increase in nominal operating pressure due to power uprate.

III. Evaluation of the Changes:

As described in the revised Bases B 3.4.10, effects of an increase in operating pressure have been included in analyses supporting the proposed power uprate. The value of operating reactor steam dome pressure input as an initial condition to the vessel overpressure protection analysis has been changed from 1071 psig to 1055 psig.

The previous analysis input value of 1071 psig, is the high pressure scram setpoint analytical limit at pre-uprated conditions. The overpressure protection analysis demonstrates that no ASME upset category pressurization event will cause the reactor coolant pressure boundary to exceed the ASME code upset criteria assuming the plant is operated within the TSs (e.g., valves in service, setpoint tolerances, scram speeds, and LCO pressure limits). BFN has previously based the input to the reactor overpressure protection analysis on the analytical limit for the high pressure scram. For the pre-uprated units this analytical limit is 1071 psig; for the uprated units, it is 1101 psig.

For power uprate, BFN based the overpressure protection analysis input on a value slightly greater than the dome pressure LCO. For the pre-uprated units, this LCO value will be 1020 psig (after ITS implementation); for the uprated units, this value will be 1050 psig. Adding 5 psi, results in 1055 psig as the analytical input for the power uprate vessel overpressure protection analysis.

The value of 1055 psig utilized in the overpressure protection analysis is 20 psi above the nominal reactor dome pressure of 1035 psig for the uprated conditions. This change is consistent with that described in Section 3.2 of NEDC-32751P (Enclosure 5 of Reference). The 1055 psig initial value for the over pressure analysis is also higher than the proposed value of 1050 psig in LCO 3.4.10.

The value of nominal operating pressure input as an initial condition to design basis accident analyses has been increased from 1005 psig to 1035 psig, and for the transient analyses, 1005 psig to 1040 psig. Based on results of analysis, with input pressure to the vessel overpressure protection evaluation 20 psi greater than the nominal operating pressure, and assumed increase in reactor steam dome pressure of 30-35 psi in the analysis, the increase of 30 psi in the operating limit for reactor steam dome pressure is acceptable.

IV. Reference:

TVA letter to NRC dated October 1, 1997, "Browns Ferry Nuclear Plant (BFN) - Units 2 and 3 - Technical Specification (TS) Change TS-384 - Request for License Amendment for Power Uprate Operation."