

November 7, 2003

TVA-BFN-TS-425

10 CFR 50.90

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 Nos. 50-260
Tennessee Valley Authority)	50-296

BROWNS FERRY NUCLEAR PLANT (BFN) - UNITS 2 AND 3 - TECHNICAL SPECIFICATIONS (TS) CHANGE 425 - FRAMATOME FUEL - CORE OPERATING LIMITS REPORT (COLR) REFERENCES - RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION (RAI) (TAC NOS. MB8433, MB8434)

This letter is in response to an additional RAI question received from NRC staff on October 16, 2003, regarding BFN TS change 425. The proposed amendment, which was submitted on April 14, 2003, revises two Limiting Conditions for Operation regarding core thermal limits adjustments for inoperable equipment and modifies TS 5.6.5, COLR, to add references to the Framatome Advanced Nuclear Power analytical methods that will be used to determine core operating limits. TVA previously responded to an RAI on this proposed TS change on September 5, 2003.

The NRC question is repeated in the Enclosure with the TVA response. TVA has determined this additional information response does not change the determination in the April 14, 2003, TS-425 submittal that there are no significant hazards considerations associated with the proposed change and that the TS change qualifies for a categorical exclusion from environmental review pursuant to the provisions of 10 CFR 51.22(c)(9). Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter and the Enclosure to the Alabama State Department of Public Health.

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There are no regulatory commitments associated with this submittal. If you have any questions about this submittal or TS-425, please contact me at (256) 729-2636.

I declare under penalty of perjury that the foregoing is true and correct. Executed on November 7, 2003.

Sincerely,

Original signed by:

T. E. Abney
Manager of Licensing
and Industry Affairs

Enclosure:

1. Response to Request for Additional Information

Enclosure

cc (Enclosure):

State Health Officer
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DTL:BCM:BAB

Enclosure

cc (Enclosure):

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- E. J. Vigluicci, ET 11A-K
- NSRB Support, LP 5M-C
- EDMS-K

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Enclosure

Technical Specifications (TS) Change 425

Framatome Fuel - Core Operating Limits Report (COLR) References

Units 2 and 3

Response to Request for Additional Information

Question on the BF Units 2 and 3 TS Amendment 425

LCO 3.3.4.1 and LCO 3.7.5 Technical Specifications (TS) changes add LCO 3.3.4.1.c, and LCO 3.7.5.c, respectively, with the same text as "Linear Heat Generation Rate (LHGR)," limits for an inoperable EOC-RPT [end of cycle recirculation pump trip], or inoperable Main Turbine Bypass System, as specified in the COLR [core operating limits report]. COLR TS 5.6.5.a.(2) is the LHGR for Specification 3.2.3, and the methodologies used to support TS 5.6.5.a.(2) are listed in seven topical reports (Attachment A of September 5, 2003 submittal). It appears that the current COLR for Unit 2 does not show this aspect. Please identify specifically which approved methodology provides the approach to account for differences in applying core limit adjustment factors and to ensure thermal limits are maintained for EOOS [equipment out of service] conditions. Also, provide an example of the description to support these TS amendments.

TVA Response

The same Framatome Advanced Nuclear Power (FANP) methodology is used for standard operation and for the equipment-out-of-service (EOOS) operating flexibility options. The analyses are performed consistent with the allowed operating conditions, and the availability or non-availability of equipment (EOC-RPT or Main Turbine Bypass System) is handled in the input of the analyses to create different reactor boundary conditions. So the applicable topical report methodologies are the same as those referenced for Specification 3.2.3 in Attachment A of the September 5, 2003, Request for Additional Information response on TS-425.

Specifically, the LHGR and transient analysis methodology topical reports that are used to generate the LHGR limits for inoperable

EOC-RPT and inoperable Main Turbine Bypass are:

1. XN-NF-81-58(P)(A) and Supplements 1 and 2, Revision 2 RODEX2 Fuel Rod Thermal-Mechanical Response Evaluation Model.
2. XN-NF-85-67(P)(A) Revision 1, Generic Mechanical Design for Exxon Nuclear Jet Pump BWR Reload Fuel.
3. EMF-85-74(P) Revision 0 Supplement 1(P)(A) and Supplement 2(P)(A), RODEX2A (BWR) Fuel Rod Thermal-Mechanical Evaluation Models.
4. ANF-89-98(P)(A) Revision 1 and Supplement 1, Generic Mechanical Design Criteria for BWR Fuel Designs.
5. XN-NF-80-19(P)(A) Volume 1 and Supplements 1 and 2, Exxon Nuclear Methodology for Boiling Water Reactors Neutronic Methods for Design and Analysis.
6. XN-NF-80-19(P)(A) Volume 4 Revision 1, Exxon Nuclear Methodology for Boiling Water Reactors: Application of the ENC Methodology to BWR Reloads.
7. EMF-2158(P)(A) Revision 0, Siemens Power Corporation Methodology for Boiling Water Reactors: Evaluation and Validation of CASMO-4/MICROBURN-B2.

The Global Nuclear Fuels (GNF) methodology in the current Unit 2 and 3 COLRs defines Average Planar Linear Heat Generation Rate (APLHGR) limits for inoperable EOC-RPT and Main Turbine Bypass in terms of MAPFAC(F) and MAPFAC(P) multipliers to the baseline APLHGR limits. Similar to GNF, but based on LHGR, the FANP LHGR limits for inoperable EOC-RPT and Main Turbine Bypass will be represented with LHGRFAC_f and LHGRFAC_p multipliers. As an example for the future COLR, the FANP LHGRFAC plots and limits will look very similar to the current GNF COLR MAPFAC plots and limits.