

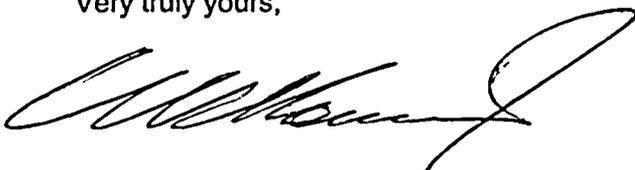
William R. Kanda  
Vice President - Nuclear440-280-5579  
Fax: 440-280-8029March 31, 2004  
PY-CEI/NRR-2772LUnited States Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555Perry Nuclear Power Plant  
Docket No. 50-440**License Amendment Request Pursuant to 10 CFR 50.90: Application for Technical Specification Change Regarding Mode Change Limitations Using The Consolidated Line Item Improvement Process**

A license amendment is requested for the Perry Nuclear Power Plant (PNPP). The requested change modifies Technical Specification (TS) requirements for mode change limitations in Limiting Condition for Operation 3.0.4 and Surveillance Requirement 3.0.4. The availability of this TS improvement was published in the *Federal Register* on April 4, 2003, as part of the Consolidated Line Item Improvement Process (CLIIP). The changes are consistent with those in Revision 9 of Technical Specification Task Force (TSTF) change TSTF-359. Revision 9 to TSTF-359 incorporates changes made during the public review and comment period for the CLIIP and also resolves Nuclear Regulatory Commission (NRC) comments made in the April 4, 2003 *Federal Register* Notice.

The confirmations of applicability and PNPP-specific verifications requested by the NRC are included in the attachments to this letter.

No regulatory commitments are contained in this letter or its attachments. Issuance of this amendment is requested by January 19, 2005. If you have questions or require additional information, please contact Mr. Vernon K. Higaki, Manager - Regulatory Affairs, at (440) 280-5294.

Very truly yours,



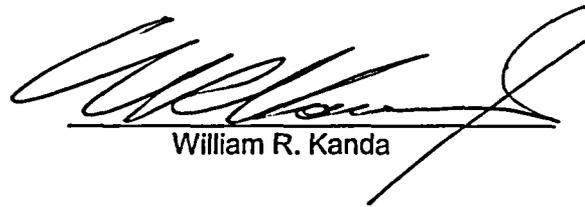
## Attachments:

1. Notarized Affidavit
2. An evaluation of the changes, including a Summary, Description of the Change, Technical Analysis, Regulatory Analysis/Commitments, Environmental Consideration, and a Significant Hazards Consideration
3. Proposed Technical Specification Changes (mark-up)
4. Information copy of Technical Specification Bases (mark-up)

cc: NRC Project Manager  
NRC Resident Inspector  
NRC Region III  
State of Ohio

A001

I, William R. Kanda, hereby affirm that (1) I am Vice President - Perry, of the FirstEnergy Nuclear Operating Company, (2) I am duly authorized to execute and file this certification as the duly authorized agent for The Cleveland Electric Illuminating Company, Toledo Edison Company, Ohio Edison Company, and Pennsylvania Power Company, and (3) the statements set forth herein are true and correct to the best of my knowledge, information and belief.

  
William R. Kanda

Subscribed to and affirmed before me, the 31<sup>st</sup> day of March, 2004



Brenda Alward  
Notary Public  
my commission expires 8-15-06

## **SUMMARY**

The proposed amendment would modify the Perry Nuclear Power Plant (PNPP) Technical Specification (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 Technical Specification Task Force (TSTF) change TSTF-359, Revision 9, entitled "Increase Flexibility in MODE Restraints". A notice of opportunity to comment on a Model Safety Evaluation, Environmental Consideration, and a No Significant Hazards Consideration for this change to LCO 3.0.4 and SR 3.0.4 was published in the *Federal Register* on August 2, 2002, as part of the Consolidated Line Item Improvement Process (CLIP). Resolution of comments on the published CLIP, and a notice of availability of this TS improvement were published in the *Federal Register* (FR) on April 4, 2003. This FR Notice referred to a "modified Revision 8" of the TSTF. Subsequently Revision 9 of TSTF-359 was issued to resolve changes to Revision 8. These resolutions were agreed to by the Nuclear Regulatory Commission (NRC) staff, and Revision 9 has been listed on the NRC CLIP web site as being equivalent to the "modified Revision 8" discussed in the April 4, 2003 *Federal Register* notice (the changes made in Rev. 9 are publicly available and explained at the NRC web site, at the following location:  
<http://www.nrc.gov/reactors/operating/licensing/techspecs/techspecs-pdf/359r9.pdf>).

## **DESCRIPTION OF THE CHANGES**

As noted above, the proposed amendment would modify various TS requirements for mode change limitations in LCO 3.0.4 and SR 3.0.4. The proposed TS changes which directly adopt TSTF-359 Revision 9 with no variations are described directly below. A subsequent discussion entitled "Optional Changes and Variations" describes the TS changes where variances are required from TSTF-359 Revision 9.

### **Description Of TS Changes Which Directly Adopt Revision 9 Of TSTF-359**

1. 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 one of the following is met:
  - 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.
2. SR 3.0.4 is revised to reflect the concepts of the change to LCO 3.0.4, including clarifying the relationship between SR 3.0.4, SR 3.0.3 and LCO 3.0.4.

3. 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 those transitions that are required to comply with ACTIONS, or that are part of a shutdown of the unit.
4. The following LCOs are revised to include a new NOTE to indicate that the risk assessment provisions of item 3.0.4.b (see above) may not be utilized for the diesel generators (DGs) and for the High Pressure Core Spray (HPCS) and Reactor Core Isolation Cooling (RCIC) systems:
  - LCO 3.5.1 "ECCS-Operating"
  - LCO 3.5.3 "RCIC System"
  - LCO 3.8.1 "AC Sources – Operating"
5. As directed by TSTF-359, all of the existing "exceptions" to LCO 3.0.4 which currently exist in a number of Specifications are deleted. Based on the rewording of LCO 3.0.4, these NOTES, which state "LCO 3.0.4 is not applicable", are no longer needed or appropriate.

#### Optional Technical Specification Changes and Variations

All of the changes to the Technical Specifications described in the NRC staff's Model Safety Evaluation dated April 4, 2003 (as modified by the NRC approved Revision 9 of TSTF-359) and those described in the text of TSTF-359 Revision 9 have been included without change or variation.

TSTF-359 also contains marked up Specification pages, and one minor difference from the BWR-6 markups is necessary due to a plant-specific difference in PNPP LCO 3.4.7 as compared to the Standard Technical Specification (STS) LCO 3.4.7. The PNPP LCO 3.4.7 contains two exceptions to LCO 3.0.4 which need to be deleted, whereas the STS LCO 3.4.7 contains only one such exception.

One additional clarification is made to be consistent with the changes being incorporated into SR 3.0.4. This change is made in the Examples provided in TS Section 1.4 "Frequency". Section 1.4 explains how to apply the surveillance testing rules. Two of the Examples discuss what constitutes a "violation" of SR 3.0.4; these are being clarified to acknowledge the existence of the two exceptions contained within SR 3.0.4. Specifically, this change to the Examples clarifies that MODE changes may be completed under the provisions of SR 3.0.3 or LCO 3.0.4 without "violating" SR 3.0.4. This ensures consistency between the newly revised SR 3.0.4 and the Section 1.4 Examples.

#### Bases

With respect to the model Bases included in TSTF-359, only two minor clarifications to the Bases discussions are being made (the Bases markups are provided in Attachment 4, for information, as they are not a formal part of the Technical Specifications - changes to the Bases are completed under the provisions of the PNPP Bases Control Program):

- In two places in the model Bases (for LCO 3.0.4 and for SR 3.0.4), a definition is provided for what constitutes a "shutdown", as described in these two Specifications. In both places, the model Bases sentence states "In this context, a unit shutdown is defined as a change in MODE ... from MODE 1 to MODE 2, MODE 2 to MODE 3, and MODE 3 to MODE 4." This "definition" does not address a common Boiling Water Reactor (BWR) shutdown path, involving a manual scram of the plant (where the plant goes from MODE 1 into MODE 3). This "definition" in the Bases could theoretically be interpreted to require that LCO 3.0.4 and SR 3.0.4 need to be applied to shutdowns by scram, which is not the case. Therefore, these Bases sentences are revised to address this type of shutdown from MODE 1 to MODE 3. No technical information was removed by this change, and the intent of the discussion is retained.

- The reworded SR 3.0.4 contains two clarifications of its interrelationship with SR 3.0.3 and LCO 3.0.4. In the model TSTF-359 Bases, the discussions of these two exceptions are out of order, i.e., in TS SR 3.0.4 itself, the exception addressing SR 3.0.3 comes before the exception addressing LCO 3.0.4, but in the model Bases, the SR 3.0.3 exception discussion was added after the discussion of the LCO 3.0.4 exception. Since the resultant discussion in the model Bases is confusing, the PNPP Bases markups were rearranged in the correct order, and an introductory sentence was added which provides a lead-in to the discussion of the two exceptions. No technical information was removed by this reformatting, and the intent of the discussions are retained.

## **TECHNICAL ANALYSIS**

### **Applicability of the Published Model Safety Evaluation**

A review has been performed which compared the PNPP-proposed changes to the conclusions of the model safety evaluation published April 4, 2003, as modified by Revision 9 of TSTF-359. This review included the NRC staff's evaluation, as well as the information provided to support TSTF-359, Revision 9. The review concluded that the justifications presented in the TSTF and in the safety evaluation prepared by the NRC staff, as modified by Revision 9 of TSTF-359, are applicable to the PNPP-proposed changes (including the change to Section 1.4 to provide consistency with SR 3.0.4) and justify this amendment to the PNPP Technical Specifications.

## **REGULATORY ANALYSIS/COMMITMENTS**

### **Plant-specific Verification of Conformance/Applicability to PNPP**

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:

- The existing PNPP TS Bases for SR 3.0.4 already state that use of the TS mode change limitation flexibility established by LCO 3.0.4 and SR 3.0.4 "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 copy of the existing Bases is included in Attachment 4). This concept is maintained in the attached Bases markups. The existing TS Bases for LCO 3.0.4 contain a very similar statement; the attached markups revise the LCO 3.0.4 Bases to include the wording provided in TSTF-359.
- The modification to the PNPP Bases will also include changes to the LCO 3.0.4 and SR 3.0.4 Bases to provide details on how to implement the new requirements (see the markups in Attachment 4). 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 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. Although LCO 3.0.4.c may be applied to other Specifications based on NRC plant-specific approval, this submittal applies LCO 3.0.4.c only to TS 3.4.8 "Reactor Coolant System (RCS) Specific Activity", consistent with the TSTF markups.

The Bases also state that the 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 Risk 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. In addition, the Bases state that 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 or until the LCO is met or 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 in 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.

- Appropriate changes to the TS Bases (markups are included in Attachment 4) will be implemented concurrent with this license amendment.
- Finally, the PNPP Technical Specifications have a Bases Control Program consistent with Section 5.5 of the Standard Technical Specifications (STS), and the equivalent of STS SR 3.0.1 and its associated bases. A copy of PNPP Specifications 5.5.11 and SR 3.0.1 are included for information as part of Attachment 3, and the SR 3.0.1 Bases are included for information in Attachment 4.

### **ENVIRONMENTAL CONSIDERATION**

An Environmental Consideration was included as Section 5.0 of the Model Safety Evaluation in the *Federal Register* dated April 4, 2003. The minor modifications to TSTF-359 and the Model Safety Evaluation as discussed in the NRC-approved Revision 9 of the TSTF do not affect the April 4, 2003 Environmental Consideration. A review of the Environmental Consideration concluded that the staff's findings are applicable to PNPP, and the evaluation is hereby incorporated by reference for this application.

### **SIGNIFICANT HAZARDS CONSIDERATION**

A Proposed No Significant Hazards Consideration Determination was published in the *Federal Register* on April 4, 2003. The minor modifications to TSTF-359 and the Model Safety Evaluation as discussed in the NRC-approved Revision 9 of the TSTF do not affect the April 4, 2003 No Significant Hazards Consideration Determination. A review of the Proposed No Significant Hazards Consideration Determination has concluded that it is applicable to PNPP, and it is hereby incorporated by reference for this application to satisfy the requirements of 10 CFR 50.91(a).

1.4 Frequency

EXAMPLES

EXAMPLE 1.4-1 (continued)

If the interval as specified by SR 3.0.2 is exceeded while the unit is not in a MODE or other specified condition in the Applicability of the LCO for which performance of the SR is required, the Surveillance must be performed within the Frequency requirements of SR 3.0.2 prior to entry into the MODE or other specified condition. Failure to do so would result in a violation of SR 3.0.4.

*except as provided by SR 3.0.3 and LCO 3.0.4.*

EXAMPLE 1.4-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Verify flow is within limits.	Once within 12 hours after $\geq$ 25% RTP  <u>AND</u> 24 hours thereafter

Example 1.4-2 has two Frequencies. The first is a one time performance Frequency, and the second is of the type shown in Example 1.4-1. The logical connector "AND" indicates that both Frequency requirements must be met. Each time reactor power is increased from a power level  $<$  25% RTP to  $\geq$  25% RTP, the Surveillance must be performed within 12 hours.

The use of "once" indicates a single performance will satisfy the specified Frequency (assuming no other Frequencies are connected by "AND"). This type of Frequency does not qualify for the extension allowed by SR 3.0.2.

(continued)

1.4 Frequency

EXAMPLES

EXAMPLE 1.4-3 (continued)

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

EXAMPLE 1.4-4

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p style="text-align: center;">NOTE</p> <p>Only required to be met in MODE 1.</p> <p>Verify leakage rates are within limits.</p>	<p>24 hours</p>

Example 1.4-4 specifies that the requirements of this Surveillance do not have to be met until the unit is in MODE 1. The interval measurement for the Frequency of this Surveillance continues at all times, as described in Example 1.4-1. However, the Note constitutes an "otherwise stated" exception to the Applicability of this Surveillance. Therefore, if the Surveillance were not performed within the 24 hour (plus the extension allowed by SR 3.0.2) interval, but the unit was not in MODE 1, there would be no failure of the SR nor failure to meet the LCO. Therefore, no violation of SR 3.0.4 occurs when changing MODES, even with the 24 hour Frequency exceeded, provided the MODE change was not made into MODE 1. Prior to entering MODE 1 (assuming again that the 24 hour Frequency were not met), SR 3.0.4 would require satisfying the SR.

*except as provided by SR 3.0.3 and LCO 3.0.4.*

### 3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

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LCO 3.0.1 LCOs shall be met during the MODES or other specified conditions in the Applicability, except as provided in LCO 3.0.2 and LCO 3.0.7.

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LCO 3.0.2 Upon discovery of a failure to meet an LCO, the Required Actions of the associated Conditions shall be met, except as provided in LCO 3.0.5 and LCO 3.0.6.

If the LCO is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the Required Action(s) is not required, unless otherwise stated.

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LCO 3.0.3 When an LCO is not met and the associated ACTIONS are not met, an associated ACTION is not provided, or if directed by the associated ACTIONS, the unit shall be placed in a MODE or other specified condition in which the LCO is not applicable. Action shall be initiated within 1 hour to place the unit, as applicable, in:

- a. MODE 2 within 7 hours;
- b. MODE 3 within 13 hours; and
- c. MODE 4 within 37 hours.

Exceptions to this Specification are stated in the individual Specifications.

Where corrective measures are completed that permit operation in accordance with the LCO or ACTIONS, completion of the actions required by LCO 3.0.3 is not required.

LCO 3.0.3 is only applicable in MODES 1, 2, and 3.

LCO 3.0.4 When an LCO is not met, entry into a <sup>only</sup> MODE or other specified condition in the Applicability shall ~~not~~ be made <sup>only</sup> ~~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

(continued)

### 3.0 LCO APPLICABILITY

LCO 3.0.4 (continued) specified conditions in the Applicability that are required to comply with ACTIONS, or that are 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 5.5.10, "Safety Function Determination Program (SFDP)." If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

Insert 1  
for LCO 3.0.4

When a support system's Required Action directs a supported system to be declared inoperable or directs entry into Conditions and Required Actions for a supported system, the applicable Conditions and Required Actions shall be entered in accordance with LCO 3.0.2.

(continued)

- 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.

### 3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

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#### SR 3.0.1

Provided for  
information to  
show consistency  
with SR 3.0.1  
in the STS.

SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the LCO. Failure to perform a Surveillance within the specified Frequency shall be failure to meet the LCO except as provided in SR 3.0.3. Surveillances do not have to be performed on inoperable equipment or variables outside specified limits.

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#### SR 3.0.2

The specified Frequency for each SR is met if the Surveillance is performed within 1.25 times the interval specified in the Frequency, as measured from the previous performance or as measured from the time a specified condition of the Frequency is met.

For Frequencies specified as "once," the above interval extension does not apply.

If a Completion Time requires periodic performance on a "once per . . ." basis, the above Frequency extension applies to each performance after the initial performance.

Exceptions to this Specification are stated in the individual Specifications.

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#### SR 3.0.3

If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is greater. This delay period is permitted to allow performance of the Surveillance. A risk evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

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.

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(continued)

3.0 SR APPLICABILITY (continued)

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.~~

, 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

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

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 to prepare and submit a Special Report.	Immediately
C. One or more Functions with two required channels inoperable.	C.1. Restore one required channel to OPERABLE status.	7 days

(continued)

3.3 INSTRUMENTATION

3.3.3.2 Remote Shutdown System

LCO 3.3.3.2 The Remote Shutdown 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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.3.3.2.1 Perform CHANNEL CHECK for each required instrumentation channel that is normally energized.	31 days

(continued)

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.7 RCS Leakage Detection Instrumentation

LCO 3.4.7 The following RCS leakage detection instrumentation shall be OPERABLE:

- a. Drywell floor drain sump monitoring system;
- b. One channel of either drywell atmospheric particulate monitoring system or drywell atmospheric gaseous monitoring system; and
- c. Upper drywell air cooler condensate flow rate monitoring system.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Drywell floor drain sump monitoring system inoperable.	<p style="text-align: center;"><del>NOTE</del>  <del>LCO 3.0.4 is not applicable.</del></p> <p>A.1 Restore drywell floor drain sump monitoring system to OPERABLE status.</p>	30 days.
B. Required drywell atmospheric monitoring system inoperable.	B.1 Analyze grab samples of drywell atmosphere.	Once per 24 hours

(continued)

**ACTIONS (continued)**

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Upper drywell air cooler condensate flow rate monitoring system inoperable.</p>	<p>-----NOTE-----            Not applicable when the required drywell atmospheric monitoring system is inoperable.            -----</p> <p>C.1 Perform SR 3.4.7.1.</p>	<p>Once per 8 hours</p>
<p>D. Required drywell atmospheric monitoring system inoperable.</p> <p><u>AND</u></p> <p>Upper drywell air cooler condensate flow rate monitoring system inoperable.</p>	<p><del>-----NOTE-----            LCO 3.0.4 is not applicable.            -----</del></p> <p>D.1 Restore required drywell atmospheric monitoring system to OPERABLE status.</p> <p><u>OR</u></p> <p>D.2 Restore upper drywell air cooler condensate flow rate monitoring system to OPERABLE status.</p>	<p>30 days</p> <p>30 days</p>
<p>E. Required Action and associated Completion Time of Condition A, B, C, or D not met.</p>	<p>E.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>E.2 Be in MODE 4.</p>	<p>12 hours</p> <p>36 hours</p>
<p>F. All required leakage detection systems inoperable.</p>	<p>F.1 Enter LCO 3.0.3.</p>	<p>Immediately</p>

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.8 RCS Specific Activity

LCO 3.4.8 The DOSE EQUIVALENT I-131 specific activity of the reactor coolant shall be  $\leq 0.2 \mu\text{Ci/gm}$ .

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 $> 0.2 \mu\text{Ci/gm}$ and $\leq 4.0 \mu\text{Ci/gm}$ DOSE EQUIVALENT I-131.	<sup>(C)</sup> <del>NOTE</del> <del>LCO 3.0.4 is not applicable.</del>	
	A.1 Determine DOSE EQUIVALENT I-131. AND A.2 Restore DOSE EQUIVALENT I-131 to within limits.	Once per 4 hours  48 hours
B. Required Action and associated Completion Time of Condition A not met.  <u>OR</u> Reactor coolant specific activity $> 4.0 \mu\text{Ci/gm}$ DOSE EQUIVALENT I-131.	B.1 Determine DOSE EQUIVALENT I-131. AND B.2.1 Isolate all main steam lines.  <u>OR</u>	Once per 4 hours  12 hours  (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 eight safety/relief valves shall be OPERABLE.

APPLICABILITY: MODE 1,  
 MODES 2 and 3, except ADS valves are not required to be OPERABLE with reactor steam dome pressure  $\leq$  150 psig.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One low pressure ECCS injection/spray subsystem inoperable.	A.1 Restore low pressure ECCS injection/spray subsystem to OPERABLE status.	7 days
B. High Pressure Core Spray (HPCS) System inoperable.	B.1 Verify by administrative means RCIC System is OPERABLE when RCIC is required to be OPERABLE.	1 hour
	<u>AND</u> B.2 Restore HPCS System to OPERABLE status.	14 days

(continued)

NOTE  
 LCO 3.0.4.b is not applicable to HPCS.

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.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. RCIC System inoperable.	A.1 Verify by administrative means High Pressure Core Spray System is OPERABLE.	1 hour
	<u>AND</u> 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
	<u>AND</u> B.2 Reduce reactor steam dome pressure to ≤ 150 psig.	36 hours

NOTE  
 LCO 3.0.4.b is not applicable to RCIC.

3.6 CONTAINMENT SYSTEMS

3.6.3.1 Primary Containment Hydrogen Recombiners

LCO 3.6.3.1 Two primary containment hydrogen recombiners shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One primary containment hydrogen recombinder inoperable.	A.1 <span style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;"> <del>NOTE                LCO 3.0.4 is not applicable.</del> </span>  Restore primary containment hydrogen recombinder to OPERABLE status.	30 days
B. Two primary containment hydrogen recombiners inoperable.	B.1 Verify by administrative means that the hydrogen control function is maintained.	1 hour
	AND B.2 Restore one primary containment hydrogen recombinder to OPERABLE status.	7 days
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	12 hours

3.6 CONTAINMENT SYSTEMS

3.6.3.2 Primary Containment and Drywell Hydrogen Igniters

LCO 3.6.3.2 Two divisions of primary containment and drywell hydrogen igniters shall be OPERABLE, each with  $\geq 90\%$  of the associated igniter assemblies OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One primary containment and drywell hydrogen igniter division inoperable.	A.1 <div style="border: 1px solid black; border-radius: 15px; padding: 5px; display: inline-block;">             NOTE—              LCO 3.6.3.4 is not applicable.           </div>  Restore primary containment and drywell hydrogen igniter division to OPERABLE status.	30 days
B. Two primary containment and drywell hydrogen igniter divisions inoperable.	B.1 Verify by administrative means that the hydrogen control function is maintained.  <u>AND</u> B.2 Restore one primary containment and drywell hydrogen igniter division to OPERABLE status.	1 hour          7 days

(continued)

3.6 CONTAINMENT SYSTEMS

3.6.3.3 Combustible Gas Mixing System

LCO 3.6.3.3 Two combustible gas mixing subsystems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One combustible gas mixing subsystem inoperable.	A.1 <span style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;"> <del>NOTE-                LCO 3.0.4 is not                applicable.</del> </span>  Restore combustible gas mixing subsystem to OPERABLE status.	30 days
B. Two combustible gas mixing subsystems inoperable.	B.1 Verify by administrative means that the hydrogen control function is maintained.	1 hour
	AND B.2 Restore one combustible gas mixing 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 Electric Power Distribution System; and
  - b. Three diesel generators (DGs).

APPLICABILITY: MODES 1, 2, and 3.

-----NOTE-----  
Division 3 AC electrical power sources are not required to be OPERABLE when High Pressure Core Spray System is inoperable.  
-----

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required offsite circuit inoperable.	A.1. Perform SR 3.8.1.1 for OPERABLE required offsite circuit.	1 hour <u>AND</u> Once per 8 hours thereafter
	<u>AND</u>	(continued)

-----NOTE-----  
LCO 3.0.4.b is not applicable to DGs.  
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## 5.5 Programs and Manuals

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### 5.5.10 Safety Function Determination Program (SFDP) (continued) :

The SFDP identifies where a loss of safety function exists. If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

### 5.5.11 Technical Specifications (TS) Bases Control Program

This program provides a means for processing changes to the Bases for these TS.

- a. Changes to the Bases of the TS shall be made under appropriate administrative controls and reviews.
- b. Licensees may make changes to Bases without prior NRC approval provided the changes do not require either of the following:
  1. a change in the TS incorporated in the license; or
  2. a change to the USAR or Bases that requires NRC approval pursuant to 10 CFR 50.59.
- c. The Bases Control Program shall contain provisions to ensure that the Bases are maintained consistent with the USAR.
- d. Proposed changes that meet the criteria of Specification 5.5.11.b.1 or Specification 5.5.11.b.2 above shall be reviewed and approved by the NRC prior to implementation. Changes to the Bases implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 50.71(e).

Provided  
for  
information  
to show  
consistency  
with the  
STS Bases  
Control  
Program.

### 5.5.12 Primary Containment Leakage Rate Testing Program

A program shall be established to implement the leakage rate testing of the primary containment as required by 10 CFR 50.54(o) and 10 CFR 50, Appendix J, Option B as modified by approved exemptions. This program shall be in accordance with the guidelines contained in Regulatory Guide 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995, as modified by the following exceptions:

(continued)

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BASES

LCO 3.0.3  
(continued)

assemblies in the associated fuel storage pool." Therefore, this LCO can be applicable in any or all MODES. If the LCO and the Required Actions of LCO 3.7.7 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 3.7.7 of "Suspend movement of irradiated fuel assemblies in the associated fuel storage pool(s)" 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

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~~ <sup>allows</sup> placing the unit in a MODE or other specified condition stated in that Applicability (e.g., Applicability desired to be entered) when ~~the~~ <sup>the</sup> following exist:

- ~~a. Unit conditions are such that the 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.~~

unit conditions are such that the requirements of the LCO would not be met, in accordance with LCO 3.0.4.a, LCO 3.0.4.b, or LCO 3.0.4.c.

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.

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. <sup>Insert 2</sup> 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.~~ <sup>entering an associated MODE or other specified</sup>

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 <sup>condition in the Applicability.</sup>

(continued)

INFORMATION ONLY

**INSERT 2 FOR LCO 3.0.4 BASES (ON PAGE B 3.0-5)**

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.

The risk assessment may use quantitative, qualitative, or blended approaches, and the risk assessment will be conducted using the plant program, procedures, and criteria in place to implement 10 CFR 50.65(a)(4), which requires that risk impacts of maintenance activities be assessed and managed. The risk assessment, for the purposes of LCO 3.0.4.b, must take into account all inoperable Technical Specification equipment regardless of whether the equipment is included in the normal 10 CFR 50.65(a)(4) risk assessment scope. The risk assessments will be conducted using the procedures and guidance endorsed by Regulatory Guide 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants." Regulatory Guide 1.182 endorses the guidance in Section 11 of NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." These documents address general guidance for conduct of the risk assessment, quantitative and qualitative guidelines for establishing risk management actions, and example risk management actions. These include actions to plan and conduct other activities in a manner that controls overall risk, increased risk awareness by shift and management personnel, actions to reduce the duration of the condition, actions to minimize the magnitude of risk increases (establishment of backup success paths or compensatory measures), and determination that the proposed MODE change is acceptable. Consideration should also be given to the probability of completing restoration such that the requirements of the LCO would be met prior to the expiration of ACTIONS Completion Times that would require exiting the Applicability.

LCO 3.0.4.b may be used with single, or multiple systems and components unavailable. NUMARC 93-01 provides guidance relative to consideration of simultaneous unavailability of multiple systems and components.

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. The LCO 3.0.4.b risk assessments do not have to be documented.

The Technical Specifications allow continued operation with equipment unavailable in MODE 1 for the duration of the Completion Time. Since this is allowable, and since in general the risk impact in that particular MODE bounds the risk of transitioning into and through the applicable MODES or other specified conditions in the Applicability of the LCO, the use of the LCO 3.0.4.b 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., RCS Specific Activity), and may be applied to other Specifications based on NRC plant-specific approval.

**INFORMATION ONLY**

BASES

LCO 3.0.4  
(continued)

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 or 3, 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.

~~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.~~

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 these 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 3.0.4 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 the 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.~~

utilizing LCO 3.0.4

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on

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 SRs to demonstrate:

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

(continued)

**INFORMATION ONLY**

## B 3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

### BASES

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SRs SR 3.0.1 through SR 3.0.4 establish the general requirements applicable to all Specifications and apply at all times, unless otherwise stated.

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#### SR 3.0.1

Provided  
for  
information  
to show  
consistency  
with the  
SR 3.0.1  
Bases in  
the STS.

SR 3.0.1 establishes the requirement that SRs must be met during the MODES or other specified conditions in the Applicability for which the requirements of the LCO apply, unless otherwise specified in the individual SRs. This Specification is to ensure that Surveillances are performed to verify the OPERABILITY of systems and components, and that variables are within specified limits. Failure to meet a Surveillance within the specified Frequency, in accordance with SR 3.0.2, constitutes a failure to meet an LCO.

Systems and components are assumed to be OPERABLE when the associated SRs have been met. Nothing in this Specification, however, is to be construed as implying that systems or components are OPERABLE when:

- a. The systems or components are known to be inoperable, although still meeting the SRs; or
- b. The requirements of the Surveillance(s) are known to be not met between required Surveillance performances.

Surveillances do not have to be performed when the unit is in a MODE or other specified condition for which the requirements of the associated LCO are not applicable, unless otherwise specified. The SRs associated with a Special Operations LCO are only applicable when the Special Operations LCO is used as an allowable exception to the requirements of a Specification.

Surveillances, including Surveillances invoked by Required Actions, do not have to be performed on inoperable equipment because the ACTIONS define the remedial measures that apply. Surveillances have to be met and performed in accordance with SR 3.0.2, prior to returning equipment to OPERABLE status.

(continued)

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**INFORMATION ONLY**

BASES

SR 3.0.1  
(continued)

Provided  
for  
information

Upon completion of maintenance, appropriate post maintenance testing is required to declare equipment OPERABLE. This includes ensuring applicable Surveillances are not failed and their most recent performance is in accordance with SR 3.0.2. Post maintenance testing may not be possible in the current MODE or other specified conditions in the Applicability due to the necessary unit parameters not having been established. In these situations, the equipment may be considered OPERABLE provided testing has been satisfactorily completed to the extent possible and the equipment is not otherwise believed to be incapable of performing its function. This will allow operation to proceed to a MODE or other specified condition where other necessary post maintenance tests can be completed. Some examples of this process are:

- a. Control rod drive maintenance during refueling that requires scram testing at  $\geq 950$  psig. However, if other appropriate testing is satisfactorily completed and the scram time testing of SR 3.1.4.3 is satisfied, the control rod can be considered OPERABLE. This allows startup to proceed to reach 950 psig to perform other necessary testing.
- b. Reactor core isolation cooling (RCIC) maintenance during shutdown that requires system functional tests at a specified pressure. Provided other appropriate testing is satisfactorily completed, startup can proceed with RCIC considered OPERABLE. This allows operation to reach the specified pressure to complete the necessary post maintenance testing.

SR 3.0.2

SR 3.0.2 establishes the requirements for meeting the specified Frequency for Surveillances and any Required Action with a Completion Time that requires the periodic performance of the Required Action on a "once per..." interval.

SR 3.0.2 permits a 25% extension of the interval specified in the Frequency. This extension facilitates Surveillance scheduling and considers plant operating conditions that may not be suitable for conducting the Surveillance (e.g., transient conditions or other ongoing Surveillance or maintenance activities).

(continued)

**INFORMATION ONLY**

BASES

SR 3.0.3 (continued) Completion of the Surveillance within the delay period allowed by this Specification, or within the Completion Time of the ACTIONS, restores compliance with SR 3.0.1.

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.

SR 3.0.4 contains two exceptions which explain its interrelationship with SR 3.0.3 and LCO 3.0.4. The first exception is in the first sentence, and clarifies 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. A provision is also included in the second sentence of SR 3.0.4 to allow entry into a MODE or other specified condition in the Applicability when an LCO is not met due to a 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 or variables outside specified limits. When equipment is inoperable, or variables are outside their specified limits, 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, on equipment that is inoperable, or on variables that are outside specified limits, does not result in an SR 3.0.4 restriction to changing MODES or other specified conditions in 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. 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 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.

(continued)

**INFORMATION ONLY**

PERRY - UNIT 1

B 3.0-14

Revision No. 0

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 or 3, MODE 2 to MODE 3, and MODE 3 to MODE 4.

## BASES

SR 3.0.4  
(continued)

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 the 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.~~

**INFORMATION ONLY**

BASES

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LCO  
(continued)

12. Primary Containment Air Temperature

Containment air temperature is a Category I variable provided to detect breach of the RCPB and to verify ECCS functions that operate to maintain RCS integrity. Eight wide range primary containment air temperature signals (four per channel) are transmitted from separate temperature elements and are continuously recorded and displayed on two control room recorders. However, two primary containment air temperature signals provide sufficient information to perform the above functions, and therefore only two in each Function are required to be OPERABLE. The recorders are the primary indication used by the operator during an accident. Therefore, the PAM Specification deals specifically with this portion of the instrument channel.

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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 alternate instruments and methods, and the low probability of an event requiring these instruments.

A Note has also 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

(continued)

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**INFORMATION ONLY**

BASES (continued)

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**APPLICABILITY** The Remote Shutdown System LCO is applicable in MODES 1 and 2. This is required so that the plant can be placed and maintained in MODE 3 for an extended period of time from a location other than the control room.

This LCO is not applicable in MODES 3, 4, and 5. In these MODES, the plant is already subcritical and in a condition of reduced Reactor Coolant System energy. Under these conditions, considerable time is available to restore necessary instrumentation or control Functions if control room instruments or controls become unavailable. Consequently, the TS do not require OPERABILITY in MODES 3, 4, and 5.

---

**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 has been provided to modify the ACTIONS related to Remote Shutdown 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 Remote Shutdown System Functions provide appropriate compensatory measures for separate Functions.

As such, a Note has been provided that allows separate Condition entry for each inoperable Remote Shutdown System Function.

A.1

Condition A addresses the situation where one or more required Functions of the Remote Shutdown System is inoperable. This includes the control and transfer switches for any required Function.

(continued)

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**INFORMATION ONLY**

BASES (continued)

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APPLICABILITY In MODES 1, 2, and 3, leakage detection systems are required to be OPERABLE to support LCO 3.4.5. This Applicability is consistent with that for LCO 3.4.5.

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ACTIONS

A.1

With the drywell floor drain sump monitoring system inoperable, manual methods of determining the sump in leakage rate can provide the equivalent information to quantify leakage. In addition, the drywell atmospheric particulate or atmospheric gaseous monitor and the upper drywell air cooler condensate flow rate monitor will provide indications of changes in leakage.

With the drywell floor drain sump monitoring system inoperable, but with RCS unidentified and total LEAKAGE being determined every 12 hours (SR 3.4.5.1) using alternate methods such as the pump timer, operation may continue for 30 days. The 30 day Completion Time of Required Action A.1 is acceptable, based on operating experience, considering the multiple forms of leakage detection that are still operable. Required Action A.1 is 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 the drywell floor drain sump monitoring system is inoperable. This allowance is provided because other instrumentation is available to monitor RCS leakage.

B.1

With both particulate and gaseous drywell atmospheric monitoring channels inoperable, grab samples of the drywell atmosphere shall be taken and analyzed to provide periodic leakage information. Provided a sample is obtained and analyzed every 24 hours, the plant may continue operation since at least one other form of drywell leakage detection (i.e., upper drywell air cooler condensate flow rate monitoring system) is available. The 24 hour interval provides periodic information that is adequate to detect LEAKAGE.

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(continued)

**INFORMATION ONLY**

BASES

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ACTIONS  
(continued)

C.1

With the required upper drywell air cooler condensate flow rate monitoring system inoperable, SR 3.4.7.1 is performed every 8 hours to provide periodic information of activity in the drywell at a more frequent interval than the routine Frequency of SR 3.4.7.1. The 8 hour interval provides periodic information that is adequate to detect LEAKAGE and recognizes that other forms of leakage detection are available. However, this Required Action is modified by a Note that allows this action to be not applicable if the required drywell atmospheric monitoring system is inoperable. Consistent with SR 3.0.1, Surveillances are not required to be performed on inoperable equipment.

D.1 and D.2

With both the particulate and gaseous drywell atmospheric monitoring channels and the upper drywell air cooler condensate flow rate monitoring system inoperable, the only means of detecting LEAKAGE is the drywell floor drain sump monitoring system. This Condition does not provide the required diverse means of leakage detection. The Required Action is to restore either of the inoperable monitoring systems to OPERABLE status within 30 days to regain the intended leakage detection diversity. The 30 day Completion Time ensures that the plant will not be operated in a degraded configuration for a lengthy time period. 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 drywell gaseous and particulate atmospheric monitoring channels and upper drywell air cooler condensate flow rate monitoring system are inoperable. This allowance is provided because other instrumentation is available to monitor RCS leakage.

(continued)

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**INFORMATION ONLY**

BASES

ACTIONS

A.1 and A.2 (continued)

use of the provisions

~~A Note to the Required Actions of Condition A excludes the~~  
~~MODE change restriction of LCO 3.0.4(c). 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 a limiting event  
while exceeding this limit, and the ability to restore  
transient specific activity excursions while the plant  
remains at, or proceeds to power operation.

permits

allowance permits

allowance

B.1, B.2.1, B.2.2.1, and B.2.2.2

If the DOSE EQUIVALENT I-131 cannot be restored to  $\leq 0.2 \mu\text{Ci/gm}$  within 48 hours, or if at any time it is  $> 4.0 \mu\text{Ci/gm}$ , it must be determined at least every 4 hours and all the main steam lines must be isolated within 12 hours. Isolating the main steam lines precludes the possibility of releasing radioactive material to the environment in an amount that is more than a small fraction of the requirements of 10 CFR 100 during a postulated MSLB accident.

Alternately, the plant can be brought to MODE 3 within 12 hours and to MODE 4 within 36 hours. This option is provided for those instances when isolation of main steam lines is not desired (e.g., due to the decay heat loads). In MODE 4, the requirements of the LCO are no longer applicable.

The Completion Time of once every 4 hours is based on the time needed to take and analyze a sample. The 12 hour Completion Time is reasonable, based on operating experience, to isolate the main steam lines in an orderly manner and without challenging plant systems. Also, the allowed Completion Times for Required Actions B.2.2.1 and B.2.2.2 for bringing the plant to MODES 3 and 4 are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

(continued)

**INFORMATION ONLY**

BASES

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APPLICABILITY  
(continued)

The requirements for decay heat removal in MODES 4 and 5 are discussed in LCO 3.4.10, "Residual Heat Removal (RHR) Shutdown Cooling System—Cold Shutdown"; LCO 3.9.8, "Residual Heat Removal (RHR)—High Water Level"; and LCO 3.9.9, "Residual Heat Removal (RHR)—Low Water Level."

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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.

A.1, A.2, and A.3

With one required RHR shutdown cooling subsystem inoperable for decay heat removal, except as permitted by LCO Note 2, the inoperable subsystem must be restored to OPERABLE status without delay. In this condition, the remaining OPERABLE subsystem can provide the necessary decay heat removal. The overall reliability is reduced, however, because a single failure in the OPERABLE subsystem could result in reduced RHR shutdown cooling capability. Therefore, an alternate method of decay heat removal must be provided.

(continued)

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**INFORMATION ONLY**

BASES (continued)

ACTIONS

A.1

A Note prohibits the application of LCO 3.0.4.b to an inoperable HPCS subsystem. There is an increased risk associated with entering a MODE or other specified condition in the Applicability with an inoperable HPCS 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.

If any one low pressure ECCS injection/spray subsystem is inoperable, the inoperable subsystem 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. The 7 day Completion Time is based on a reliability study (Ref. 12) that evaluated the impact on ECCS availability by assuming that various components and subsystems were taken out of service. The results were used to calculate the average availability of ECCS equipment needed to mitigate the consequences of a LOCA as a function of allowed outage times (i.e., Completion Times).

B.1 and B.2

If the HPCS System is inoperable, and the RCIC System is verified to be OPERABLE (when RCIC is required to be OPERABLE), the HPCS System must be restored to OPERABLE status within 14 days. In this Condition, adequate core cooling is ensured by the OPERABILITY of the redundant and diverse low pressure ECCS injection/spray subsystems in conjunction with the ADS. Also, the RCIC System will automatically provide makeup water at most reactor operating pressures. Verification of RCIC OPERABILITY within 1 hour is therefore required when HPCS is inoperable and RCIC is required to be OPERABLE. This may be performed by an administrative check, by examining logs or other information, to determine if RCIC is out of service for maintenance or other reasons. It is not necessary to perform the Surveillance needed to demonstrate the OPERABILITY of the RCIC System. However, if the OPERABILITY of the RCIC System cannot be verified and RCIC is required to be OPERABLE, Condition D must be entered. If a single active component fails concurrent with a design basis LOCA, there is a potential, depending on the specific failure, that the minimum required ECCS equipment will not be available. A 14 day Completion Time is based on the results of a reliability study (Ref. 12) and has been found to be acceptable through operating experience.

(continued)

**INFORMATION ONLY**

BASES

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BACKGROUND  
(continued)

The RCIC pump is provided with a minimum flow line, which discharges to the suppression pool. The valve in this line automatically opens to prevent pump damage due to overheating when other discharge line valves are closed. To ensure rapid delivery of water to the RPV and to minimize water hammer effects, the RCIC System discharge line "keep fill" system is designed to maintain the pump discharge line filled with water.

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APPLICABLE  
SAFETY ANALYSES

The function of the RCIC System is to respond to transient events by providing makeup coolant to the reactor. The RCIC System is not an Engineered Safety Feature System and no credit is taken in the safety analyses for RCIC System operation. Based on its contribution to the reduction of overall plant risk, however, the system is included in the Technical Specifications as required by the NRC Policy Statement.

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LCO

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

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APPLICABILITY

The RCIC System is required to be OPERABLE in 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 ECCS injection/spray subsystems can provide sufficient flow to the vessel.

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ACTIONS

A.1 and A.2

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.

If the RCIC System is inoperable during MODE 1, or MODES 2 or 3 with reactor steam dome pressure > 150 psig, and the HPCS System is 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

(continued)

BASES

APPLICABILITY  
(continued)

concentration within primary containment below its flammability limit of 4.0 v/o following a LOCA, assuming a worst case single failure.

In MODE 3, both the hydrogen production rate and the total hydrogen production after a LOCA would be less than that calculated for the DBA LOCA. Also, because of the limited time in this MODE, the probability of an accident requiring the primary containment hydrogen recombiners is low. Therefore, the primary containment hydrogen recombiners are not required in MODE 3.

In MODES 4 and 5, the probability and consequences of a LOCA are low due to the pressure and temperature limitations in these MODES. Therefore, the primary containment hydrogen recombiners are not required in these MODES.

ACTIONS

A.1

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

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

(continued)

**INFORMATION ONLY**

BASES

ACTIONS

A.1 (continued)

accumulation from exceeding the flammability limit, and the low probability of failure of the OPERABLE hydrogen igniter division.

Required Action A.1 has been modified by a Note indicating the provisions of LCO 3.0.4 are not applicable. As a result, a MODE change is allowed when one hydrogen igniter division is inoperable. The allowance is provided because of the low probability of the occurrence of an event that would generate hydrogen in amounts capable of exceeding the flammability limit, the low probability of the failure of the OPERABLE hydrogen igniter divisions and the amount of time available after the event for operator action to prevent exceeding the flammability limit.

B.1 and B.2

With two primary containment and drywell hydrogen igniter divisions inoperable, the ability to perform the hydrogen control function via alternate capabilities must be verified by administrative means within 1 hour. The alternate hydrogen control capabilities are provided by at least one primary containment hydrogen recombiner and one combustible gas mixing subsystem. The 1 hour Completion Time allows a reasonable period of time to verify that a loss of hydrogen control function does not exist. The verification may be performed as an administrative check by examining logs or other information to determine the availability of the alternate hydrogen control capabilities. It does not mean to perform the Surveillances needed to demonstrate OPERABILITY of the alternate hydrogen control capabilities. If the ability to perform the hydrogen control function is maintained, continued operation is permitted with two igniter divisions inoperable for up to 7 days. Seven days is a reasonable time to allow two igniter divisions to be inoperable because the hydrogen control function is maintained and because of the low probability of the occurrence of a LOCA that would generate hydrogen in the amounts capable of exceeding the flammability limit.

(continued)

**INFORMATION ONLY**

BASES

APPLICABILITY  
(continued)

calculated for the DBA LOCA. Also, because of the limited time in this MODE, the probability of an accident requiring the Combustible Gas Mixing System is low. Therefore, the Combustible Gas Mixing System is not required in MODE 3.

In MODES 4 and 5, the probability and consequences of a LOCA are reduced due to the pressure and temperature limitations in these MODES. Therefore, the Combustible Gas Mixing System is not required in these MODES.

ACTIONS

A.1

With one combustible gas mixing subsystem inoperable, the inoperable subsystem must be restored to OPERABLE status within 30 days. In this condition, the remaining OPERABLE subsystem is adequate to perform the hydrogen mixing function. However, the overall reliability is reduced because a single failure in the OPERABLE subsystem could result in reduced hydrogen mixing capability. The 30 day Completion Time is based on the low probability of failure of the OPERABLE combustible gas mixing subsystem, the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit, and the amount of time available after the event for operator action to prevent hydrogen accumulation from exceeding this limit.

Required Action A.1 has been modified by a Note indicating the provisions of LCO 3.0.4 are not applicable. As a result, a MODE change is allowed when one combustible gas mixing subsystem is inoperable. This allowance is provided because of the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit, the low probability of the failure of the OPERABLE combustible gas mixing subsystem, and the amount of time available after the event for operator action to prevent exceeding the flammability limit.

B.1 and B.2

With two combustible gas mixing subsystems inoperable, the ability to perform the hydrogen control function via alternate capabilities must be verified by administrative means within 1 hour. The alternate hydrogen control capabilities are provided by one primary containment hydrogen recombiner or one division of the hydrogen

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**INFORMATION ONLY**

BASES

LCO  
(continued)

Proper sequencing of loads, including tripping of nonessential loads, is a required function for both offsite circuit and DG OPERABILITY for Divisions 1 and 2.

The AC sources in one division must be separate and independent (to the extent possible) of the AC sources in the other division(s). For the DGs, the separation and independence are complete. For the offsite AC sources, the separation and independence are to the extent practical.

APPLICABILITY

The AC sources are required to be OPERABLE in MODES 1, 2, and 3 to ensure that:

- a. Acceptable fuel design limits and reactor coolant pressure boundary limits are not exceeded as a result of AOOs or abnormal transients; and
- b. Adequate core cooling is provided and containment OPERABILITY and other vital functions are maintained in the event of a postulated DBA.

A Note has been added taking exception to the Applicability requirements for Division 3 AC sources, provided the HPCS System is declared inoperable. This exception is intended to allow declaring of the HPCS System inoperable either in lieu of declaring the Division 3 AC source inoperable, or at any time subsequent to entering ACTIONS for an inoperable Division 3 AC source. This exception is acceptable since, with the HPCS System inoperable and the associated ACTIONS entered, the Division 3 AC sources provide no additional assurance of meeting the above criteria.

AC power requirements for MODES 4 and 5 are covered in LCO 3.8.2. "AC Sources - Shutdown."

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.

ACTIONS

A.1

To ensure a highly reliable power source remains, it is necessary to verify the availability of the remaining required offsite circuits on a more frequent basis. Since the Required Action only specifies "perform," a failure of SR 3.8.1.1 acceptance criteria does not result in the Required Action not met. However, if a second required circuit fails SR 3.8.1.1, the second offsite circuit is inoperable, and Condition C, for two offsite circuits inoperable, is entered.

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