Enclosure 1

Proposed Technical Specifications Revisions

Browns Ferry Nuclear Plant

Unit 2

(TVA BFN TS 263)

TABLE 4.1.B
REACTOR PROTECTION SYSTEM (SCRAM) INSTRUMENT CALIBRATION
MINIMUM CALIBRATION FREQUENCIES FOR REACTOR PROTECTION INSTRUMENT CHANNELS

Instrument Channel	Group (1)	Calibration	Minimum Frequency(2)
IRM High Flux	C	Comparison to APRM on Controlled Startups (6)	Note (4)
APRM High Flux Output Signal	B	Heat Balance	Once/7 Days
Flow Bias Signal	B	Calibrate Flow Bias Signal (7)	Once/Operating Cycle
LPRM Signal	B	TIP System Traverse (8)	Every 1000 Effective Full Power Hours
High Reactor Pressure (PIS-3-22 AA, BB, C, D)	B	Standard Pressure Source	Once/6 Months (9)
High Drywell Pressure (PIS-64-56 A-D)	B	Standard Pressure Source	Once/18 Months (9)
Reactor Low Water Level (LIS-3-203 A-D)	B	Pressure Standard	Once/18 Months (9)
High Water Level in Scram Discharge Volume Float Switches (LS-85-45-C-F)	A	Calibrated Water Column	Once/18 Months
Electronic Level Switches (LS-85-45 A, B, G, H)	B	Calibrated Water Column	Once/18 Months (9)
Main Steam Line Isolation Valve Closure	A	Note (5)	Note (5)
Main Steam Line High Radiation	B	Standard Current Source (3)	Every 3 Months
Turbine First Stage Pressure Permissive (PIS-1-81 A&B, PIS-1-91 A&B)	B	Standard Pressure Source	Once/18 Months (9)
Turbine Stop Valve Closure	A	Note (5)	Note (5)
Turbine Control Valve Fast Closure on Turbine Trip	A	Standard Pressure Source	Once/Operating Cycle
Low Scram Pilot Air Header Pressure (PS 85-35 A1, A2, B1, & B2)	A	Standard Pressure Source	Once/18 Months

TABLE 3.2.B
INSTRUMENTATION THAT INITIATES OR CONTROLS THE CORE AND CONTAINMENT COOLING SYSTEMS

Minimum No. Operable Per Trip Sys(1)	Function	Trip Level Setting	Action	Remarks
2	Instrument Channel - Reactor Low Water Level (LIS-3-58A-D)	≥ 470" above vessel zero.	A	1. Below trip setting initiated HPCI.
2	Instrument Channel - Reactor Low Water Level (LIS-3-58A-D)	≥ 470" above vessel zero.	A	1. Multiplier relays initiate RCIC.
* 2	Instrument Channel - Reactor Low Water Level (LS-3-58A-D)	≥ 378" above vessel zero.	A	1. Below trip setting initiates CSS. Multiplier relays initiate LPCI. 2. Multiplier relay from CSS initiates accident signal (15).
2(16)	Instrument Channel - Reactor Low Water Level (LS-3-58A-D)	≥ 378" above vessel zero.	A	1. Below trip settings, in conjunction with drywell high pressure, low water level permissive, 120 sec. delay timer and CSS or RHR pump running, initiates ADS.
1(16)	Instrument Channel - Reactor Low Water Level Permissive (LIS-3-184, 185)	≥ 544" above vessel zero.	A	1. Below trip setting permissive for initiating signals on ADS.
1	Instrument Channel - Reactor Low Water Level (LIS-3-52 and LIS-3-62A)	> 312 5/16" above vessel zero. (2/3 core height)	A	1. Below trip setting prevents inadvertent operation of containment spray during accident condition.

* The automatic initiation capability of this instrument channel is not required to be OPERABLE while the Reactor Vessel water level monitoring modification is being performed. Manual initiation capability of the associated system will be available during that time the automatic initiation logic is out-of-service.

3.2/4.2-14

TABLE 3.2.B (Continued)

Minimum No. Operable Per Trip Sys(1)	Function	Trip Level Setting	Action	Remarks
2	Instrument Channel - Drywell High Pressure (PIS-64-58 E-H)	1≤ p≤2.5 psig	A	1. Below trip setting prevents inadvertent operation of containment spray during accident conditions.
2	Instrument Channel - Drywell High Pressure (PIS-64-58 A-D)	≤ 2.5 psig	A	1. Above trip setting in conjunction with low reactor pressure initiates CSS. Multiplier relays initiate HPCI. 2. Multiplier relay from CSS initiates accident signal. (15)
2	Instrument Channel - Reactor Low Water Level (LS-3-56A-D)	≥ 470" above vessel zero	A	1. Below trip setting trips recirculation pumps.
2	Instrument Channel - Reactor High Pressure (PIS-3-204A-D)	≤ 1120 psig	A	1. Above trip setting trips recirculation pumps.
2	Instrument Channel - Drywell High Pressure (PIS-64-58A-D)	≤ 2.5 psig	A	1. Above trip setting in conjunction with low reactor pressure initiates LPCI.
2(16)	Instrument Channel - Drywell High Pressure (PIS-64-57A-D)	≤ 2.5 psig	A	1. Above trip setting, in conjunction with low reactor water level, drywell high pressure, 120 sec. delay timer and CSS or RHR pump running, initiates ADS.

TABLE 3.2.B (Continued)

Minimum No. Operable Per Trip Sys(1)	Function	Trip Level Setting	Action	Remarks
1	HPCI Trip System bus power monitor	N/A	C	1. Monitors availability of power to logic systems.
1	RCIC Trip System bus power monitor	N/A	C	1. Monitors availability of power to logic systems.
1(2)	Instrument Channel - Condensate Header Low Level (LS-73-55A & B)	$\geq$ Elev. 551'	A	1. Below trip setting will open HPCI suction valves to the suppression chamber.
1(2)	Instrument Channel - Suppression Chamber High Level	$\leq$ 7" above instrument zero	A	1. Above trip setting will open HPCI suction valves to the suppression chamber.
2(2)	Instrument Channel - Reactor High Water Level (LIS-3-208A and LIS-3-208C)	$\leq$ 583" above vessel zero	A	1. Above trip setting trips RCIC turbine.
1	Instrument Channel - RCIC Turbine Steam Line High Flow (PDIS-71-1A and B)	$\leq$ 450" H_2O (7)	A	1. Above trip setting isolates RCIC system and trips RCIC turbine.
4(4)	Instrument Channel - RCIC Steam Line Space High Temperature	$\leq$200°F.	A	1. Above trip setting isolates RCIC system and trips RCIC turbine.
3(2)	Instrument Channel - RCIC Steam Supply Pressure - Low (PS 71-1A-D)	$\geq$50 psig	A	1. Below trip setting isolates RCIC system and trips RCIC turbine.
3(2)	Instrument Channel - RCIC Turbine Exhaust Diaphragm Pressure - High (PS 71-11A-D)	$\leq$20 psig	A	1. Above trip setting isolates RCIC system and trips RCIC turbine.

TABLE 3.2.B (Continued)

Minimum No. Operable Per Trip Sys(1)	Function	Trip Level Setting	Action	Remarks
2(2)	Instrument Channel - Reactor High Water Level (LIS-3-208B and LIS-3-208D)	≤583" above vessel zero.	A	1. Above trip setting trips HPCI turbine.
1	Instrument Channel - HPCI Turbine Steam Line High Flow (PDIS-73-1A and 1B)	≤90 psi (7)	A	1. Above trip setting isolates HPCI system and trips HPCI turbine.
3(2)	Instrument Channel - HPCI Steam Supply Pressure - Low (PS 73-1A-D)	≥100 psig	A	1. Below trip setting isolates HPCI system and trips HPCI turbine.
3(2)	Instrument Channel - HPCI Turbine Exhaust Diaphragm (PS 73-20A-D)	≤20 psig	A	1. Above trip setting isolates HPCI system and trips HPCI turbine.
4(4)	Instrument Channel - HPCI Steam Line Space High Temperature	≤200°F.	A	1. Above trip setting isolates HPCI system and trips HPCI turbine.
1	Core Spray System Logic	N/A	B	1. Includes testing auto initiation inhibit to Core Spray Systems in other units.
1	RCIC System (Initiating) Logic	N/A	B	1. Includes Group 7 valves. Refer to Table 3.7.A for list of valves.
1	RCIC System (Isolation) Logic	N/A	B	1. Includes Group 5 valves. Refer to Table 3.7.A for list of valves.
1 (16)	ADS Logic	N/A	A	
1	RHR (LPCI) System (Initiation)	N/A	B	

TABLE 4.2.B
SURVEILLANCE REQUIREMENTS FOR INSTRUMENTATION THAT INITIATE OR CONTROL THE CSCS

Function	Functional Test	Calibration		Instrument Check
Instrument Channel Reactor Low Water Level (LIS-3-58A-D)	(1) (27)	Once/18 Months	(28)	Once/day
Instrument Channel Reactor Low Water Level (LIS-3-184 & 185)	(1) (27)	Once/18 Months	(28)	Once/day
Instrument Channel Reactor Low Water Level (LIS-3-52 & 62A)	(1) (27)	Once/18 Months	(28)	Once/day
Instrument Channel Reactor Low Water Level (LS-3-56A-D)	(1) (27)	Once/18 Months	(28)	none
Instrument Channel Reactor High Pressure (PIS-3-204A-D)	(1) (27)	Once/18 Months	(28)	none
Instrument Channel Drywell High Pressure (PIS-64-58E-H)	(1) (27)	Once/18 Months	(28)	none
Instrument Channel Drywell High Pressure (PIS-64-58A-D)	(1) (27)	Once/18 Months	(28)	none
Instrument Channel Drywell High Pressure (PIS-64-57A-D)	(1) (27)	Once/18 Months	(28)	none
Instrument Channel Reactor Low Pressure (PIS-3-74A&B, PS-3-74A&B) (PIS-68-95, PS-68-95) (PIS-68-96, PS-68-96)	(1) (27)	Once/6 Months	(28)	none

TABLE 4.2.B (Continued)
SURVEILLANCE REQUIREMENTS FOR INSTRUMENTATION THAT INITIATE OR CONTROL THE CSCS

Function	Functional Test	Calibration	Instrument Check
Instrument Channel - RHR Pump Discharge Pressure	(1)	once/3 months	none
Instrument Channel - Core Spray Pump Discharge Pressure	(1)	once/3 months	none
Core Spray Sparger to RPV d/p	(1)	once/3 months	once/day
Trip System Bus Power Monitor	once/operating Cycle	N/A	none
Instrument Channel - Condensate Header Low Level (LS-73-56A, B)	(1)	once/3 months	none
Instrument Channel - Suppression Chamber High Level	(1)	once/3 months	none
Instrument Channel - Reactor High Water Level	(1)	once/3 months	once/day
Instrument Channel - RCIC Turbine Steam Line High Flow	(1)	once/3 months	none
Instrument Channel - RCIC Steam Line Space High Temperature	(1)	once/3 months	none
Instrument Channel - RCIC Steam Supply Low Pressure	once/31 days	once/18 months	none
Instrument Channel - RCIC Turbine Exhaust Diaphragm High Pressure	once/31 days	once/18 months	none

TABLE 4.2.B (Continued)
SURVEILLANCE REQUIREMENTS FOR INSTRUMENTATION THAT INITIATE OR CONTROL THE CSCS

Function	Functional Test	Calibration	Instrument Check
Instrument Channel - HPCI Turbine Steam Line High Flow	(1)	Once/3 months	none
Instrument Channel - HPCI Steam Line Space High Temperature	(1)	Once/3 months	none
Instrument Channel - HPCI Steam Supply Low Pressure	once/31 days	once/18 months	none
Instrument Channel - HPCI Turbine Exhaust Diaphragm High Pressure	once/31 days	once/18 months	none
Core Spray System Logic	once/18 months	(6)	N/A
RCIC System (Initiating) Logic	once/18 months	N/A	N/A
RCIC System (Isolation) Logic	once/18 months	(6)	N/A
HPCI System (Initiating) Logic	once/18 months	(6)	N/A
HPCI System (Isolation) Logic	once/18 months	(6)	N/A
ADS Logic	once/18 months	(6)	N/A
LPCI (Initiating) Logic	once/18 months	(6)	N/A
LPCI (Containment Spray) Logic	once/18 months	(6)	N/A
Core Spray System Auto Initiation Inhibit (Core Spray Auto Initiation)	once/18 months (7)	N/A	N/A
LPCI Auto Initiation Inhibit (LPCI Auto Initiation)	once/18 months (7)	N/A	N/A

TABLE 4.2.F
MINIMUM TEST AND CALIBRATION FREQUENCY FOR SURVEILLANCE INSTRUMENTATION

Instrument Channel	Calibration Frequency	Instrument Check
1) Reactor Water Level (LI-3-58A&B)	Once/6 months	Each Shift
2) Reactor Pressure (PI-3-74A&B)	Once/6 months	Each Shift
3) Drywell Pressure (PI-64-67B) and XR-64-50	Once/6 months	Each Shift
4) Drywell Temperature (TI-64-52AB) and XR-64-50	Once/6 months	Each Shift
5) Suppression Chamber Air Temperature (XR-64-52)	Once/6 months	Each Shift
8) Control Rod Position	N/A	Each Shift
9) Neutron Monitoring	(2)	Each Shift
10) Drywell Pressure (PS-64-67B)	Once/6 months	N/A
11) Drywell Pressure (PIS-64-58A)	Once/6 months	N/A
12) Drywell Temperature (TS-64-52A)	Once/6 months	N/A
13) Timer (1S-64-67A)	Once/6 months	N/A
14) CAD Tank Level	Once/6 months	Once/day
15) Containment Atmosphere Monitors	Once/6 months	Once/day

Enclosure 2
Description and Justification
Browns Ferry Nuclear Plant
Unit 2

Reason for Change

This technical specification change corrects Browns Ferry unit 2 technical specification tables 4.1.B, 4.2.B, and 4.2.F for calibration frequencies and includes administrative changes to instrument numbers.

Instrument loops that contain transmitters manufactured by Tobar Inc. will only permit a 6-month calibration frequency. Instrument numbers in the tables are added or corrected to provide a concise set of technical specifications. Instrument checks for (4) instrument channels in table 4.2.B that have no remote or local indication are deleted.

Description and Justification

Calibration Frequency Changes:

In general surveillance frequencies are based on industry accepted practice and engineering judgment considering the conditions required to perform a given test, the ease of performing the test and the likelihood of a change in the system/component status. Instrumentation calibration frequencies consist of an optimum selection of time versus drift. Setpoint scaling calculations are performed to provide assurance there is adequate margin to account for all inaccuracies in the instrument loop between the required trip setpoint and the limiting safety system settings.

These changes to the calibration frequencies are required to support the results of the setpoint and scaling calculations for various instrument loops.

The specific changes are illustrated and justified below:

Table 4.1.B

Instrument	Existing Frequency	Proposed Change
High Reactor Pressure (pg 3.1/4.1-11)	Once/18 months	Once/6 months

0358y

Table 4.2.B

Instrument	Existing Frequency	Proposed Change
Reactor low pressure (pg 3.2/4.2-44)	Once/18 months	Once/6 months

These instrument loops contain transmitters manufactured by Tobar Inc. The transmitters only permit a 6-month calibration frequency.

Table 4.2.F

Reactor Pressure (pg 3.2/4.2-54)	Once/12 months	Once/6 months

This loop contains transmitters manufactured by Tobar Inc. These transmitters only permit a 6-month calibration frequency.

Note: BFN technical specification definition "Surveillance" permits a maximum allowable extension not to exceed 25 percent of the surveillance interval. This allowable extension of the surveillance interval was considered in defining the calibration frequencies.

Additions/changes to instrumentation numbers

Table 3.2.B

Instrument	Existing Number	Proposed Change
Reactor low water level (pg 3.2/4.2-14)	(LIS-3-58A-D)	(LS-3-58A-D)
Note: This change proposed for 2 places on pg 3.2/4.2-14.		
Reactor low water level (pg 3.2/4.2-14)	(LIS-3-62)	(LIS-3-62A)
Drywell high pressure (pg 3.2/4.2-15)	(PS-64-58A-D)	(PIS-64-58A-D)
Reactor low water level (pg 3.2/4.2-15)	(LIS-3-56A-D)	(LS-3-56A-D)
Reactor high water level (pg 3.2/4.2-18)	-	(LIS-3-208A and LIS-3-208C)
RCIC turbine steam line high flow (pg 3.2/4.2-18)	-	(PDIS-71-1A and 1B)
Reactor high water level (pg 3.2/4.2-19)	-	(LIS-3-208B and LIS-3-208D)
HPCI turbine steam line high flow (pg 3.2/4.2-19)	-	(PDIS-73-1A and 1B)

Table 4.2.B

Reactor low water level (pg 3.2/4.2-44)	(LIS-3-62)	(LIS-3-62A)
Reactor low water level (pg 3.2/4.2-44)	(LIS-3-56A-D)	(LS-3-56A-D)

These changes are administrative in nature and do not change the function, setting, or calibration interval of any of the listed instruments. They are included in the technical specifications for completeness.

Deletion of instrument check for HPCI/RCIC instrument channels:

Table 4.2.B

Instrument	Existing T/S	Proposed change
RCIC steam supply low pressure (pg 3.2/4.2-46)	Once/day	none
RCIC turbine exhaust diaphragm high pressure (pg 3.2/4.2-46)	Once/day	none
HPCI turbine steam line high flow (pg 3.2/4.2-47)	Once/day	none
HPCI turbine exhaust diaphragm high pressure (pg 3.2/4.2-47)	Once/day	none

These instrument channels consist of pressure switches (PS71-1A-D, PS71-11A-D, PS73-1A-D, PS73-20A-D) that have no indication. An instrument check is a qualitative determination of acceptable behavior by observation of the instrument during operation. These pressure switches have no indication function. The functional test of the instrumentation which verifies operability including the alarm and trip functions is performed once/31 days.

Enclosure 3
Determination of No Significant Hazards Consideration
Browns Ferry Nuclear Plant
Unit 2

Description

This technical specification change revises the calibration frequencies and corrects instrument numbers of various instruments in Browns Ferry unit 2 technical specification tables 4.1.B, 4.2.B, and 4.2.F. The instrument checks for high pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) system instrument channels are deleted from table 4.2.B.

Basis for Proposed No Significant Hazards Consideration

Determination

NRC has provided standards for determining whether a significant hazards consideration exists as stated in 10 CFR 50.92(c). A proposed amendment to an operating license involves no significant hazards considerations if operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from an accident previously evaluated, or (3) involve a significant reduction in a margin of safety.

1. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. The primary factor in setting the calibration intervals is the drift of the transmitters and trip units. TVA has performed setpoint scaling calculations that support the proposed change using manufacturers recommended intervals and industry standard practices. This change does not involve a design change or physical change to the plant. The revised surveillance frequencies will not affect the consequences of an accident previously analyzed.

   The reliability of the HPCI/RCIC diaphragm high pressure, steam line flow and steam supply pressure instruments are adequately assured by the performance of functional tests every 31 days.

   Clarifications or corrections of typographical errors are administrative changes which improve technical specification reliability and therefore can have no detrimental impact.

2. The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated because changing the technical specifications to reflect different calibration frequencies does not affect or change design operating limits or protective setpoints. No new or different modes of operation are allowed by these changes.

3. The proposed change does not involve a significant reduction in a margin of safety because in no instance will these changes affect the technical specification safety limits. These changes have no affect on the instrument setpoints. All parameters will continue to be monitored as currently required.

Since the application for amendment involves a proposed change that is encompassed by the criteria for which no significant hazards consideration exist, TVA has made a proposed determination that the application involves no significant hazards consideration.