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

November 20, 2008

TVA-BFN-TS-462

10 CFR 50.90

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Stop: OWFN P1-35
Washington, D.C. 20555-0001

In the Matter of	)	Docket Nos. 50-259
Tennessee Valley Authority	)	50-260
		50-296

BROWNS FERRY NUCLEAR PLANT (BFN) - UNITS 1, 2, AND 3 - TECHNICAL SPECIFICATIONS (TS) CHANGE 462 - REQUEST FOR ADOPTION OF TSTF-475 REVISION 1 - REVISION OF CONTROL ROD NOTCH SURVEILLANCE TEST FREQUENCY AND A CLARIFICATION OF A FREQUENCY EXAMPLE USING THE CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS (CLIIP) - UNITS 2 AND 3 TS AND TS BASES PAGE MARK-UPS

By letter dated October 30, 2008 (ADAMS Accession No. ML0830901051), TVA submitted a request for a TS change (TS-462) for BFN Units 1, 2 and 3. The proposed TS change was submitted in accordance with the CLIIP and adopts the changes from TSTF-475 Revision 1 to: (1) revise the TS surveillance requirement frequency in TS 3.1.3, "Control Rod Operability," and (2) revise Example 1.4-3 in TS Section 1.4 "Frequency" to clarify the applicability of the 1.25 surveillance test interval extension.

In the October 30, 2008, submittal, TVA provided mark-ups of the current Unit 1 TS and Unit 1 TS Bases pages to show the proposed changes with a statement that the same exact changes were being requested for Units 2 and 3. As part of NRC's acceptance review, NRC requested that TVA also submit mark-ups of the existing Unit 2 and Unit 3 TS and TS Bases pages showing the proposed changes. These are provided in Enclosures 1 and 2.

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TVA has determined that the additional information provided by this letter 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).

No new regulatory commitments are made in this submittal. If you have any questions about this TS change, please contact me at (256)729-2636.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 20th day of November, 2008.

Sincerely,

M. K. Brandon
Manager of Licensing
and Industry Affairs

Enclosures:

1. Proposed Unit 2 and 3 Technical Specifications Changes (mark-up)
2. Proposed Unit 2 and 3 Changes to Technical Specifications Bases Pages (mark-up)

Enclosures
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Enclosure 1

Browns Ferry Nuclear Plant (BFN)
Units 1, 2, and 3

Technical Specifications Change 462

Request for Adoption of TSTF-475 Revision 1
Revision of Control Rod Notch Surveillance Test Frequency and a Clarification of a Frequency Example Using the Consolidated Line Item Improvement Process

Proposed Unit 2 and 3 Technical Specifications Changes (mark-up)

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-3

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
----------NOTE---------- Not required to be performed until 12 hours after ≥ 25% RTP. ----------	
Perform channel adjustment.	7 days

The interval continues whether or not the unit operation is < 25% RTP between performances.

As the Note modifies the required performance of the Surveillance, it is construed to be part of the "specified Frequency." Should the 7 day interval be exceeded while operation is < 25% RTP, this Note allows 12 hours after power reaches ≥ 25% RTP to perform the Surveillance. The Surveillance is still considered to be within the "specified Frequency." Therefore, if the Surveillance were not performed within the 7 day (plus the extension allowed by SR 3.0.2) interval, but operation was < 25% RTP, it would not constitute a failure of the SR or failure to meet the LCO. Also, no violation of SR 3.0.4 occurs when changing MODES, even with the 7 day Frequency not met, provided operation does not exceed 12 hours with power ≥ 25% RTP.

Once the unit reaches 25% RTP, 12 hours would be allowed for completing the Surveillance. If the Surveillance were not performed within this 12 hour interval, there would then be a failure to perform a Surveillance within the specified Frequency and the provisions of SR 3.0.3 would apply.

(continued)

(plus the extension allowed by SR 3.0.2)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. (continued)	A.3	Perform ~~SR 3.1.3.2 and~~ SR 3.1.3.3 for each withdrawn OPERABLE control rod.	24 hours from discovery of Condition A concurrent with THERMAL POWER greater than the low power setpoint (LPSP) of the RWM
	AND		
	A.4	Perform SR 3.1.1.1.	72 hours
B. Two or more withdrawn control rods stuck.	B.1	Be in MODE 3.	12 hours
C. One or more control rods inoperable for reasons other than Condition A or B.	C.1	----------NOTE---------- RWM may be bypassed as allowed by LCO 3.3.2.1, if required, to allow insertion of inoperable control rod and continued operation. ----------	
		Fully insert inoperable control rod.	3 hours
	AND		
	C.2	Disarm the associated CRD.	4 hours

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.3.1	Determine the position of each control rod.	24 hours
SR 3.1.3.2	----------NOTE---------- Not required to be performed until 7 days after the control rod is withdrawn and THERMAL POWER is greater than the LPSP of the RWM. ---------- Insert each fully withdrawn control rod at least one notch.	7 days
SR 3.1.3.3	----------NOTE---------- Not required to be performed until 31 days after the control rod is withdrawn and THERMAL POWER is greater than the LPSP of the RWM. ---------- Insert each partially withdrawn control rod at least one notch.	31 days
SR 3.1.3.4	Verify each control rod scram time from fully withdrawn to notch position 06 is ≤ 7 seconds.	In accordance with SR 3.1.4.1, SR 3.1.4.2, SR 3.1.4.3, and SR 3.1.4.4

INSERT (Deleted).

(continued)

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-3

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
----------NOTE---------- Not required to be performed until 12 hours after ≥ 25% RTP. ----------	
Perform channel adjustment.	7 days

The interval continues whether or not the unit operation is < 25% RTP between performances.

As the Note modifies the required performance of the Surveillance, it is construed to be part of the "specified Frequency." Should the 7 day interval be exceeded while operation is < 25% RTP, this Note allows 12 hours after power reaches ≥ 25% RTP to perform the Surveillance. The Surveillance is still considered to be within the "specified Frequency." Therefore, if the Surveillance were not performed within the 7 day (plus the extension allowed by SR 3.0.2) interval, but operation was < 25% RTP, it would not constitute a failure of the SR or failure to meet the LCO. Also, no violation of SR 3.0.4 occurs when changing MODES, even with the 7 day Frequency not met, provided operation does not exceed 12 hours with power ≥ 25% RTP.

Once the unit reaches 25% RTP, 12 hours would be allowed for completing the Surveillance. If the Surveillance were not performed within this 12 hour interval, there would then be a failure to perform a Surveillance within the specified Frequency and the provisions of SR 3.0.3 would apply.

(plus the extension allowed by SR 3.0.2)

(continued)

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. (continued)	A.3	Perform ~~SR 3.1.3.2 and~~ SR 3.1.3.3 for each withdrawn OPERABLE control rod.	24 hours from discovery of Condition A concurrent with THERMAL POWER greater than the low power setpoint (LPSP) of the RWM
	AND		
	A.4	Perform SR 3.1.1.1.	72 hours
B. Two or more withdrawn control rods stuck.	B.1	Be in MODE 3.	12 hours
C. One or more control rods inoperable for reasons other than Condition A or B.	C.1	----------NOTE---------- RWM may be bypassed as allowed by LCO 3.3.2.1, if required, to allow insertion of inoperable control rod and continued operation. ----------	
		Fully insert inoperable control rod.	3 hours
	AND		
	C.2	Disarm the associated CRD.	4 hours

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.3.1	Determine the position of each control rod.	24 hours
SR 3.1.3.2	----------NOTE---------- Not required to be performed until 7 days after the control rod is withdrawn and THERMAL POWER is greater than the LPSP of the RWM. ---------- Insert each fully withdrawn control rod at least one notch.	7 days
SR 3.1.3.3	----------NOTE---------- Not required to be performed until 31 days after the control rod is withdrawn and THERMAL POWER is greater than the LPSP of the RWM. ---------- Insert each ~~partially~~ withdrawn control rod at least one notch.	31 days
SR 3.1.3.4	Verify each control rod scram time from fully withdrawn to notch position 06 is $\leq$ 7 seconds.	In accordance with SR 3.1.4.1, SR 3.1.4.2, SR 3.1.4.3, and SR 3.1.4.4

INSERT (Deleted).

(continued)

Enclosure 2

Browns Ferry Nuclear Plant (BFN)
Units 1, 2, and 3

Technical Specifications Change 462

Request for Adoption of TSTF-475 Revision 1
Revision of Control Rod Notch Surveillance Test Frequency and a Clarification of a Frequency Example Using the Consolidated Line Item Improvement Process

Proposed Changes to Unit 2 and 3 Technical Specifications Bases Pages (mark-up)

BASES

ACTIONS

A.1, A.2, A.3, and A.4 (continued)

Hydraulically disarming does not normally include isolation of the cooling water. The allowed Completion Time of 2 hours is acceptable, considering the reactor can still be shut down, assuming no additional control rods fail to insert, and provides a reasonable time to perform the Required Action in an orderly manner. The control rod must be isolated from both scram and normal insert and withdraw pressure. Isolating the control rod from scram prevents damage to the CRDM.

Monitoring of the insertion capability of each withdrawn control rod must also be performed within 24 hours from discovery of Condition A concurrent with THERMAL POWER greater than the low power setpoint (LPSP) of the RWM. ~~SR 3.1.3.2 and~~ SR 3.1.3.3 perform periodic tests of the control rod insertion capability of withdrawn control rods. Testing each withdrawn control rod ensures that a generic problem does not exist. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." The Required Action A.3 Completion Time only begins upon discovery that THERMAL POWER is greater than the actual LPSP of the RWM since the notch insertions may not be compatible with the requirements of rod pattern control (LCO 3.1.6) and the RWM (LCO 3.3.2.1). The allowed Completion Time of 24 hours from discovery of Condition A concurrent with THERMAL POWER greater than the LPSP of the RWM provides a reasonable time to test the control rods, considering the potential for a need to reduce power to perform the tests.

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.1.3.1

The position of each control rod must be determined to ensure adequate information on control rod position is available to the operator for determining control rod OPERABILITY and controlling rod patterns. Control rod position may be determined by the use of OPERABLE position indicators, by moving control rods to a position with an OPERABLE indicator, or by the use of other appropriate methods. The 24 hour Frequency of this SR is based on operating experience related to expected changes in control rod position and the availability of control rod position indications in the control room.

SR 3.1.3.2 (Deleted). INSERT

~~SR 3.1.3.2 and~~ SR 3.1.3.3

Control rod insertion capability is demonstrated by inserting each partially or fully withdrawn control rod at least one notch and observing that the control rod moves. The control rod may then be returned to its original position. This ensures the control rod is not stuck and is free to insert on a scram signal. This surveillance is ~~These Surveillances are~~ not required when THERMAL POWER is less than or equal to the actual LPSP of the RWM, since the notch insertions may not be compatible with the requirements of banked position withdrawal sequence (BPWS) (LCO 3.1.6) and the RWM (LCO 3.3.2.1). ~~The 7 day Frequency of SR 3.1.3.2 is based on operating experience related to the changes in CRD performance and the ease of performing notch testing for fully withdrawn control rods. Partially withdrawn control rods are tested at a 31 day Frequency, based on the potential power reduction required to allow the control rod movement and considering the large testing sample of SR 3.1.3.2. Furthermore, the 31 day Frequency takes into account operating experience related to changes in CRD performance.~~ At any time, if a control rod is immovable, a determination of that control rod's trippability must be made and appropriate action taken.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.1.3.5 (continued)

notch and then returned to the "full out" position during the performance of SR 3.1.3.2. This Frequency is acceptable, considering the low probability that a control rod will become uncoupled when it is not being moved and operating experience related to uncoupling events.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 26, GDC 27, GDC 28, and GDC 29.
2. FSAR, Section 3.4.6.
3. FSAR, Section 14.5.
4. FSAR, Section 14.6.
5. NEDO-21231, "Banked Position Withdrawal Sequence," Section 7.2, January 1977.
6. NRC No. 93-102, "Final Policy Statement on Technical Specification Improvements," July 23, 1993.

BASES

ACTIONS

A.1, A.2, A.3, and A.4 (continued)

Hydraulically disarming does not normally include isolation of the cooling water. The allowed Completion Time of 2 hours is acceptable, considering the reactor can still be shut down, assuming no additional control rods fail to insert, and provides a reasonable time to perform the Required Action in an orderly manner. The control rod must be isolated from both scram and normal insert and withdraw pressure. Isolating the control rod from scram prevents damage to the CRDM.

Monitoring of the insertion capability of each withdrawn control rod must also be performed within 24 hours from discovery of Condition A concurrent with THERMAL POWER greater than the low power setpoint (LPSP) of the RWM. SR 3.1.3.2 and SR 3.1.3.3 perform periodic tests of the control rod insertion capability of withdrawn control rods. Testing each withdrawn control rod ensures that a generic problem does not exist. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." The Required Action A.3 Completion Time only begins upon discovery that THERMAL POWER is greater than the actual LPSP of the RWM since the notch insertions may not be compatible with the requirements of rod pattern control (LCO 3.1.6) and the RWM (LCO 3.3.2.1). The allowed Completion Time of 24 hours from discovery of Condition A concurrent with THERMAL POWER greater than the LPSP of the RWM provides a reasonable time to test the control rods, considering the potential for a need to reduce power to perform the tests.

(continued)

BASES (continued)

SURVEILLANCE REQUIREMENTS

SR 3.1.3.1

The position of each control rod must be determined to ensure adequate information on control rod position is available to the operator for determining control rod OPERABILITY and controlling rod patterns. Control rod position may be determined by the use of OPERABLE position indicators, by moving control rods to a position with an OPERABLE indicator, or by the use of other appropriate methods. The 24 hour Frequency of this SR is based on operating experience related to expected changes in control rod position and the availability of control rod position indications in the control room.

SR 3.1.3.2 (Deleted). INSERT →

~~SR 3.1.3.2 and~~ SR 3.1.3.3

Control rod insertion capability is demonstrated by inserting each partially or fully withdrawn control rod at least one notch and observing that the control rod moves. The control rod may then be returned to its original position. This ensures the control rod is not stuck and is free to insert on a scram signal. this surveillance is →

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(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.1.3.5 (continued)

notch and then returned to the "full out" position during the performance of SR 3.1.3.2. This Frequency is acceptable, considering the low probability that a control rod will become uncoupled when it is not being moved and operating experience related to uncoupling events.

REFERENCES

1. 10 CFR 50, Appendix A, GDC 26, GDC 27, GDC 28, and GDC 29.
2. FSAR, Section 3.4.6.
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4. FSAR, Section 14.6.
5. NEDO-21231, "Banked Position Withdrawal Sequence," Section 7.2, January 1977.
6. NRC No. 93-102, "Final Policy Statement on Technical Specification Improvements," July 23, 1993.