ENCLOSURE 1

PROPOSED TECHNICAL SPECIFICATIONS REVISIONS

BROWNS FERRY NUCLEAR PLANT

UNIT 2

(TVA BFN TS 250)

steam line isolation valve closure, fission product release is limited so that 10 CFR 100 guidelines are not exceeded for this accident. Reference Section 14.6.2 FSAR. An alarm with a nominal setpoint of 1.5 x normal full-power background is provided also.

Pressure instrumentation is provided to close the main steam isolation valves in RUN Mode when the main steam line pressure drops below 825 psig.

The HPCI high flow and temperature instrumentation are provided to detect a break in the HPCI steam piping. Tripping of this instrumentation results in actuation of HPCI isolation valves. Tripping logic for the high flow is a 1-out-of-2 logic, and all sensors are required to be OPERABLE.

High temperature in the vicinity of the HPCI equipment is sensed by four sets of four bimetallic temperature switches. The 16 temperature switches are arranged in two trip systems with eight temperature switches in each trip system.

The HPCI trip settings of 90 psi for high flow and 200°F for high temperature are such that core uncovery is prevented and fission product release is within limits.

The RCIC high flow and temperature instrumentation are arranged the same as that for the HPCI. The trip setting of 450" H_2O for high flow and 200°F for temperature are based on the same criteria as the HPCI.

High temperature at the Reactor Water Cleanup (RWCU) System floor drain in the space near the RWCU System or in the space near the pipe trench containing RWCU piping could indicate a break in the cleanup system. When high temperature occurs, the cleanup system is isolated.

The instrumentation which initiates CSCS action is arranged in a dual bus system. As for other vital instrumentation arranged in this fashion, the specification preserves the effectiveness of the system even during periods when maintenance or testing is being performed. An exception to this is when logic functional testing is being performed.

The control rod block functions are provided to prevent excessive control rod withdrawal so that MCPR does not decrease to 1.07. The trip logic for this function is 1-out-of-n: e.g., any trip on one of six APRMs, eight IRMs, or four SRMs will result in a rod block.

The minimum instrument channel requirements assure sufficient instrumentation to assure the single failure criteria is met. The minimum instrument channel requirements for the RBM may be reduced by one for maintenance, testing, or calibration. This does not significantly increase the risk of an inadvertent control rod withdrawal, as the other channel is available, and the RBM is a backup system to the written sequence for withdrawal of control rods.

TABLE 3.2.A (Continued)
PRIMARY CONTAINMENT AND REACTOR BUILDING ISOLATION INSTRUMENTATION

Minimum No. Instrument Channels Operable Per Trip Sys(1)(11)	Function	Trip Level Setting	Action (1)	Remarks
2	Instrument Channel - High Radiation Main Steam Line Tunnel (6)	≤ 3 times normal rated full power background	B	1. Above trip setting initiates Main Steam Line Isolation
2	Instrument Channel - Low Pressure Main Steam Line (PIS-1-72, 76, 82, 86)	≥ 825 psig (4)	B	1. Below trip setting initiates Main Steam Line Isolation
2(3)	Instrument Channel - High Flow Main Steam Line (PdIS-1-13A-D, 25A-D, 36A-D, 50A-D)	≤ 140% of rated steam flow	B	1. Above trip setting initiates Main Steam Line Isolation
2(12)	Instrument Channel - Main Steam Line Tunnel High Temperature	≤ 200°F	B	1. Above trip setting initiates Main Steam Line Isolation.
2(14)	Instrument Channel - Reactor Water Cleanup System Floor Drain High Temperature	160 - 180°F	C	1. Above trip setting initiates Isolation of Reactor Water Cleanup Line from Reactor and Reactor Water Return Line.
2	Instrument Channel - Reactor Water Cleanup System Space High Temperature	160 - 180°F	C	1. Same as above
2	Instrument Channel - Reactor Water Cleanup System Pipe Trench	≤ 150° F	C	1. Same as above
1	Instrument Channel - Reactor Building Ventilation High Radiation - Reactor Zone	≤ 100 mr/hr or downscale	G	1. 1 upscale or 2 downscale will a. Initiate SGTS b. Isolate reactor zone and refueling floor. c. Close atmosphere control system.

TABLE 4.2.A (Cont'd)
SURVEILLANCE REQUIREMENTS FOR PRIMARY CONTAINMENT AND REACTOR BUILDING ISOLATION INSTRUMENTATION

Function	Functional Test	Calibration Frequency	Instrument Check
Group 6 Logic	Once/operating cycle (18)	N/A	N/A
Group 8 (Initiating) Logic	Checked during channel functional test. No further test required.	N/A	N/A
Reactor Building Isolation (refueling floor) Logic	Once/6 months (18)	(6)	N/A
Reactor Building Isolation (reactor zone) Logic	Once/6 months (18)	(6)	N/A
SGTS Train A Logic	Once/6 months (19)	N/A	N/A
SGTS Train B Logic	Once/6 months (19)	N/A	N/A
SGTS Train C Logic	Once/6 months (19)	N/A	N/A
Instrument Channel - Reactor Cleanup System Floor Drain High Temperature	(1)	Once/operating cycle	N/A
Instrument Channel - Reactor Cleanup System Space High Temperature	(1)	Once/operating cycle	N/A
Instrument Channel - Reactor Water Cleanup System Pipe Trench High Temperature	(1)	Once/operating cycle	N/A

ENCLOSURE 2

DESCRIPTION AND JUSTIFICATION
BROWNS FERRY NUCLEAR PLANT
UNIT 2

Description of Change

This proposed technical specification change package will revise the Browns Ferry Nuclear Plant, Unit 2, Technical Specifications Table 3.2.A, "Primary Containment and Reactor-Building Isolation Instrumentation," Table 4.2.A, "Surveillance Requirements for Primary Containment and Reactor Building Isolation Instrumentation," and Section 3.2 Bases. Table 3.2.A contains the operability requirements and trip level settings for instrumentation that initiates primary containment and reactor building isolation. Table 4.2.A contains the complementary surveillance requirements. The technical specification change will add surveillance requirements and trip level settings for new temperature switches being added near a pipe trench containing Reactor Water Cleanup (RWCU) System piping. The added instrumentation is used to indicate leaks or pipe breaks and to automatically isolate the RWCU System. Section 3.2 is being changed to indicate that RWCU System pipe break detection instrumentation is available for the pipe trench containing the RWCU System piping. Refer to the attached technical specifications, pages 3.2/4.2-8, -43, and -67, for detailed changes.

Reason for Change

The technical specifications for the RWCU System are being revised because additional temperature switches are being added to that system for primary containment isolation purposes. The addition of four temperature switches and associated wiring provides leak detection and automatic RWCU System isolation for an RWCU pipe break in the pipe trench above the drywell equipment hatch and near the ceiling of the reactor building elevation 565. This technical specification change adds the function of these temperature switches to table 3.2.A. The minimum operability requirements and the trip level setting range is specified. Also the action required for a condition with less than the minimum operability requirements being met is specified and a description of the automatic actions which occur when the trip level settings are surpassed is included. Table 4.2.A specifies the required surveillance frequencies for the new devices.

Section 3.2 Bases is being changed on page 3.2/4.2-67 to correctly describe the plant configuration after the temperature switches are added.

Justification for Change

The RWCU System does not have a safety function. It maintains high reactor-water purity to limit chemical and corrosive action, thereby limiting fouling and disposition on heat transfer surfaces. The RWCU System removes corrosion products to limit impurities available for activation by neutron flux and resultant radiation from deposition of irradiated corrosion products. The system also provides a means for removal of reactor water during heatup (reference UFSAR Section 4.9.1). The RWCU System provides

Justification for Change (Cont'd)

continuous purification of a portion of the recirculation flow. The system is normally in service. The RWCU System does contain primary containment isolation valves, which have a safety function of closing upon receipt of a low reactor pressure vessel (RPV) water level or detection of high temperatures in RWCU System spaces. The intent is to isolate the vessel incase of a RWCU line break outside primary containment or to prevent the release of radioactive material in the event of fuel damage following some other line break either inside or outside primary containment.

A review performed as part of the 10 CFR 50.49 Environmental Qualification program identified a length of RWCU piping which constituted a high energy line but did not have a high space temperature detection capability. A postulated break in that pipe length could only be isolated due to low RPV water level or manual action. The resultant environmental conditions were considered too severe. A physical modification was recommended to lower the environmental consequences of the postulated line break.

Four temperature switches are being added near the pipe trench containing the nonmonitored portion of the RWCU piping. The switches are to be wired in series with existing reactor water cleanup (RWCU) leak detection temperature switches. Including these devices in the technical specifications for the plant ensures that they are periodically tested in accordance with the plant surveillance program. The minimum number of instrument channels required to be operable per trip system will be the same as for the existing instrumentation and the action statement will be the same as for the existing instrumentation

A trip level setting of less than or equal to 150° F was established for the new temperature switches for equipment environmental qualification purposes. The added instrumentation will help protect safety-related equipment in the reactor building from damage caused by high temperatures resulting from a postulated RWCU System pipe break in the pipe trench. A setpoint of 150° F was established from the analysis of the temperature transient that occurs in the reactor building following a break in the 4-inch RWCU system return line in the pipe trench. It has been concluded that if the setpoint were set at $\leq$150° F, the environmental conditions in the areas affected by the pipe break would be within the environmental conditions to which safety-related equipment contained in that area have been qualified. UFSAR Section 7.3.4.7.14 requires that the high temperature isolation setting be selected far enough above the anticipated normal area temperature to avoid spurious operation, but low enough to provide timely detection of a RWCU System line break. The maximum normal operational limit for the vicinity of the RWCU System pipetrench is 90° F and the maximum abnormal temperature is 100° F. A setpoint of less than or equal to 150° F lies within the safety limits for the variable being monitored and will satisfy the applicable UFSAR requirements. The field setpoint will be set high enough to avoid spurious isolations of the RWCU System but below the 150° F limit being added to the technical specifications by this amendment.

ENCLOSURE 3

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION
BROWNS FERRY NUCLEAR PLANT
UNIT 2

Description of Amendment Request

This proposed technical specification change package will revise the Browns Ferry Nuclear Plant, Unit 2, Technical Specifications, Table 3.2.A, "Primary Containment and Reactor Building Isolation Instrumentation," and Section 3.2 Bases. Table 3.2.A contains the operability requirements and trip level settings for instrumentation that initiates primary containment and reactor building isolation. Table 4.2.A contains the surveillance requirements for instrumentation of table 3.2.A. The technical specification change will add operability requirements and trip level settings for new temperature switches being added near the pipe trench containing Reactor Water Cleanup (RWCU) system piping. the added instrumentation is used to indicate leaks or pipe breaks and to automatically isolate the RWCU System. Section 3.2 is being changed to indicate that RWCU System pipe break detection instrumentation is available for the pipe trench containing the RWCU System piping. Refer to the attached technical specifications, pages 3.2/4.2-8, -43, and -67, for detailed changes.

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 because the amendment only adds operability surveillance requirements and trip level settings for new temperature detectors. The Final Safety Analysis Report specifies that the trip level setting be high enough to avoid spurious operation but low enough to prevent excessive loss of reactor coolant. Establishing the trip level setting range of 130° F to 150° F satisfies that requirement. Establishing the same operability requirements on the new temperature switches as are on the presently installed instrumentation prevents a significant increase in the probability or consequences of an accident previously evaluated. The system isolates for several accident conditions and since it serves no safety function, increasing the number of devices with could cause system isolation will not affect safe operation of the plant.

2. The proposed amendment does not create the possibility of a new or different kind of accident from an accident previously evaluated. The new temperature switches are performing a similar function as other

Bases for Proposed No Significant Hazards Consideration Determination (Cont'd)

instrumentation presently installed, and setting their operability and surveillance requirements the same as presently installed temperature switches prevents the creation of a new or different kind of accident. The increased monitoring and automatic isolation for the RWCU System will help prevent damage by high temperature to equipment required for safe shutdown. The addition of operability and setpoint requirements for the new temperature switches ensures that the system's primary containment isolation safety function will be performed adequately. The change does not affect safety functions of any equipment in ways not previously evaluated.

3. The proposed amendment does not involve a significant reduction in a margin of safety because the temperature switches being added are being specified to meet the same requirements as other RWCU System temperature switches which perform the same function and are already included in the technical specifications. This ensures that the new temperature switches will not degrade existing features included in the technical specifications. Also, the new temperature switches are being added to ensure that safety-related equipment that is addressed in the technical specifications and that is required to mitigate a RWCU System pipe break will not be degraded by the environmental conditions which could result from a RWCU System pipe break in the pipe trench.

Determination of Basis for Proposed No Significant Hazards

The primary containment isolation safety function is intended to provide timely protection against the onset and consequences of accidents involving the gross release of radioactive materials from the fuel and nuclear system process barrier and ensure automatic isolation of pipelines which penetrate the primary containment whenever monitored variables exceed preselected operational limits. The addition of operability and setpoint requirements for new temperature switches will ensure the safety function of the system will still be met. The increased automatic isolation will help ensure that the maximum environmental conditions for equipment required for safe shutdown are not exceeded.

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