Enclosure 1
BROWNS FERRY NUCLEAR POWER PLANT
TECHNICAL SPECIFICATIONS CHANGE
(TS 260 and TS 261-T)

LIMITING CONDITIONS FOR OPERATION | SURVEILLANCE REQUIREMENTS

3.5.A Core Spray System (CSS)

* 5. When irradiated fuel is in the reactor vessel and the reactor vessel head is removed, core spray is not required to be OPERABLE provided the cavity is flooded, the fuel pool gates are open and the fuel pool water level is maintained above the low level alarm point, and provided one RHRSW pump and associated valves supplying the standby coolant supply are OPERABLE.

* When work is in progress which has the potential to drain the vessel, manual initiation capability of either 1 CSS Loop or 1 RHR pump, with the capability of injecting water into the reactor vessel, and the associated diesel generator (s) are required.

TABLE 3.2.A
PRIMARY CONTAINMENT AND REACTOR BUILDING ISOLATION INSTRUMENTATION

No. of Operable Sys(1)(11)	Function	Trip Level Setting	Action (1)	Remarks
2	Instrument Channel - Reactor Low Water Level(6) (LIS-3-203 A-D)	≥ 538" above vessel zero	A or (B and E)	1. Below trip setting does the following: a. Initiates Reactor Building Isolation b. Initiates Primary Containment Isolation c. Initiates SGTS
1	Instrument Channel - Reactor High Pressure	100 ± 15 psig	D	1. Above trip setting isolates the shutdown cooling suction valves of the RHR system.
2	Instrument Channel - Reactor Low Water Level (LIS-3-56A-D)	≥ 378" above vessel zero	A	1. Below trip setting initiates Main Steam Line Isolation
2	Instrument Channel - High Drywell Pressure (6) (PIS-64-56A-D)	≤ 2.5 psig	A or (B and E)	1. Above trip setting does the following: a. Initiates Reactor Building Isolation b. Initiates Primary Containment Isolation c. Initiates SGTS

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 systems will be available during that time the automatic initiation logic is out-of-service.

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

No. Per (1)	Function	Trip Level Setting	Action	Remarks
?	Instrument Channel - Reactor Low Water Level (LIS-3-58A-D)	≥ 470" above vessel zero.	A	1. Below trip setting initiated HPCI.
	Instrument Channel - Reactor Low Water Level (LIS-3-58A-D)	≥ 470" above vessel zero.	A	1. Multiplier relays initiate RCIC.
	Instrument Channel - Reactor Low Water Level (LIS-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).
	Instrument Channel - Reactor Low Water Level (LIS-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.
)	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.
	Instrument Channel - Reactor Low Water Level (LIS-3-52 and 62)	≥ 312 5/16" above vessel zero. (2/3 core height)	A	1. Below trip setting prevents inadvertent operation of containment spray during accident condition.

(1) 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.

ENCLOSURE 2

DESCRIPTION AND JUSTIFICATION
BROWNS FERRY NUCLEAR PLANT (BFN)

REASON FOR CHANGE

The reason for this change is to amend the BFN Units 1, 2, and 3 Technical Specifications (TS) section for the Core Spray System (CSS) 3.5.A.5 (TS-260), and a temporary TS change (261-T) for Unit 2 Table 3.2.A for the Reactor Low Water Level Instrument (LIS-3-203 A-D), and Table 3.2.B for Reactor Low Water Level Instrument (LIS-3-58 A-D). These changes are needed to support the relocation of the Reactor Vessel Level Monitoring (RVLMS) sensing lines which are currently installed.

NUREG 0737 Item II.F.2 required Licensees to install instrumentation for detection of inadequate core cooling. In order to comply with this requirement, licensees installed a Reactor Vessel Level Monitoring System (RVLMS). This water level instrumentation is relied upon for controlling feedwater, actuate emergency systems, and for providing the operators information which is used as basis for actions to assure adequate core cooling.

NRC Generic Letter 84-23, dated October 26,1984 discussed some problems identified by NRC with the RVLMS. Specifically, NRC was concerned with the redundancy and reliability of water level instrumentation to detect inadequate core cooling. Of major interest was drywell temperature effects upon fluid in the reference columns during accident or degraded transient events. High drywell temperature can cause nonconservative errors in water level indication due to decreasing water density in the reference legs. This can also render heated leg instruments inoperable if accompanied by a subsequent rapid depressurization causing flashing in the reference legs.

In evaluating this concern, TVA committed in the Nuclear Performance Plan Volume. 3, rev. 1, dated July 16,1987, to move the reactor vessel water reference columns outside the drywell prior to Unit 2 restart. By TVA letter dated September 25,1987, additional information was provided to NRC for the BFN RVLMS with regards to NRC generic letter 84-23. In that letter TVA committed to reroute the reactor vessel reference legs to reduce their vertical drop inside the drywell to less than two feet in accordance with the subject generic letter. In order to meet this commitment, TVA is presently performing the RVLMS modification for Unit 2.

While performing this modification, the automatic initiation logic on reactor water level for the Standby Gas Treatment System (SGTS), secondary containment isolation, and diesel generator(s) on a reactor low water level signal will be out-of-service in order to physically move the sensors.

In order to perform the RVLMS modification and to allow additional work to be performed in a safe and efficient manner, TVA is requesting that the enclosed TS be approved.

DESCRIPTION AND JUSTIFICATION FOR THE CHANGE

1) EXISTING TS- 3.5.A.5 reads:

When irradiated fuel is in the reactor vessel and the reactor vessel head is removed, core spray is not required provided work is not in progress which has the potential to drain the vessel, provided the fuel pool gates are open and the fuel pool is maintained above the low level alarm point, and provided one RHRSW pump and associated valves supplying the standby coolant supply are OPERABLE.

REVISE SECTION 3.5.A.5 TO READ AS FOLLOWS:

* 3.5.A.5 When irradiated fuel is in the reactor vessel and the reactor vessel head is removed, core spray is not required "to be OPERABLE, provided the cavity is flooded, the fuel pool gates are open and the fuel pool water level " is maintained above the low level alarm point, and provided one RHRSW pump and associated valves supplying the standby coolant supply are OPERABLE.

In addition, the * will read, " When work is in progress which has the potential to drain the vessel, manual initiation capability of either 1 CSS loop or 1 RHR pump, with the capability of injecting water into the reactor vessel, and its associated diesel generator, is required. "

JUSTIFICATION FOR THE CHANGE

Using the GE Standard Technical Specifications as guidance for the suppression chamber, the ECCS systems are not required to be OPERABLE during refueling provided that the following conditions exist; 1) reactor head is removed, 2) cavity is flooded, 3) spent fuel gates are removed, and 4) water level is maintained within specific limits. Changing the BFN TS as proposed, will allow various work (e.g. the reactor level monitoring modification) be performed in a safe and more efficient manner.

The specific conditions listed in the LCO would provide assurance that the plant would be in a safe condition when LCO 3.5.A.5 is applicable. By having the spent fuel pool gates open to the cavity assures adequate water supply in the event a leak occurred that would have the potential to drain the reactor vessel.

In addition, the * for TS 3.5.A.5 requires that there is manual initiation capability to start either 1 loop of CSS or 1 RHR pump, and its associated diesel generator. This requirement ensures that there is additional water makeup capability and emergency power source available when there is work in progress that has the potential to drain the vessel. The spent fuel pool has a low level indication which alarms in the control room. By maintaining the requirement of having one RHRSW pump OPERABLE, also ensures an additional source of water supply to the spent fuel pool.

2) EXISTING TS TABLE 3.2.A ITEM 1:

This TS pertains to the Reactor Low Water Level(6) (LIS-3-203 A-D). This instrument initiates the Standby Gas Treatment System and Reactor Building Isolation once the trip level setting is reached.

PROPOSED TEMPORARY TS CHANGE TO TABLE 3.2.A ITEM 1:

The proposed TS will * Item 1 (Reactor Low Water Level). The * will read, "The automatic initiation capability of this instrument will be out-of-service while the reactor vessel level monitoring modification is being performed. Manual initiation capability of the Standby Gas Treatment System and Reactor Building Isolation will be available during that time the automatic initiation logic is out-of-service.

JUSTIFICATION FOR TS TABLE 3.2.A:

In performing the RVLMS modification, the subject instrument (LIS-3-203 A-D) will be out-of-service. This instrument automatically initiates the Standby Gas Treatment System and the Reactor Building Isolation upon receipt of a reactor low level signal. Since the subject modification renders the automatic function of this instrument to be out-of-service, we cannot meet the current TS. The proposed temporary relief would allow fuel to be moved from the spent fuel pool to the reactor without the automatic initiation function of these systems. During the time the automatic initiation logic is out-of-service, manual initiation of these systems would be available.

These systems would continue to have their automatic initiation capability upon receipt of a high radiation signal.

3) EXISTING TS TABLE 3.2.B ITEM 3:

This TS pertains to the Reactor Low Water Level Instrument (LIS-3-58 A-D). This instrument will initiate automatic actuation of the diesel generator(s) that supply emergency power to the LPCI equipment (CSS and RHR).

PROPOSED TEMPORARY TS CHANGE TO TABLE 3.2.B ITEM 3:

The proposed TS will * item 3 Reactor Low Water Level Instrument (LIS-3-58 A-D). This * will read, " The automatic initiation capability of this instrument will be out-of-service while the reactor vessel level monitoring modification is being performed. Manual initiation capability of the associated diesel generator(s) will be available during that time the automatic initiation logic is out-of-service."

JUSTIFICATION FOR TS TABLE 3.2.B:

In performing the RVLMS modification, the subject instrument (LIS-3-58 A-D) will be out-of-service. This instrument automatically initiates the actuation of the diesel generator(s) on a reactor low water level signal. Since the subject modification renders the automatic function of this instrument to be out-of-service, we cannot meet the current TS. The proposed temporary relief would allow fuel to be moved from the spent fuel pool to the reactor without the automatic initiation function of the diesel generator(s) through the Reactor Low Water Level Instrumentation. During the time the automatic initiation logic is out-of-service, manual initiation of the diesel generator(s) would be available.

ENCLOSURE 3

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION
BROWNS FERRY NUCLEAR PLANT (BFN)
UNITS 1, 2, AND 3

DESCRIPTION OF PROPOSED TECHNICAL SPECIFICATION AMENDMENT

The proposed amendment would change the BFN Technical Specifications (TS) for Units 1, 2, and 3 to allow the Core Spray System (CSS) (section 3.5.A.5) to be inoperable provided specific LCO conditions are met. In addition, Unit 2 Tables 3.2.A. and 3.2.B are being temporarily changed to note that Reactor Low Water Level Instruments LIS-3-203 A-D and LIS-3-58 A-D will be out-of-service during that time the reactor vessel level monitoring modification is being performed.

Basis for Proposed No Significant Hazards Consideration Determination

NRC has provided standards for determining whether a significant hazards consideration exists as stated in 10CFR50.92(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 of consequences of an accident previously evaluated, or 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 change does not involve a significant increase in the probability or consequence of any accident previously evaluated.

   a) Changing TS LCO 3.5.A.5 does not change any of the design criteria or bases for which BFN was licensed. The BFN Final Safety Analysis Report (FSAR) and the assumptions made in the accident analysis are not invalidated as a result of this change. The proposed change requires specific conditions to be met when the Core Spray System is not needed to be operable. In addition to those conditions identified in the GE Standard TS, we are adding the requirement to have manual initiation capability available for either 1 CSS loop or 1 RHR pump, and their associated diesel generator(s), when work is being performed with the capability of draining the reactor vessel. This along with the requirement of having 1 RHRSW pump operable ensures that adequate water is available for makeup to the reactor vessel. The proposed change is still bounded by the FSAR analysis since the change only applies to operability requirements in the cold shutdown or refuel conditions.

b) This temporary change would allow the Reactor Low Water Level Instrument (LIS-3-203 A-D) to be out-of-service during that time in which the reactor vessel level monitoring system modification is being installed. When the reactor water level falls below the low level setpoint, this instrument automatically initiates the Standby Gas Treatment System and Reactor Building Isolation. The intended safety function of these systems is still maintained through the manual initiation capability. In addition of having manual initiation capability available, these systems would still automatically initiate upon receipt of a high radiation signal. Again, this temporary relaxation does not invalidate any safety related function or analysis in which BFN was licensed for.

c) This temporary change would allow the Reactor Low Water Level Instrument (LIS-3-58 A-D) to be out-of-service during that time in which the reactor vessel level monitoring system modification is being installed. One of the functions of this instrument is to automatically actuate the diesel generator(s) when the reactor water level falls below the low level setpoint. Maintaining the manual initiation capability of the diesel generator(s) ensures that emergency power is available to either the CSS or RHR system. This ensures that adequate makeup water is available to the reactor vessel. This proposed change does not invalidate the BFN FSAR and the design basis to which BFN was designed.

2) The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

a) The proposed changes, as stated above, are enveloped by the current BFN FSAR. Even though the automatic initiation logic for the CSS and RHR system will be out-of-service during the specific LCO conditions stated in LCO 3.5.A.5, the addition of the * requiring that manual initiation capability for 1 CSS loop or 1 RHR pump ensures that adequate water supply is available to keep the reactor core covered.

b) The temporary relaxation of allowing instrument LIS-3-203 A-D to be out-of-service, will not introduce a new accident. Again, there is manual capability available to initiate the Standby Gas Treatment System and Reactor Building Isolation in the event they are needed to perform their intended safety function. In addition, these systems will still have automatic initiation capability available if a high radiation signal were received. The high radiation monitor is located on the refueling floor.

c) The temporary relaxation of allowing instrument LIS-3-58 A-D to be out-of-service, will not introduce a new accident different then that previously evaluated. Requiring the manual actuation capability of the diesel generator(s) provides additional assurance that either the CSS or RHR system would be able to provide makeup water to the reactor vessel if needed. By providing this assurance, BFN would be in a condition bounded by the current FSAR.

3) The proposed change does not involve a significant reduction in a margin of safety.

a) By identifying the specific LCO conditions when the CSS and RHR automatic initiation logic could be out-of-service, provides added assurance the an adequate margin of safety is maintained. In addition to the subject conditions, the proposed TS requires that a RHRSW pump is operable and the capability of manual initiation of 1 CSS loop or 1 RHR pump and an associated diesel generator are available. This would ensure that adequate equipment is available to perform their intended safety function.

The bases section of the BFN TS (3.5) states that by requiring the spent fuel pool gates to be open with the vessel head removed, the combined water inventory in the fuel pool, the reactor cavity, and the separator/dryer, between the fuel pool low level alarm and the reactor vessel flange, is approximately 65,800 cubic feet (492,000 gallons). This will provide adequate low pressure cooling in lieu of CSS and RHR (LPCI and containment cooling mode) as required in TS 3.5.A.4 and 3.5.B.9. With the additional requirements placed on TS 3.5.A.5, of having manual operation capability of 1 loop of CSS, 1 RHR pump, and automatic operation of 1 RHRSW pump provides a redundant supply of water.

The BFN FSAR LOCA analysis assumes a pipe break under operating conditions in which the reactor is pressurized. This would allow the reactor vessel to drain at a faster rate than if the head were removed. As discussed above, requiring the cavity to be flooded, the spent fuel pool gate be opened, and that at least one RHRSW pump be operable, when irradiated fuel is in the vessel, ensures that an adequate supply of water is available to maintain the reactor core covered. In addition, the spent fuel pool has a low level alarm that alarms in the control room. When this alarm is received, makeup water can be supplied either through the RHRSW pump and/or the available CSS loop or RHR pump. Ensuring that the associated diesel generator has manual initiation capability during this LCO provides added assurance that emergency power is available therefore, adequate makeup capability will be maintained. By ensuring these conditions are met, the margin of safety is not significantly reduced.

b) The temporary relaxation to allow instrument LIS-3-203 A-D to be out-of-service during that time in which the reactor vessel level monitoring system modification is being performed does not significantly reduce the margin of safety since the manual initiation of the Standby Gas Treatment System and Reactor Building isolation would be available.

Along with the manual initiation capability of these systems, their automatic initiation capability will still be available upon receipt of a high radiation signal. These systems will be able to perform their intended safety function.

c) The temporary relaxation to allow instrument LIS-3-58 A-D to be out-of-service during that time in which the RVLMS is being performed does not significantly reduce the margin of safety since the manual initiation of the diesel generator(s) would be available. Manual initiation would supply power to the CSS and RHR system if required to perform their intended safety function.

Determination of Basis for Proposed No Significant Hazards

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.