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

August 7, 2003

TVA-BFN-TS-410

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. 50-259
Tennessee Valley Authority	)	50-260
		50-296

BROWNS FERRY NUCLEAR PLANT (BFN) - UNITS 1, 2, AND 3 - TECHNICAL SPECIFICATIONS (TS) CHANGE 410 - MODE CHANGE LIMITATIONS USING THE CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS (CLIIP)

Pursuant to 10 CFR 50.90, the Tennessee Valley Authority (TVA) is submitting a request for a TS change (TS-410) to licenses DPR-33, DPR-52, and DPR-68 for BFN Units 1, 2, and 3, respectively. The proposed amendment would modify TS requirements for mode change limitations in Limiting Condition for Operation 3.0.4 and Surveillance Requirement 3.0.4 to adopt the provisions of Industry/Technical Specification Task Force (TSTF) change TSTF-359, "Increase Flexibility in Mode Restraints."

Enclosure 1 provides a description of the proposed change including a listing of the affected TS with a brief description of the change, the confirmation ~~of~~ applicability, and the plant-specific verification. Enclosure 2 provides the existing Unit 2 TS pages marked-up to show the proposed changes. Identical changes are being requested for BFN Units 1 and 3 TS. Enclosure 3 provides the existing Unit 2 TS Bases pages marked-up to show the proposed changes. Identical changes to the Units 1 and 3 TS Bases are proposed.

A001
D030

Printed on recycled paper

TVA is asking that this TS change be approved by December 1, 2003, and that the implementation of the revised TS be made within 60 days of NRC approval. The enclosed changes to the TS Bases will be implemented concurrently with the TS change in accordance with the TS Bases Control Program.

TVA has determined 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 attachments to the Alabama State Department of Public Health.

There are no regulatory commitments associated with this submittal. This letter is being sent in accordance with NRC Regulatory Issue Summary 2001-05, Guidance on Submitting Documents to the NRC by Electronic Information Exchange or on CD-ROM. 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 August 7, 2003.

Sincerely,

T. E. Abney
Manager of Licensing
and Industry Affairs

Enclosures:
1. Description and Assessment
2. Proposed Technical Specifications Changes (mark-up)
3. Changes to Technical Specifications Bases Pages (mark-up)

cc: (Enclosures)
State Health Officer
Alabama State Department of Public Health
RSA Tower - Administration
Suite 1552
P.O. Box 303017
Montgomery, Alabama 36130-3017

Enclosure 1

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

Technical Specifications (TS) Change 410

Mode Change Limitations Using the Consolidated Line Item Improvement Process (CLIIP)

Description and Assessment

1.0 DESCRIPTION

The proposed amendment would modify Technical Specifications (TS) requirements for mode change limitations in Limiting Condition for Operation (LCO) 3.0.4 and Surveillance Requirement (SR) 3.0.4. The changes are consistent with Nuclear Regulatory Commission (NRC) approved Industry/Technical Specification Task Force (TSTF) Standard TS (STS) change TSTF-359 Revision 8, as modified by the notice in the Federal Register published on April 4, 2003. That Federal Register Notice (FRN) announced the availability of this TS improvement through the CLIIP. TSTF-359 Revision 8 was subsequently revised to incorporate the modifications discussed in the April 4, 2003, FRN and other minor changes, and was submitted to NRC on April 28, 2003, as TSTF-359 Revision 9.

A description of the proposed TS/TS Bases changes that directly adopt TSTF-359 Revision 9 with no variations is provided directly below. A description of the TS/TS Bases changes where variances are required to adopt TSTF-359 Revision 9, due to differences between BFN TS and STS, is provided in Section 2.2 of this enclosure.

A. LCO 3.0.4 is revised to allow entry into a MODE or other specified condition in the Applicability while relying on the associated ACTIONS, provided that there is a risk assessment performed which justifies the use of LCO 3.0.4, the ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time, or an NRC approved allowance is provided in the Specification to be entered. The associated Bases are likewise being modified in accordance with TSTF-359 Revision 9. The

bracketed provisions in the Revision 9 Bases mark-ups have been removed for consistency with NUREG-1433 Revision 2, Standard Technical Specifications, "General Electric Plants, BWR/4."

B. SR 3.0.4 is revised to reflect the concepts of the change to LCO 3.0.4. The applicability of LCO 3.0.4 and SR 3.0.4 is expanded to include transition into all MODES or other specified conditions in the Applicability, except when required to comply with ACTIONS or that are part of a shutdown of the unit. The associated Bases are likewise being modified in accordance with TSTF-359 Revision 9. The bracketed provisions in the Revision 9 Bases mark-ups have been removed for consistency with NUREG-1433 Revision 2, Standard Technical Specifications, "General Electric Plants, BWR/4."

C. In LCO 3.5.1, Emergency Core Cooling System - Operating, an ACTIONS Note is added to indicate that the new LCO 3.0.4.b provision is not applicable to the High Pressure Coolant Injection system.

D. In LCO 3.5.3, Reactor Core Isolation Cooling, an ACTIONS Note is added to indicate that the new LCO 3.0.4.b provision is not applicable.

E. In LCO 3.8.1, Alternating Current - Operating, an ACTIONS Note is added to indicate that the new LCO 3.0.4.b provision is not applicable to diesel generators (DGs).

Enclosure 2 provides the existing Unit 2 TS pages marked-up to show the proposed change. Identical changes are being requested for BFN Units 1 and 3 TS. Enclosure 3 provides the existing Unit 2 TS Bases pages marked-up to show the proposed change. Identical changes to the Units 1 and 3 TS Bases are proposed. LCO 3.0.4 and SR 3.0.4 are identical for all 3 BFN units.

2.0 ASSESSMENT

2.1 Applicability of Published Safety Evaluation

The Tennessee Valley Authority (TVA) has reviewed the NRC safety evaluation dated March 28, 2003, as part of the CLIIP. This review included a review of the NRC staff's evaluation, as well as the supporting information provided to support TSTF-359 Revision 8 and included the consideration of the updates made in TSTF-359 Revision 9. TVA has concluded that the justifications presented in the TSTF proposal and the safety evaluation prepared by the NRC

staff are applicable to BFN Units 1, 2, and 3, and justify this amendment for the incorporation of the changes to the BFN TS.

2.2 Optional Changes and Variations

TVA is not proposing any variations or deviations from the model TS/TS Bases changes for LCO 3.0.4 and SR 3.0.4 described in the modified TSTF-359 Revision 8 (as updated by Revision 9) and the NRC staff's model safety evaluation dated March 28, 2003.

However, due to minor differences between BFN TS/TS Bases and the model STS in NUREG-1433 Revision 2, Standard Technical Specifications, "General Electric Plants, BWR/4", in several cases small variances from the TSTF mark-up changes are necessary. These variations are discussed below and do not affect the adoption or application of TSTF-359 Revision 9. All other TS Sections are modified without variance as described in Section 1.0 above. There are several minor technical differences among the 3 units for the affected LCO sections (setpoints, surveillance frequency, etc.). These technical differences do not affect the application of TSTF-359 Revision 9, so the same changes shown in Unit 2 TS/TS Bases mark-ups apply identically to the Units 1 and 3 TS/TS Bases.

A. BFN LCO 3.3.3.1, Post Accident Monitoring (PAM) Instrumentation, is revised to delete Note 1 from the ACTIONS, which is the LCO 3.0.4 non-applicability Note, in accordance with the TSTF. BFN TS currently have a third Note under the LCO ACTIONS, whereas STS has only two notes. The retention of the third note (renumbered as Note 2) shows in Enclosures 2 and 3 as a deviation from the TSTF-359 Revision 9 mark-ups.

B. In the TSTF mark-ups, STS 3.3.3.2, Remote Shutdown System, Note 1 from the ACTIONS, which is the LCO 3.0.4 non-applicability Note, is deleted. The equivalent BFN TS is titled as TS 3.3.3.2, Backup Control System, and the same change is made.

C. In the TSTF mark-ups, STS 3.3.6.3, Low-Low Set (LLS) Instrumentation, is modified. BFN TS do not have an equivalent section, so no changes are needed.

D. In the TSTF mark-ups, in STS 3.4.6, Reactor Coolant System (RCS) Leakage Detection Instrumentation, Note 1 from the ACTIONS, which is the LCO 3.0.4 non-applicability Note, is deleted. In BFN TS, the

equivalent TS is TS 3.4.5 (same title) and the LCO 3.0.4 non-applicability Note, which is being deleted, is located in REQUIRED ACTION B rather than the ACTIONS.

E. In the TSTF mark-ups, STS 3.4.7, Reactor Coolant System Specific Activity, a Note permitting the use of the new LCO 3.0.4.c provision is substituted for the existing LCO 3.0.4 non-applicability note in REQUIRED ACTION A. In BFN TS, the equivalent TS is TS 3.4.6 (same title) and the same change is made.

F. In the TSTF mark-ups, STS 3.4.8, Residual Heat Removal (RHR) System - Hot Shutdown, Note 1 from the ACTIONS, which is the LCO 3.0.4 non-applicability Note, is deleted. In BFN TS, the equivalent TS is TS 3.4.7 (same title) and the same change is made.

G. In the TSTF mark-ups, STS 3.6.3.1, Primary Containment Hydrogen Recombiners, is modified. BFN TS do not have an equivalent section, so no changes are needed.

H. In the TSTF mark-ups, STS 3.6.3.2, Drywell Cooling System Fans, is modified. BFN TS do not have an equivalent section, so no changes are needed.

I. In the TSTF mark-ups, STS 3.6.3.4, Containment Atmospheric Dilution (CAD) System, the Note in REQUIRED ACTION A.1, which is the LCO 3.0.4 non-applicability Note, is deleted. In BFN TS, the equivalent TS is TS 3.6.3.1 (same title) and the same change is being made.

J. In the TSTF mark-ups, the LCO 3.0.4 non-applicability Note is being deleted from Required Action A for STS 3.7.3, Diesel Generator (DG) [1B] Standby Service Water (SSW) System. BFN TS do not have the direct equivalent of STS 3.7.3. A similar function (DG cooling) is provided by the Emergency Equipment Cooling Water (EECW) System, which is addressed in BFN TS 3.7.2, EECW System and Ultimate Heat Sink. TS 3.7.2, however, does not have an LCO 3.0.4 non-applicability provision, so no changes are needed for consistency with TSTF-359.

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Determination

TVA has reviewed the proposed no significant hazards consideration determination (NSHCD) published in the Federal Register as part of the CLIIP. TVA has concluded that the proposed NSHCD presented in the Federal Register notice is

applicable to Browns Ferry Nuclear Plant and is, hereby, incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

3.2 Verification and Commitments

As discussed in the notice of availability published in the Federal Register on April 4, 2003, for this TS improvement, plant-specific verifications were performed as follows:

TVA has established TS Bases for LCO 3.0.4 and SR 3.0.4, which state that use of the TS mode change limitation flexibility established by LCO 3.0.4 and SR 3.0.4 is not to be interpreted as endorsing the failure to exercise the good practice of restoring systems or components to operable status before entering an associated mode or other specified condition in the TS Applicability.

The modification also includes changes to the Bases for LCO 3.0.4 and SR 3.0.4 that provide details on how to implement the new requirements. The Bases changes provide guidance for changing Modes or other specified conditions in the Applicability when an LCO is not met. The Bases changes describe in detail how: LCO 3.0.4.a allows entry into a MODE or other specified condition in the Applicability with the LCO not met when the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time; LCO 3.0.4.b allows entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate; and LCO 3.0.4.c allows entry into a MODE or other specified condition in the Applicability with the LCO not met based on a Note in the Specification, which is typically applied to Specifications which describe values and parameters (e.g., Reactor Coolant System Activity), though it may be applied to other Specifications based on NRC plant-specific approval. The Bases also state that any risk impact should be managed through the program in place to implement 10 CFR 50.65(a)(4) and its implementation guidance, NRC Regulatory Guide 1.182, "Assessing and Managing Risks Before Maintenance Activities at Nuclear Power Plants," and that the results of the risk assessment shall be considered in determining the acceptability of entering the MODE or other specified condition in the Applicability, and any corresponding risk management actions. Upon entry into a

MODE or other specified condition in the Applicability with the LCO not met, LCO 3.0.1 and LCO 3.0.2 require entry into the applicable Conditions and Required Actions until the Condition is resolved, until the LCO is met, or until the unit is not within the Applicability of the TS. The Bases also state that SR 3.0.4 does not restrict changing MODES or other specified conditions of the Applicability when a Surveillance has not been performed within the specified Frequency, provided the requirement to declare the LCO not met has been delayed in accordance with SR 3.0.3.

The revised TS Bases will be implemented concurrently with the TS change in accordance with the TS Bases Control Program as described in TS 5.5.10.

4.0 ENVIRONMENTAL EVALUATION

TVA has reviewed the environmental evaluation included in the model safety evaluation dated March 28, 2003, as part of the CLIIP. TVA has concluded that the staff's findings presented in that evaluation are applicable to BFN and the evaluation is hereby incorporated by reference for this application.

Enclosure 2

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

Technical Specifications (TS) Change 410

Mode Change Limitations Using the Consolidated Line Item Improvement Process (CLIIP)

Proposed Technical Specifications Changes (mark-up)

3.0 LCO APPLICABILITY (continued)

LCO 3.0.4	When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall not be made except when the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time. This Specification shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are a part of a shutdown of the unit. Exceptions to this Specification are stated in the individual Specifications. LCO 3.0.4 is only applicable for entry into a MODE or other specified condition in the Applicability in MODES 1, 2, and 3.
LCO 3.0.5	Equipment removed from service or declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to LCO 3.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.
LCO 3.0.6	When a supported system LCO is not met solely due to a support system LCO not being met, the Conditions and Required Actions associated with this supported system are not required to be entered. Only the support system LCO ACTIONS are required to be entered. This is an exception to LCO 3.0.2 for the supported system. In this event, an evaluation shall be performed in accordance with Specification 5.5.11, "Safety Function Determination Program (SFDP)." If a loss of safety function is

INSERT 1

(continued)

INSERT 1 (LCO 3.0.4)

When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall only be made:

a. When the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time;

b. After performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering the MODE or other specified condition in the Applicability, and establishment of risk management actions, if appropriate; exceptions to this Specification are stated in the individual Specifications, or

c. When an allowance is stated in the individual value, parameter, or other Specification.

This Specification shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

3.0 SR APPLICABILITY

SR 3.0.3 (continued)	If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered. When the Surveillance is performed within the delay period and the Surveillance is not met, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.
SR 3.0.4	Entry into a MODE or other specified condition in the Applicability of an LCO shall not be made unless the LCO's Surveillances have been met within their specified Frequency. This provision shall not prevent entry into MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit. SR 3.0.4 is only applicable for entry into a MODE or other specified condition in the Applicability in MODES 1, 2, and 3.

INSERT 2

INSERT 2 (SR 3.0.4)

Entry into a MODE or other specified condition in the Applicability of an LCO shall only be made when the LCO's Surveillances have been met within their specified Frequency, except as provided by SR 3.0.3. When an LCO is not met due to Surveillances not having been met, entry into a MODE or other specified condition in the Applicability shall only be made in accordance with LCO 3.0.4.

This provision shall not prevent entry into MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

3.3 INSTRUMENTATION

3.3.3.1 Post Accident Monitoring (PAM) Instrumentation

LCO 3.3.3.1 The PAM instrumentation for each Function in Table 3.3.3.1-1 shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

NOTES

1. ~~LCO 3.0.4 is not applicable.~~

1 2. Separate Condition entry is allowed for each Function.

2 3. For Function 6, Separate Condition entry is allowed for each penetration flow path.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one required channel inoperable.	A.1 Restore required channel to OPERABLE status.	30 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action in accordance with Specification 5.6.6.	Immediately

(continued)

3.3 INSTRUMENTATION

3.3.3.2 Backup Control System

LCO 3.3.3.2 The Backup Control System Functions shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

NOTES

1. LCO 3.0.4 is not applicable.
2. Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. One or more required Functions inoperable.	A.1	Restore required Function to OPERABLE status.	30 days
B. Required Action and associated Completion Time not met.	B.1	Be in MODE 3.	12 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required primary containment atmospheric monitoring system inoperable.	~~NOTE~~ ~~LCO 3.0.4 is not applicable.~~	
	B.1 Analyze grab samples of primary containment atmosphere.	Once per 12 hours
	AND	
	B.2 Restore required primary containment atmospheric monitoring system to OPERABLE status.	30 days
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Be in MODE 3.	12 hours
	AND	
	C.2 Be in MODE 4.	36 hours
D. All required leakage detection systems inoperable.	D.1 Enter LCO 3.0.3.	Immediately

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.6 RCS Specific Activity

LCO 3.4.6 The specific activity of the reactor coolant shall be limited to DOSE EQUIVALENT I-131 specific activity ≤ 3.2 μCi/gm.

APPLICABILITY: MODE 1,
MODES 2 and 3 with any main steam line not isolated.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Reactor coolant specific activity > 3.2 μCi/gm and ≤ 26.0 μCi/gm DOSE EQUIVALENT I-131.	~~NOTE~~ ~~LCO 3.0.4 is not applicable.~~	Insert 7
	A.1 Determine DOSE EQUIVALENT I-131.	Once per 4 hours
	AND	
	A.2 Restore DOSE EQUIVALENT I-131 to within limits.	48 hours

(continued)

INSERT 7 (RCS SPECIFIC ACTIVITY)

----------NOTE----------

LCO 3.0.4.c is applicable.

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.7 Residual Heat Removal (RHR) Shutdown Cooling System - Hot Shutdown

LCO 3.4.7 Two RHR shutdown cooling subsystems shall be OPERABLE, and, with no recirculation pump in operation, at least one RHR shutdown cooling subsystem shall be in operation.

NOTES

1. Both required RHR shutdown cooling subsystems and recirculation pumps may not be in operation for up to 2 hours per 8 hour period.
2. One required RHR shutdown cooling subsystem may be inoperable for up to 2 hours for performance of Surveillances.

APPLICABILITY: MODE 3, with reactor steam dome pressure less than the RHR low pressure permissive pressure.

ACTIONS

NOTES

1. LCO 3.0.4 is not applicable.
2. Separate Condition entry is allowed for each RHR shutdown cooling subsystem.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or two required RHR shutdown cooling subsystems inoperable.	A.1 Initiate action to restore required RHR shutdown cooling subsystem(s) to OPERABLE status. AND	Immediately (continued)

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

3.5.1 ECCS - Operating

LCO 3.5.1 Each ECCS injection/spray subsystem and the Automatic Depressurization System (ADS) function of six safety/relief valves shall be OPERABLE.

APPLICABILITY: MODE 1,
MODES 2 and 3, except high pressure coolant injection (HPCI) and ADS valves are not required to be OPERABLE with reactor steam dome pressure ≤ 150 psig.

BWR-4 Insert 1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One low pressure ECCS injection/spray subsystem inoperable. OR One low pressure coolant injection (LPCI) pump in both LPCI subsystems inoperable.	A.1 Restore low pressure ECCS injection/spray subsystem(s) to OPERABLE status.	7 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	12 hours 36 hours

(continued)

BWR4 INSERT 1 (LCO 3.5.1, ECCS - OPERATING)

----------NOTE----------

LCO 3.0.4.b is not applicable to HPCI.

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

3.5.3 RCIC System

LCO 3.5.3 The RCIC System shall be OPERABLE.

APPLICABILITY: MODE 1,
MODES 2 and 3 with reactor steam dome pressure > 150 psig.

BWR4 Insert 2

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. RCIC System inoperable.	A.1	Verify by administrative means High Pressure Coolant Injection System is OPERABLE.	Immediately
	AND		
	A.2	Restore RCIC System to OPERABLE status.	14 days
B. Required Action and associated Completion Time not met.	B.1	Be in MODE 3.	12 hours
	AND		
	B.2	Reduce reactor steam dome pressure to ≤ 150 psig.	36 hours

BWR4 INSERT 2 (LCO 3.5.3, RCIC SYSTEM)

----------NOTE----------

LCO 3.0.4.b is not applicable to RCIC.

3.6 CONTAINMENT SYSTEMS

3.6.3.1 Containment Atmosphere Dilution (CAD) System

LCO 3.6.3.1 Two CAD subsystems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CAD subsystem inoperable.	A.1 ~~NOTE LCO 3.0.4 is not applicable.~~ Restore CAD subsystem to OPERABLE status.	30 days
B. Two CAD subsystems inoperable.	B.1 Verify by administrative means that the hydrogen control function is maintained.	1 hour AND Once per 12 hours thereafter
	AND B.2 Restore one CAD subsystem to OPERABLE status.	7 days
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	12 hours

3.8 ELECTRICAL POWER SYSTEMS

3.8.1 AC Sources - Operating

LCO 3.8.1 The following AC electrical power sources shall be OPERABLE:

a. Two qualified circuits between the offsite transmission network and the onsite Class 1E AC Electrical Power Distribution System;

b. Unit 1 and 2 diesel generators (DGs) with two divisions of 480 V load shed logic and common accident signal logic OPERABLE; and

c. Unit 3 DG(s) capable of supplying the Unit 3 4.16 kV shutdown board(s) required by LCO 3.8.7, "Distribution Systems - Operating."

APPLICABILITY: MODES 1, 2, and 3.

BWR4 Insert 3

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required offsite circuit inoperable.	A.1 Verify power availability from the remaining OPERABLE offsite transmission network. AND	1 hour AND Once per 8 hours thereafter
		(continued)

BWR4 INSERT 3 (LCO 3.8.1, AC SOURCES - OPERATING)

----------NOTE----------

LCO 3.0.4.b is not applicable to DGs.

Enclosure 3

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

Technical Specifications (TS) Change 410

Mode Change Limitations Using the Consolidated Line Item Improvement Process (CLIIP)

Changes to Technical Specifications Bases Pages (mark-up)

BASES

LCO 3.0.3 (continued)

Therefore, this LCO can be applicable in any or all MODES. If the LCO and the Required Actions of LCO 3.7.6 are not met while in MODE 1, 2, or 3, there is no safety benefit to be gained by placing the unit in a shutdown condition. The Required Action of LCO 3.7.6 of "Suspend movement of irradiated fuel assemblies in the spent fuel storage pool" is the appropriate Required Action to complete in lieu of the actions of LCO 3.0.3. These exceptions are addressed in the individual Specifications.

LCO 3.0.4

Insert 3

LCO 3.0.4 establishes limitations on changes in MODES or other specified conditions in the Applicability when an LCO is not met. It precludes placing the unit in a different MODE or other specified condition stated in that Applicability (e.g. Applicability desired to be entered) when the following exist:

a. Unit conditions are such that requirements of the LCO would not be met in the Applicability desired to be entered; and

b. Continued noncompliance with the LCO requirements, if the Applicability were entered, would result in the unit being required to exit the Applicability desired to be entered to comply with the Required Actions.

Compliance with Required Actions that permit continued operation of the unit for an unlimited period of time in a MODE or other specified condition provides an acceptable level of safety for continued operation. This is without regard to the status of the unit before or after the MODE change. Therefore, in such cases, entry into a MODE or other specified condition in the Applicability may be made in accordance with the provisions of the Required Actions. The provisions of this Specification should not be interpreted as endorsing the failure to exercise the good practice of restoring systems or components to OPERABLE status before unit startup.

(continued)

Insert 3 (LCO 3.0.4 Bases) (Cont.)

allowance should be generally acceptable, as long as the risk is assessed and managed as stated above. However, there is a small subset of systems and components that have been determined to be more important to risk and use of the LCO 3.0.4.b allowance is prohibited. The LCOs governing these system and components contain Notes prohibiting the use of LCO 3.0.4.b by stating that LCO 3.0.4.b is not applicable.

LCO 3.0.4.c allows entry into a MODE or other specified condition in the Applicability with the LCO not met based on a Note in the Specification which states LCO 3.0.4.c is applicable. These specific allowances permit entry into MODES or other specified conditions in the Applicability when the associated ACTIONS to be entered do not provide for continued operation for an unlimited period of time and a risk assessment has not been performed. This allowance may apply to all the ACTIONS or to a specific Required Action of a Specification. The risk assessments performed to justify the use of LCO 3.0.4.b usually only consider systems and components. For this reason, LCO 3.0.4.c is typically applied to Specifications which describe values and parameters (e.g., Reactor Coolant System Specific Activity), and may be applied to other Specifications based on NRC plant-specific approval.

The provisions of this Specification should not be interpreted as endorsing the failure to exercise the good practice of restoring systems or components to OPERABLE status before entering an associated MODE or other specified condition in the Applicability.

The provisions of LCO 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS. In addition, the provisions of LCO 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that result from any unit shutdown. In this context, a unit shutdown is defined as a change in MODE or other specified condition in the Applicability associated with transitioning from MODE 1 to MODE 2, MODE 2 to MODE 3, and MODE 3 to MODE 4.

Upon entry into a MODE or other specified condition in the Applicability with the LCO not met, LCO 3.0.1 and LCO 3.0.2 require entry into the applicable Conditions and Required Actions until the Condition is resolved, until the LCO is met, or until the unit is not within the Applicability of the Technical Specification.

Surveillances do not have to be performed on the associated inoperable equipment (or on variables outside the specified limits), as permitted by SR 3.0.1. Therefore, utilizing LCO 3.0.4 is not a violation of SR 3.0.1 or SR 3.0.4 for any Surveillances that have not been performed on inoperable equipment. However, SRs must be met to ensure OPERABILITY prior to declaring the associated equipment OPERABLE (or variable within limits) and restoring compliance with the affected LCO.

BASES

LCO 3.0.4 (continued)

The provisions of LCO 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS. In addition, the provisions of LCO 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that result from any unit shutdown.

Exceptions to LCO 3.0.4 are stated in the individual Specifications. The exceptions allow entry into MODES or other specified conditions in the Applicability when the associated ACTIONS to be entered do not provide for continued operation for an unlimited period of time. Exceptions may apply to all the ACTIONS or to a specific Required Action of a Specification.

LCO 3.0.4 is only applicable when entering MODE 3 from MODE 4, MODE 2 from MODE 3 or 4, or MODE 1 from MODE 2. Furthermore, LCO 3.0.4 is applicable when entering any other specified condition in the Applicability only while operating in MODE 1, 2, or 3. The requirements of LCO 3.0.4 do not apply in MODES 4 and 5, or in other specified conditions of the Applicability (unless in MODE 1, 2, or 3) because the ACTIONS of individual specifications sufficiently define the remedial measures to be taken. [In some cases (e.g., ..) these ACTIONS provide a Note that states "While this LCO is not met, entry into a MODE or other specified condition in the Applicability is not permitted, unless required to comply with ACTIONS." This Note is a requirement explicitly precluding entry into a MODE or other specified condition of the Applicability.]

(continued)

BASES

LCO 3.0.4 (continued)

Surveillances do not have to be performed on the associated inoperable equipment (or on variables outside the specified limits), as permitted by SR 3.0.1. Therefore, changing MODES or other specified conditions while in an ACTIONS Condition, either in compliance with LCO 3.0.4 or where an exception to LCO 3.0.4 is stated, is not a violation of SR 3.0.1 or SR 3.0.4 for those Surveillances that do not have to be performed due to the associated inoperable equipment. However, SRs must be met to ensure OPERABILITY prior to declaring the associated equipment OPERABLE (or variable within limits) and restoring compliance with the affected LCO.

LCO 3.0.5

LCO 3.0.5 establishes the allowance for restoring equipment to service under administrative controls when it has been removed from service or declared inoperable to comply with ACTIONS. The sole purpose of this Specification is to provide an exception to LCO 3.0.2 (e.g., to not comply with the applicable Required Action(s)) to allow the performance of required testing to demonstrate:

a. The OPERABILITY of the equipment being returned to service; or

b. The OPERABILITY of other equipment.

The administrative controls ensure the time the equipment is returned to service in conflict with the requirements of the ACTIONS is limited to the time absolutely necessary to perform the required testing to demonstrate OPERABILITY. This Specification does not provide time to perform any other preventive or corrective maintenance.

(continued)

BASES (continued)

SR 3.0.4

SR 3.0.4 establishes the requirement that all applicable SRs must be met before entry into a MODE or other specified condition in the Applicability.

This Specification ensures that system and component OPERABILITY requirements and variable limits are met before entry into MODES or other specified conditions in the Applicability for which these systems and components ensure safe operation of the unit.

The provisions of this Specification should not be interpreted as endorsing the failure to exercise the good practice of restoring systems or components to OPERABLE status before entering an associated MODE or other specified condition in the Applicability.

Insert 4

However, in certain circumstances failing to meet an SR will not result in SR 3.0.4 restricting a MODE change or other specified condition change. When a system, subsystem, division, component, device, or variable is inoperable or outside its specified limits, the associated SR(s) are not required to be performed, per SR 3.0.1, which states that Surveillances do not have to be performed on inoperable equipment. When equipment is inoperable, SR 3.0.4 does not apply to the associated SR(s) since the requirement for the SR(s) to be performed is removed. Therefore, failing to perform the Surveillance(s) within the specified Frequency does not result in an SR 3.0.4 restriction to changing MODES or other specified conditions of the Applicability. However, since the LCO is not met in this instance, LCO 3.0.4 will govern any restrictions that may (or may not) apply to MODE or other specified condition changes.

(continued)

INSERT 4 (SR 3.0.4 BASES)

SR 3.0.4 establishes the requirement that all applicable SRs must be met before entry into a MODE or other specified condition in the Applicability.

This Specification ensures that system and component OPERABILITY requirements and variable limits are met before entry into MODES or other specified conditions in the Applicability for which these systems and components ensure safe operation of the unit. The provisions of this Specification should not be interpreted as endorsing the failure to exercise the good practice of restoring systems or components to OPERABLE status before entering an associated MODE or other specified condition in the Applicability.

A provision is included to allow entry into a MODE or other specified condition in the Applicability when an LCO is not met due to Surveillance not being met in accordance with LCO 3.0.4.

However, in certain circumstances, failing to meet an SR will not result in SR 3.0.4 restricting a MODE change or other specified condition change. When a system, subsystem, division, component, device, or variable is inoperable or outside its specified limits, the associated SR(s) are not required to be performed, per SR 3.0.1, which states that surveillances do not have to be performed on inoperable equipment. When equipment is inoperable, SR 3.0.4 does not apply to the associated SR(s) since the requirement for the SR(s) to be performed is removed. Therefore, failing to perform the Surveillance(s) within the specified Frequency does not result in an SR 3.0.4 restriction to changing MODES or other specified conditions of the Applicability. However, since the LCO is not met in this instance, LCO 3.0.4 will govern any restrictions that may (or may not) apply to MODE or other specified condition changes. SR 3.0.4 does not restrict changing MODES or other specified conditions of the Applicability when a Surveillance has not been performed within the specified Frequency, provided the requirement to declare the LCO not met has been delayed in accordance with SR 3.0.3.

The provisions of SR 3.0.4 shall not prevent entry into MODES or other specified conditions in the Applicability that are required to comply with ACTIONS. In addition, the provisions of SR 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that result from any unit shutdown. In this context, a unit shutdown is defined as a change in MODE or other specified condition in the Applicability associated with transitioning from MODE 1 to MODE 2, MODE 2 to MODE 3, and MODE 3 to MODE 4.

The precise requirements for performance of SRs are specified such that exceptions to SR 3.0.4 are not necessary. The specific time frames and conditions necessary for meeting the SRs are specified in the Frequency, in the Surveillance, or both. This allows performance of Surveillances when the prerequisite condition(s) specified in a Surveillance procedure require entry into the MODE or other specified condition in the Applicability of the associated LCO prior to the performance or completion of a Surveillance. A Surveillance that could not be performed until after entering the LCO's Applicability, would have its Frequency specified such that it is not "due" until the specific conditions needed are met. Alternately, the Surveillance may be stated in the form of a Note, as not required (to be met or performed) until a particular event, condition, or time has been reached. Further discussion of the specific formats of SRs' annotation is found in Section 1.4, Frequency.

BASES

SR 3.0.4 (continued)

The provisions of SR 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS. In addition, the provisions of SR 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that result from any unit shutdown.

The precise requirements for performance of SRs are specified such that exceptions to SR 3.0.4 are not necessary. The specific time frames and conditions necessary for meeting the SRs are specified in the Frequency, in the Surveillance, or both. This allows performance of Surveillances when the prerequisite condition(s) specified in a Surveillance procedure require entry into the MODE or other specified condition in the Applicability of the associated LCO prior to the performance or completion of a Surveillance. A Surveillance that could not be performed until after entering the LCO Applicability would have its Frequency specified such that it is not "due" until the specific conditions needed are met. Alternately, the Surveillance may be stated in the form of a Note as not required (to be met or performed) until a particular event, condition, or time has been reached. Further discussion of the specific formats of SRs' annotation is found in Section 1.4, Frequency.

SR 3.0.4 is only applicable when entering MODE 3 from MODE 4, MODE 2 from MODE 3 or 4, or MODE 1 from MODE 2. Furthermore, SR 3.0.4 is applicable when entering any other specified condition in the Applicability only while operating in MODE 1, 2, or 3. The requirements of SR 3.0.4 do not apply in MODES 4 and 5, or in other specified conditions of the Applicability (unless in MODE 1, 2, or 3) because the ACTIONS of individual Specifications sufficiently define the remedial measures to be taken.

BASES (continued)

APPLICABILITY

The PAM instrumentation LCO is applicable in MODES 1 and 2. These variables are related to the diagnosis and preplanned actions required to mitigate DBAs. The applicable DBAs are assumed to occur in MODES 1 and 2. In MODES 3, 4, and 5, plant conditions are such that the likelihood of an event that would require PAM instrumentation is extremely low; therefore, PAM instrumentation is not required to be OPERABLE in these MODES.

ACTIONS

Note 1 has been added to the ACTIONS to exclude the MODE change restriction of LCO 3.0.4. This exception allows entry into the applicable MODE while relying on the ACTIONS even though the ACTIONS may eventually require plant shutdown. This exception is acceptable due to the passive function of the instruments, the operator's ability to diagnose an accident using alternative instruments and methods, and the low probability of an event requiring these instruments.

1 and 2

Notes 2 and 3 have been provided to modify the ACTIONS related to PAM instrumentation channels. Section 1.3, Completion Times, specifies that once a Condition has been entered, subsequent divisions, subsystems, components, or variables expressed in the Condition discovered to be inoperable or not within limits, will not result in separate entry into the Condition. Section 1.3 also specifies that Required Actions of the Condition continue to apply for each additional failure, with Completion Times based on initial entry into the Condition. However, the Required Actions for inoperable PAM instrumentation channels provide appropriate compensatory measures for separate Functions. As such, Note 2 has been provided to allow separate Condition entry for each inoperable PAM Function. Note 3 has been provided for Function 6 to allow separate Condition entry for each penetration flow path.

1

2

(continued)

BASES (continued)

ACTIONS

~~A Note is included that excludes the MODE change restriction of LCO 3.0.4. This exception allows entry into an applicable MODE while relying on the ACTIONS even though the ACTIONS may eventually require a plant shutdown. This exception is acceptable due to the low probability of an event requiring this system.~~

A

Note 2 has been provided to modify the ACTIONS related to Backup Control System Functions. Section 1.3, Completion Times, specifies that once a Condition has been entered, subsequent divisions, subsystems, components, or variables expressed in the Condition, discovered to be inoperable or not within limits, will not result in separate entry into the Condition. Section 1.3 also specifies that Required Actions of the Condition continue to apply for each additional failure, with Completion Times based on initial entry into the Condition. However, the Required Actions for inoperable Backup Control System Functions provide appropriate compensatory measures for separate Functions. As such, a Note has been provided that allows separate Condition entry for each inoperable Backup Control System Function.

A.1

Condition A addresses the situation where one or more required Functions of the Backup Control System is inoperable. This includes any instrument parameter Function listed in Table B 3.3.3.2-1, as well as the control and transfer switches.

The Required Action is to restore the Function to OPERABLE status within 30 days. The Completion Time is based on operating experience and the low probability of an event that would require evacuation of the control room.

(continued)

BASES

ACTIONS

B.1 and B.2 (continued)

The 12 hour interval provides periodic information that is adequate to detect LEAKAGE. The 30 day Completion Time for restoration recognizes that at least one other form of leakage detection is available.

The Required Actions are modified by a Note that states that the provisions of LCO 3.0.4 are not applicable. As a result, a MODE change is allowed when both the gaseous and particulate primary containment atmospheric monitoring channels are inoperable. This allowance is provided because other instrumentation is available to monitor RCS leakage.

C.1 and C.2

If any Required Action and associated Completion Time of Condition A or B cannot be met, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to perform the actions in an orderly manner and without challenging plant systems.

D.1

With all required monitors inoperable, no required automatic means of monitoring LEAKAGE are available, and immediate plant shutdown in accordance with LCO 3.0.3 is required.

(continued)

BASES (continued)

APPLICABILITY

In MODE 1, and MODES 2 and 3 with any main steam line not isolated, limits on the primary coolant radioactivity are applicable since there is an escape path for release of radioactive material from the primary coolant to the environment in the event of an MSLB outside of primary containment.

In MODES 2 and 3 with the main steam lines isolated, such limits do not apply since an escape path does not exist. In MODES 4 and 5, no limits are required since the reactor is not pressurized and the potential for leakage is reduced.

ACTIONS

A.1 and A.2

When the reactor coolant specific activity exceeds the LCO DOSE EQUIVALENT I-131 limit, but is ≤ 26.0 μCi/gm, samples must be analyzed for DOSE EQUIVALENT I-131 at least once every 4 hours. In addition, the specific activity must be restored to the LCO limit within 48 hours. The Completion Time of once every 4 hours is based on the time needed to take and analyze a sample. The 48 hour Completion Time to restore the activity level provides a reasonable time for temporary coolant activity increases (iodine spikes) to be cleaned up with the normal processing systems.

Insert 8

A Note to Required Actions of Condition A excludes the MODE change restriction of LCO 3.0.4. This exception allows entry into the applicable MODE(S) while relying on the ACTIONS even though the ACTIONS may eventually require plant shutdown. This exception is acceptable due to the significant conservatism incorporated into the specific activity limit, the low probability of an event which is limiting due to exceeding this limit, and the ability to restore transient specific activity excursions while the plant remains at, or proceeds to power operation.

Allowance

(continued)

INSERT 8 (RCS SPECIFIC ACTIVITY BASES)

A Note permits the use of the provisions of LCO 3.0.4.c. This allowance permits entry into the applicable MODE(S) while relying on the ACTIONS.

BASES

APPLICABILITY (continued)

The requirements for decay heat removal in MODES 4 and 5 are discussed in LCO 3.4.8, "Residual Heat Removal (RHR) Shutdown Cooling System - Cold Shutdown"; LCO 3.9.7, "Residual Heat Removal (RHR) - High Water Level"; and LCO 3.9.8, "Residual Heat Removal (RHR) - Low Water Level."

ACTIONS

~~A Note to the ACTIONS excludes the MODE change restriction of LCO 3.0.4. This exception allows entry into the applicable MODE(S) while relying on the ACTIONS even though the ACTIONS may eventually require plant shutdown. This exception is acceptable due to the redundancy of the OPERABLE subsystems, the low pressure at which the plant is operating, the low probability of an event occurring during operation in this condition, and the availability of alternate methods of decay heat removal capability.~~

A ~~second~~ Note has been provided to modify the ACTIONS related to RHR shutdown cooling subsystems. Section 1.3, Completion Times, specifies once a Condition has been entered, subsequent divisions, subsystems, components or variables expressed in the Condition, discovered to be inoperable or not within limits, will not result in separate entry into the Condition. Section 1.3, also specifies Required Actions of the Condition continue to apply for each additional failure, with Completion Times based on initial entry into the Condition. However, the Required Actions for inoperable shutdown cooling subsystems provide appropriate compensatory measures for separate inoperable shutdown cooling subsystems. As such, a Note has been provided that allows separate Condition entry for each inoperable RHR shutdown cooling subsystem.

(continued)

BASES

LCO (continued)

LPCI subsystems may be considered OPERABLE during alignment and operation for decay heat removal when below the actual RHR low pressure permissive pressure in MODE 3, if capable of being manually realigned (remote or local) to the LPCI mode and not otherwise inoperable. At these low pressures and decay heat levels, a reduced complement of ECCS subsystems should provide the required core cooling, thereby allowing operation of RHR shutdown cooling when necessary.

APPLICABILITY

All ECCS subsystems are required to be OPERABLE during MODES 1, 2, and 3, when there is considerable energy in the reactor core and core cooling would be required to prevent fuel damage in the event of a break in the primary system piping. In MODES 2 and 3, when reactor steam dome pressure is ≤ 150 psig, ADS and HPCI are not required to be OPERABLE because the low pressure ECCS subsystems can provide sufficient flow below this pressure. ECCS requirements for MODES 4 and 5 are specified in LCO 3.5.2, "ECCS - Shutdown."

ACTIONS

BWR4
Insert 1B

A.1

If any one low pressure ECCS injection/spray subsystem is inoperable, or if one LPCI pump in both LPCI subsystems is inoperable, the inoperable subsystem(s) must be restored to OPERABLE status within 7 days. In this condition, the remaining OPERABLE subsystems provide adequate core cooling during a LOCA. However, overall ECCS reliability is reduced, because a single failure in one of the remaining OPERABLE subsystems, concurrent with a LOCA, may result in the ECCS not being able to perform its intended safety function.

(continued)

BWR4 INSERT 1B (LCO 3.5.1, ECCS - OPERATING)

A Note prohibits the application of LCO 3.0.4.b to an inoperable HPCI subsystem. There is an increased risk associated with entering a MODE or other specified condition in the Applicability with an inoperable HPCI subsystem and the provisions of LCO 3.0.4.b, which allow entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

BASES (continued)

LCO

The OPERABILITY of the RCIC System provides adequate core cooling such that actuation of any of the low pressure ECCS subsystems is not required in the event of RPV isolation accompanied by a loss of feedwater flow. The RCIC System has sufficient capacity for maintaining RPV inventory during an isolation event.

APPLICABILITY

The RCIC System is required to be OPERABLE during MODE 1, and MODES 2 and 3 with reactor steam dome pressure > 150 psig, since RCIC is the primary non-ECCS water source for core cooling when the reactor is isolated and pressurized. In MODES 2 and 3 with reactor steam dome pressure ≤ 150 psig, and in MODES 4 and 5, RCIC is not required to be OPERABLE since the low pressure ECCS injection/spray subsystems can provide sufficient flow to the RPV.

ACTIONS

BWR4
Insert 2B

A.1 and A.2

If the RCIC System is inoperable during MODE 1, or MODE 2 or 3 with reactor steam dome pressure > 150 psig, and the HPCI System is immediately verified to be OPERABLE, the RCIC System must be restored to OPERABLE status within 14 days. In this Condition, loss of the RCIC System will not affect the overall plant capability to provide makeup inventory at high reactor pressure since the HPCI System is the only high pressure system assumed to function during a loss of coolant accident (LOCA). OPERABILITY of HPCI is therefore immediately verified when the RCIC System is inoperable. This may be performed as an administrative check, by examining logs or other information, to determine if HPCI is out of service for maintenance or other reasons. It does not mean it is

(continued)

BWR4 INSERT 2B (LCO 3.5.3, RCIC SYSTEM)

A Note prohibits the application of LCO 3.0.4.b to an inoperable RCIC system. There is an increased risk associated with entering a MODE or other specified condition in the Applicability with an inoperable RCIC system and the provisions of LCO 3.0.4.b, which allow entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

BASES (continued)

ACTIONS

A.1

If one CAD subsystem is inoperable, it must be restored to OPERABLE status within 30 days. In this Condition, the remaining OPERABLE CAD subsystem is adequate to perform the oxygen control function. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in reduced oxygen control capability. The 30 day Completion Time is based on the low probability of the occurrence of a LOCA that would generate hydrogen and oxygen in amounts capable of exceeding the flammability limit, the amount of time available after the event for operator action to prevent exceeding this limit, and the availability of the OPERABLE CAD subsystem and other hydrogen mitigating systems.

~~Required Action A.1 has been modified by a Note that indicates that the provisions of LCO 3.0.4 are not applicable. As a result, a MODE change is allowed when one CAD subsystem is inoperable. This allowance is provided because of the low probability of the occurrence of a LOCA that would generate hydrogen and oxygen in amounts capable of exceeding the flammability limit, the low probability of the failure of the OPERABLE subsystem, the amount of time available after a postulated LOCA for operator action to prevent exceeding the flammability limit, and the presence of an inerted containment atmosphere during normal operations.~~

B.1 and B.2

With two CAD subsystems inoperable, the ability to control the hydrogen control function via alternate capabilities must be verified by administrative means within 1 hour. The alternate hydrogen control capabilities are provided by the Primary Containment Inerting System. The 1 hour Completion Time

(continued)

BASES (continued)

ACTIONS

BWR 4
Insert 3B

A.1

To ensure a highly reliable power source remains with one required offsite circuit inoperable, it is necessary to verify the availability of the remaining required offsite circuit on a more frequent basis. This action ensures proper circuit continuity for the offsite AC electrical power supply to the onsite distribution network and availability of offsite AC electrical power. If a second required circuit is not available, the second offsite circuit is inoperable, and Condition E, for two offsite circuits inoperable, is entered.

A.2

Required Action A.2, which only applies if one or both 4.16 kV shutdown boards in a division cannot be powered from a qualified offsite source, is intended to provide assurance that an event with a coincident single failure of a DG does not result in a complete loss of safety function of critical systems. These features are designed with redundant safety related divisions (i.e., single division systems are not included). Redundant required features failures consist of inoperable features associated with a division redundant to the division that has no offsite power. For example, if no qualified offsite power source was available to 4.16 kV shutdown board A and RHR pump D was inoperable for maintenance, then RHR pump A would have to be declared inoperable.

(continued)

BWR4 INSERT 3B (LCO 3.8.1, AC SOURCES - OPERATING)

A Note prohibits the application of LCO 3.0.4.b to an inoperable DG. There is an increased risk associated with entering a MODE or other specified condition in the Applicability with an inoperable DG and the provisions of LCO 3.0.4.b, which allow entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.