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SUBJECT: Provides supplemental info requested by ltr drd 981019 to support NRC staff review of proposed Tech Specs Change TS-393.No commitments contained in ltr.With one oversize drawing.

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November 13, 1998

TVA-BFN-TS-393

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

Gentlemen:

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

BROWNS FERRY NUCLEAR PLANT (BFN) - UNITS 2 AND 3 - RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING PRESSURE-TEMPERATURE CURVE UPDATE, TS-393 (TAC NOS. MA1304 AND MA1305)

Reference: NRC to TVA letter dated October 19, 1998, Browns Ferry Nuclear Plant, Units 2 and 3 - Request for Additional Information Regarding Pressure - Temperature Update

The enclosures provide supplemental information requested by the reference letter to support the NRC staff's review of proposed technical specification change TS-393. TVA submitted TS-393 on March 3, 1998 to revise the BFN Units 2 and 3 pressure-temperature curves to extend the validity of the curves to 32 effective full power years. The information contained in the enclosures reflects clarifications to the questions as discussed with the NRC staff during a November 4, 1998 telephone call.

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

Sincerely,

T. E. Abney
Manager of Licensing
and Industry Affairs

Enclosures
cc: See page 2

A030

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Drawing located in Central Files

Enclosures
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ENCLOSURE 1

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

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING
PRESSURE-TEMPERATURE CURVE UPDATE, TS-393

RAI Question 1 - ART Values

Provide the adjusted reference temperature (ART) calculations for all beltline, flange, and bottom head materials that were not included in your submittal.

Response

References:

1. TVA to NRC letter dated July 14, 1995, Browns Ferry Nuclear Plant (BFN) - Units 1, 2, and 3 - Supplemental Information For Proposed Technical Specification (TS) No. 349 - Reactor Vessel Pressure-Temperature (P-T) Curves And Boltup Temperatures

2. TVA to NRC letter dated March 3, 1998, Browns Ferry Nuclear Plant (BFN) - Units 2 and 3 - Technical Specification (TS) Change No. 393 - Pressure-Temperature Curve Update

The tables provided below list the initial RT_{NDT} values for the Unit 2 and Unit 3 non-beltline components. The limiting initial RT_{NDT} values were utilized to develop the non-beltline curves 1, 2, and 3 shown on Tables 3 and 4 of Reference 2. These data were previously provided to NRC by Reference 1.

NON-BELTLINE RT_{NDT}'S - UNIT 2	
COMPONENT / REGION	RT_{NDT}
Closure Region	22°F
Bottom Head Region	42°F
Jet Pump Nozzle	54°F
All Other Non-Beltline	≤40°F

NON-BELTLINE RT_{NDT}'S - UNIT 3	
COMPONENT / REGION	RT_{NDT}
Closure Region	10°F
Bottom Head Region	58°F
Recirc. Inlet Nozzle	46°F
Recirc. Outlet Nozzle	50°F
Steam Outlet Nozzle	42°F
Feedwater Nozzle	42°F
Jet Pump Instr. Nozzle	58°F
All Other Non-Beltline	≤40°F

ENCLOSURE 1

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

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING
PRESSURE-TEMPERATURE CURVE UPDATE, TS-393

RAI Question 2 - ART Values for the N16 Instrumentation Nozzle

If the N16 instrumentation nozzles are in the beltline regions of the Browns Ferry reactor pressure vessels, then include the ART calculations for the instrumentation nozzles among the ART calculations for the materials in Question 1.

Response

The N16 instrumentation nozzles are two 2-inch diameter penetrations that are located in Shell Segment Assembly Course #2 whose centerline is located at 366 inches above reactor zero, which is the top of the active fuel region (216" - 366"). The "nozzle" , which is used for instrumentation, consists of a tapered 2-inch Alloy 600 pipe that is welded to the inside of the reactor pressure vessel (RPV) using a partial penetration weld. A detail of the Unit 3 N16 instrumentation nozzle is shown on Reference Drawing 1, contained in Enclosure 2. The reactor feedwater nozzles are six 12-inch diameter nozzles that are located in Shell Segment Assembly Course #3. (See Enclosure 2, Reference Drawing No. 2). The nozzle is attached to the inside and outside of the RPV via a full penetration weld.

Since the stresses in the feedwater nozzles bound those of the instrumentation nozzles, the analysis for the 12-inch feedwater nozzles is considered to be bounding for the N16 instrumentation nozzles.

ENCLOSURE 2

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

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION REGARDING
PRESSURE-TEMPERATURE CURVE UPDATE, TS-393

Reference Drawings

1. Unit 3 - Shell segment Assembly Course #2, B&W Dwg. No. 142116E, Sht. 1
2. Units 1 and 2 - 12" Feedwater Nozzle, B&W Dwg. No. 122866E, Sht. 2